Deanship of Graduate Studies

Al-Quds University

Performance Evaluation of the Multi-disciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex - Gaza

Mohammed Mahmoud Jaber

MPH Thesis

Jerusalem-Palestine

1437 / 2016

Performance Evaluation of the Multi-disciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex - Gaza

Prepared By

Mohammed Mahmoud Jaber

Bachelor of Nursing AL-Zytoonah University-Jordan

Supervisor: Dr. Yehia Abed
Associate Professor – School of Public Health

A Thesis Submitted in Partial Fulfillment of Requirements for the Degree of Master of Health Management Al- Quds University

1437-2016

Al-Quds University

Deanship of Graduate Studies

School of Public Health

Thesis Approval

Performance Evaluation of the Multi-disciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex-Gaza

Prepared By: Mohammed Mahmoud Jaber

Registration No.: 21310099

Supervisor: Dr. Yehia Abed

Master thesis submitted and accepted. Date / /

The names and signatures of examining committee members were as follow:

1-Head of committee: Dr. Yehia A. Abed Signature……

2-Internal Examiner: Dr. Bassam Abu Hamad Signature……

3-External Examiner: Dr.Sobhi Skaik Signature……

Jerusalem- Palestine

1437-2016

Dedication

To the soul of my precious and valuable father, who demonstrated greatest faithfulness and endless love.

To my beloved mother, the spring of kindness, love and loyalty.

To my lovely wife Nadia for her patience and endless support.

To my kids: Mahmoud and Noor. To my brothers, sister, who encouraged and inspired me. And to everyone who contributed to make this study a reality, thank you.

Mohammed Mahmoud Jaber

Declaration

I certify that this entire thesis submitted for the Degree of Master, is the result of my own work, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree or qualification to any other university or institution.

Signed:

Mohammed Mahmoud Jaber

…./ …. / ….

Acknowledgment

I express my praise and gratitude to Allah who granted me the strength, patience and capability to complete this research. Also I am indebted to all the people who have supported me during my studies at Al-Quds University in Gaza Strip. It has been a privilege and honor to conduct my Master's thesis project under the supervision of my academic supervisor at Al-Quds University. A special thank is from my deep heart to my supervisor Dr. Yehia Abed for his enthusiasm, exerted a lot of his time, knowledge, efforts, sound guidance and support have made this an exciting and enlightening of my research journey. I would like to express my gratitude to my supervisor who made my dream of studying abroad come true and did the best.

I am also heartily thankful to Dr. Bassam Abu Hamad, who was always accessible and provided constant encouragement, his immense contribution, support, advice and guidance are appreciated. It was an exceptional experience to author on the exciting and emerging field of study with Drs. Khitam Abu Hamad, Youssef Owad, Subhi Skik, and Khalil Hamdan who were also very kind to support and guide me during the final stage of my work. I would like to thank all academic and administrative staff of the School of Public Health, Al-Quds University for their guidance and collaboration.

I could have not completed this thesis without the support I received from my family and friends. My deepest gratitude goes to my father, mother, sister and my wife for their unconditional love and support throughout my life; without them, I would not be where I am today. To them I dedicate this thesis. I would also like to thank Nadia, for her patience, and for being there for me; I could not have done this without your love and support.

I have had the fortune of having the support of very special friends during the time that I have worked in MOH especially Dr. Medkal Hassuna who has been an unconditional source of support all this time.

I am very grateful for having the opportunity to conduct my Master's thesis project at the Al-Shifa Medical Complex. I would like to thank all health professionals in the Palestinian Ministry of Health staff for their facilitation and cooperation who participated to perform this study, thank you for your everlasting kindness and support, and for creating a stimulating and fun environment to learn and grow.

Finally and not least I thank all my beloved friends and people who introduce me the help to have this work rising up.

Mohammed Mahmoud Jaber

July 2016

Abstract

Background and Aim. *It is becoming a standard practice worldwide for cancer cases to be discussed by multidisciplinary team cancer committee members (MDTs or MDCM) in order to formulate an expert-derived management plan with international patients safety lines on the level of medical responsibility and accountability by better efficient and effective cancer care. The MDTs cancer committee just was newly established in Al-Shifa Medical Complex five years ago. That was the first experience and only one at all MOH hospitals in Palestine. The study explores the performance evaluation of the MDT Cancer Members Committee for Cancer Management Al-Shifa Medical Complex in the Gaza Strip, to improve outcomes of cancer patient care and to provide supportive elements, mechanisms of process that enhanced formal environment and sharing the best practices.*

Design and methods. *The methodology of study employed a descriptive, analytical and cross sectional design. I developed interview and questionnaire that used for data collection. A systematic sample was selected from three hospitals at Al-Shifa Medical Complex. Of the 116 specialists were selected from all doctors specialties from 47 departments, 115 responded and completed the questionnaires, with a response rate of 99.1% . The most majority of managerial positions were head of departments (41.7%). The overall reliability was 0.982* Cronbach' Alpha.

Key measures for performance evaluation *MDTs cancer performance indicators, included: attendance rate, cancer waiting time management CWTM, dynamics of case presentation process, preparation process, structure leadership, administration, organization, communication, coordination, case management and clinical decision making, barriers and challenges that effected MDTs cancer committee work.*

Result *findings revealed that the overall status of performance of MDTs cancer committee members work for cancer management was good, with an average score of 67% reflecting perceptions of specialists towards the current status of performance of MDTs cancer committee. The results preparation of MDT cancer committee in (Pre-meeting stage) was the poorest domain and lowest result (60.2%), in (during-meeting stage) result was 67.6%, in post-meeting stage was 69.4%, the structure found 61.6%, organization, administration and leadership was 69.4%, communication and coordination was 68.8%, MDTs cancer case management and clinical decision making was the first domain and highest percentage 71.8%. On the other hand, availability and shortage of diagnostic and treatment resources became more limited, there was a greater urgency for technological solutions to be identified that would enable the MDTs cancer services to be delivered more effectively. There is limited training and research opportunities in cancer care for specialists as 75% had not received training courses related to cancer care at the last 5 years. M & E of performance indicators regularly had been lacking 90%of participants stated there were poor except attendance rate that was 2.3 times per month. In otherwise, the dynamics of cases presentation process shown as; the average case presentation by the member himself in your department was 3 cases, the average case presentation in MDTs cancer committee monthly was 10.73, the average leakage of cases without presentation in monthly was 7.55, the average delayed case presentation after the end of diagnosis monthly was around 4 cases, the total average delay of intervention more than two weeks after presentation monthly was 3 cases, the average expected time implementation of decisions after case discussion was very well around 9 days, the total average of time preparation case was 26 minutes, the average of time for weekly MDTs cancer meeting was 2.30 hours and the average of each case discussion during meeting was 15.5 minutes.*

Conclusion. *This study developed and validated an evidence-based to support the quality of MDTs cancer committee members work. They felt positively about the evaluation that may help work effectively, improve inclusively, patient care and outcomes. There were major obstacles and barriers that threatened the sustainability and effectiveness of this model, improving the availability of resources and that could give them an opportunity to develop the required additional skills and contribute to improved MDTs cancer performance and ultimately cancer care.*

Table of content

No.	Item	Page
	Dedication	i
	Declaration	ii
	Acknowledgment	iii
	Abstract	iv
	Table of contents	v
	List of tables	x
	List of figures	xii
	List of annexes	xii
	List of abbreviations	xiv
	Chapter (1) Introduction	
1.1	Research background	1
1.2	Research problem	2
1.3	Justification	3
1.4	Aim of the study	4
1.5	Objectives of the study	5
1.6	Research questions	5
1.7	Context of the study	5
1.7.1	Geographical context	6
1.7.2	Demographic context	6
1.7.3	Gaza Strip	7
1.7.4	Palestinian National Cancer registry in GS	7
1.7.5	Cancer incidence in the GS	8
1.7.6	Cancer management in the GS	11
1.7.7	Cancer services in Al–Shifa Medical Complex	12
1.7.8	Cancer management in the GS	13

1.8	Operational definitions	14
	Chapter (2) Literature review	
2.1	Conceptual framework	15
2.1.1	Organizational characteristics	15
2.1.2	Characteristics of the patients	16
2.1.3	The MDTs cancer Processes	16
2.1.4	MDTs effective functioning stages	16
2.1.5	Categorization of effective cancer MDTs characteristics	16
2.1.6	Patient centered care	16
2.1.7	Capacity of cancer care	17
2.1.8	Compliance MDTs cancer committee	17
2.1.9	MDTs cancer performance activities	17
2.1.10	Case presentation dynamics	18
2.1.11	Cancer waiting time management	18
2.3	The MDTs cancer committee structure	19
2.4	Communication & Coordination of MDTs cancer committee	20
2.5	Cancer patient case management in MDTs cancer committee	21
2.6	The MDTs cancer committee making decisions & recommendations	21
2.7	The MDTs cancer tracking systems	22
2.8	The MDTs cancer referral pathway	23
2.9	The MDTs cancer communication pathway protocol	24
2.10	Discussion of cancer case during MDTs cancer committee	24
2.11	The MDTs cancer committee barriers and Obstacles	25
2.12	Measuring the quality of MDT working and performance evaluation	30
2.13	Outline for operating an effective MDTs cancer committee	28
2.14	Main staff roles of MDTs cancer committee members	29
2.14.1	The role of Surgeon in MDTs cancer committee	29

2.14.2	The Role of Radiologist in MDTs cancer committee	30
2.14.3	The Role of Oncologist in MDTs cancer committee	30
2.14.4	The Role of Pathologist in MDTs cancer committee	32
2.14.5	The Role of coordinator in MDTs cancer committee	32
2.15	Continuity of Cancer Care	33
2.16	The MDTs cancer committee leadership	34
2.17	The MDTs cancer committee administrative and organization support	35
2.18	Collaborative practice in oncology	35
	Chapter (3) Methodology	
3.1	Study design	37
3.2	Study setting	37
3.3	Study population	38
3.4	Sample size and sampling process	38
3.4.1	The sampling phase (Quantitative method)	39
3.5	Study period	39
3.6	Eligibility (selection criteria)	40
3.6.1	Inclusion criteria	40
3.6.1	Exclusion Criteria)	40
3.7	Ethical and administrative considerations	41
3.8	Study instruments	42
3.9	Pilot study	43
3.10	Response rate	44
3.11	Data collection	44
3.12	Validity and Reliability	45
		45

3.12.1	Face validity	39
3.12.2	Content validity	45
3.12.3	Reliability	45
3.13	Data management and analysis	45
3.13.1	Closed ended questions part	45
3.13.2	Open ended questions part	46
3.14	Limitations of the study	46
	Chapter (4) Results and discussion	
4.1	Descriptive analysis	47
4.1.1	Characteristic variables	48
4.2	Distribution of multi-disciplines by professional variables	52
4.3	The performance working related to MDTs cancer committee members	53
4.4	Distribution of participants by cases presentation management variables	57
4.5	Distribution of participants by time case management related variables	59
4.6	The performance related to cases presentation dynamics of multi-disciplines of MDTs cancer committee members by place of work	65
4.6.1	The performance related to cases presentation dynamics variables in surgical hospital	67
4.6.2	The performance data related to cases presentation dynamics variables in medical hospital	71
4.7	Performance variables related to MDTs cancer committee	74
4.7.1	Distribution of responses regarding performance indicators of MDTs cancer committee working	79
4.8	MDTs cancer committee performance working related to processes variables	83
4.8.1	Preparation process for MDTs cancer committee related variables	85
4.8.1.A	Preparation process characteristics for MDTs (Pre-meeting stage) domain	85
4.8.1.B	Preparation process characteristics of MDTs cancer committee (during-meeting stage) domain	88
4.8.1.C	Preparation process characteristics of MDTs cancer committee (Post-meeting stage) domain	91

4.8.1.D	Meeting structure process characteristics of MDTs cancer committee team members domain	94
4.8.2	Organization, administration & Leadership process characteristics of MDTs cancer committee team members domain	98
4.8.3	Communication & Coordination process characteristics of MDTs cancer committee team members domain	101
4.8.4	Case management and clinical decision making process characteristics of MDTs cancer committee team members domain	107
4.9	Inferential analysis	112
	Chapter (5) Conclusion and Recommendations	
5.1	Conclusion	113
5.2	Recommendations	118
5.3	Recommendations for further studies	120
Chapter (6) References		121
Chapter (7) Annexes		125
Arabic abstract		167

List of tables

No.	Table	Page
Table 3.5	Sample size calculation	38
Table 4.1	Distribution of participants by socio-demographic variables	47
Table 4.2	Distribution of their work by multi-disciplines variables	51
Table 4.3.1	Distribution of participants according to their participation of scientific committees as core member which are not-related to cancer care	53
Table 4.3.2	Distribution of participants according to their participation scientific & technical committees at the MOH that currently participate in a month but not-related to cancer (as a participant)	54
Table 4.3.2.1	Distribution of participants by the number of cancer care education & training programs that they received during the period of work (inside MOH) at the last 5 years	54
Table 4.3.2.2	Distribution of participants according to the number of cancer care education & training programs that they received during the period of work (outside MOH) at the last 5 years	55
Table 4.3.3	Distribution of participants by the research and scientific participated previously related to oncology & cancer services	55
Table 4.3.4	Distribution of participants by the number of times participate in the MDTs cancer committee meetings monthly	56
Table 4.4.1	Distribution of cases that are discussed monthly by different departments	57
Table 4.4.2	Distribution of cancer cases that are presented monthly by member-self	57
Table 4.4.3	Distribution of cases without discussed monthly in MDTs cancer committee	58
Table 4.4.4	Distribution of participants by total cases that are discussed weekly in every MDTs cancer meeting	58
Table 4.5.1	Distribution of cancer cases by deferred MDTs discussed & delay within two weeks of end diagnosis	59

Table 4.5.2	Distribution of participants by delayed intervention after two weeks two weeks of making decision	60
Table 4.5.3	Distribution of participants by the time factor expected to implement the MDTs cancer decisions & recommendations after discussed	61
Table 4.5.4	Distribution of participants by weekly MDTs cancer meeting in hours	61
Table 4.5.5	Distribution of participants by time factor to prepare the cases before discussed at every meeting	62
Table 4.5.6	Distribution of participants by time of discussion for each case per minute during MDTs cancer meeting	63
Table 4.5.7	The performance related to cases presentation dynamics of multi-disciplines of MDTs cancer committee members by place of work	64
Table 4.5.8	The performance related to cases presentation dynamics variables in surgical hospital	68
Table 4.5.9	The performance related to cases presentation dynamics variables in Medical hospital	70
Table 4.6	Distribution of performance variables related to MDTs cancer committee members	73
Table 4.7	Distribution of performance variables related to MDTs cancer committee indicators	78
Table 4.8	Total mean score, SD, and ranking of Likert scale for all MDTs cancer performance domains	83
Table 4.8.1.a	Distribution of responses by preparation process in Pre-meeting stage scale items	84
Table 4.8.1.b	Distribution of responses by preparation process in during-meeting stage scale items.	88
Table 4.81.c	Distribution of responses by preparation process in post-meeting stage scale items	91
Table 4.8.1.d	Distribution of responses by meeting Structure stage scale items	94
Table 4.8.2	Distribution of responses by organization, administration & Leadership scale items	97

Table 4.8.3	Distribution of responses by Communication& Coordination scale items	102
Table 4.8.4.a	Distribution of responses by case management and clinical decision making scale items	106
Table 4.8.4.b	Distribution of responses by case management and clinical decision making scale items	107

List of figures

Figure		Page
Figure 2.1	Conceptual framework	18

List of annexes

Annex 1	Location Map of Gaza Strip	127
Annex 2	Distribution of their work by multi-disciplines variables	128
Annex 3	MDTs cancer meeting for cancer patient flow chart in Al-Shifa Medical Complex	130
Annex 4	Measuring domains that are important for MDT effective functioning	131
Annex 5	The MDTs cancer communication Pathway Protocol	132
Annex 6	Ethical approval from Helsinki Committee	132
Annex 7	Administrative approval from MOH	134
Annex 8	Administrative approval from Al-Quds University- Jerusalem	135
Annex 9	Explanation about the study to the participants (English & Arabic)	136
Annex 10	The Questionnaire(English and Arabic)	138
Annex 11	Questionnaire review experts	159
Annex 12	Table of review experts	160
Annex 13	Tables of Inferential analysis	161
Annex 14	Abstract in Arabic	167

List of abbreviations

CM	Coordinator Meeting
CPD	Continuing Professional Development
CPG	Clinical Practice Guideline
CT	Computerized Tomography
CWTs	Cancer Waiting Times
ECC	Ethics and Confidentiality Committee
GS	Gaza Strip
HCPs	Health care providers
HIS	Health Information System
ICS	Integrated Cancer Services
ICWS	International Cancer Waiting Times Standards
IT'	Information Technology
LIS	Laboratory Information System
MDT	Multidisciplinary Team
MDTM	Multidisciplinary Team Meeting
MOH	Palestinian Ministry of Health
MRC	Medical Research Council
MRI	Magnetic Resonance Tomography
MRI	Magnetic Resonance Imaging
MTT	Molecular Target Therapy
NCAT	National Cancer Action Team
NCAT	National Cancer Action Team
NCCN	National Comprehensive Cancer Network
NCCN	Northern cancer care Network
NCR	National Cancer Registry

NHS	National Health Service in England
NICE	National Institute for Health and Care Excellence
OPA	Out-Patient Appointment
PACS	Picture Archiving and Communication System
PAS	Patient Administration System
PCD	Patient Case Discussion
PCD	Patient Care Discussion
PDNAs	Patient Did Not Attended
PET-scan	Positron Emission Tomography
PHIC	Palestinian Health Information Centre
PNA	Palestinian National Authority
PCBS	Palestinian Central Bureau of Statistics
POM	Pre-Operative Meeting
PPI	Patient Pathway Identifier
PSM	Pre-surgery Meeting
PTL	Patient Tracking List
PTS	Patient Tracking System
RIS	Radiology Information System
RTT	Referral to Treatment
SCWTM	Standards Cancer Waiting Time Management
SPSS	Statistical Product and Service Solutions
TNM	Cancer categorization or Classification of malignant tumor based on Tumor type and size, Regional Lymph Node involvement and Metastases findings
WB	West Bank
WHO	World Health organization

Chapter 1

1. Introduction

1.1 Research background

Cancer is an important disease in the global burden of diseases. It is a leading cause of death worldwide, deaths from cancer worldwide are projected to continue rising and it affects people at all ages (WHO, 2013).

Multidisciplinary team was an integrated team approach to health care in which medical and allied health care professionals considered all relevant treatment options and develop collaboratively an individual treatment plan for each patient (Melbourne, 2010).

Multidisciplinary team work in patient management, especially cancer patient management was advocated in clinical practice guidelines in many countries. As part of that process, it was common practice to hold MDTs to agree with patients disease stage and plan appropriate treatment (Alberts et al., 2003).

The rationale for MDT work was that as the management of patients with cancer became more complex, it was important to involve all key professional groups in making clinical decisions. MDTs, therefore, consisted of surgeons, physicians, clinical and medical oncologists, radiologists, pathologists, and clinical nurse specialists as a minimum (Taylor and Ramirez, 2012).

The use of MDTs in cancer care was endorsed internationally, however, uptake varies. MDT practice was quite entrenched in the United Kingdom (UK), Europe, Australia and Canada, as well as in parts of the United States (US); however, it was a less common model of care in Asia (June, 2012).

The MDTs cancer committee or called MDCT such as MDT-Committee members in King Hussein Cancer Center (KHCC) in Jordan which was established in 2004 or MDT-Cancer committee in England which was established in 1999 as a national MDTs cancer committee (Ciaran D. UK, 2014), but the same work committee meetings in other name which were the same functioning such as in Israel Hospitals like MDTs cancer in Hadassah hospital which was established in 2002 and & AL-Motala,a Hospital in Al-Quds city which was established in 2007 as called Tumor Board Committee (TBC-NHS, 2009).

The MDTs cancer committee facilitated best-practice management and enabled the most appropriate care plan to be developed. It also allowed an identified team member to convey the team recommendations to ensure the patient was able to effectively participate in forward treatment and planning (Nkrumah and Mensah, 2014).

An MDT made recommendations rather than decisions. These recommendations could only be as good as the information available to the MDT at the meeting. The final decision on the way forward needed to be made by the patient in discussion with their clinician. MDTs should be alerted if there were significant changes to their recommendations and the reason for this so they had the opportunity to review and learn from these cases (Jalil R. et al., 2013).

The benefits of MDT work were thought to include improved communication, coordination and decision making between health care professionals when weighing up treatment options. Indeed, multidisciplinary discussion could help health care professionals tailor holistic treatment plans to patients tumor type, biological markers as well as their co-morbidities and social circumstances. However, research examining changes to clinical outcomes since the implementation of MDTs cancer had led to inconclusive results since other factors including novel treatments, technology and service changes had evolved in parallel (Chad et al., 2008).

The MDTs cancer committee could provide comprehensive cancer care and support medico-legal implications and responsibility of group decisions, but doctors remained individually liable responsibility and accountability (NHS National Cancer Action Team, 2012).

1.2 Research problem

Cancer care in Palestinian was facing many challenges in the provision of its services, Internal and external access blocks such as Sustainable and maintenance of services levels especially in the presence of economic crisis, shortage of resources, poor data and information and political instability that lead to fragmented and weak monitoring care system of this disease in GS .The cancer management joined with the increase of the burden of the disease itself as well as the increase in the number of oncology cases and still representing the second cause of death and high morbidity charge, also cancer departments as a part of the Palestinian health care system were affected by the general problem of this system and suffering from limited number of centers, scarcity of equipment and facilities.

The actual experience of the MDT cancer care committee provided by Al-Shifa Medical Complex in the GS is new started work in 2012, but still was unclear about effectiveness of performance and measuring outcomes so there was a need of more attention and investigations whereas most of the local past studies focused on cancer epidemiology. Some cancer care services were introduced by MDT cancer management in AL-Shifa Medical Complex, but not sure whether these were effective and adequate or not. In otherwise, we did not know where we were and what were the achievements and the ongoing action plan on ground. This study would fill these gaps in information.

1.3 Justification

Cancer patients often had complex needs that cannot be addressed by a single specialty or discipline. Many types of cancer were relatively uncommon tumors and there were some risk characteristics of depth, size ,pattern invasion and extent of tumors, and may be lack of expertise in managing the complex diagnostic, surgical, oncological and palliative issues of patients in general hospital setting, so we needed an effective MDTs cancer working.

The researcher selected this study as he was working at the cancer MDT committee at AL-Shifa Medical Complex for three years. The researcher was in contact with patients who were suffering from cancer for long period as a coordinator member of the MDTs cancer committee. Resents reports which studied the health status in the Palestinian Territories presented by National or international institutions showed that there was a marked increase in the number of morbidities and mortalities related to cancer diseases (MOH, 2006). In addition there was no accurate or reliable data that reflects the current quality of care provided for cancer patients in GS (Abed, 2007). Those facts raised the importance of conducting this study.

From the researcher observation, the theme of providing cancer care by MDTs cancer committee work was not adequately conceptualized.

The characteristics of an effective MDT and the putative benefits of this approach in MOH at GG had not systematically been evaluated until now, so the influences of factors and performance of MDT cancer-committee on cancer care services needed more investigation.

The MDTs cancer had been identified as a key enabler in the provision of high-quality treatment and care for cancer patients (National Cancer Action Team NHS, 2012a).

Cancer care could be complex, due to the large number and range of healthcare providers and increasing specialization and complexity of knowledge who may be involved, there was potential for poor communication and poor coordination of care, so MDTs cancer work should ensure a consistent and equitable approach to planning and managing care they were working as a steering group for cancer care.

The MDTs cancer committee facilitates best-practice management and enabled the most appropriate care plan to be developed. It also allowed an identified team member to convey the team recommendations to ensure the patient was able to effectively participate and regulate planning of cancer patients that lead to delay cancer services.

The MDTs cancer committee can provided comprehensive cancer care and support medico-legal implications and responsibility of group decisions, but doctors remains individually liable responsibility and accountability (Sodom and Poulsen, 2006).

The study also came on context that was characterized by high incidence rates of cancer with increasing attention to needs of clients and including cancer care improvement in MOH cancer care plan, therefore findings of this study might feed into the future planning and policies process. In addition to provide tentative guidelines for other researchers to conduct field and give suggestions or highlights about improving the quality of cancer services.

The MOH as the main HCPs for cancer management was working hard and overcrowding conditions to provide at least the minimum duties and requirement to keep continuously cancer care as it could and as it was possible. However, MOH was needed for information to promote services provided. Few of the previous studies tackled in specific this type of services; therefore, this was an important one.

1.4 Aim of the study

The purpose of this study is to improve outcomes of cancer patient care and to provide a supportive elements, mechanisms of process that enhance formal environment and sharing the best practices whereby a multidisciplinary cancer team can come together and improve the quality of life for cancer patients with a life limiting illness through MDTs cancer effective planning, coordination & management of the delivery of individualized evidence based cancer care.

1.5 Objectives of the study

1. To appraise the achievements/performance of the multi-disciplinary team committee for cancer management.
2. To assess MDT‟s work approaches and mechanisms in reference to the best practices and recognized benchmarks.
3. To identify the main challenges, obstacles and lessons learnt throughout the work of the MDTs.
4. To provide a set of recommendations that possibly contributes to improving the performance of the MDT.

1.6 Research Questions

1. What are the relationship between effective MDT‟s factors and the member's performance?
2. What are the correlation between availability of MDTs resources and effectiveness of cancer care?
3. What are the actual MDT‟s processes implemented for action plan management of the cancer disease in Al- Shifa Medical Complex?
4. What is the relationship between essential parameters that influences an effective compliance of MDTs?
5. What are the main problems & barriers facing the MDTs members to provide cancer services for patients during all MDTs stages and pathways?
6. What is the relationship between roles & responsibilities of MDTs members and all performance variation level for cancer care?
7. Did the MDTs cancer care achieve the goals of cancer care?
8. Did the MDTs committee achieve the standardize cancer care as a reference to the best practices and recognized benchmarks?
9. What are the relationship between the effects of MDTs cancer committee working and educational level with professional developing?
10. What are the recommendations concluded from the study that might promote the cancer care services in Palestine?

1.7 Context of the study

The demographic, socioeconomic, and political situations greatly had an impact on health and humanitarian organization which worked in GS and WB, this context influenced the

services by specific way to suit these situations and to overcome our permanents emergency situation. The researcher presented general information about the health status of GS with these situations that would be essential in understanding the context of multidisciplinary team cancer care service in AL-Shifa Medical Complex at MOH.

1.7.1 Geographical context

Palestine constitutes the southwestern part of a huge geographical unity in the eastern part of the Arab world, which was Belad El-Sham. In addition to Palestine, Belad El-Sham contains Lebanon, Syria and Jordan. Palestine used to have common borders with these countries, in addition to Egypt. The entire area of historical Palestine is about 27,000 Km2, Palestine stretching from Ras Al -Nakoura in the north to Rafah in the south. Palestine is bordered by Lebanon in the north, the Gulf of Aqaba in the south, Syria to Jordan in the east and by Egypt and the Mediterranean Sea in the west. Palestine was placed under the British mandate in 1919 which had been terminated by Israel establishment in 1948 in implementing the Balfour Declaration of 1917 that had promised a homeland for Jews. The result of implementation of that promise was the uprooting of most of the Palestinians from their cities, towns, and Villages and the migration to the West bank, Gaza strip, Jordan, Lebanon, Syria, and many other countries (Dakkak I., Palestinian Academic Society for the Study of International Affairs -PASSIA, 2009)

GS is a narrow piece of land lying on the coast of the Mediterranean Sea. Its position is on the crossroad from Africa to Asia made it is a target for occupiers and conquerors over the centuries. The last in the recent history of these was "Israel", which occupied GS from Egyptians in 1967. GS is very crowded place with area 365 sq. km. and constitutes 6.1% of the total area of Palestinian territory lands. GS compromises the following main five Governorates: North of Gaza, Gaza City, Mid-zone, Khan-younis, and Rafah. Palestine comprises two areas separated geographically: the WB and GS. The total area of Palestine is 6,020 Km2 (PCBS, 2013).

1.7.2 Demographic context

According to PCBS (2015), the total population of the PNA at the end of 2014 is about 4,616,418 individuals 1,790,010 in GS and 2,826,408 in WB with population density 767 capita per Km2 (PCBS, 2015a).

Now Palestine is limited to two geographically separated areas, GS and WB, with a total area 6020 km2, which represents 22% of historical Palestine (PCBS, 2014).

According to the Population, Housing and Establishment Census of 2014, the total population of the Palestinian territory at the end of -2014 was about 4,616,418; 2,345,453 males and 2,270,965 females. The estimated population of WB was 4,616,418 of which 1,436,014 males and 1,390,394 females, while the estimated population of GS totaled 1,790,010 of which 909,439 thousand males and 880,571 females (PCBS, 2015a).

Population density of the Palestinian territory is generally high at 767 persons/Km2, particularly in GS is 4,904 persons/km2 compared to lower population density in WB at 500 persons /Km2 at the end of 2014 (PCBS, 2015a).

1.7.3 Gaza Strip

Gaza Strip is a narrow land, located on the southwest of Palestine on the coast of the Mediterranean Sea, the Strip borders Egypt on the southwest and the Israeli occupation state on the east and north. It is about 41 kilometers long, and between 6-12 kilometers wide. It is divided into five districts; North, Gaza, Mid-zone, Khan-Younis and Rafah. There are four towns, eight refugees" camps and fourteen villages (PCBS, 2015a).

GS is a high crowded area, where approximately 1,790,010 million live in 378 km2, with an estimated density of about 4904 people per square kilometer. The population is concentrated in 7 towns, 10 villages and 8 camps (PCBS, 2015b) .The density has an increases in refugee camps (UNRWA, 2014). GS is divided into five governorates, North of Gaza, Gaza city, Mid-Zone, Khan-Younis and Rafah. The population is under 15 years old in GS represents 43.1% and those of 65 years and more represent 2.5% (PCBS, 2015b).

1.7.4 Palestinian National Cancer registry in GS

Cancer registry is a functional unit for data collection and management which help to put further plans for cancer services planning. National Palestinian cancer registry was established on 1998 by direct decision from the MOH in conjunction with the cancer registries in Middle East countries and they become a member of middle east cancer consortium (MECC).The Palestinian cancer registry was established in cooperation between MOH and MECC in both Gaza and Bit Jala in West Bank, which play important role in reporting and classifying the malignant diseases according to standard form of the

MECC. It has worked in data collection since 1998 and annual reports where done showing the burden of cancer in GS and WB, the first was on 2001 under the name of cancer 2000 which was founded by NCI-USA. The second report done on 2008 funded by Italian cooperation, the third report published in 2015 by PHIC in MOH because the Cancer registry in GS working now as a in-hospital based data collection (MOH, 2016).

Data collection and management used to be done by international computer software called Can-Reg program designed and trained at IARC-France. Three consider of medical centers for data collection in GS Al-Shifa Medical Complex, European Gaza Hospital and Al-Nasser pediatric Hospital. The main sources of data collection; the three medical centers mansion above, the Histopathological Laboratories, local private sectors, and referral abroad (MOH,2008).

The cancer reports published depending on cancer registry data have explored the burden of cancer in Gaza Strip, also the new trend of cancer subtypes incidence in GS. Furthermore, these reports have alarmed the increasing the number of cases and changing the incidence of some cancer types to be on the top of the list which has not seen through ten years ago (MOH,2015)

Palestinian National Cancer registry now is becoming operated as important department under the PHIC in MOH and still functioning on cancer data collection, management and publication (MOH, 2016).

1.7.5 Cancer incidence in the GS

The most common cancers were; in males: colorectal, lung, lymphomas and leukemia, but Females: Breast, colorectal, lymphomas and leukemia (the final report is pending).

According to cancer registry 2011, during the period between 1998 and 2008, there was a total of 7412 invasive cancer cases and during 2009-2014, there was a total 7069 invasive cancer cases and they were registered in GS Cancer Registry. The number of cases increases by time until the maximum number of cancer cases (820 cases) had been reported during the year 2008 and the crude cancer incidence rate for all the population was 49.2 per 100,000 persons (Abed et al., 2010).

In otherwise, according to cancer registry 2015, there was the distribution of cancer patients during the past six years from 2009-2014. We noted the steady increase in the

number and crude incidence rate crude remarkably where it was in the year 2009 (945 cases) and incidence rate (65.6 /100,000). While, arrived in the year 2014 to (1502 cases) at the crude cancer incidence rate for all the population was (83.9/100,000) and comparing it with the years 1998-2008 there was increase in the number of cancer clearly where the incidence rate was around 2008 (51/100,000) (MOH, 2016).

Interestingly, there was incidence compared to age during 2009-2014, Age Adjusted Rate(ASR) was 148.3 /100,000 persons record, while in the years 1998 to 2008 was (105/100.000 persons). This result convergent average with some Arab countries where it was ASR while in Jordan had reached (128/100.000), in Saudi Arabia (84/100,000) the state of Oman had reached (91.4/100,000) and that was incongruent with UK that had reached (668/100.000) (MOH, 2016).

The increase number of cancer cases was attributed to the increase in the number of the population in GS during the years of investigation, the inclusion of more comprehensive data sources, and improvement in detection rate of various types of cancer due to the rise in the number of diagnostic facilities. The increase could also be attributed to the changes in life style and in the prevalence of risk factors coupled with an increase in life expectancy (Abed et al., 2010).

There was variation in adult cancers occurrence by sex. During 1998-2008 the total number of cancers among males was 3531 cases and the total number of cancers among females was 3877 cases. The specific cancer incidence rate among females was higher than the rate among males, 52% and 46 per 100,000 persons respectively (Abed et al., 2010). Whereas, in cancer registry report during 2009-2014 still maintained the difference between sex until now the specific cancer incidence rate among females was (54-54.5%) but the specific cancer incidence rate among males was (45.5-46%) (MOH, 2016).

There were variations between the five Gaza Governorates in cancer incidence. Gaza Governorate reported the highest incidence rate among the localities in GS. Differences between other Governorates were small. Further investigations revealed that the staff report Gaza when the address was not recorded or not clear (Abed et al., 2010). Furthermore, in 2014 during 2009-2014 still the Gaza Governorate reported the highest cancer incidence rate (3130 cases) around 44.2% from all cancer cases in Gaza Strip, the crude cancer incidence rate for all the population was 549.3 per 100,000 persons. While, the Khan-younis Governorate reported the second highest cancer incidence rate (1266 cases) around

17.9% of all cancer cases in the Gaza Strip, the crude cancer incidence rate for all the population was 407.2 per 100,000 persons. Moreover, the Middle Zoon Governorate reported the third cancer incidence rate around 13.3% from all cancer cases in the Gaza Strip, the crude cancer incidence rate for all the population was 394.8 per 100,000 persons (MOH, 2016).

The reported cases of cancer during the child hood (0–14 years) found 476 cases around 6.7% from total cancer incidence, it was higher than those reported during the following age period (15–24 years). The number of cases gradually increased for both sexes until age 65 and then dropped again. The cancer incidence rate reached the peak in aged between 55-64 years old around 20.9% from total cancer incidence then decline was in age group more than 75 years old, but remarkably female incidence increase was more than males in the same age group between 25-35 years old and more (MOH, 2016).

The number of male cases was more in childhood and after 65. For males, before 2010 the cancer registry reported the most common cancers were cancer lung with incidence rate 5.8 per 100,000 persons. Cancer lung formed 12.4% from all male cancers, but now in 2014 the second common cancers in males were lung cancer (370 cases) around 11.6% with incidence rate 44.9 per 100,000 male persons (MOH, 2016).

Previously before 2010 the colorectal cancer was the second common cancer among males and that was the colorectal 14 cancer with incidence rate 4.6 per 100,000 persons. Proportionally colorectal cancer formed 10% of all male cancers (Abed et al., 2010). But now in 2014 the most common cancers in males were colorectal cancer (378 cases) around 11.7% with incidence rate 45.3 per 100,000 males persons (MOH, 2016c). These were followed by leukemia (4.5), cancer prostate and bladder (3.3%) (Abed et al., 2010). Now, in 2014 the most common types of male cancers followed by prostate (8.3%), cancer leukemia (7.9%), lymphoma (7.4%), brain (6.6%), urinary bladder (5.6%) stomach (4.5%), bone (2.9%) and kidney cancer the lowest (2.6%) (MOH, 2016).

Previously before 2010 there were the most common types of female cancers, the cancer of breast was the most common cancer forming 30% of cancers among women with incidence rate was 15.6 per 100,000 persons. Colorectal cancer was reported with incidence rate of 4.9 to be the second common cancer among women (Abed et al., 2010). Now, in 2014 there was the most common types of female cancers and there was the breast cancer forming 31.3% around 1207 cases among women with incidence rate 149.1 per 100,000

persons followed by colorectal cancer (338 cases) around 9% with incidence rate among women 42.7 per 100,000 persons, thyroid cancer (6.8%), cancer leukemia (6%), uterus cancer (4.6%) lymphoma (4.4%), lung (3.9%) brain (3.8%), ovary cancer (3.4%) and bone cancer the lowest (2.2%) (MOH, 2016).

For all of the population, the four most common cancers were keeping the order breast, colorectal, leukemia, and cancer lung. Leukemia was the fourth most common cancer (8.4%) in GS and more reported among children and most frequently in the age group 0-14 where 32.5% of cases are reported. Observing the incidence rate of Leukemia was 4.1 per 100,000 persons (4.5 for males and 3.8 for females).

The total number of cancer pediatric in GS during the year1988-2008 was 679 cases, but during 2009-2014 was 476 cases that forming 6.6% from all cancer cases in the Gaza Strip. Number of cases during 1988-2008 among pediatric males was higher than pediatric females (387 and 292 respectively) and still until now during 2009-2014 among pediatric males cases was higher than pediatric females 264 (55.4%) and 212 (44.5%) respectively). Now, during 2009-2014 the five most common childhood cancers were Leukemia (30.3%), Lymphoma (19.4), and malignant tumors of the brain and spinal cord (13.9%), Neuroblastomas (6.8%), and malignant bone tumors 6.2% (Abed et al., 2010). The five most common childhood cancers during 2009-2014 were Leukemia (25.4%), Brain tumor and spinal cord (16.5%), Lymphoma (11.6%), Bone tumors (6.3%) and Neuroblastomas (6.1%) (MOH, 2016).

1.7.6 Cancer management in GS

There were three MOH hospitals that provide cancer care for free in GS: Al-Shifa Medical Complex, European Gaza Hospital (EGH), and Al-Rantisi hospital. In each one, patients received the service in outpatient clinics or admitted as in-patient in the wards. In total, 66485 cancer visits were recorded in three hospitals in 2014, the total cancer visits were distributed as 68 % in Al-Shifa hospital, 30 % in EGH and 12 % Al-Rantisi hospital (MOH, 2015b).

Al-Shifa Medical Complex is one of the main and the most important hospital in Palestine. It is located in the west part of Gaza, was established on 1946 and developed over years until it has reached to a higher international level and has 742 beds. It has oncology department with 33 beds and outpatients clinic for daily care with 16 beds that provides

cancer care for only patients with 12 years old and more whom live in north of Gaza, Gaza city and mid-zone of GS. A total of 232 specialists, 9 physicians in oncology and hematology departments, 26 nurses, and 5 pharmacists provide the cancer care (MOH, 2015b).

European Gaza Hospital is located in the southern governorate of Khan-younis with 216 beds. It has oncology department with 17 beds and outpatients clinic for daily care with16 beds that provide cancer care for both adult and pediatric patients who live in south of GS. A total of 4 physicians in oncology and hematology department, 13 nurses, and 2 pharmacists provide the cancer care (MOH, 2015b).

Al-Rantisi Hospital is a specialized hospital for pediatric care only; one of the main provided services is the oncology and hematology department with 16 beds for admission and outpatient clinic for daily care for patients with less than 12 years old. It has 49 beds. About 4 physicians, 6 nurses and 3 pharmacists provide the cancer care (MOH, 2015b).

Available of cancer services in GS; cancer the rapy includes several modalities which comprises surgical treatment, chemotherapy and radiation therapy; in addition to the auxiliary services such as radio-diagnostics, laboratory and nuclear medicine.

1) Surgery: about 85% of the surgical treatment of cancer patients can be done locally at our side (Referral abroad records MOH, 2014).

2) Systemic treatment: 70% is available at our side (MOH, 2014).

3) Radiation therapy: Not available yet, no radiation services in Gaza (Abo Amer, 2013).

1.7.7 Cancer services in Al–Shifa Medical Complex

Al-Shifa Medical Complex considered the largest medical institute in PNA that provides secondary health care services for more than 480,430 populations and provides tertiary services for all Gaza Governorate population. Al-Shifa Medical Complex is educational hospital for many of public health & medical schools, universities and Palestinian medical board consists of nine types of board specialties localized in western region of Gaza City on 42,000 square meters, it was established in 1946, and passed many stages of improvement. In 2015, the hospital contained 742 beds distributed in many departments for three hospitals surgical, medical, Obstetric & gynecological hospitals ,total number of staff are 1742, surgical hospital departments are 17 contains 13 surgical subspecialty, the

total numbers of doctors are 233, total numbers of specialties are 144, medical hospital departments 14 contain 16 subspecialty, total numbers of doctors are 118, total numbers of specialties are 51,Obstetric & gynecological hospital departments 4, total subspecialty3, total numbers of doctors are 91, total numbers of specialties are 37, Radiology departments 14 doctors ,12 radiologists, cytology &histology department three doctors, four pathologist (MOH, 2015d).

The Onco- hematology service was constructed since 1984.The average number of cancer cases in Oncology department 2300 per month (new cases 85-90, old cases 2210-2215) the average No. of cases being treated at the daily care unit of OPD were 800 monthly, Hematology cases 1254 (new cases 61 & old cases 1193), Occupancy beds rate 145 %.

The diagnostic and treatment cancer services in AL Shifa Medical Complex; the average of total laboratory tests for oncology and hematology per month10611 tests, number of oncology and hematology inpatient beds are 33 beds, number of total chemotherapy doses per month 297 doses (oncology 227& hematology 70), pathological malignancy positive reports are 89 per months, radiology cancer services around 262 per month CT –scan,81 MRI, 482 U/S related to cancer patients monthly, other radiological procedures 130-140; (Final Aspiration Needle Biopsy FNAB 65, true cut biopsy TRCT 35, interior radiological procedures 40) per month.

The Onco-surgery services surgical procedures related to all sub types of malignancy tumors in all surgical sub-specialties and Gynecological cancer surgery are 58-60 per month (MOH, 2015d).

The Referral abroad for cancer patients from AL-Shifa Medical Complex monthly about 441 cases (oncology cases 345, hematology 94 cases), 48% referral for chemotherapy, 33% for radiological diagnosis, 7% for radiotherapy, 10% for PET-scan and PET-CT-scan (MOH, 2015d).

1.7.8 MDTs cancer committee in Al-Shifa Medical Complex

In Al-Shifa Medical Complex, trials aiming to robustly evaluate the effectiveness of MDTs cancer committee cannot be carried out any longer as MDTs cancer work is now ubiquitous having been mandated by the MOH from four years ago (MOH, 2013e).

In AL-Shifa Medical Complex is establishing in October 2012, Now annually the MDTs committee accepts 624 new cases and 184 follow cases and most of them are cancer services and are now delivered by multidisciplinary teams MDTs-cancer committee (MOH, 2014).

The MDTs cancer committee in Al-Shifa Medical Complex constructed from core members (total number of MDTs core members are 24 and non-core members consist of all the different specialties and subspecialties in the three hospitals medical, surgical, Obstetrics and Genecology hospitals and who meet weekly (MOH, 2013).

The first policy established by MDTs cancer committee was the medical director of Al-Shifa Medical Complex who responsible and accountable to operate this committee. The second policy all of cancer cases that are discovered or diagnosed inside the hospitals are mandating to discussed through MDTs cancer committee by relevant specialist before any planned management or further investigation to take appropriate clinical decisions either it was surgical, medical or diagnostic intervention. Moreover, the Committee appointed the moderator member to manage this committee and MDTs coordinator member to administrating and organized the committee working. Although they established new form called MDTs cancer case form and put the policy to fill a complete data by relevant doctor and how preparation the cancer case for discuss in MDTs cancer committee (MOH, 2013).

After one year in 2013 the MDTs cancer committee extended the membership of the committee to include all the specialists in Al-Shifa Medical Complex have the new cancer case or old case need follow up to support and enhance the tracking system, they called non-core member and connecting the MDTs working and decisions with all medical care procedures that introducing by all facilities and HCPs to reduce the cancer waiting time management in all the time to improve the outcomes the main mission of MDTs cancer committee in Al-Shifa Medical Complex rapid diagnostic rapid treatment (MOH, 2014).

1.8 Operational definitions

1.8.1 Cancer Multidisciplinary team

A group of people with complementary skills who are committed to a common purpose, performance cancer care goals and approach for which they hold themselves mutually accountable (NMHC and Shalinte, 2006).

Chapter 2

Literature Review

2.1 Conceptual Framework

The purpose of the conceptual framework was to provide a logical, coherent structure through which the phenomenon of concern can be understood and discussed. It provided a frame of reference to guide thinking, observations and interpretations of the study that is shown in Figure (2.1). Three major categories were including in the research framework: firstly the contexts of the organization characteristics, characteristics of the patients and categorization of cancer MDT effective characteristics. The second category of the framework was the mechanisms of MDT effective functioning stages, which represented the link between inputs and outcomes; it referred to what HCPs do for the patients and how well they do it for both technical and interpersonal aspects including MDT domains and sub-domains that measured the importance for MDT effective function which included sub-domains such as the team members characteristics, MDT- structure characteristics, MDT- processes, MDT organization and supporting logistics and team governance. The last category of this framework was the measuring outcomes; they referred to the results of the health care delivery process. There were five types of measures that will be evaluated including capacity of care, compliance of patient's action plans, MDT performance activities, case presentation dynamics and responsiveness, cancer waiting time management that reflect the time factor that affecting on the cancer care service which was managed by MDTs cancer committee.

2.1.1 Organizational characteristics

The process of MDTs cancer committee is not an isolated process; rather it forms part of, and is usually consistent with different organizational characteristics which are important to support effective MDTs cancer committee working. In this study, organizational characteristics comprise with variables; MDTs structure, referral policies, organizational support, cancer pathways and circumstances of MDTS working, professional Factors and membership, leadership with managerial support to measure the effectiveness MDTs work structure of cancer MDTs cancer care and management.

2.1.2 Characteristics of the patients

All the cancer patients characteristics that effect on MDTs cancer working and comprise with number of patients discussed in MDTs, nature of patients, nature of cancer case discussed with clarify the reason of cause that affected with this variables. Also, the effective factors that may influence patients care that include; the type of cancer patients, the health professionals that are involved in cancer care, the treatment services which patients need, whether those services are provided.

2.1.3 The MDTs cancer Processes

This refers to all the multidisciplinary team processes that reflect the effective MDTs cancer working. Also we asked the main questions by used evaluation tool to know what happens before, during, after the MDTs cancer meetings process that clarified the MDTs preparation process characteristic including three stages (pre-meeting process, during meeting process and post meeting process), referral process, cancer case management and clinical decisions making process, communication & coordination including tacking system, and administration, leadership & organization process.

2.1.4 MDTs effective functioning stages

This refers to all domains that included subdomains and items related to each process of MDTs cancer committee working to evaluate the effective functioning level which include the preparation stages (pre, during and post) and structure stage.

2.1.5 Categorization of effective cancer MDTs characteristics

The Categorization of cancer MDTs factors that effecting to MDTs working include the team membership and formulation, core professionally skills, climate of work, physical environment, control, conflict, barriers/obstacles, access of cancer blocks, reporting, documentation, information, technology resources, supporting and logistics, organization and preparedness.

2.1.6 Patient centered care

All the factors affecting on cancer patients that facing the MDTs cancer committee working during the cancer journey to continuity of cancer care services including cancer patients pathway, patients tracking, follow up with the time consuming, challenges of

availability diagnostic and treatment resources with informing and involvement the cancer patients choices

2.1.7 Capacity of cancer care

The factors that balanced position between demand and capacity to explore the good practice principles in relation to modelling demand and capacity for cancer services which include the patient pathways, frequency of meeting, time duration, availability of resources, patient treated and complete intervention by MDTs cancer committee, patients are treated in order by clinical priority; and against the two week wait, patients are actively managed against the pathway for their conditions that reflect when demand exceeds capacity then the number of patients waiting will grow, along with the waiting time standard for an appointment to accomplished the MDTs cancer committee management and recommendations.

2.1.8 The compliance MDTs cancer committee

The Compliance of attendance at meetings, professional group of respondents, membership and coordination for each tumors type by each relevant MDTs cancer member need to be discussed for each cancer patient to evaluate with appropriate cancer action plan, members participation, the number of case presentation by each department and self-member and the compliance level for achievements MDTs cancer recommendations. On other hand, the compliance of polices and guidelines protocols of MDTs cancer committee working.

2.1.9 MDTs cancer performance activities

To identify MDTs training and development roles, discussion activities, number of meeting attendance, time factor for MDTs implementation of intervention and recommendations, participations with scientific papers and research, responsiveness, development protocols, preparation time period for MDTs cancer cases, delay of diagnostic and intervention of cancer cases, number of case are discussed, deferred cases, postponed cases, difficult case to be tracking and regularity of reporting and monitoring of MDTs performance indicators such as attendance rate, survival rate, mortality and morbidity rate, incidence rate and waiting time intervals.

2.1.10 Case presentation dynamics

All the factors comprise with variables that reflect the cases that are presented by departments and by member-self, the total cases that presented in every meeting, the total cases that deferred from discussed, the time expected to presented each cancer case, the time consuming for MDTs cancer meeting weekly, the time for preparation each case before presented, time consuming for presented each case during every meeting, the number of cases that are not presented monthly and number of leakage cases.

2.1.11 Cancer waiting time management

The international standards expected to comply with maximum waiting time periods set centrally that determined how long a patient with suspected cancer should wait to be diagnosed and or treated in each process. Cancer waiting times covered the majority of patients and tumor types according to international waiting time guidelines for diagnosed & operational standards or performance of cancer management that identified an expected level of achievement based on case mix, clinical requirements, potential levels of patients unfit for treatment and electing to delay treatment patient choice during the cancer patient journey before or after two weeks from discussed on MDTs cancer committee. So, the CWT measured the time expected to implementation of case diagnosed or intervention/ recommendations of MDTs cancer committee and calculate the delay of time.

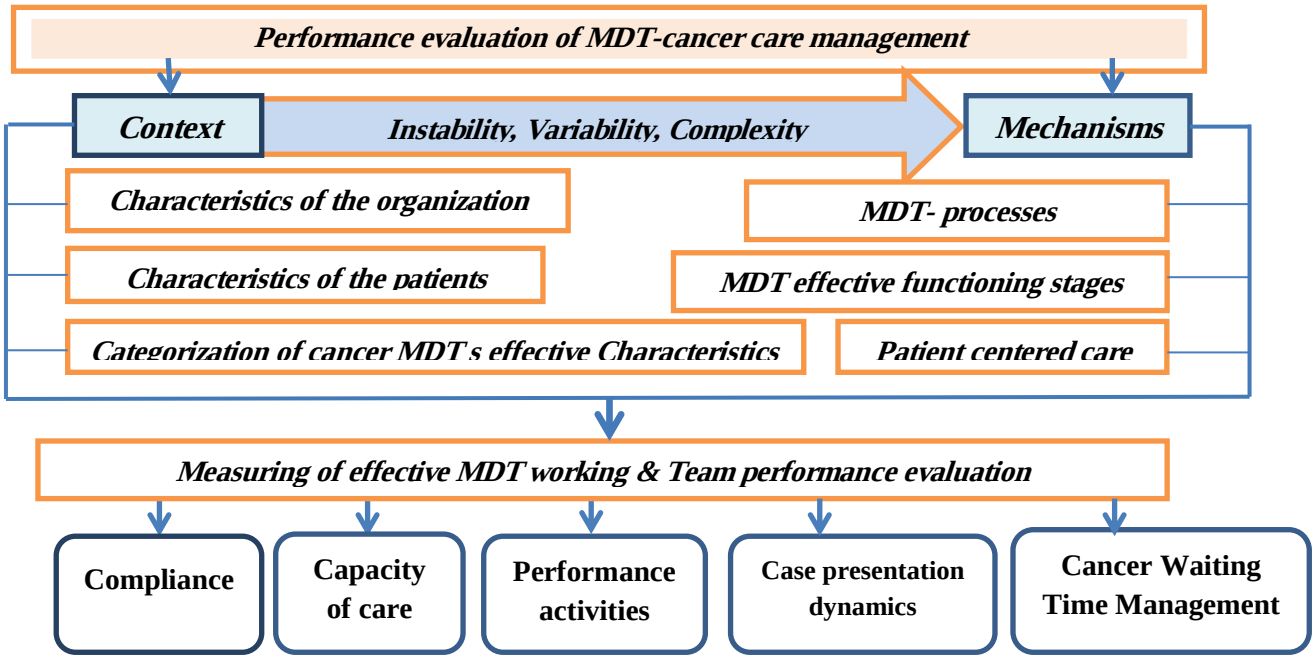


Figure 2.1: Conceptual Framework-Self developed

2.3 The MDTs cancer committee structure

Most studies of team structure within both the cancer-related and general health-care delivery literatures tended to conceptualize team structure as either team composition or team size (Lamb et al., 2013).

Between December 2009 and January 2010 a prospective observational correlation study was done for multidisciplinary cancer team meeting structure and treatment decisions for all cases discussed in Whipps Cross University Hospital at London-based MDT meeting – UK. The results of this study the treatment decisions were reached in 254 of 298 (85 %) cases. Cancer cases toward the end of meetings were associated with lower rates of decision-making, information quality and team working. On other hand, Increasing number of cancer cases per meeting and team members in attendance rate were associated with better information and team working. Moreover, more time per cancer case was associated with improved team working. Finally, a positive correlation was obtained between ability to reach decisions and improved information and team working so the organizational factors related to the structure of the MDT meeting are associated with variation in the likelihood of reaching a treatment decision (Lamb et al., 2013).

It was also worth considering how the presence of non-specialty care MDTs cancer committee might create more challenges than added value to the MDTs cancer committee process, particularly when team size approached ten or more members, when not all members were relevant to a given discussion, and when team membership may not be constant across the treatment process (Taylor, 2009).

Several articles had provided descriptive information on the process of organizing MDTs cancer committee, sometimes including team structural issues emphasized the level of structural complexity in describing team-oriented practice types and how hierarchy formally defined roles within the team (Boon et al., 2010).

The province-wide (Canadian cancer care Guidelines, 2010) described standards for MDTs cancer models, which mentioned a number of team structure issues, such as whether statements of team mission, goals, and objectives existed; whether team protocols for meeting schedules, agenda, and minutes had been developed; whether the team had access to technical support for information technology, data needs, and coordinating staff; and

whether the team had adopted statements of standards and/or medical guidelines (Saini et al., 2012).

These descriptive pieces were helpful, but empirical data on team structure needed more investigate. Moreover, little work had been done on leadership structure within teams, including leadership rotation, selection protocols, or length of term (Valdagni et al., 2011).

2.4 Communication & Coordination of MDTs cancer committee

Communication between different disciplines should improve as a result of regular meetings together. The discussions in the MDTs working assist communication and information sharing. However, empirical data were absent. Some studies had documented factors that help or hinder communication within the team. And emphasized the active role of the team leader in the promotion of good communication between team members. Conflict over leadership and lack of clarity about leadership were both negative predictors of effective internal communication. One of their responsibilities was to facilitate internal communication. Good internal communication within the team should ensure consistency of care to cancer patients. The effective communication between health professionals was vital but may be difficult with an expanded team of professionals. For multidisciplinary teams to be effective, all members must communicate effectively with one another. Inadequate communication between members of cancer teams can lead to confusion for patients about diagnosis, prognosis, and treatment plans. (Fleissig et al., 2006).

The national prospective electronic survey study was done in UK to explore the role of the MDTs coordinator in cancer MDTs nationally and their views as 265 core members on the MDT efficacy and the process that covered their current practice and role, MDT chairing, opinions on how to improve MDT meetings, and coordinators' educational/training needs of decision making. The results of this study was more than one third of the respondents felt that the job plan does not reflect their actual duties 66.9% of the respondents reported that the MDTs are chaired by Surgeons. In the same context, the majority reported having training on data management and IT skills but more than 50% reported that they felt further training is needed in areas of Oncology, Anatomy and physiology, audit and research, peer-review, and leadership skills This study also found MDT-Coordinators' role is central to the care of cancer patients and training requirements that remain unmet. Also, the resources and training available to MDT-coordinators need to be improvement that can give them an opportunity to develop the required additional skills and contribute to

improved MDTs cancer committee performance and ultimately cancer care (Jalil et al., 2012).

2.5 Cancer patient case management in MDTs cancer committee

At the time of each meeting, the prepaid specialized report on each case served as the presentation material. Each case usually began with brief explanation of clinical findings and medical history by referring physician or his/her delegate in order to let participants doctors to know about the most up to date relevant data. Following this introduction, the designated radiologists and pathologists (or their representatives of relevant cancer case) will present findings on the available radiology images and pathology slides during presentation. Once all case specific information was presented, further required actions would be discussed among the participants. The result, including additional investigations, treatment recommendation, and required examinations, will then be recorded in accordance with guidelines and in suitable formats. Following MDTs cancer leader approval, an official copy of the consensus recommendation on each case will be forwarded to the referring doctor to be discussed with patient (Lamb B., 2011c).

2.6 The MDTs cancer committee making decisions & recommendations

All recommendations regarding cancer treatment or palliative care services should be made or supported by individuals who were qualified by appropriate education and training. The recommendations should also be supported by validated tools and assessment that provided accepted objective measures for that profession,. Further, members of the MDTs cancer committee should represent their particular profession and make recommendations consistent with their education, training and or certification (lamb et al., 2011a).

Between October 2003 and March 2004 prospective study was done to evaluate the clinical decision-making multi-disciplinary cancer teams for specific upper gastrointestinal cancer that recorded 300 300 MDTs decisions by examining hospital records were included in Frenchay and Southmead Hospitals at North united Bristol. The results of this study where decisions were implemented it was recorded as concordant and discordant if the decision changed. The reasons for changes in MDT decisions were identified. 273 decisions were studied and 41 (15.1%) were discordant (not implemented), the reasons for discordance were due to co-morbid health issues, to patient choice and decisions changed when more clinical information was available. Discordant decisions were more frequent for patients

with pancreatic or gastric carcinoma as compared to esophageal cancer. The monitoring concordance between MDT decisions and final treatment implementation is useful to inform team decision-making for upper gastrointestinal cancer, MDTs require more information about co-morbid disease and patient choice to truly optimize the implementation of multi-disciplinary expertise (Blazeby et al., 2005).

The goals should be measurable and the MDTs cancer committee recommendations and include plans for the team's appropriate monitoring or oversight of the progress toward reaching the stated goals by using performance indicators. Resolving disagreement on recommendations to the court had evolved into very different practices in the various jurisdictions. Some, decisions were made by votes and majority rules (Blazeby, 2005).

Other span control had strong mandates from the court to continue working and exploring options until consensus of all MDTs cancer members is reached. Best practices would tend to support the consensus building approach except when consensus cannot be met in a timely manner. If a unanimous agreement was not reached, all positions and rationale should be included in the MDTs report for the court to review. Recommendations should reflect cancer action planning and treatment choices in safety manner. MDTs Cancer committee members should also be given the opportunity to provide a written explanation of their dissenting position for inclusion in the MDTs report (Kidger et al., 2009).

Recommendations and goals must fully address and balance three main areas. These are 1) cancer patient action plan), 2) treatment needs and 3) education needs. Recommendations should be carefully considered and should only be made the safety of the patient and reduce the risk factors (Stairmand, J., 2015).

2.7 The MDTs cancer tracking systems

All health organizations hospitals typically had a stand-alone cancer information system in addition to the core Patient Administration System (PAS). To manage a patient through their cancer pathway it was necessary to understand the pathways that patients were expected to take and, in order to monitor patient waiting times and experience, information was needed for each pathway event for each patient. As a minimum the information system was used for cancer patients must allow staff to collect data on key milestones such as: first outpatient appointment; key diagnostic test or tests; diagnosis; decision to treat;

multi-disciplinary team (MDT) cancer discussion; transfer to another provider; and treatment itself (or decision not to treat) (Atwal et al., 2002).

For milestones which relate to appointments the ability to record a request date, an appointment/TCI date and a final attendance date was vital to enable prospective tracking (Ruhstaller et al., 2006).

The data required to track cancer patients will typically sit within a number of other systems such as; demographics, referrals, Did Not Attendance (DNAs), cancellations and attendances, Forthcoming outpatient appointments, new diagnoses (pathology), histological staging information (pathology), report highlights/text (pathology), new diagnoses and 'red flags' (radiology), report highlights/text (radiology); radiological staging information (radiology); new diagnoses and 'red flags' (endoscopy); report highlights/text (endoscopy), new treatment courses and subsequent treatments, regime details (chemotherapy); new treatment courses and subsequent treatments (radiotherapy), details, fractions etc. (radiotherapy), treatment TCIs and admitted waiting list and new/ subsequent treatments theatres (Cancer Action Team NHS, 2012).

2.8 The MDTs cancer referral pathway

Locally agreed referral pathways were established with clear information as to whom they can refer. How to refer and the timeframes within which referrals were expected (including locally agreed processes for late referrals). Locally agreed referral pathways were aligned with any nationally agreed referral pathways. Each MDTs cancer member had agreed criteria for the patients that should be discussed. If the MDTs member terms of reference allowed for referring but not formally presenting some patients, there would be clear criteria for such cases. These patients were registered via the MDTs process so that relevant data was captured. Details of the processes were required prior to MDTs cancer committee referral, such as requirements with regard to referral Performa, including any pre-referral work up and diagnostic processes should be outlined in the policy. The process for managing inappropriate referrals must be referenced. Any triage which was performed as part of the internal MDTs cancer referral management process should be included. The expectations associated with the content of patient letters (outpatient, diagnostic, preadmission and assessment) should be included (Blazeby et al, 2006).

Details of the MDTs cancer patient referral pathways and actions to be taken if these were not adhered to should be linked to the pathway, including individuals to be contacted in the case of inappropriate referrals (Fleissig et al., 2006).

2.9 The MDTs cancer communication pathway protocol

The MDTs cancer communication pathway is very important and active fundamental role to. It is start from suspicion cancer tumor and early referral mechanisms appropriately from GP. Doctors in primary care to hospital outpatient clinic and a crossed communication process during cancer patient journey through each MDTs cancer committee working in each cancer case in relevant cancer care during MDTs cancer committee mechanisms that should be including; (preparation, presentation, referral process, investigations, diagnosis, MDTs cancer meeting discussion, cancer care plan (treatment, palliative care) to the end of life cancer patient care in Annex (5).

The communication between MDTs cancer members was studied in Australia by Rowlands & Callen by used qualitative analysis of communication between 22 members of a hospital-based multidisciplinary lung cancer team that employed using semi-structured in-depth interviews included medical, nursing and allied health professionals. The results of this study was the traditional influences of role delineation and the dominance of doctors were found to impact on communication within the multidisciplinary hospital-based lung cancer team. Existing guidelines on implementation of multidisciplinary cancer care fail to address barriers to effective team communication. Moreover, the paper-based medical record does not support team communications and alternative electronic solutions need to be used (Rowlands and Callen, 2013).

2.10 Discussion of cancer case during MDTs cancer committee

MDTs cancer committee dynamics were essential for effective discussion and decision making. The team needed to agree on what was acceptable for team behavior including mutual respect and trust, valuing different opinions, an absence of personal agendas, resolution of conflict between team members and encouragement of constructive discussion. A team discussion environment needed to be one of the equality (National Cancer Action Team NHS, 2012).

Several UK studies had highlighted that nurses play a crucial role in coordinating care, as well as representing the patient's views and psychological aspects of care. A survey of Australian MDTs cancer committee members suggested that, in many cases, priority was given to discussions about pathology, radiology and medical history during MDTs cancer meetings (Fleissig, 2006).

The nursing and allied health members commented that psychosocial concerns were often neglected in favor of medical information (Devitt and Philip, 2010).

The important descriptive study was done for evaluation of teamwork and team performance in multidisciplinary cancer teams by using systematic observational assessment tool of MDT team performance in London-UK for 5 MDTs cancer meetings 112 cases were observed by one surgeon and two psychologists that called Scientific MDTs performance assessment matrix which were general urology MDTs cancer committee members. The main domains of this tool were the presentation of case history, radiological and pathological information, chair's effectiveness, and contributions to decision making of surgeons, oncologists, radiologists, pathologists and clinical nurse specialists. The results of this study was the contributions of surgeons, chair's effectiveness, the presentation of case history and radiological information were high, the contributions of histopathologists and CNS were higher than others. The inter observer agreement was high for presentation of radiological information, and contribution of oncologists, radiologists, pathologists and CNSs, adequate for case history presentation and contribution of surgeons but moderate for chairperson and poor for pathological information and poor for pathological information, the average differences were found only for case-history presentation (Lamb et al., 2011).

2.11 The MDTs cancer committee barriers and Obstacles

An Australian national auditing study of MDT cancer committee care conducted by the National Breast and Ovarian Cancer Centre identified that the main barriers to implementing MDTs cancer committee working were a lack of time, workforce resources, small caseloads, linking communication between core and non-core MDT cancer members and funding. In addition, the MDTs cancer committee was not adequate administrative support to implement systems to ensure that communication with GPs on treatment plans

was timely and adequate, given that coordination of care between the hospital and community sectors was essential for good patient care (Lamb et al., 2013).

When we were removing MDTs cancer committee members communication barriers that were regarded to be very important for implementing specific strategies to improve linkages with non-core specialties (Marsh, J. et al, NBOCC, 2008).

The following barriers to cancer care coordination were identified: recognizing health professional roles, responsibilities, poor transitioning of care, inadequate communication between specialists and primary care, implementing comprehensive MDTs cancer meetings, managing scarce resources; and inequitable access to specialist healthcare (Walsh et al., 2010).

If we want to have success of the MDTs cancer committee work we should identify poor attendance by key staff, scarcity of administrative support, deficient record keeping, communication problems and hierarchical boundaries (Lamb et al., 2011d).

The lack of information at meetings to support decision making to be a problem, unequal participation in decision making was also an issue reporting that effect on patient-centered information ignored. The good leadership was necessary to foster inclusive case discussion, also that identified the lack of a dedicated clerk or MDTs cancer committee coordinator as an issue (National Cancer Action Team NHS, 2012).

Obstacles to Sustaining cancer care multidisciplinary team meetings in Australia the online survey study for specialists by using closed-ended questions as quantitative method, the researcher found around half of specialists were excessive amount of time lost in the MDTs cancer meetings because of the lack of a clear process for discussed patients, also the workload was the main obstacles for sustaining MDTs working and the lack of support in time taken per patient in meeting follow up by increasing the amount of information communication technology support (Shulman et al., 2013).

The factors that can make an impact on decision-making and decision implementation in cancer multidisciplinary teams . an interview study of the provider perspective was clarified by the specific study carried out by Rozh Jalil and other researchers by used qualitative approach through an in-depth interviewed study of the providers perspectives were carried out with twenty-two participants expert MDT members of Urological and

Gastro-Intestinal cancer tumour of 3 London-UK hospitals that are participated in this study. The results of this study were main barriers to clinical decision-making included: inadequate clinical information, lack of investigation results; non-attendance of key members; teleconferencing failures. Barriers to implementation of MDT recommendations included: non-consideration of patients' choices or co-morbidities; disease progression at the time of implementation. Proposed interventions included improving the information available for the discussion through a standardized proforma; improving video-conferencing; reducing the MDT caseload (e.g., via selective MDT review of certain patients) and including patients more in the decision process. This study demonstrated the main barriers that MDTs face in deciding on and, importantly, implementing a management plan (Jalil et al., 2013).

2.12 Measuring the quality of MDT working indicators and performance evaluation

To evaluate the status and performance of the MDTs cancer team at intervals. This should be possible if a formal documentation process had been followed. MDTs should developed performance indicators for MDTs cancer committee working in all cancer types and self-appraisal to ensure the MDTs effective work and assist in this process. Special performance indicators for MDTs cancer committee work should be followed up regularly such as; survival rates, incidence rates, patients waiting time indicator for starting of treatment intervention, patients waiting time intervals indicator for completion of the diagnostic procedures, waiting time management indicator for completion of treatment intervention, unexpected complications rate indicator, the number of old cancer cases rate indicator that was followed up in MDTs cancer committee, number of re-do work up after MDTs cancer discussion, total number of cases discussed in MDTs cancer meetings, total MDTs cancer leakage rate of cancer cases, MDTs attendance rate for membership, cancer patients did not attend rate, measuring the waiting time intervals for each step and process of working for MDTs cancer care and compare with standards guidelines of cancer waiting time management and MDTs cancer mortality rate indicator (lamb et al., 2011c).

Measuring the quality of MDTs cancer working was carried out by used observational study in UK for specific type of cancer that was bowel cancer eighteen of the 86 characteristics of effective MDTs' were considered relevant and feasible to observe. They collated to 15 aspects of MDT working covering four domains: the team (e.g. attendance, chairing, team working); infrastructure for meetings (venue, equipment); meeting

organization and logistics; and patient-centred clinical decision-making (patient centeredness, clarity of recommendations). Criteria were applied to 10 bowel cancer MDTs to assess acceptability and measure variation between and within teams. Feasibility and inter-rater reliability was assessed by comparing three observers. The results of this study was acceptable to teams and feasible to implement. Total scores from 29 to 50 (out of 58) highlighted wide diversity in quality between teams. Eight teams were rated either 'very good/good' or 'very poor/poor' for at least three domains demonstrating some internal consistency. 'Very good' ratings were most likely for attendance and administrative preparation, and least likely for patient-centeredness of decision-making and prioritization of complex cases (Taylor et al., 2012).

2.13 Outline for operating an effective MDTs cancer committee

They were published in several countries, there was an outline of characteristics including infrastructure required for cancer meetings; details of meeting organization and logistics; requirements for patient-centered decision making; and team governance. The MDTs cancer needed to bring together staff with the necessary knowledge, skills and experience to ensure high-quality diagnosis, treatment and care, and that the MDT cancer meeting was about considering the patient as a whole not just treating the cancer (National Cancer Action Team NHS, 2010).

Evaluation of support decision making in cancer multidisciplinary team meetings carried out by Lamb and other researchers to evaluated by checklist the support decision making in cancer MDTs Meetings in urological departments in Whipps Cross University Hospital, London, UK. The checklist was evaluated by 175MDT members (surgeons = 38, oncologists = 40, specialist nurses = 62, and MDT coordinators = 35). The results of this study was the attitudes toward the checklist were generally positive, although nurses were more positive than other groups regarding whether the checklist would improve their contribution in MDT meetings. Participants thought that the checklist could be used to prepare cases for MDT meetings, to structure and guide case discussions, or as a record of MDT discussion. Regarding who could use the checklist, 70% thought it should be used by the MDT chair, 54% by the MDT coordinator, and 38% thought all MDT members should use it (Lamb et al., 2012).

2.14. Main staff roles of MDTs cancer committee members

Multidisciplinary team meetings were also known as tumor boards, multidisciplinary cancer conferences, multidisciplinary case reviews, or multidisciplinary clinics, in different health care systems. These different terms may represent the variations in the organizational structure, membership, approach, focus, and the decision processes of these meetings, however, they all provide a forum for multidisciplinary cancer teams to regularly convene and discuss the diagnostic and treatment aspects of cancer patient care and every cancer patient should be discussed by a team of relevant specialists, to make sure that all available of rapid diagnostic and rapid treatment options with evidence base practice (National Cancer Action Team NHS, 2012).

Membership; the MDTs members included: a radiologist; a pathologist; radiation and medical oncologists; a general surgeon or physician; a specialist surgeon, or other surgical representative; palliative care clinician; a nurse – for example, a clinical nurse specialist or cancer nurse and one or more allied health or psychosocial professionals (Rowlands S., 2013).

Radiologists and pathologists participating in MDTs are provided time as part of their job and position description to prepare as necessary for an MDTs members. The MDTs coordinator was a core member of the MDTs cancer committee where there was a dedicated MDTs. coordinator role. A patient's general practitioner attended the MDTs where their participation was agreed and provided for in the MDTs terms of reference (Lamb B., 2012).

2.14.1 The role of Surgeon in MDTs cancer committee

The surgeon should meet the patient before the MDTs cancer meeting and carry out the examinations, complete work up for diagnostic procedures and investigations. However there was often insufficient time for this to take place – making the notes even more important for the MDT cancer meeting to prepare for discussion before the MDTs meeting. It was up to the surgeon to decide what operation is most appropriate (surgery plan on site, place and time) and whether this can be achieved successfully with or without neo-adjuvant chemotherapy therapy such as example and which the appropriate choices for the cancer patient and draw the action plan before and after surgery (Lamb et al., 2011a).

2.14.2 The Role of Radiologist in MDTs cancer committee

Doctors who interpreted x-rays and scans to aid the final professional diagnosis and help to analyses radiological scans, such as MRI, PET –scan, PET-CT-scan , Radio-iodine-scan and all the visual imaging of a cancer. This was critical information for the MDTs cancer members to be able and identify the most appropriate cancer treatment/s and surgery plan for each individual patient. MRI and other radiological diagnosis CDs will be taken before the MDTs cancer meeting and should be prepare before presented to everyone for discussion. The radiologist prepares before the meeting projection, carefully considering the position of the tumor from a number of different angles, margins and other measures of tissue organs then whether there were involved margins or any metastatic (secondary) tumor in the liver. Revolutionized the way that cancer was imaged, leading to far more accurate information. However, radiologist remains concerned that these results were not reproducible across the country and additional radiology development was necessary so that optimal images were made available at all MDTs members. This was not a question of the best equipment, but rather good practice and allowing time to obtain the best views, the radiologist in MDTs cancer committee responsible to operate and managed of the radiological projection and radio-diagnostic aspects or opinions during MDTs cancer committee meeting discussion (Kane et al., 2010).

2.14.3 The Role of Oncologist in MDTs cancer committee

An oncologist is a specialist in cancer treatments such as chemotherapy, radiotherapy, hormonal therapy, Target therapy, biological therapy and palliative therapy. The oncologist will advise on what neo-adjuvant therapy (radiotherapy with or without chemotherapy) may be given and support what the time appropriate for interfere as a medical treatment, depending on the patient's choice and the surgeon's opinion of surgical options and final clinical making decisions during MDTs cancer meeting discussion and all cancer care plan management, so the role of oncologists is a fundamental medical base- evidence role (Lamb et al., 2011b).

The survey questionnaire study with open-ended questions was done during the conference to assess the role of 61 oncologists in multidisciplinary cancer teams. In this study, data were collected at the British Uro-oncology Group 6th Annual Meeting (Sep11–12 2009, York, UK). Respondents completed various items related to their perceived contribution to MDTs, aspects of current and potential MDT leadership, team decision making in these

meetings, and covered the questions of survey in detail participants' work practices, the frequency of presentation of different types of information at MDT meetings, the frequency of contribution of different health care professionals to the MDT discussion, leadership of the MDT, and decision making by the team. Participants' demographic information was also captured. The results of this study were; the total response rate was 79% , 63% of participants were male and the median age range was 40–49 years old. Regarding working practices, 39 respondents (67%) worked at a cancer center, 17 respondents (29%) worked at both a cancer center and a peripheral hospital and 2 respondents (3%) worked only at peripheral hospitals. 85% of respondents reported linking into other sites via telemedicine for their MDT meeting. Regarding patient referrals, 4% of respondents had no other hospitals referring patients to their MDTs cancer committee, 9% had one, 18% two, 26% three, 21% four and 23% five or more other hospitals referring patients. Regarding their MDT-related work, 51 respondents (88%) attended one or more MDT meetings per week and 7 (12%) less than once per week. 46 respondents (81%) had protected time to attend, but 11 (19%) did not. 54 (92%) respondents felt that the venue of their MDTs cancer was fit for purpose (Lamb et al.,2010).

On other hand, the reasons for not being fit for purpose included being too small and lack of teleconferencing facilities. Participants whose venue was not fit for purpose were significantly more likely to report less frequent presentation of information about patient co-morbidities at MDTs cancer meetings. 14 of 55 (25%) respondents reported that they were at some point the chair of the specialist MDT that they attended. 22 of 56 (39%) reported that the chairmanship of their MDT rotated. Of those, 6 reported that the frequency of rotation was yearly or less, two reported rotation more than yearly but less than monthly, and 4 reported at least monthly rotation. 44 of 53 (83%) said they thought the chairmanship of the MDT could rotate and 44/56 (83%) stated that when it does (e.g., when usual chair is away) MDTs cancer are better or at least equally good. Oncologists reported that their contribution to the MDT discussion carries equal weight to those of surgeons, radiologists and pathologists. Whereas 83% of respondents reported that MDT chairmanship could rotate, only 39% reported that it does in their own MDTs. More than 90% of respondents thought that oncologists (clinical or medical) could chair these meetings, but only 25% of them had ever chaired their own MDT. The oncologists perceived leadership potential was similar to that of surgeons, but significantly higher than that of radiologists, pathologists or nonclinical team members (Lamb et al.,2010).

2.14.4 The Role of Pathologist in MDTs cancer committee

A pathologist is a doctor specialist who specialize in examining tissues under a microscope to assist diagnosis or characterizes disease in living patients - advising on the type and extent of the cancer - by examining biopsies for example, or by reviewing the removed tissue after surgery and detected the grade , stage of tumor tissue .

Biopsies are not recommended for cancer types – puncturing the tumor can release 'seeds' which lead to dispersed disease, which is incurable. The pathologist's role in this instance is to inform the MDTs cancer before or after surgery what has been found – answering questions such as: Does the specimen reflect the information provided by the radiologist? Has the surgeon achieved clear margins? How many lymph nodes were involved? Pathology reports can indicate whether a cancer has been successfully removed or not, this can influence the need for chemotherapy therapy or not. The pathologists are importance fundamental role function of MDTs cancer working and projection it; because the tissue is the issue (Saini et al., 2012).

2.14.5 The Role of coordinator in MDTs cancer committee

Someone who co-ordinates and administrates the weekly MDT meeting increasing capability and capacity for service improvement across the MDT's cancer committee. To help facilitate and co-ordinate the multiple-functions of the multidisciplinary team meetings improvement cancer service with MDT's who have identified areas where they can improve the experience and outcome of care for the cancer patient. Work with the MDT's cancer committee to develop their team around the cancer patient journey and ensuring the patient and carers experience of care is central to every stage of cancer journey. Ensuring the MDT cancer meetings ran effectively and were well structured and all patients were treated and discussed according to evidence-based protocols and check the cancer patients pathways and tracking systems are appropriate (Jalil et al., 2012).

Adequate administrative and clerical support during all MDTs cancer committee stages (before, during, and after) meetings to ensure good organization and coordination were important. All teams should have dedicated non-clinical support to coordinate the team. The main responsibilities of a MDT coordinator were to arrange meetings; agenda patients lists ensure availability of all necessary patient information and documentations; assure the good preparation for cases before the meeting record decisions about cancer patient

management, MDTs cancer members' attendance; facilitate communication and coordination between the MDTs cancer members and other health-care professionals (referring and specialist); and ensure that the discussion date and decisions were recorded in patients case notes. Accurate documentation should help implement the decisions made in the MDM and also ensure that subsequent written reports do not differ from opinions given during the meeting (Fleissig et al., 2006).

The role of clinical nurse specialists is very important professional role, the study of professional role of breast cancer nurses in multi-disciplinary breast cancer care teams study carried out by Amir, Scully and Borrill -University of Manchester in UK by in-depth interviews with core team members, and observation of 16 multi-disciplinary teams in England breast cancer teams were then selected for in-depth work from a sample of 85 teams that had participated in the quantitative stage of the research. This study explored the following themes: Nurses' unique informal management leadership role in ensuring the co-ordination, communication and planning of the team work; nurses' innovatory role in making the bureaucracy respond to patients and their relative's needs; nurses supportive role in the provision of expert advice and guidance to other members of the team; nurses confidence and well performing teams; and the limitations of the professional role of the breast cancer nurse.

The results of this study observed the distinct presence of the BCNs in relation to the clinical staff nurses that worked with the team. In particular BCNs are allowed to wear their own clothes and not the standard nurse uniform of the particular trust. All were extremely smartly dressed, and presented an image of authority that was akin to the management and higher medical structure. However, there was no evidence to show that their management role was valued by the hierarchy of the trust that they worked for. Rather, the themes identified above relate to their role specifically within the team. The key findings of this paper presented three key themes that were common to all of the teams, and one key theme that was common to the well-functioning teams (Amir et al., 2004).

2.15 Continuity of Cancer Care

The continuum set out descriptions of different types of care delivery teams functioning and described how these changes were as multidisciplinary team work deepened and extended throughout the team (NHS, 2010) .It had systematic assurance of uninterrupted, integrated medical, Surgical and psychosocial care of the patient, in accordance with the

patient's wishes, from assessment of symptoms in the pre diagnostic period, throughout the phase of active treatment for the duration of post treatment monitoring and/or palliative care (Macaskill et al., 2010).

The continuity of care as a multifaceted process that required mutual patient, family, professional planning, advocacy, coordination and implementation to secure the range of medical and psychosocial services necessary to achieve the goal of an optimal outcome for an individual cancer patient and family (Harley, 2009).

The continuity of care was a concept that was elusive and difficult to define. The central element of continuity was defined as: the experience of a co-ordinate and smooth progression of care from the patient's point of view (experienced continuity). It had been proposed that, to achieve this, there should also be continuity of information, cross-boundary and team continuity, flexibility in response to patient need (flexible continuity), care from as few professionals as possible (longitudinal continuity and a main contact person so that patients can establish and maintain a therapeutic relationship (relational or personal continuity). In addition to the necessary core elements of continuity, three types of continuity that captured the essence of the concept: informational continuity; relational continuity; and management continuity (Bass III, 2014).

2.16 The MDTs cancer committee leadership

Good leadership is integral to the operation of an effective MDTs cancer committee and chair needs to ensure all voices are heard; facilitate the meeting; keep to time; be well respected; well organized and be able to make a casting decision. The National Health Service (NHS) National cancer action team document lists the following skills as necessary for an MDTs cancer chair/leader; meeting management, listening and communication, interpersonal relations, managing disruptive personalities and conflict, negotiating skills, facilitating effective consensual clinical decision making, and time management. State that effective leadership is necessary to encourage inclusiveness and open discussion, which helps avoid both the marginalization of team members and poor decision making, also to ensure the supporting of health organization leaders and key managers to all the MDTs cancer committee policies , protocols, and recommendations (Lamb et al., 2011c).

2.17 The MDTs cancer committee administrative and organization support

MDTs cancer committee administrative support was a key component of good MDTs cancer committee operation (before, during and after meetings) to ensure good organization and coordination and reinforced the need for a dedicated non-clinical support person to coordinate the team. The MDTs cancer coordinator arranged meetings, ensured the availability of all necessary information, records decisions about patient management and MDTs cancer members‟ attendance, facilitates communication and coordination between the MDT and other health professionals, and ensured the care decisions were recorded in the patient's case notes (Walsh et al., 2010).

Documentation was an important aspect of MDTs cancer meetings. Good documentation facilitated communication of the treatment plan to all team members and to the patient's GP and improves adherence to the plan. The MDTs cancer coordinator can assist in timely and complete patient information transfer between specialists and GPs (Fleissig et al., 2006).

The organizational support for MDTs cancer meetings and membership demonstrated via: recognition that MDTs were the accepted model by which to deliver safe and high quality cancer care and adequate funding/resources in terms of people, time, equipment, treatment and diagnostic resources and facilities for MDTs cancer meetings to operate effectively (National cancer action NHS, 2013).

2.18 Collaborative practice in oncology

Collaborative practice in oncology is a dynamic process focused on interdisciplinary support of patients and their caregivers with a broad range of health care providers. The AP in oncology plays a critical role in the collaborative treatment of patients and their caregivers. Ongoing education, training, mentorship, networking, and communication are necessary to cultivate and maintain a collaborative practice model. Integration of resources from each practice setting, community organizations, e-health technologies, and advocacy groups is essential. Human factors, health system factors, situational factors, and socioeconomic factors are ever-changing within the continuum of care and must be considered in designing tailored patient and caregiver support. Interestingly, AP advanced practice providers. Reprinted with permission from the Advanced Practitioner Society for Hematology and Oncology. Collaborative, multidisciplinary team–based care is essential if

patients are to receive the highest quality value-based oncology care. Achieving this goal will require effective integration of APPs into all aspects of patient care. Although barriers remain, many are perceptual and relatively easy to overcome. Understanding the APP workforce, pipeline, and current utilization—as well as the clinical, economic, and patient impact of APPs in oncology practices—will facilitate achieving the goal of optimal patient-centered cancer care. More information on the scope of practice of APPs, state regulations, payer policy, and information on integration into oncology practices can be found on the AAPA, Association of Physician Assistants in Oncology, AANP, and APSHO websites (Michael et al., 2016).

Comprehensive MDTs cancer meetings were identified as integral to providing coordinated and collaborative care including clarification of roles and responsibilities, communication, lack of support for meetings, logistical issues, staff shortages and lack of administrative support (Lamb et al., 2010).

Moreover, the cross sectional analytical descriptive study for evaluation of advanced breast cancer multidisciplinary team meetings carried out by Jacquie Chirgwin and other researchers by developed the questionnaire and asked about the performance of the MDTs cancer committee members and their contribution to improvement in patient care in five domains medical management, psychosocial care, palliative care, care in the community, and benefits for team members. A final section covered the perceived value and importance of the MDTs in cancer patient management. 27 members of ABC MDTs cancer committee at two health services completed questionnaires in November 2007. The results of this study was 73% of response rate, the MDTs performed best in medical management (mean performance score out of 5 was 3.78 and palliative care was 3.77. These were also the areas that were most improved through the MDTs. Benefits to team members and care in the community both means were 3.05 ranked lowest by both measures. The MDTs provided the most benefit for patient management in the areas of “awareness of services available the mean score was 4.32, but the mean score for “efficiency of referrals” was 4.27 and the mean score for “supportive care for patients” was found 4.27. The means score for “Awareness of services available,” “psychological care for patients,” and “continuity of care” were considered the most important were found 4.64 (Chirgwin et al. 2010).

Chapter 3

Methodology

This chapter illustrates the methodology used in conducting this study. It includes the study design, period of study, place of study, study population, study sampling and ethical consideration; as well, materials and methods of sampling and measurements, measurements description and processing. Furthermore, there are points of selection criteria, study instrument, piloting, response rate, data collection and analysis process and finally the limitation of the study.

3.1 Study design

The design of this study was descriptive, analytical and cross-sectional design. A cross sectional design was selected as it was judged to be the most appropriate method to fulfill the aim of the study in a limited time.

1- Quantitative questionnaire: was a descriptive interview questionnaire analytical design, consists of international questionnaire developed by NHS, National MDT Cancer Action in England and modified by researcher to evaluate the MDTs committee work and effective of cancer management in Al-Shifa Medical Complex.

2- Open ended questions in interview questionnaire design were developed to evaluate the main domains and sub-domains related to effectiveness an MDTs work processes, structures, team members and healthcare providers knowledge, perceptions, assessed effectively, practices, skills and attitude towards cancer management self-development by researcher.

3.2 Study Setting

The study was conducted as a systematic sample selected carried out in Al-Shifa Medical Complex including three main hospitals location (Medical, Surgical, Gynecological and Obstetric) that provided cancer care services by MDTs cancer committee introduced by all specialties secondary and tertiary care that included 46 departments in Al-Shifa Medical Complex.

3.3 Study population

The study included two populations, the first population consisted of the MDTs cancer core team members called key members. The second population consisted of MDTs cancer non-core team member or called extended team members. The first group was all core members in MDTs cancer committee including; senior surgeons, coordinator, managers, radiologist, pathologists, oncologists, hematologists, gynecologists, medical specialists, that was of (24) members. The second group was all Non-cores/ extends members of MDTs cancer committee including all different specialists introduced cancer services in all departments at Al Shifa Medical Complex that were meeting the eligibility criteria, and work in all departments in the three selected hospitals. A systematic sample was selected to evaluated and to be assessed relating to MDTs cancer work participated by all extended specialties (select every second person) in the list from the field in each hospital that was of 250. All selected sample for answered open ended questions with interview questionnaire consisted of all participants from the entire core and non-core MDTs members of MDTs involved in cancer committee, annex (2).

3.4 Sample size and sampling process

One sampling phase populations method was selected for study as a descriptive analysis method (quantitative); **(**Systematic sample; the second one)

Table 3.5 Sample size calculation& percentage from Al-Shifa Medical Complex

No.	Hospital/Directorate	Number of departments	Total number of specialists	Proportionate percentage	Sample
1.	Surgical hospital	29	144	57.6. %	73
2.	Medical hospital	14	51	20.4 %	23
3.	OBS./Gynae hospital	4	37	14.8 %	11
4.	Radiology	6	14	5.6 %	5
5.	Pathology	2	4	1.6 %	4
Total		**54**	**250**	**100%**	**116**

3.4.1 The sampling phase

It was (systematic sample/the second one) for the total number of the non-core team member's specialists at the MDTs cancer committee who are 250 persons (all of them are specialists, distributed as 144 different ones with Surgeon specialist, 51 different ones with medical specialists, 37 Gynecologists), annex (2).

However, regarding all of them, the second one will be selected to fulfill the interview questionnaire concerning five persons working as head department staff. The total number of the evaluation interview questionnaire specialists will be 116 persons on the three hospitals of cancer work field that were meeting the eligibility criteria which were distributed according to time of shifts (three times a day in interval timing scale). There was an interview questionnaire for every one of the specialists in different shifts to obtain 14 filled questionnaire, which reflected the actual practice of all specialists with MDTs cancer committee according to large percentage of sample that had coverage of specialists number in each hospital. Therefore, all staff that didn't work as specialists doctors will be excluded from non-core members sampling process from phase two, but all specialists doctors that did not have work as a permanent membership in the core member in MDTs will be excluded also from sampling process in Phase one.

3.5 Study Period

The study had started after having the university academic approval of the proposal and obtaining the ethical approval from the Helsinki committee in October 2015. Data collection tools were prepared in December 2015 while in the same period official MOH directorates were formally contacted to obtain their administrative approvals to start the study. The pilot study was conducted in the first January 2016. Data collection activity (quantitative part) was started till the mid of January 2016. Data entry, data cleaning, and finally data analysis were conducted in February till the first of March 2016. Writing the research report was performed in the next period till the end of March 2016. Finally, writing the research report was completed at the mid of April 2016.

3.6 Eligibility (selection criteria)

3.6.1 Inclusion criteria

3.6.1.1 Sampling during phase one (interview questionnaire method)

Sample included core and non-core/ extended members of MDTs from all doctors' specialties. Three hospitals in Al-Shifa Medical Complex were eligible for selection in this study in phase according to distribution of this sampling, annex (2);

1. The first is surgical hospital (29 departments).
2. The second is Medical hospital (14 departments).
3. The third is Obstetrics & Gynecological hospital (4 departments).

On the other hand, there were all doctors who were classified as specialist doctors with experience of more than six months in all hospitals departments and units (47dep.) which were included in the study and they were selected relating to sample in phase one according to large number of specialists as a percentage of coverage of total number of specialists related to total departments in each hospital as;

1. Surgical with different specialists divided to 29 Subgroups (departments), the total number of specialties was 144 – percentage sample was 63% = 73 specialists.

2. Medical with different specialties were divided to 14 subgroups (departments), the total number of medical specialists was 51- percentage sample was 22 %. = 26 specialists.

3. Obstetrics & Gynecological specialists were divided to 4 subgroups (departments), the total number of Gynecologists was 37- percentage sample was 15 %. = 17 specialists.

So, according to inclusion and exclusion, criteria will be selected as 116 specialists from all doctors specialties in Al-Shifa Medical Complex, annex (2).

3.6.2 Exclusion Criteria

6.6.2.1 Exclusion Criteria for phase one open ended questions

The researcher collected data by means of open ended questions interviews as semi-structured when they answered the open ended questions by selecting all senior specialists core and non-core members from all study sample in MDTs cancer committee members but excluded the administrative and other professional core members and the core members

worked in the same specialty. Informed consent was obtained from all the participants for data-collection and audio recordings, after which rapport was established through a round of introductory remarks and by means of an ice breaker. The researcher started with explained the aims of the in open ended questions interview. The open ended questions data and the subsequent analysis should explain the results of quantitative method by exploring the participants views on the factors influencing MDTs cancer committee effective improvement work and barriers with real roles and responsibilities in more depth.

6.6.2.2 Exclusion Criteria for phase two (interview questionnaire method)

1. In phase one of sample selection interviewed questionnaire, the non-core members of all doctors did not have specialty and who provided surgical, medical and gynecological care services. They did not work as a permanent team member in three hospitals at Al-Shifa Medical complex that should be excluded.
2. The head of department who worked as a core member in the same spatiality.
3. In-phase two sample selection, all the doctors working as general practitioners and did not have medical or surgical specialty.
4. All the student doctors in Palestinian medical board programs (all types and subspecialties such as R1, R2, R3).
5. All new specialists employment with experience of less than six months.
6. All senior or junior specialists worked as a volunteer or in training program.

3.7 Ethical and administrative considerations

After receiving the study approval from Al- Quds University, an official letter of approval from the Helsinki committee in Gaza was obtained (Annex 4). Additionally, the official MOH directorates were formally contacted to obtain their approvals to conduct the study at Al-Shifa Medical Complex.. Formal letters were sent through the university to official MOH directorates mentioning the title of the research study and name of researcher (Annex 5). Also, administrative approval was gained from the General Director of the General Directorate of Human Resource Department, then General Hospitals Administrator and General director of Al-Shifa Medical Complex. (Annex 6).

Finally every participant in the study full explanatory form was attached to each questionnaire and provided to the interviewee including the title of the study, purpose, and other information needed for clarification of subjects. About the optional participation; the right to participate or not, confidentiality, anonymity of collected data completely maintained respect for people and human rights and respect for truth. Confidentiality and privacy will be given and maintained (Annex 7).

3.8 Study instruments

The researcher used one data collection method in this study; the study tool was a grouped interview-questionnaire was self-developed after reviewed relating to many international resources and studies such as MDTs national surveys questionnaires form established by the National MDTs Cancer Action questionnaire (NHS) such (Taylor, C. et al, 2009 & 2012), (Jalil, R. et al, 2012), (Patkar, V. , 2012, 2013), (Shulman, T. et al, 2013), (Kane, B., 2008), (Lamb, B. , 2011), (Hong, N.L. et al., 2009) and (Atwal, A., 2002). as a quantitative part. The second part, open ended questions was used as a qualitative method for performance evaluation of multidisciplinary team members committee for cancer management at Al-Shifa Medical Complex. The tools in two methods of research consisted of 91 closed questions 1-5 point Likert-scale with responses ranging from 5, indicating "strongly agree", to 1, indicating, "Strongly disagree "in first quantitative part.

The interview questionnaire (Annex 8) was designed to be clear and free from complex and leading questions. The questionnaire was validated by a group of experts and was subjected to piloting to ensure credibility of answers**.**

Construction of the interviewed questionnaire

The study questionnaire was divided into three parts:

- The first part contained characteristic of Socio-demographic data about the participants which was personal and work related data, including: age, sex, marital status, address, income and educational level (6 questions).
- The second part contained characteristic of occupational and professional data place of work, hospital name and type, department, sub-specialty, currently the high grade profession. level, current job position, educational and training programs, (11 questions).

- Third part included questions of addressed domains for evaluation of the performance data that was related to multidisciplinary team cancer committee members work which consisted of four domains (MDTs performance factors that contain 37 questions, preparation for MDTs cancer meeting stages containing 41 questions. MDTs Organization, administration and leadership which contains 14 questions. The Communication and Coordination which contains 12 questions and MDTs case management and clinical decision making that contains 24 questions.

Construction of open ended questions in interviewed questionnaire

The Key Open ended questions in interview questionnaire focused on the following domains;

1. Domains that are important for effective MDT work including open ended questions about the team members characteristics, leadership, team work, attendance and participation.

2. Domain for MDTs structure characteristics included open ended questions about the physical environment, MDTs place, technology management and administrative aspects. The domain for MDTs meetings processes included open ended questions about; preparations, communication, coordination, MDTs cancer pathway, stages of MDT meetings process and clinical decision making process.

3. The domain for MDTs organization or administration MDT characteristics included open ended questions about measuring, reporting, developing, supporting, continuing, effective responsiveness and team of cancer care.

In addition we conducted the main open ended questions to immersion of draft pillars. Make deep understanding and generate new ideas, and give more evidence towards their perception.

3.9 Pilot study

A pilot study was done before the actual data collection and after the evaluation of the interview questionnaire and standardized the suitable way for data collection by experts. Twelve participants (10%) were included from AL-Shifa Medical Complex. This stage aimed to examine the participants response to the questionnaire, to explore the

appropriateness of the study instruments, and to allow the researcher for training in data collection. This also was permitted for further improvement of the study validity and reliability of the study. Participants of the pilot were excluded from the study sample.

3.10 Response rate

The response rate for this study was 99.1 %, where, the total number of the respondents was 115 out of 116 specialists from Al-Shifa Medical Complex.

3.11 Data collection

The first part of data (quantitative) was collected by the researcher himself using interview questionnaire that consumed about 2 months. The data was collected through 47 departments in three hospitals at Al-Shifa Medical Complex. Participants were given complete instructions about the purpose of the study and how they were included in the sample after obtaining the consent to participate. Completing the interview questionnaires were conducted during the daily work and the researcher gave the participant enough time to answer the questions and encourage them to be open and virtuous in answering while assuring them that information given will be remained confidential and just used for the purpose of the study. During data collection, any vague information was simplified by the researcher himself to ensure exact and real answer by the responder. Completed questionnaires were revised by the researcher himself to ensure the completion of data before data entry. In average, questionnaire filling took about 35-45 minutes to be completed.

The open ended questions structured with interview questionnaire were conducted by the researcher himself. The participants were contacted face to face, and the average period time for the interviews was ranged from 35-45 minutes. All of them were informed about the purpose and the main features of this study. Exceptions to this were:

a. Where respondents did not provide an answer to a question but instead used a symbol to indicate that they wanted to miss out the question.

b. Where respondents used free-text questions to simply refer to the previous. Such responses were removed due to the lack of context provided by including these in that report but a total count of such responses was provided in the summary at the start of each question.

c. If respondents had given comments that were not relevant to the question. Such comments had been removed from the response

3.12 Validity and Reliability

3.12.1 Face validity

The researcher organized the questionnaire in a way that enabled the readers to read it easily. The layout of the questionnaire in addition to its structure and its shape was highly professional.

3.12.2 Content validity

Content validity was a subjective estimate of measurement rather than having statistical analysis, in order to validate the instrument used. It was done before data collection, by sending the interview questionnaire with a cover letter to ten experts from different backgrounds; MOH managers, academics and health experts. They were asked to validate the questionnaire in relation to study aim and objectives. Feedback was obtained from 14 experts (Annex 11). All of the comments of the experts were taken into account after the consultation of the supervisor. Other general measures of validity were considered such as standardization of implementation and being meticulous.

3.12.3 Reliability

Reliability is a condition for validity; it is about the consistency of the measurement. The statistical test used for internal consistency (reliability) was Cronbach' Alpha coefficient. The overall value of the reliability coefficient (0.982) was considered as very good reliability that was highly coefficient.

3.13 Data management and analysis

3.13.1 Closed ended questions part

After data collection, the researcher revised the interview questionnaires, coded them and entered the data into the computer software Statistical Package of Social Science (SPSS) program version 20. Data entry was done day by day to avoid unexpected problems. Data cleaning was done through checking the frequencies of all variables. The questionnaire was analyzed by the quantitative analysis. General frequencies were done to figure the response and missing data for each question. To examine the relationships between independent

(categories) and dependent variables (numeric scores), inferential statistical tests were made including independent t-test and one-way ANOVA test. The independent t-test was used to compare two means and the one way ANOVA to compare more than two means. Differences among variables were regarded as statistically significant when the P- value was lower than 0.05.

3.13.2 Open ended questions part

After completing the analysis of quantitative data, the collected qualitative data was analyzed using the coding and thematic analysis approach. The data were transcribed verbatim to facilitate analysis. All answers of open ended questions transcripts were read many times to get a sense of the data and to review for emerging themes. A coding list was developed and revised as data were reviewed. Data for each code were reviewed and compared to data for other codes. Finally, the researcher identified key themes, grouped responses by theme, then compared and resolved findings with result of closed questions in interview questionnaire.

3.14 Limitations of the study

1. The cross-sectional design of the study had some weakness as it was liable to contextual changes.
2. There was limited access to scientific resources as textbooks, articles and journals.
3. Recurrent electricity outages limited the access hours into Internet.
4. There were difficulties of data collection because of work overload of most of participants.

Chapter 4

Results and Discussion

4.1 Descriptive analysis

In this chapter, the researcher certainly presented the results of the study, interpretation as well as discussion of statistical analysis of the collected data and main findings including descriptive analysis that presented the respondents characteristics in main six domains that were opposite of the performance evaluation of MDTs members committee for cancer management and compares. These differences between the study variables and overall performance scores were explored by using different analytical statistical tests as shown below. Moreover, the results of this study were consolidated from the responses of the study participants and verified through interview questionnaire that consists of six domains, whereas the last two domains were regarded as open interview questions.

Table 4.1: Distribution of participants by socio-demographic variables (N=115)

Variables		**Respondents (n=115)**	
Categories		**Number**	**%**
Gender	Male	111	96.5
	Female	4	3.5
	Total	**115**	**100%**
Age	**(Mean,** 44.23, **±S.D.** 8.545)		
	< 30-40 years	33	27.7
	41-50 years	57	49.6
	>50 years	25	21.7
	Total	**115**	**100%**
Marital Status	Single	3	2.6
	Married	112	97.4
	Total	**115**	**100%**
Address	Gaza	99	86
	Outside Gaza	16	14
	Total	**115**	**100%**
Qualification	Master degree & High diploma	37	32.2
	Board	56	48.7
	PhD	22	19.1
	Total	**115**	**100%**
Monthly salary	**(Mean** 4850.26**, S.D.,** 1726.913. **Mode** 6000)		
	< 3000 (NIS)	19	16.5
	3000-5000 (NIS)	49	42.6
	>5000 (NIS)	47	40.9
	Total	**115**	**100%**

4.1.1 Characteristics variables

What is more, the total number of distributed interview questionnaires was 116 and the number of respondents was 115 with a response rate of 99.1%. The distribution of participants according to gender was as follow; 96.5% males and 3.5% females, the percentage of females working at Al-Shifa Medical Complex in three hospitals were very small. There were no any female specialist doctors in both surgical and medical hospitals except one and three in the Obstetric and Gynecological hospital as shown in Table 4.1.These findings were inconsistent with the findings of results of the national survey study in UK commissioned by the National Cancer Action Team (Taylor C. et al., 2009). The latter study showed the percentage of male that was 66.8% and 33.2 for female. This result could refer to criteria of sampling methods and size that were selected as all HCPs (n = 2054) in 300 hospitals in UK where the number of respondent doctors was 1093 (53%) from total sample with a response rate of (73 %). Also these findings were inconsistent with the findings of results from Lamb, et al., (2010) who found the number of respondent doctors of specialists was 61 (79%) from the total sample (77) of specialists (only the study was for MDTs oncologists. But in my research I selected all the specialist doctors as a systematic sample at Al-Shifa Medical Complex. This result could refer to changes at MOH towards hiring female specialists and senior doctors. Such percentage of females working at Al-Shifa Medical Complex in three hospitals could be attributed to improve work of MDTs cancer committees and enhance the cancer management characteristic that necessitated the staffing of female senior doctors to manage female cancer patients specially in some disciplines such as gynecological tumors, breast cancer care, palliative care, thyroid cancer care, clinical oncologists, hematologists, radiologists. In addition, these results incongruent with the findings of results from an online nationwide survey applying a convenience sampling method in Australia, were carried out by Shulman,. et al., (2013) that found the gender balance (66%) of respondents were female and (32%) were male.

Regarding the age, the average age of participants was 44-23 years, so the age of specialists seemed to be middle age, the specialist’s participants' age ranged between 29-59 years old. Moreover 27.7% were less than 40 years old, 49.6 % from 41 to 50 years old, and 21.7 % was more than 50 years old. These findings were consistent with results and findings of Australian study was certainly carried out by Shulman, et al., (2013) that found the overall respondents 65% were in the more than 41 year-old age group.

On the other hand, the older group of specialists could substantially provide the young generation with the needed experience as this group often has the accumulated work experiences. The highest proportion (49.6 %) was for the age group from 41 to 50 years old, which was less than the percentage of this age group in the same study setting five years ago, consciously, the senior specialists were annually decreased relating to multi factorial and issues specially the recruitment process without a new alternative one according to the Ministry of Health report (2014). While, it was the lowest proportion of (7%) and that was for age group less than 30 years old that means we asked a critical question of what was about the output indicator for the post graduated medical board programs, policy and the strategic educational plans for training and development of medical board programs and scholarships in MOH in GS. The results of age groups opposed instability-line for growth of seniority of specialists when comparing with shortage of manpower in the same target group.

Regarding participants residency place, (86%) of participants lived in Gaza city, while it was (7%) of those who lived in the northern Gaza Strip. In otherwise, the finding of distribution by address were less than (1%) lived in Rafah and the same results were in Khanyounis, while it was (5.2%) of those who lived in the middle zone .In the other hand, the majority of residency place were more than three quarters of participants that lived inside Gaza and less than one quarter lived outside Gaza.

The table (4.1) also shows that the majority of participants of (97.4%) were married and (20.6%) were single.

Regarding the qualification level, the first majority of participants (48.7%) were board specialists (having board degree), and the second majority of participants (28.7%) were having master degree, followed by PhD which represented (19.1%), the first minority of participants (3.5%) were having high Diploma, consider the (Figure 4.3). This reflected an increase in doctors specialists educational level and the positive attitudes of doctors towards the development of their qualifications and could be genuinely explained by the different upgrading medical board programs which essentially enabled many GP doctors to hold after bachelor degree. The high percentage of educated and qualified medical specialists might provide opportunities for the investment in cancer training programs about the professional skills as well as performance of cancer care and more planned human resources development.

What is more, regarding personal monthly income for participants, (16.5%) of them earned less than 3000 NIS, (42.6%) earned from 3000 to 5000 NIS and (40.9%) more than 5000 NIS, the average monthly income for specialist was 4850 NIS, Median was (5000 NIS), mode was 6000 NIS and SD was 1727 NIS with (SD: 1726.913).

Additionally, participants were categorized according to the place of work and by discipline as follows; the distribution of participants was regarding to the place of work at Shifa Medical Complex, the highest percentages of participants were working at place of surgical hospital and the first majority of working group was (57.4%), the second majority of working group was the medical hospital (22.6%), the percentages of participants working at Obstetric and Gynecological hospital was (13.0%), the first minority working group were both radiological departments and pathological departments (3.5%, 3.5%) respectively. These findings were inconsistent with the findings of results of the qualitative study that was semi-structured (face-to-face) interviews methods for twenty-two MDTs cancer members were carried out by Jalil, et al.,(2013) across three different hospitals in the wider London (UK) region.

These findings were also inconsistent with the findings of results of the audit review study and a questionnaire survey study methods for all members of the cancer MDTs that was an emphasis on acknowledging the clinical needs and practical constraints of the MDTs and fitting the system around the team workflow rather than the other way around that was carried out by Patkar, et al., (2012) across at the Royal Free Hospital in London.

In otherwise, the distributed responses for each work discipline at the surgical hospital according to specialty in the table (4.2) and Annex (3), general surgical departments were (43.9%), chest surgery was (6.1%), Orthopedic surgery was (7.6%), Neurosurgery was (6.1%),Urological surgery was (12.2%), Colorectal surgery was (4.5%), ENT surgery was (9.1%), Maxillofacial surgery was (6.1%), Burn and Plastic surgery, in the table (4.3) and all surgical sub-specialties which were classified were (33.5%).

Table 4.2: Distribution of work by multi-disciplines variables

Variables		Respondents (n=115)	
Categories		**Number**	**%**
Place of work at Shifa Medical Complex	Surgical hospital.	66	57.4%
	Medical hospital.	26	22.6 %
	Obstetric & Gynae. Hospital.	15	13.0 %
	Radiological departments.	4	3.5%
	Pathology departments.	4	3.5%
	Total	**115**	**100%**
Surgical specialties	General surgery	31	46.94
	Orthopedic surgery	5	7.6
	Urological surgery	8	12.2
	Sub-speciality surgery	22	33.5
	Total	**66**	**100%**
Medical specialties	Internal medicine specialties	13	53.8
	Hematology	5	19.2
	Chest	3	11.5
	Oncology	4	15.4
	Total	**26**	**100%**
Obs. & Gynae. specialties	Obstetric & Gynecological surgery	15	100
	Total	**15**	**100%**
Professional level	Specialist	26	22.6
	Senior specialist	34	29.6
	Consultant	25	21.7
	Senior consultant	30	26.1
	Total	**115**	**100.0**
Current job	Head of unit	5	4.3
	Head of division	2	1.7
	Head of department	48	41.7
	Departments' director.	3	2.6
	Hospital director	5	4.3
	Professional practitioner	51	43.4
	Total	**115**	**100.0**
Total years of experience	**(Mean** 15.92**, S.D.,** 7.566, **Mode** 10) **years**		
	< 10 years	32	27.8
	10-20 years	59	51.3
	>20 years	24	20.9
	Total	115	100.0
Years of experience after specialization	**Mean** 11.03, **Mode**, 20, **SD** 7.398		
	< 10 years	59	51.3
	10-20 years	44	38.3
	>20 years	12	10.4
	Total	**115**	**100.0**

4. 2 Distribution of multi-disciplines by professional variables

The responses for each discipline in the medical hospital according to specialty in the table (4.2) Annex (3), were as follows: Endocrinology was (11.5%),Neurology was (7.7%),GIT and Liver was (3.8%), Dermatology was (7.7%), General medicine was (19.2%), Chest department was (11.5%), Nephrology was (3.8%),Hematology was (19.2%) and Oncology was (15.4%). On the other hand, all internal medicine specialties were (53.8%).The responses of Obstetric and Gynecological surgery was (13%) of total disciplines. This percentage regarding the place of work at Shifa Medical Complex was agreeable to some extent with the discipline of respondents findings from the national survey study in UK commissioned by the National Cancer Action Team (Taylor et al.,2009), and inconsistent with the disciplines represented by respondents findings from Australian study that was carried out by (Shulman, T. et al., 2013).

In addition to what was mentioned, participants were categorized according to four professional levels as follows; the most majority regarding professional level was senior specialist (29.6%), the second majority was senior consultant (26.1%), the third professional level was specialist (22.6%) and the last professional level was the consultant (21.7%), These findings were inconsistent with the findings and outcomes of Australian study that was carried out by Shulman, et al., (2013) that found that the81% (n= 96 of 118) were at a consultant level. This was because the classification of these studies related to national criteria and standards professional level (locally) from Palestinian General Personnel only.

Regarding the current job title, Table (4.2) shows the first majority of participants were professional practitioners (43.4%), while the specialist MDTs members who occupied managerial positions including (head of unit, head of division, head of department, department's director, and hospital director) constituted about (56.6%). The most majority of managerial position was head of department (41.7%).

According to the total years of experience, the average total work experience was for 15.92 years, and the majority of participants (51.3%) had a total work experience ranged from 10 - 20 years, while 27.8 % of participants had a total work experience less than 10 years, and other (20.9%) had a total work experience of more than 20 years.

According to the total years of experience after specialization, the average work experience after specialization was for 11.03 years, and the majority of participants (51.3%) had a work experience after specialization that was less than 10 years, while 38.3% of participants had work experience after specialization ranged from 10 - 20 years, and other (10.4%) had work experience after specialization of more than 20 years.

According to the total years of experience before working in AL-Shifa Medical Complex, the average total work experience before working in Al-Shifa Medical Complex was 4.37 years, the first majority of participants (73.0%) had a work experience before working in Al-Shifa MC that was less than 10 years, while (18.3%) of participants had work experience before working in Al-Shifa MC ranged from 10 to 20 years, and other (8.7%) had work experience before working in Al-Shifa of more than 20 years. This might be attributed to the benchmark and applied more other experience and skills effect positively for cancer management.

4.3 Performance working related to MDTs cancer committee members

4.3.1 MDTs performance working related to variables (N=115)

Table 4.3.1: Distribution of participants according to their participation of scientific committees as core member which are not-related to cancer care.

No	No. scientific c& technical committees	Frequency	Percent %
1	Non	43	37.4
2	1-2 committees	46	40.0
3	3-4 committees	17	14.8
4	> 5 committees	9	7.9
	Total	115	100.0

According to participation of scientific committees as core member which were not related to cancer care **(Table 4.3.1)**, the first majority of participants (40.0%) had a participation in scientific committees as a core member were ranged from 1-2 committees, while (37.4%) of participants had not participated in scientific committees, in addition (14.8%) had a participation as a core member in scientific committees were ranged from 3 to 4 committees and other (7.9%) had a participation as a core member in more than 5 committees respectively. Consequently, these interpretations that might be attributed and positively supportive of the increase of the attendance rate and compliance of MDTs cancer committee members to present and discuss the cancer cases, especially when

showing the distribution of participants by current job title Figure 4.5, the most majority of managerial positions were heads of departments (41.7%).

Table 4.3.2: Distribution of participants according to their participation scientific & technical committees at the MOH that currently participate in a month but not-related to cancer (as a participant)(N=115).

No	No. scientific & technical committees	Frequency	Percent %
1	Non	46	40.0
2	1-2 committees	46	40.0
3	3-4 committees	12	10.4
4	> 5 committees	11	9.5
	Total	115	100.0

Regarding participation of scientific and technical committees as non-core member which were not related to cancer care (Table 4.3.2), the first majority of participants (40.0%) had a participation as a non-core member were ranged from 1 to 2 committees, while (40.0%) of participants did not participate as a non-core member in scientific committees. In addition, (10.4%) had a participation as a non-core member in scientific committees that were ranged from 3 to 4 committees, and other (9.5%) had a participation as a non-core member in more than 5 committees, this interpretation that might be attributed and positively supportive of the increase of the attendance rate and compliance of MDTs cancer committee members to present and discuss the cancer cases, especially when showing the distribution of participants by current job title. Figure 4.5 refers to the most majority of managerial positions were heads of departments (41.7%).

4.3.2 Distribution of participants by education & training variables

Table 4.3.2.1: Distribution of participants by the number of cancer care education & training programs that they received during the period of work (inside MOH) at the last 5 years (N=115)

No	Educational & training programs at MOH	Frequency	Percent %
1	Non	88	76.5
2	1-2 programs	22	19.1
3	> 3 programs	5	4.3
	Total	115	100.0

Distribution of participants is considered according to the number of education and training programs that they received for cancer care during the period of work inside MOH at the last 5 years, the first majority was (76.5%) which illustrated participants that did not receive any educational or training programs related to cancer management inside MOH during the period of work at the last five years, while (19.1%) of participants received ranged from 1 -2 programs, followed by both (1.7%, 1.7%),the participants received ranged from (3-4) and (5-6) programs respectively. Also, the percentage of participants received more than 6 training programs was less than one percent (in Table 4.3.2.1).

Table 4.3.2.2: Distribution of participants according to the number of cancer care education & training programs that they received during the period of work (outside MOH) at the last 5 years (N=115)

No	Educational & training programs outside the MOH	Frequency	Percent %
1	Non	78	67.8
2	1-2 programs	18	15.7
3	3-4 programs	12	10.4
4	> 5 programs	7	6
	Total	115	100.0

Furthermore, regarding participants education and training programs that they received relating to cancer care during the period of work outside MOH at the last 5 years, the first majority was (67.8%) that clarified that the participants did not receive any educational or training programs related to cancer management inside MOH during the period of work at the last five years, while (19.1%) of the participants received 1-2 programs, followed by both (10.4%, 4.3%) respectively, the participants received 3-4 programs and 5-6 programs, on the other hand, the percentage of participants received more than 6 training programs was less than one percent (Table 4.3.2.2).

Table 4.3.3: Distribution of participants by the research and scientific participated previously related to oncology & cancer services (N=115)

No	No. of participated research	Frequency	Percent %
Mean = 1.52, **Mode** = 0, **Median** = 0, **SD** = 2.93			
1	Non	68	59.1
2	1 research	11	9.5
3	2-3 research	21	18.2
4	>4 research	15	13
	Total	115	100.0

Moreover, regarding to distribution of participants by the number of research and scientific participated previously related to the field of Oncology and cancer services in Table (4.3.3), the average of research was 1.52 papers with (SD: 2.93). Furthermore, this shows these findings; most participants did not participate in research and scientific papers previously, and the majority of percentage was (59.1%), the second majority (18.2%) participated ranging from 2-3 research, only (9.5%) of them participated in one paper, while (5.2%) participated ranging from 4 to 5 research and followed by (7.8%), the last participants group participated in more than 5 research and scientific papers. Study finding interpreted particularly, the cancer research is very poor in MOH at the Gaza Strip especially in specialist doctors that reflected the needs of encouragement of cancer research (Figure4.10). Interestingly enough though, through the analysis of open ended questions of the study, most majority of participants supported these findings and they answered, they said about the main things needed to be improved is the cancer research by MDTs cancer committee and they said the main challenges or obstacles were as follows;

> *"The MDTs needed to improve the cancer based evidence by; cancer health research, conference papers, having interactive MDTs electronic health information systems, MDTs videoconference, electronic database linking cancer registry office, and electronic archiving system .*

Table 4.3.4: Distribution of participants by the number of times participate in the MDTs cancer committee meetings monthly (N=115)

No	No. of Monthly participation	Frequency	Percent %
1	1 time	38	33.1
2	2 times	24	20.9
3	3 times	27	23.5
4	≥ 4 times	25	22.6
	Total	115	100.0

As shown in table (4.3.4) the number of times and percentage of members participated in the MDTs meetings cancer committee monthly, the first majority of times participated in MDTs meetings was one time (33.1%), the second majority of times participated were 3 times (23.5%), the third majority of times participated were more than 4 times (22.6%), while the first minority of times participated were 2 meetings of times (20.9%).

Table 4.4.1: Distribution of cases that are discussed monthly by different departments

No	No. of cases discussed	Frequency	Percent %
Mean = 10.73, **Mode** = 2, **Median** = 5, **SD** = 13.98			
1	Non cases	9	7.8
2	1-3 cases	15	13.0
3	4-6 cases	44	38.3
4	7-10 cases	25	21.7
5	11-20 cases	16	13.9
6	>20 cases	6	5.2
	Total	115	100.0

4.4 Distribution of participants by cases presentation management variables

Table (4.4.1) shows the distribution of cases that were discussed monthly through different departments in the MDTs cancer committee; the average of cases discussed monthly for each department was 10.73 with (SD: 13.98), according to table **(4.4.1)**, (38.3%) was the first majority for monthly discussed cancer cases ranged from 4 to 6 cases, while (21.7%) was the second majority for monthly discussed cases that ranged from 11 to 20 cases,(13.9%) was the third majority for monthly discussed cases ranged from 11 to 20 cases,(13.0%) was the fourth majority for monthly discussed cases ranged from 1 to 3 cases, followed by (7.8%) who did not discuss any cancer case monthly, finally the most minority was (5.2%) referring to the number of cases discussed that were more than 20 cases monthly.

Table 4.4.2: Distribution of cancer cases that are presented monthly by member himself

No	No. of cases discussed by yourself	Frequency	Percent %
Mean = 2.96, **Mode** = 0, **Median** = 1, **SD** = 4.45			
1	Non cases	36	31.3
2	1-3 cases	52	45.2
3	4-6 cases	13	11.3
4	7-10 cases	6	5.2
5	>10 cases	8	7.0
	Total	115	100.0

Table 4.4.2 shows the distribution of cases that are discussed & presented monthly by yourself through your department in the MDTs cancer committee; the average of cases discussed monthly by member himself for each department was 2.96 cases with (SD: 4.45). According to table (4.4.2), (45.2%) was the first majority for monthly discussed cancer

cases were ranged from 1 to 3 cases, while (31.3%) was the second majority which refers to the members are did not discussed any cancer case monthly, (11.3%) was the third majority for monthly discussed cases were ranged from 4 to 6 cases, (7.0%) was the fourth majority for monthly discussed more than 10 cases, finally the most minority was (5.2%) refers to the number of cases were discussed ranged from 7 to 10 cases monthly.

Table 4.4.3: Distribution of cases without discussed monthly in MDTs cancer committee

No	No. of cases managed without being discussed in MDTs committee	Frequency	Percent %
Mean = 7.55, **Mode** = 2, **Median** = 4, **SD** = 12.12			
1	Non cases	16	13.9
2	1-5 cases	8	6.9
3	6-10 cases	51	44.3
4	11-20 cases	20	17.4
5	21-30 cases	15	13.0
6	>30 cases	5	4.3
	Total	115	100.0

Furthermore, in table **4.4.3** shows the distribution of participants by cancer cases that involved management and intervention monthly without presenting and without being discussed in MDTs committee through your department. The average of cases without discussion monthly was 7.55 with (SD: 12.12), according to table **(4.4.3)**, (44.3%) was the first majority for monthly cancer cases leakage out of the MDTs cancer committee without discussion ranged from 6 to 10 cases, while (17.4%) was the second majority which referred to the leakage rate of cancer cases monthly, followed by (13.0%) refers to the leakage rate of cases without discussion that ranged from 21 to 30 cases,(6.9%)referred to the leakage rate of cases without discussion ranged from 1 to 5 cases,(4.3%) was the most minority of leakage rate referred to more than 30 cases. And, (13.9%) was the third majority related to no leakage rate for any cancer cases that were monthly discussed.

Table 4.4.4: Distribution of participants by cases that are discussed weekly in meeting

No	The total No. of cases that are discussed weekly by the MDTs cancer committee in every meeting are	Frequency	Percent %
Mean = 10.9, **Mode** = 10, **Median** =10, **SD** = 7.434			
1	0-3 cases	39	33.91
3	4-10 cases	45	39.13
4	11-16 cases	23	20.00
6	>16 cases	8	6.96
	Total	115	100.0

As shown in table **4.4.4** the distribution of participants by total cancer cases that were discussed weekly in every MDTs cancer meeting. The average cases were about 11 with (SD: 7.43). According to (Table 4.4.4), (39.13%) was the first majority for weekly total cancer cases that were discussed in every meeting ranged from 4 to 10 cases, whereas (6.96%) of participants reported that discussed weekly more than 16 cases in every meeting. Moreover,(20 %) of participants reported discussed weekly with range from 11 to 16 cases in every meeting, (33.91%) was found with range from no case discussed to three cases, while the most minority was (6.1%)of participants reported that discussed weekly the range from 13 to 16 cases in every meeting, (Figure 4.14). Study finding, the average of cases that were discussed, was not congruent with Lamb et al., (2013), who found more than 15.5 cases per meeting and Taylor, et al., (2010) found the optimum number of cases for one meeting was 'up to 15'. On the other hand, study findings, in open ended questions, found some inconsistence with the participants referred to as unsatisfactory number of cases that were discussed relating to the bulk of cancer cases in each meeting especially, in surgical hospital departments.

4.5 Distribution of participants by time case management related variables

Table 4.5.1: Distribution of cancer cases by deferred MDTs discussed & delay within two weeks of end diagnosis (N=115)

No	Cases without discussed regardless of the reason for the delay within two weeks of end diagnosis	Frequency	Percent %
Mean = 3.96, **Mode** = 0, **Median** = 2, **SD** = 6.23			
1	Non cases	46	40.0
2	1-3 cases	36	31.3
3	4-10 cases	18	15.6
4	>10 cases	15	13.0
	Total	115	100.0

In table **4.5.1**, it shows the distribution of participants by deferred MDTs cancer cases and delay without discussion within two weeks of end diagnosis**,** and the average was about 4 cases monthly with (SD: 6.23). Moreover, (40.0%) of the participants reported monthly cancer cases that were not referred to after two weeks from the end of diagnosis, while the first majority of the participants were reported to be (31.3%) relating to cancer cases that were referred or delayed after two weeks from the end of diagnosis with range from 1 to 3 cases monthly, followed by both range from 4 to 10 and more than 10 cases were monthly

delayed in same percentage that was (15%.6, 13 %) respectively, while the most minority of delayed cancer cases after two weeks of end diagnosis was (2.6%) ranging from 7 to 10 cases.

Table 4.5.2: Distribution of participants by delayed intervention after two weeks two weeks of making decision. (N=115)

No	Cases delayed the implement the MDTs surgical / medical intervention after two weeks from discussed	Frequency	Percent %
Mean = 5, **Mode** = 0, **Median** = 2, **SD** = 12.42			
1	Non cases	44	38.3
2	1-3 cases	41	35.7
3	4-10 cases	20	17.4
4	>10 cases	10	8.7
	Total	115	100.0

In table **4.5.2** shows the distribution of participants by delayed cancer cases that are involved to implement the MDTs surgical / medical intervention decisions after two weeks of discussion in MDTs cancer committee the average was about 5 cases monthly with (SD: 12.42). Moreover, the first majority was (38.3%) of the participant were reported monthly cancer cases that are not delayed the implement intervention after two weeks of discussion in MDTs cancer committee, while the second majority of the participant were reported (35.7%) of cancer cases that delayed after two weeks from the end of discussion and making decision with ranged from 1 to 3 cases monthly, followed by (17.4%) was reported the ranged from 4 to 10 cases monthly delayed, (8.7%) was reported more than 10 cases monthly delayed respectively, while the most minority of delayed cancer cases after two weeks from the end of discussion and making decision was (7.0%) ranged from 7 to 10 cases. Interestingly, through the analysis of open ended questions of the study most majority of participants that agreeable with these findings and they supported, they said about the main things need to be improved to prevent of delay the implementation for cancer cases that discussed by MDTs cancer committee and taken the decision and recommendation for surgical or medical management as following;

> *"All specialists of departments dealing with MDTs cancer committee decisions as urgent operations and immediately procedures but some challenges and obstacle need to be improved such as lack of cancer treatment resources locally; shortage of some importance treatment facilities the referral abroad system and referral obstacles that lead to increase leakage rate without MDTs discussion, and increases waiting time.*

Table 4.5.3: Distribution of participants by the time factor expected to implement the MDTs cancer decisions & recommendations after discussed (N=115)

No	Time expected in days to implement the decision &recommendation after discussing the case	Frequency	Percent %
Mean = 8.87, **Mode** = 7, **Median** = 7, **SD** = 8.31			
1	0-5 days	44	38.3
2	6-10 days	53	45.1
3	11-14 days	12	10.4
4	>14 days	10	8.7
	Total	115	100.0

In table 4.5.3 shows the distribution of participant's by the time factor expected in days to implement the MDTs cancer decisions and recommendations after discussing the case the average was near to 9 days with (SD: 8.31). Moreover, the first majority was (45.1%) of the participants that were reported ranged from 6 to 10 days to implement the intervention after discussion in MDTs cancer committee. While, the second majority of the participant was reported (38.3%) ranged from immediately to 5 days for implementation of the intervention of cancer cases, followed by (10.4%) that were reported and ranged from 4 to 6 days .In otherwise, the most minority for implementation of the intervention of cancer cases after discussion were reported (8.7%) and consumed more than 14 days for implementation of the intervention of cancer cases after discussion, (Figure 4.17). Study finding was congruent with the international cancer waiting time management according different previous studies such as, Victorian cancer services as outlined in Clinical Excellence in Cancer Care (DHS,2007), study of (NHS,2010), and (Lamb B. et al., 2012). Interestingly, Study finding that was inconsistent with Patkar, et al., (2011) who found time to intervention (29.6 days versus 42.2 days). Study finding of cancer time of intervention referred to good results about this outcome indicator related to MDTs cancer committee.

Table 4.5.4: Distribution of participants by weekly MDTs cancer meeting in hours

No	The weekly meeting of the MDTs cancer committee meeting in hours are	Frequency	Percent %
Mean = 2.3, **Mode** = 2, **Median** = 2, SD = 0.512			
1	1 hour	12	10.4
2	2 hours	88	76.5
3	> 2 hours	15	13.1
	Total	115	100.0

The table 4.5.6 shows the distribution of participants by weekly MDTs cancer meeting in hours, the average was two and half hours**.** Moreover, the first majority was 76.5% with (SD: 0.512) of the participants that were reported 2 hours, while (13.1%) was the second majority of the participants that was reported (38.3%). In otherwise, the most minority was (10.4%)of the participants that reported more than 2 hours (Figure 4.19). Study finding was congruent with Taylor, et al., (2012) who asked about the optimum number of cases discussed in each meeting, that found A third of team members (37%) stated the optimum number of cases their MDT could discuss in a single meeting was 16-25, but an equal proportion (36%) stated that the optimum cases was 'up to 15'.

Table 4.5.5: Distribution of participants by time factor to prepare the cases before discussed at every meeting

No	Time needed to prepare case before discussion	**Frequency**	**Percent %**
Mean = 26.25, **Mode** = 30, **Median** = 20, **SD** = 23.83			
1	< 30 minutes	89	77.4
2	30-60 minutes	19	16.5
3	>60 minutes	7	6.1
	Total	115	100.0

Regarding time period that was taken to prepare the cancer cases before discussion at every meeting that might influence the time of case management process. The average was 26 minutes (SD: 23.83), shown in (Table 4.5.4). Study results found that most of participants (77.4%) reported the time preparation before meeting was less than 30 minutes, while (16.5%) reported the time preparation, before meeting, was from 30 to 60 minutes, followed by the most minorities of (6.1%) that reported the time preparation before meeting and that was more than 60 minutes, (Figure 4.20). Study finding was congruent with Lamb, et al., (2013) who found a third (35%) of team members that stated they spent more than 30 minutes preparing for each meeting, and a quarter (26%) spent ranged from 30 to 60 minutes, MDTs coordinators reported spending most of the time preparing for meetings (90%) spend more than 90 minutes preparing for each meeting, the majority of other disciplines were most likely to report spending between 0-60 minutes preparing for each meeting. Interestingly, through the analysis of open ended questions of the study most majority of participants that were agreeable with these findings that they supported. They said about the main things needed to be improved concerning the preparation before

discussion of the case in (pre-meetings stage) of MDTs cancer committee and the main challenges or obstacles as follows;

"The MDTs was needed to be improved for preparation system especially in pre-meetings stage, having comprehensive agenda list and MDTs patients list circulated prior meeting, preparation of unified protocols to ensure all patients that should be discussed.

Table 4.5.6: Distribution of participants by time of discussion for each case per minute during MDTs cancer meeting

No	Time takes to discuss one case per minute.	Frequency	Percent %
Mean = 15.53, **Mode** = 10, **Median** = 15, **SD** = 13.45			
1	< 10 minutes	55	47.8
2	10-20 minutes	32	27.8
3	>20 minutes	28	24.3
	Total	115	100.0

Regarding time period, it was taken to discuss one cancer case during the MDTs cancer committee meeting that might influence on the time case management process for the average that was 15.5 minutes with (SD: 13.45) shown in (Table 4.5.5). Study results found that most of participants (47.8%) reported the time of discussion for each case during meeting was less than 10 minutes, while (27.8%) reported the time of discussion for each case during meeting was from 10 to 20 minutes, followed by the most minority (24.3%) that reported the time of discussion for each case during meeting that was more than 60 minutes. Moreover, Study finding was not congruent with Lamb, et al., (2013) prospective study was for one year, who found the range of time per case for each meeting to be (85%) of total cases that were discussed in less than 3 minutes. Interestingly, through the analysis of open questions of study most majority of participants that were agreeable with these findings, but some of them reported the main challenge of time related to the cases that were discussed and what they needed for improvement that as follows;

Sometimes, longer meetings and some types of cancer cases needed more time for discussion relating to complicated issues or debate to reach final professional diagnosis. In otherwise, there were: poor diagnostic and work for cancer cases before discussion that caused the loss of time such as; insufficient data in patient records control of the assembly and management discussion as well as lack of attendance of MDTs cancer core members that were relevant to cases".

Table 4.5.7: The performance related to cases presentation dynamics of multi-disciplines of MDTs cancer committee members by place of work.

Place of work in Al-Shifa Medical Complex and performance disciplines		Disciplines					
		Surgical hospital- 66	Medical hospital. 25	OBS. & Gyn. hospital - 15	Radiological depts. 5	Pathology dept. 4	Total -115
Number of times you participate in the MDTs committee monthly	Freq.	160	46	28	14	16	264
	mean	**2.43**	**1.84**	**1.86**	**2.8**	**4**	**2.3**
The number of cases that are discussed monthly through your department in the MDTs cancer committee	Freq.	759	184	49	120	122	1234
	mean	**11.5**	**7.36**	**3.26**	**24**	**30.5**	**10.73**
The number of cases that are discussed & presented monthly by yourself through your department in the MDTs cancer	Freq.	192	66	17	31	34	340
	mean	**2.9**	**2.64**	**1.13**	**6.2**	**8.5**	**2.95**
The number of cancer cases that are involved your management / intervention a month without presented & without being discussed in MDTs committee through your department	Freq.	285	339	68	125	51	868
	mean	**4.32**	**13.56**	**4.53**	**25**	**12.75**	**7.55**
The number of cancer cases that are deferred discussed & not presented to the MDTs cancer committee regardless of the reason for the delay within two weeks of end diagnosis	Freq.	166	130	48	70	40	454
	mean	**2.51**	**5.2**	**3.2**	**14**	**10**	**3.95**
The number of cancer cases that are involved to implement the MDTs surgical / medical intervention decisions after two weeks of discussion in MDTs cancer committee	Freq.	213	256	27	37	44	577
	mean	**3.23**	**10.24**	**1.8**	**7.4**	**11**	**3.02**
The time expected in days to implement the MDTs cancer committee decisions & recommendations after discussing the case	Freq.	614	304	137	28	37	1020
	mean	**9.30**	**12.16**	**9.13**	**5.6**	**9.25**	**8.87**

4.6 The performance related to cases presentation dynamics of multi-disciplines of MDTs cancer committee members by place of work.

Regarding table (4.5.7), there were cases presentation variables for multi-disciplines of MDTs cancer committee members by place of work in the Shifa Complex that reflected the performance of MDTs activities. Regarding the average of participation for MDTs cancer members, there were 2.43 times per month in the surgical hospital, but in the medical hospital, it was the lowest finding 1.84, also the Obstetrics and Gynaecology, the average of participation was low of 1.86 times per month. Moreover, the average of participation in radiological departments was 2.8 times per month, the average of participation in pathological departments was the highest of 4 times per month, the total average of participation in MDTs cancer case monthly was moderate (2.3).

Moreover, regarding the monthly average of case presentation of department for MDTs cancer members, it was the most bulk in the surgical hospital of 11.5 cases that were discussed monthly, but in the medical hospital, it was 7.36, also the Obstetrics and Gynaecology hospital, the average of case presentation was the lowest of 3.26 cases per month. Moreover, the average of case presentation in radiological departments was 24 cases per month. The average of case presentation in pathological departments was the highest to reach 30.5 cases per month. The total average case presentation in MDTs cancer committee monthly was (10.73) that were presented.

Regarding table (4.5.7), the monthly average of case presentation rate for MDTs cancer members, it was the most bulk in the surgical hospital of 2.9 cases that were discussed by the member himself monthly, but in the medical hospital, it was 2.64, also in the Obstetrics and Gynaecology hospital, the average case presentation by members themselves was the lowest of 1.13 cases per month. Moreover, the average of case presentation by the member himself in radiological departments was 6.2 cases per month; the average of case presentation in pathological departments was the highest of 8.5 cases per month. The total average case presentation by member himself in your department in the MDTs cancer committee monthly was around (3) cases that were presented by the member himself.

Furthermore, In table 4.5.7 shows the average of leakage cases without presentation by disciplines monthly in MDTs cancer members in the surgical hospital, it was 4.32 cases monthly, but in the medical hospital, the leakage case number was 13.56 per month without presentation, also the Obstetrics and Gynecological hospital, the leakage of cases

without presentation by MDTs cancer was the lowest of 4.53 cases per month. Moreover, the average leakage of cases without presentation in Radiological departments was 25 cases per month; the average leakage of cases without presentation in Pathological departments was the highest of 12.75 cases per month. The total average leakages of cases without presentation in the MDTs cancer committee monthly was for (7.55) cases that were not presented.

Regarding the table (4.5.7), the average of delay of case presentation that was more than two weeks after the end of diagnosis by disciplines monthly for MDTs cancer members in the surgical hospital was for 2.51 delayed cases monthly, but in the medical hospital the delay case presentation was for 5.2delayed cases per month, also the Obstetrics and Gynaecological hospital had a delay of case presentation by MDTs cancer that was for 3.2 cases per month. Moreover, delayed case presentation rate that was in radiological departments was the highest of 14 cases monthly, the delayed case presentation in pathological departments was for 10 cases per month. The total average delayed case presentation in the MDTs cancer committee after the end of diagnosis was more than two weeks monthly and was around (4) cases.

Regarding the average of delay case intervention was more than two weeks after end of case presentation by disciplines monthly for MDTs cancer members. The average in surgical hospital was 3.23 delayed intervention cases per month, but in the medical hospital the average of delayed intervention was 10.24 delayed cases per month, also the average in Obstetrics and Gynecological hospital delayed intervention by MDTs cancer was the 1.8 cases per month. Moreover, the average of delayed intervention that was in radiological department's was 7.4 cases per month. The average delayed intervention in pathological departments was the highest of 11 cases per month. Totally, the total average of delayed intervention in the MDTs cancer committee was more than two weeks after presentation monthly and was 3 cases.

In table 4.5.7 shows the average of total expected time of days for implementation of decision after case presentation by disciplines for MDTs cancer members in the surgical hospital was 9.30 days, but in the medical hospital the average of total expected time implementation of decisions after case presentation was 12.16 days, also in the Obstetrics and Gynecological hospital, the average was 9.13 days. Moreover, the total average of expected time implementation of decisions after case presentation in pathological

departments was 5.6 days, the average of total expected time implementation in pathological departments was 9.25 days. The total average expected time implementation of decisions after case presentation by MDTs cancer committee was very well around 9 days after the cancer case discussion.

On the other hand, through the analysis of study findings by open ended questions, the majority of participants was consistent with these findings and results in this table (4.5.6), they are reported as the main things that affected case presentation process variables of MDTs cancer committee work effectively and the main challenges or obstacles were as follows;

> *"Many of barriers and challenges affected case presentation process; the workload and shortage of manpower the nature of disease. noninvolvement of cancer patients in MDTs cancer meeting. On the other hand, political conditions shortage of diagnostic materials and supplies. cancer waiting time in referral abroad;*

4.6.1 The performance related to cases presentation dynamics variables in surgical hospital

Table (4.5.8) shows the cases presentation variables in surgical hospital departments of MDTs cancer committee members that reflected the performance of MDTs activities. Regarding the average of participation for MDTs cancer members, it was 3.09 times per month in the general surgical departments, but in the Orthopedic departments, it was one time per month, also in the Surgical specialties and subspecialists departments the average of participation was 2.4 times per month. Moreover, the average of participation in Urology departments was 2.37 times per month, the total average of participation of MDTs cancer case monthly in surgical hospital was moderate of (2.45) times.

Table 4.5.8: The performance related to cases presentation dynamics variables in surgical hospital

Place of work in Al-Shifa Medical Complex and performance disciplines		General surgery (32)	Orthopedic (5)	Surgical specialties (21)	Urology (8)	Total (66)
Number of times you participate in the MDTs committee monthly	Freq.	99	5	37	19	160
	mean	**3.09**	**1**	**1.76**	**2.37**	**2.45**
The number of cases that are discussed monthly through your department in the MDTs cancer committee	Freq.	618	12	59	70	759
	mean	**19.3**	**2.4**	**2.8**	**8.75**	**11.5**
The number of cases that are discussed & presented monthly by yourself through your department in the MDTs cancer	Freq.	124	2	37	29	192
	mean	**3.88**	**0.4**	**1.76**	**3.26**	**2.91**
The number of cancer cases that are involved your management / intervention a month without presented & without being discussed in MDTs committee through your department	Freq.	144	12	90	39	285
	mean	**4.5**	**2.4**	**4.29**	**2.88**	**4.32**
The number of cancer cases that are deferred discussed & not presented to the MDTs cancer committee regardless of the reason for the delay within two weeks of end diagnosis	Freq.	68	4	76	18	166
	mean	**2.12**	**0.8**	**3.62**	**2.25**	**2.52**
The number of cancer cases that are involved to implement the MDTs surgical / medical intervention decisions after two weeks of discussion in MDTs cancer committee	Freq.	110	4	79	20	213
	mean	**3.44**	**0.8**	**3.76**	**2.5**	**3.23**
The time expected in days to implement the MDTs cancer committee decisions & recommendations after discussing the case	Freq.	267	95	119	133	614
	mean	**8.34**	**19**	**5.66**	**16.6**	**9.30**

In table 4.5.8 shows the average of case presentation by department monthly for MDTs cancer members, it was the most bulk in the general surgical departments and was the highest of 19.3 cases discussed monthly, but in the Surgical specialties and subspecialists departments, it was 2.4, also in Urology departments, it had the average of case presentation that was 8.75 cases per month. Moreover, the total average of case presentation in MDTs cancer committee monthly in Surgical hospital was (11.5) cases that were presented.

In otherwise, regarding the average of case presentation by the member himself monthly for MDTs cancer members, it was the most bulk in the general Surgical departments of 19.3 cases discussed by the member himself monthly, but in the Orthopedic departments, it was the lowest of 0.4, also in the Surgical specialties and subspecialists departments the average of case presentation by the member himself was 1.76 cases per month. Moreover, the average of case presentation by the member himself in Urology departments was 3.26 cases per month. Totally, the total average of case presentation in surgical hospital by the member himself related to the relevant department in the MDTs cancer committee monthly was around (3) cases that were presented by the member himself.

Regarding table 4.5.8, the average of leakage cases without presentation by disciplines monthly in MDTs cancer members in the surgical hospital, the average in the general Surgical departments was the highest of 4.5 cases monthly, in the Orthopedic departments the average of leakage of cases was the lowest of 2.4 cases per month without presentation. Also in the Surgical specialists and subspecialists departments the average of leakage cases without presentation by MDTs cancer was 4.29 cases per month. Moreover, the average of leakage cases without presentation in Urology departments was 2.88 cases per month. Totally, the total average leakage of cases without presentation in the MDTs cancer committee at the medical hospital monthly was (4.32) cases that were not presented.

Furthermore, in table 4.5.8 regarding the average of delay of case presentation, it was more than two weeks after the end of diagnosis by disciplines monthly for MDTs cancer members in the Surgical hospital. The average in the general Surgical departments was 2.12 delayed cases monthly, in the Orthopedic departments the average of the delay of case presentation was the lowest of 0.8 delayed cases per month. Also in the Surgical specialists and subspecialists departments the average of delay of case presentation by MDTs cancer was the 3.62 cases per month. Moreover, the average of delayed case presentation in Urology departments was 2.25 cases per month. The total average of delayed case presentation by the MDTs cancer committee in the Surgical hospital after the end of diagnosis more than two weeks monthly was (2.52) cases.

In table 4.5.8, regarding the average of delayed case intervention of more than two weeks after the end of case presentation by disciplines monthly for MDTs cancer members in the general surgical hospital, the average in the general Surgical departments was the highest of 3.44 delayed intervention cases per month. In the Orthopedic departments the average of

delayed intervention was 0.8 delayed cases per month, in the Surgical specialists and subspecialists departments the average of delayed intervention by MDTs cancer committee was 3.76 cases per month. Moreover, the average of delayed intervention was in Urology departments of 2.5 cases per month. Totally, the delay of intervention by the MDTs cancer committee was more than two weeks from presentation monthly and it was (3.23) cases.

In table 4.5.8, regarding the average of total expected time of days for implementation of decision after case presentation by disciplines in MDTs cancer members at the Surgical hospital, the average in the general Surgical departments was 9.30 days. In the Orthopedic departments the average of total expected time implementation of decisions after case presentation was 19 days. Also, in the Surgical specialists and subspecialists departments the average was 5.66 days. Moreover, the average of total expected time implementation of decisions after case presentation in Urology departments was 16.6 days. The total average expected time implementation rate of decisions after case presentation by MDTs cancer committee in the Surgical hospital was very well 9.30 days after the cancer case discussed.

Table 4.5.9: The performance related to cases presentation dynamics variables in Medical hospital

Place of work in Al-Shifa Medical Complex and performance disciplines		**G. medicine & medical specialties (13)**	**Hematology (5)**	**Oncology(4)**	**Chest (4)**	**Total (25)**
Number of times you participate in the MDTs committee monthly	Freq.	18	7	15	5	45
	mean	**1.38**	**1.4**	**3.75**	**1.25**	**1.8**
The number of cases that are discussed monthly through your department in the MDTs cancer committee	Freq.	54	37	71	21	183
	mean	**4.15**	**7.4**	**17.75**	**5.25**	**7.32**
The number of cases that are discussed & presented monthly by yourself through your department in the MDTs cancer	Freq.	13	6	41	5	65
	mean	**1**	**1.2**	**10.25**	**1**	**3.36**
The number of cancer cases that are involved your management / intervention a month without presented & without being discussed in MDTs committee through your department	Freq.	140	120	63	10	233
	mean	**10.77**	**24**	**15.75**	**2.5**	**9.32**
The number of cancer cases that are deferred discussed & not presented to the MDTs cancer c committee regardless of the reason for the delay within two weeks of end diagnosis	Freq.	34	43	47	6	130
	mean	**2.61**	**8.6**	**11.75**	**1.5**	**5.2**
The number of cancer cases that are involved to implement the MDTs surgical / medical intervention decisions after two weeks of discussion in MDTs cancer committee	Freq.	31	3	217	5	256
	mean	**2.38**	**0.6**	**54.25**	**1.25**	**10.24**
The time expected in days to implement the MDTs cancer committee decisions & recommendations after discussing the case	Freq.	104	32	42	24	202
	mean	**8**	**6.4**	**10.5**	**6**	**8.08**

4.6.2 The performance data related to cases presentation dynamics variables in medical hospital

Table 4.5.9, clarifies the cases presentation variables in the Medical hospital departments of MDTs cancer committee members that reflected the performance of MDTs activities.

Regarding the average of participation for MDTs cancer members, it was 1.38 times per month in the general Medicine and Medical specialists departments, in the Hematology department, it was 1.4 times per month, also in the Oncology department the average of participation was 3.75 times per month. Moreover, the average of participation in chest department was 1.25 times per month. The total average of participation of MDTs cancer case monthly in surgical hospital was low of (1.8) times per month.

In table 4.5.9 shows the average of case presentation by department monthly for MDTs cancer members in the Medical hospital departments, the average of case presentation by department in general Medicine and Medical specialists departments, it was 4.15 cases discussed monthly. In the Hematology department, there were 7.4 cases. Also in the Oncology department the average of case presentation was the highest of 10.25 cases per month.

Moreover, the average of case presentation in Chest department was 5.25 cases. The total average of case presentation by MDTs cancer committee monthly in Medical hospital was (7.32) cases that were presented.

In table 4.5.9, regarding the average of case presentation rate by the member himself monthly in MDTs cancer members at the Medical hospital departments, the average of case presentation by department in general Medicine and Medical specialists departments was one case discussed by the member himself monthly. In otherwise, in the Hematology department, there were 1.2 cases, also in the Oncology department the average of case presentation by the member himself was the highest of 10.25 cases per month. Moreover, the average of case presentation by the member himself in Chest department was one case per month.

The total average of case presentation in Medical hospital by the member himself related to the relevant department in the MDTs cancer committee monthly was around (3.36) cases.

Regarding the average of leakage case without presentation by disciplines monthly for MDTs cancer members at the Medical hospital. The average in the general medicine and medical specialists departments was 10.77 cases monthly.

In otherwise, table 4.5.9 clarify the Hematology department the average of leakage cases was the highest of 24 cases per month without presentation. Also, in the Oncology department the average of leakage cases without presentation by MDTs cancer was 15.75 cases per month. Moreover, the average of leakage cases without presentation in Chest department was 2.5 cases per month. The total average leakage cases without presentation in the MDTs cancer committee at the Medical hospital monthly was (9.32) cases that were not presented.

In table 4.5.9 , regarding the average of delayed case presentation, there were more than two weeks after end of diagnosis by disciplines monthly for MDTs cancer members in the Medical hospital. The average in the general medicine and medical specialties departments was 2.61 delayed cases monthly. In otherwise, in the Hematology department the average of the delayed case presentation was 8.6 delayed cases per month. Also in the Oncology department the average of delayed case presentation rate by MDTs cancer was the 11.75 cases per month. Moreover, the average of delayed case presentation cases in Chest department was the lowest one 1.5 cases per month. The total average of delayed case presentation in the MDTs cancer committee at the Medical hospital after the end of diagnosis more than two weeks monthly was (5.2) cases, (Figure 4.24).

In table 4.5.9, regarding the average of delayed case intervention more than two weeks after end of case presentation by disciplines monthly for MDTs cancer members in the Medical Surgical hospital, the average in the general medicine and medical specialties departments was 2.38 delayed intervention cases per month. In otherwise, in the Hematology department the average of delayed intervention was the lowest of 0.6 delayed cases per month. In the Oncology department the average of delayed intervention by the MDTs cancer committee was the highest of 54.25 cases per month. Moreover, the average of delayed intervention in Chest department was1.25 cases per month. Totally, the average of delayed intervention in the MDTs cancer committee more than two weeks from presentation monthly was (10.24) cases.

In table 4.5.9 shows, the average of total expected days for implementation of decision after case presentation by disciplines for MDTs cancer members in the medical hospital,

the average in the general medicine and medical specialties departments was 8 days. In otherwise, in the Hematology department the average of total expected day's implementation of decisions after case presentation was 6.4 days. In Oncology department the average was 10.5 days. Moreover, the average of total expected time implementation of decisions after case presentation in Chest department was 6days. Finally, the total average expected time implementation of decisions after case presentation in MDTs cancer committee at the Medical hospital was very well around 8 days after the cancer case discussion.

Table 4.6: Distribution of performance variables related to MDTs cancer committee members

No	Variables	frequency	yes	No	to some extent	Don't know	Mean
1.	Are there cancer cases which discussed in MDTs meeting disappear or difficult to tracking before completion the follow up implementation of MDTs recommendations & decisions within two weeks from the date of discussion	**No**	32	28	30	25	2.45
		%	27.8	24.3	26.1	21.7	
2.	Are there cancer cases postponed after taking the MDTs decisions / action plan for surgical or medical intervention more than two weeks after discussed from your department	**No**	19	53	26	17	2.36
		%	16.5	46.1	22.6	14.8	
3.	Are there cancer cases not taking a final decision for medical or surgical intervention by the MDT's work after two weeks from discussed in MDTs cancer committee	**No**	9	57	31	18	2.50
		%	7.8	49.6	27.0	15.7	
4.	Cancer cases taken recommendations by MDTs after discussing that needs further diagnosis more instigations(Investigations are insufficient) before making a final decision to determine the pathway/ action plan of the cancer management	**No**	42	23	39	11	2.17
		%	36.5	20.0	33.9	9.6	
5.	Are your participation in the MDTs cancer committee helped to develop the regulations and protocols of work for cancer cases management in your department	**No**	65	15	28	7	1.80
		%	56.5	13.0	24.3	6.1	
6.	The time allocated for each weekly meeting of MDTs cancer committee enough to discuss all cases	**No**	24	50	37	4	1.96
		%	20.9	43.5	32.2	3.5	

4.7 Performance variables related to MDTs cancer committee

Regarding leakage rate of cancer cases implemented at the MDTs cancer committee and tracking systems after discussion and decision making, more than a quarter of (27.8%) of participants answered that the difficulty was in tracking and disappearance of cases before completing follow up of implementation of MDTs recommendations and decisions within two weeks from the date of discussion as shown in (Table 4.6). This was followed by (26.1%) of participants that reported that, to some extent, there was difficulty in tracking systems in the same area. On the other hand, these answers were completely congruent with many answers of participants through the analysis of open ended questions in interview questionnaire. In addition, when participants were asked about the reason of leakage and nature of cases that disappeared from MDTs cancer committee without completing the treatment and what were the main pillars for how to improve the MDTs committee work effectively and the main challenges and obstacles. The respondents provided the answers of open ended questions to support these findings as follows;

> *"The MDTs needed to improve the tracking systems such as cancer patients tracking, arrangement for follow up of cancer patients post clinical decisions, recommendation and feedback after MDTs cancer committee clinical decisions that needed to be improved In otherwise, the reason of leakage cases was related to seeking the cancer patient and family to take the referral letter abroad.*

Regarding postponement of cancer cases after taking the MDTs decisions and action plan for surgical or medical intervention more than two weeks after discussion for each discipline, (46.1%) of participants reported that there was no postponement for cancer cases. That was after taking the MDTs decisions for surgical or medical intervention more than two weeks and after discussion, while around quarter of (22.6%) of participants answered to some extent that (16.5%) of participants said that they had cancer cases that were postponed after taking the MDTs decisions and action plan for more than two weeks and after MDTs cancer committee discussion as shown in (Table 4.6). Considering the analysis of open questions and asking the participants about the reason and nature of cancer cases that were postponed, and despite having most of the participants concurred with the view that their departments had postponed cancer cases after taking the MDTs cancer committee decisions for more than two weeks, most of them confirmed that some cancer cases discussion in MDTs cancer were postponed and they provided multi factorial reasons for these answers as follows;

"The MDTs cancer cases were postponed after discussion and took the surgical and medical decisions related to many challenges and obstacles; lack and shortage of treatment, resources and surgical facilities such as availability of ORs tables, better availability of chemotherapy especially the 2nd and 3rd line chemotherapy, no availability of radiotherapy locally in GS, lack of radioiodine therapy, lack of isotope, X-ray endoscopic capsulated treatment, lack of palliative care locally, all of them negatively affected the implementation of the surgical and medical treatment recommended by MDTs decisions before two weeks.

Regarding cancer cases that did not take final decisions for medical or surgical intervention by MDT's cancer committee work after two weeks from discussion, Table 4.6 shows that around half of participants (49.6%) stated that they took the final decisions for medical or surgical interventions by MDTs cancer committee within two weeks without delay or postponement of decisions after discussion of the cancer cases with MDTs members. This finding may imply the efforts and endeavors of MDTs to adopt the decisions and recommendations during MDTs discussion process itself to have the final decisions making for each case through the end of MDTs cancer committee meetings. Moreover more than a quarter of (27.0%) of participants answered that there were cancer cases that were not taking the final decision for medical or surgical intervention by the MDT's work after two weeks of discussion. This finding was somewhat consistent with analysis of open ended questions and asked the participants about the reason and nature of cancer cases that were postponed, despite the fact that some of the participants concurred with the view that their departments had some cancer cases that did not take the final decisions after two weeks of discussion and they provided these answers;

"The MDTs cancer cases did not take the final decision for medical or surgical intervention by the MDT's work after two weeks from discussion in MDTs meetings related to many challenges and obstacles; such as the nature of cancer tumor, lack of or insufficient optimal work up and diagnostic procedures lack of time and no attendance of some MDTs cancer core members; Additionally, the cancer patients did not attend to complete the diagnostic procedures according to MDTs cancer recommendations".

Consider cancer cases need for more and further investigations related to insufficient diagnostic results by MDTs cancer recommendations after discussion in the meeting before making a final decision to determine the pathway or action plan of the cancer management. More than a third of (36.5%) of participants stated that MDTs cancer cases needed more

investigations related to insufficient diagnostic results before making a final decision to determine the pathway or action plan of the cancer management. Moreover, more than a third of (33.9%) of participants responded to some extent to the same question concerning that as shown in (Table4.6). These findings seemed to be unsatisfactory and may reflect many aspects related to MDTs cancer case management and making the final clinical decision process which was influenced by preparedness of diagnostic procedures and thus would affect the standards of cancer waiting and time management and the period of time intervals between diagnostic and treatment of cancer case during cancer care journey. It is worth mentioning that there were sufficient and complete investigations with work diagnostic procedures that were appropriate according to international guidelines and protocols. All of this would help make the right final clinical decision and early action plan on the right time for cancer patients management processes, because this was the main fundamental roles of MDTs cancer to improve their performance effectively, "rapid diagnosis with rapid treatment". Therefore, this finding was completely consistent with analysis of open ended questions about how to improve the MDTs cancer that was working effectively and what were the main challenges and obstacles and asked the participants about the reason and nature of cancer cases in that the respondents supported these findings and provided them by these answers as follows;

> *"The MDTs cancer committee needed to improve the attendance of senior subspecialties, improvement of the preparation adherence to protocols and guidelines establishing technological integration diagnostic tracking systems connected with multidiscipline teams such as PACS and PAS radiological system, Additionally, shortage of important diagnostic materials, long waiting time for some diagnostic results".*

Regarding participation in the MDTs cancer committee, it helped develop the regulations and protocols of cancer work. More than half of (56.5%)of participants reported that their participation in the MDTs helped develop the regulations and protocols of work for cancer cases management in your department. Study result was consistent with from the national survey study in UK commissioned by the National Cancer Action Team Taylor, et al., (2009) who found that 78% of MDT members received support to develop the regulations, protocols and skills associated with effective team working in your department. Another congruent finding was Chirgwin, (2010) revealed that about 58.3 % of participants reported positive perception towards the MDTs support and helped in practice and regulate the protocols of cancer work. On the other hand, about a quarter (24.3.1%) of participants in

my study findings answered that to some extent with the participation of MDTs that there were no help to develop the regulations and protocols of cancer work in your departments. This finding was somewhat consistent with analysis of open ended questions about how to improve the MDTs work protocols and what were the main challenges and obstacles in most of areas related to that matter. Participants supported these findings as follows;

> *"MDTs cancer committee need to improve the expertise, support learning outside, external experts, advanced education of subject area, need to establish regular updating local policies for cancer patients and treatments, support responsibilities, roles of team members, clinical credibility; improve the clinical skills and the main challenge was the lack of lectures for doctors, we need new updating, trained and unified protocols for cancer management that reference by MDTs cancer committee. ".*

Regarding time allocation for each weekly meeting of MDTs cancer, it was enough to discuss all cases. Participants were the most likely ones that want more time allocated for each meeting because the time was not enough to discuss all cases and there was a need for more time. (Around 44% of participants said yes, 32% said to some extent, only 21% said no). Study result was consistent with the national survey study in UK commissioned by the National Cancer Action Team Taylor, et al., (2009) who found that 98% of MDTs cancer members needed allocated protected time by survey and (12%) needed more time for discussion of the cancer cases in the meetings by open questions. In otherwise, study finding was inconsistent with the findings of results from the quantitative online national survey in UK that was carried out by Jalil, et al., (2013) that found only 8% had lack of time. Anyway, these findings were completely consistent with analysis of open ended questions in my study about how to improve the MDTs cancer and what were the main challenges and obstacles, most of participants supported these findings as the follows;

> *"MDTs cancer committee needed more time allocated for each weekly meeting of MDTs cancer committee to discuss all cases to improve the MDTs cancer committee work, also it needed good time-keeper that makes best use of available time, best technology having real time data collection and time for discussing the cancer cases in MDTs cancer meetings, good timekeeping support and it gave enough time to enforcement of good clinical decision-making and case management.".*

Table 4.7.1 Distribution of performance variables related to MDTs cancer indicators

No	Variables	Fr	yes	No	to some extent	Don't know	Mean
1.	MDTs Special performance indicators	No	25	60	20	10	2.22
		%	21.7	52.2	17.4	8.7	
2.	Regularity & follow up performance indicators	No	20	90	4	1	1.24
		%	17.4	78.3	3.5	.9	
3.	Follow up &monitoring survival rate	No	19	60	14	22	2.34
		%	16.5	52.2	12.2	19.1	
4.	Follow up &monitoring mortality rate	No	21	58	21	15	2.26
		%	18.3	50.4	18.3	13.0	
5.	Waiting time intervals indicator for completion the diagnostic procedures	No	27	61	17	10	2.35
		%	23.5	53.0	14.7	8.7	
6.	Waiting time indicator for starting of treatment intervention	No	31	40	25	19	2.28
		%	27.0	34.8	21.7	16.5	
7.	Waiting time indicator for completion of the treatment intervention	No	34	58	19	4	2.20
		%	29.6	50.4	16.5	3.4	
8.	following & monitoring of unexpected complications indicator	No	26	34	34	21	2.43
		%	22.6	29.6	29.6	18.3	
9.	following & monitoring the incidence rate indicator	No	21	50	24	20	2.37
		%	18.3	43.5	20.9	17.4	
10.	following & monitoring the number of old cancer cases rate indicator	No	19	47	26	23	2.46
		%	16.5	40.9	22.6	20.0	
11.	following & monitoring the length periods of time between diagnosis and treatment	No	20	59	19	17	2.39
		%	17.4	51.3	16.5	14.7	
12.	Follow up &monitoring attendance rate for MDTs cancer core members	No	63	17	26	9	1.94
		%	54.8	14.8	22.6	7.8	
13.	Follow up &monitoring attendance rate for MDTs non core members	No	55	16	25	19	2.07
		%	47.8	13.9	21.7	16.5	
14.	positively support the decisions of other relevant committees to provide cancer services for this target patients at MOH such as refferal abraod	No	62	6	33	14	1.99
		%	53.9	5.2	28.7	12.2	
15.	MDTs cancer committee decisions positively support the cancer care strategy in MOH	No	65	7	25	18	1.97
		%	56.5	6.1	21.7	15.7	
16.	MDTs cancer committee meetings contribute to exploitation of the possibilities of resources available to better diagnosis for cancer patients	No	68	6	28	13	1.88
		%	59.1	5.2	24.3	11.3	
17.	Is there an active training role played by the MDTs cancer committee toward the development of professional skills related to cancermanagement	No	29	32	33	21	2.40
		%	25.2	27.8	28.7	18.3	
18.	MDTs core membersinvolved & participate in the training process, through to express an opinion during meetings	No	41	18	32	24	2.34
		%	35.7	15.7	27.8	20.9	

4.7.1 Distribution of responses regarding performance indicators of MDTs cancer committee working

Regarding this issue, there were special indicators of performance for measuring MDTs cancer committee work, study results found that more than half of participants (52.2%) answered "no" and there were not available relating to performance indicators for MDTs cancer committee work. Whereas, less than quarter of participants (21.7%) answered "yes" that there were special indicators of performance for measuring MDTs cancer working.

In otherwise, the result of regularity and follow up of these performance indicators was very poor, the most majority of participants of more than three quarters(78.3%)answered "no" and the performance indicators of MDTs cancer committee work were not monitoring and not following up regularly as shown in (Table 4.7). Additionally, the follow up and monitoring of outcomes performance indicators were poor, the most participants answered "no" and there were not following up and monitoring of outcomes performance indicators. Respectively, the follow up and monitoring of the survival rate found negative result more than half of participants (52.2%),follow up and monitoring the mortality rate was found also negative result of more than half of participants (50.4%), monitoring of waiting time intervals indicator for completion of the diagnostic procedures was negatively answered more than half of participants (53.0%). In the same context, the next waiting indicator question number 17, asked about the follow up and monitoring of the length period of time between diagnosis and treatment after it was presented and discussed relating to cancer patients by MDTs cancer committee. More than half of participants (51.3%) had negative answers.

Additionally, more than a third of participants (34.8%) reported that there was no follow up and monitoring of cancer waiting time indicator for starting of treatment intervention after the cancer patient’s discussion in MDTs cancer committee. In the same context, there was cancer waiting time management indicator for completion of the treatment intervention according to MDTs cancer committee recommendations and decisions for action plan. More than half of participants (50.4%) had negative answers. In otherwise, participants were asked about the follow up and monitoring of unexpected complications indicator that may occur in some cases that had been discussed by the MDTs cancer committee during and after the implementation of action plan. Respectively, when answering these questions, there was more than a quarter of participants reported (29.6%) answered "no" and more than a quarter of participants reported (29.6%) "to some extent". All these study findings

were related to outcome indicators that were measuring MDTs cancer committee work and performance that were completely congruent with Taylor, et al., (2012) who found that most of participants (80%) reported that there was a need for performance measures and outcome indicators to assess performance of MDTs cancer committee work, but the study findings were not congruent with Patkar, et al., (2011) who found the variations and difficulties to assess the outcome cancer indicators.

On the other hand, through the analysis of study findings by open ended questions referred to the majority of participants that were consistent with these findings and results. They said, the main things needed to improve the assessment and evaluation of the MDTs cancer committee as an effectiveness of work and main challenges or obstacles of that as follows;

> *"The MDTs documentations and report regularly, monitoring and evaluation of performance indicators and outcomes regularly by using reevaluation methods and tools assessment of MDTs cancer performance work in each step through cancer patient journey, using technological appraisal systems that were connected with MDTs cancer processes and tracking monitor for the cancer time waiting according to achievements of international standards of cancer care".*

Regarding this matter, there was follow up and monitoring of input performance indicators for the MDTs cancer committee work and according to the findings and results shown in (table 4.7). Generally that shows, the input performance indicators of MDTs cancer committee were satisfactory. In spite of that, more than a third of participants (43.5%) reported there were not follow up and monitoring for the incidence rate indicator for new cancer cases that were presented on the MDTs cancer committee. In addition, more than third of participants (40.9%) reported there were not follow up and monitoring the number of old cancer cases rate (follow up cancer cases) indicator that were represented on the MDTs cancer committee.

On the other hand, regarding the follow up and monitoring the attendance rate for MDTs cancer for both core and non-core the finding was satisfactory. More than a half of participants reported respectively, (54.8% for core, 47.8% for non-core members), "yes". Furthermore, around a quarter of participants reported respectively, (22.6% for core, 21.7% for non-core members) "to some extent". Study finding was congruent with the national survey study in UK commissioned by the National Cancer Action Team Taylor, et al., (2009) who found that most of participants that they were agreeable about should be

improved relating to the attendance rate and motoring because this indicator was the master key for successful MDTs cancer committee work. The Victorian Cancer Service performance indicators, methodology, (2014) document described the four cancer performance indicators including rationale, definitions and targets.

Regarding positive support the decisions of other relevant committees to provide cancer services in table 4.7 shows, more than half of participants (53.9%) said "yes" and more than a quarter of participants (28.7%)said "to some extent". These findings were satisfactory because this referred to reflection of the mutual support and cooperation between other committees and respect of the MDTs cancer committee decisions and recommendations for cancer management from other relevant committees. In otherwise that refers to most of core members of MDTs cancer committee are represented the high committee of referral abroad in the same time.

Regarding MDTs cancer committee decisions of positive support of the cancer care strategy in the MOH, more than half of participants (56.5%) said "yes" and around quarter of participants (21.7%) said "to some extent". These findings also were satisfactory and reflected the awareness of specialists about the importance of active roles to effectiveness of MDTs cancer committee and the importance of participation of members to support and share development of the cancer care strategy.

Regarding MDTs cancer committee meetings, there was contribution to exploitation of the possibilities of resources available to better diagnosis for cancer patients. More than half of participants (59.1%) reported that "yes" and more than a quarter of participants (24.3%) reported that "to some extent". These findings also were satisfactory and reflected the awareness of specialists about the importance of active roles to efficiency of MDTs cancer committee work. This could be explained by the fact that a variety of cancer diagnostic rules, guidelines, policies and procedures had been developed by MDTs cancer committee by using efficient resources in order to regulate the cancer work within of diagnostic facilities as possible that could be contributed to what reflected the policy of rationalization especially in shortage and scarcity of resources and lack of it.

Regarding this issue, there was an active training role played by the MDTs cancer committee towards the development of professional skills related to cancer management, Table 4.7 shows a quarter of participants (25.2%) reported "yes" and more than a quarter of participants (28.7%) reported "to some extent".

On the other hand, regarding this issue, there were MDTs core members involved and participate in the training process to express an opinion during meetings. More than third of participants (35.7%) reported that "yes" and more than a quarter of participants (27.8%) reported that "to some extent". Study finding was not congruent with the national survey study in UK commissioned by the National Cancer Action Team Taylor. et al., (2009) who found that most of participants (doctors 67.7%, nurses 81%) that they agreed with the active role of MDTs cancer committee and importance of development of training and education by professional group.

In otherwise, study finding was congruent with Taylor. et al., (2012) who found that most of participants more than 50%reported that they felt further training was needed in areas of Oncology when they measured the quality of MDTs work by observational approach. Anyway, the study findings clearly reflected the needs of training and educational programs that supported the cancer care cancer services and need of orientation programs for MDTs cancer members about the main roles for training and education of other specialists to developing the professional skills and expertise of cancer management. The majority of participants agreed with these findings and results that they answered open ended questions, they said about the main things needed to improve relating to the training and development of educational roles of MDTs cancer committee and the main challenges or obstacles of that as follows;

> *"The Professional development, education of MDTs members and effective training includes; the development and training programs for all non-core members and junior members, everyone should be up to date. But, the main challenges were; shortage of qualified senior's sub-socialites and shortage of high professional and technical specialists to deal with MDTs decisions. Lack of Onco-surgery board program.".*

In particular, the measurement of performance indicators of MDTs cancer committee were process that had an endless start, but in Table (4.7) as shown, reflected another fact on the cancer situations in Gaza, there were a missing link for measuring cancer performance indicators by MDTs cancer committee and communicating with other relevant committees such as mortality and morbidity, therapeutic, quality and scientific committees.

Table (4.8): Total of Likert scale for all MDTs cancer performance domains (n=115).

No.	All domains	No. of items	Cronbach' Alpha	Mean Score (5)	± SD	%	Rank
1.A	Preparation for MDTs cancer committee (Pre-meeting stage)	12	.890	3.01	.48791	60.2	7
1.B	Preparation for MDTs cancer committee (during-meeting stage)	10	.872	3.38	.51455	67.6	5
1.C	Preparation for MDTs cancer committee (post-meeting stage)	9	.880	3.47	.46326	69.4	2 R
1.D	The Structure of MDTs cancer committee	10	.886	3.08	.50426	61.6	6
2.	MDTs organization , administration & Leadership	14	.865	3.47	.44173	69.4	2
3.	Communication & Coordination	12	.864	3.44	.44210	68.8	4
4.	Case management and clinical decision making	24	.864	3.59	.39954	71.8	1
Total		**91**	**.897**	**3.35**	**.33677**	**67**	

4.8 MDTs cancer committee performance working related to processes variables

The researcher used the MDTs cancer Likert scale in the end of part the interview questionnaire which was self-developed after it was reviewed and modified relating to many resources such as MDTs national surveys and questionnaires form established by NHS (Taylor, C. et al, 2009 & 2012), (Jalil, R. et al, 2012), (Patkar, V. , 2012, 2013), (Shulman, T. et al, 2013), (Kane, B., 2008), (Lamb, B. , 2011), (Hong, N.L. et al., 2009) and (Atwal, A., 2002).

As shown in Table (4.8), the relative weight for each of domain and the rank, the main four domains illustrated the preparation process characteristics divided to main four sub domains (in pre-meeting stage was unsatisfactory and the relative weight had the lowest 60.2% (SD 0.48791) and last rank .On the other hand, during meeting stage the relative weight had the 67.6% (SD: 0.51455) and sixth rank, in post-meeting stage the relative weight had fairly good 69.4% with (SD: 0.46326) and the second rank, and MDTs cancer committee structure was unsatisfactory and the relative weight had low 61.6% with (SD: 0.50426) and the second-last domain.

In otherwise, the second domain was about the MDTs cancer committee organization, administration and Leadership, the total finding was fairly good, the relative weight had 69.4% with (SD: 0.44173) and repeated the second rank. Moreover, the third domain in

Likert scale about the MDTs cancer committee communication and coordination was fairly good; the relative weight had 68.8% with (SD: 0.44210) and the fourth rank. Interestingly, the fourth domain in Likert scale about the MDTs cancer committee case management and clinical decision making was well; the relative weight had the highest 71.8% with (SD: 0.39954) and the first rank. Totally, the sum of relative weight for all the study domains that evaluated the performance of MDTs cancer committee member for cancer management was fairly good (67%) with standard deviation 0.3367.

Table (4.8.1.A): Distribution of responses by preparation process in Pre-meeting stage

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1.Weekly MDTs cancer committee meeting time is appropriate									
No.	21	12	24	57	1	2.96	1.173	59.2	5
%	18.3	10.4	20.9	49.6	.9				
2.The MDT cancer committee meetings place is appropriate									
No.	25	66	17	6	1	2.90	1.238	58	9
%	21.7	57.4	14.8	5.2	.9				
3.Supporting logistics MDT cancer meetings forms are available & clear									
No.	6	53	44	10	2	3.44	.797	68.8	2
%	5.2	46.1	38.3	8.7	1.7				
4.MDTs cancer meeting rooms have equipment for projecting and viewing radiology images									
No.	17	9	20	68	1	2.77	1.119	55.4	12
%	14.8	7.8	17.4	59.1	.9				
5.MDTs meetings need to be able to access retrospective pathology reports									
No.	31	9	18	56	1	3.11	1.296	62.2	4
%	27.0	7.8	15.7	48.7	.9				
6.The agenda of MDTs cancer meeting are circulated prior to the meeting									
No.	10	33	20	33	19	2.84	1.254	56.8	11
%	8.7	28.7	17.4	28.7	16.5				
7.The cancer patients lists are formulated and circulate prior to the meeting									
No.	9	38	21	32	15	2.95	1.206	59	6
%	7.8	33.0	18.3	27.8	13.0				
8.All case notes, reports, images, past and present, medical records are available for all members before any meeting									
No.	10	27	33	34	11	2.92	1.125	58.4	8
%	8.7	23.5	28.7	29.6	9.6				
9.A minimum dataset of diagnostic information (pathology and radiology) for each patient are available before the meeting									
No.	11	60	27	13	4	3.53	.940	70.6	1
%	9.6	52.2	23.5	11.3	3.5				
10.The cancer medical files for the MDTs patients are formulated and circulate prior to the meeting									
No.	6	28	34	40	7	2.88	1.019	57.6	10
%	5.2	24.3	29.6	34.8	6.1				
11.The MDTs cancer committee reports & data are timely disseminated for all the committee members pre the meetings									
No.	5	34	36	30	10	2.95	1.042	59	6 R
%	4.3	29.6	31.3	26.1	8.7				
12.The MDTs cancer urgent cases brought firstly forward for discussion									
No.	24	25	24	40	2	3.25	1.191	65	3
%	20.9	21.7	20.9	34.8	1.7				
Total	No.	**115**				**3.01**	**.48791**	Wt. Mean	
	%	**100**							
	Mean score (5)		Median	Mode	± SD			**60.2**	
	3.01		2.91	2.64	.48791				

4.8.1 Preparation process for MDTs cancer committee related variables

4.8.1.A Preparation process characteristics for MDTs cancer committee (Pre-meeting stage) domain

As shown in Table (4.8.1.A), the part one from the first domain illustrated the preparation process characteristics in pre-meeting stage. In these tables, the finding of the team members stated that weekly MDTs cancer committee meeting time is appropriate, the finding was unsatisfactory and around half of the participants were disagreeable (49.6%), the relative weight had unacceptable (59.2%). The study result was inconsistent with study Jalil, et al., (2012) who found less than (8%) of respondents felt lack of time and in the same context, the study finding was congruent with cancer action team NHS, (2009) who found (90%) of participants were agreeable of the time for preparation of the MDTs cancer meetings should be built into job plans.

Furthermore, the MDTs cancer committee meetings place was appropriate and the finding was more than half of participants were agreeable (57.4%), but the relative weight had unsatisfactory 58% with (SD:1.238) . This result was inconsistent with study Lamb, et al., (2011c) who found (96%) of participants were agreeable with MDTs cancer meeting place.

In otherwise, regarding this issue, it was related to the support of logistics of cancer meetings forms that were available and clear relating to the participants that were disagreeable. The finding was more than a third and the relative weight had fairly good (68.8%). Study result was inconsistent with Taylor, et al., (2012) who found more than (83%) of participants were agreeable with MDTs cancer meetings logistics.

Unfortunately, the MDTs cancer meeting rooms had equipment for projecting and viewing radiology image that had the most minority of ranking in these domains of the MDTs cancer preparation in pre-meeting stage and the last relative weight had poor (55.4%). This study result matched with Jalil, et al., (2012) who found the most common barriers of MDTs cancer meeting decisions due to lack of radiological images. In the same context, this study result matched with Lamb, et al., (2011c) who found 99% of participants agreed that there was a need for equipment for the MDTs cancer meeting rooms that projected and viewed radiology image.

Additionally, the MDTs cancer meetings needed to be able to access retrospective pathology reports of the finding of disagreeable participants that were (48.7%) and the relative weight had (62.2%). This study result was consistent with Lamb, et al., (2011c) who found 98% of participants needed to be able to access retrospective pathological reports.

Although, this was regarding to the agenda of MDTs cancer meeting that were circulated prior to the meeting and that result was unsatisfactory and related to finding of the relative weight that was unacceptable of (56.8%).This study result was inconsistent with Taylor, et al., (2012) who found 3 of 15 observable characteristics of effective MDTs cancer meetings needed to be circulated referring to the agenda before MDTs cancer meeting. In addition to that, the cancer patients lists were formulated and circulated prior to the meeting but matched with Lamb, et al., (2011c) who found 96% of participants agreed with the agenda and patient lists should be circulated prior to the meeting.

In otherwise, the MDTs cancer committee reports and data were timely disseminated for all the committee members pre the meetings and they were low that found the same relative weight of (59%) and the similar rank of results respectively.

Moreover, this was regarding to all case notes, reports, images, past and present, medical records that were available for all MDTs cancer members before any meeting that had low relative weight of (58.4%).This study result was inconsistent with Taylor, et al., (2012) who found 3 of 15 observable characteristics of effective MDTs cancer meetings needed patient notes and medical records.

Interestingly, a minimum dataset of diagnostic information (pathology and radiology) for each patient were available before the meeting concerning the most majority of result and the first rank in these domains. The relative weight was around two-third (70.6%). This study result corresponded to some extent with the Lamb, et al., (2011c) who found more 86% of participants were agreeable with the projection and connectivity of the pathological and radiological results. Moreover, the cancer medical files for the MDTs patients were formulated and circulated prior to the meeting the relative weight had unsatisfactory result of (56.8%). This study was inconsistent with Jalil, et al., (2012) who found (12%) only related to lack of medical records for preparation in pre-meetings stage of MDTs cancer committee.

The finally concerning the MDTs cancer urgent cases brought firstly for discussion, the study finding was fairly good. More than third of participants were disagreeable with that (34%), although the relative weight had 65% with (SD:0.48791).This study result was congruent with two studies for Taylor, et al., (2012, 2009) who found 9 of 15 observable characteristics and the national survey of effective MDTs cancer in pre-meeting stage about the prioritization of urgent cases should be prepared firstly that found also (73%) of doctors agreed with that.

Totally, the sum of relative weight for part one in the first domain related to the MDTs cancer committee members of the perpetration process characteristics in pre-meeting stage was unsatisfactory 60.2% with (SD:1.173). On the other hand, the study findings by open ended questions, the majority of participants were consistent with these findings and results of this part, they reported the main things needed to be improved relating to the MDTs cancer preparation process in pre-meeting stage of the MDTs cancer committee that worked effectively and the main challenges or obstacles were as the follows;

> *"The performance of MDTs cancer committee preparation of work process related to pre-meeting stage needed to be improved as follows; availability and content of comprehensive agenda list and MDTs patients list circulated prior to meeting, preparation should be unified for protocols and policy to ensure all patients were prepared in the same way and criteria. the medical records and all notes, reports, clinical, pathological, radiological findings should be prepared by relevant MDTs cancer members before the meeting, enough time to discuss at least 3-4 days".*

Table (4.8.1.B): Distribution of responses by preparation process in during-meeting stage scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1.The MDT cancer committee uses MDTs forms to document the meeting process									
No.	21	49	24	3	2	4.00	.913	80	1
%	18.3	42.6	20.9	2.6	1.7				
2.The comments are writing and signing / date the proforma which will be collected by the MDTs coordinator member during the meeting									
No.	32	53	26	3	1	3.97	.832	79.4	2
%	27.8	46.1	22.6	2.6	.9				
3.The Notes are taken transparently during the meetings									
No.	15	69	25	5	1	3.80	.752	76	4
%	13.0	60.0	21.7	4.3	.9				
4.The time of MDT cancer meeting is well organized									
No.	11	61	35	7	1	3.64	.774	72.8	6
%	9.6	53.0	30.4	6.1	.9				
5.Projection for radiology images is available during meeting									
No.	23	3	19	68	2	2.8	1.208	59	8
%	20.0	2.6	16.5	59.1	1.7				
6.Projection for pathology samples & reports is available during meeting									
No.	17	13	24	52	9	2.8	1.201	59	8 R
%	14.8	11.3	20.9	45.2	7.8				
7.During the meeting all treatment decisions are shared with MDT cancer core & non-core members (previous / current decisions)									
No.	19	59	27	8	2	3.74	.879	74.8	4
%	16.5	51.3	23.5	7.0	1.7				
8.Allocated times for discussing cases are and more time can be spent for discussing complex cases									
No.	26	56	26	6	1	2.92	1.125	58.4	3
%	22.6	48.7	22.6	5.2	.9				
9.Cases are grouped on the MDTs meeting agenda, e.g. new case, follow-up, by complexity, by tumor type etc..									
No.	9	37	29	57	12	2.77	1.229	55.4	10
%	7.8	32.2	25.2	49.6	10.4				
10.Standard MDTs cancer pro-forma documentation are used when electronic databases are not available during the meeting									
No.	8	55	41	10	1	3.51	.788	70.2	7
%	7.0	47.8	35.7	8.7	.9				
Total	No.	**115**				3.38	.5145	**Total Weight Mean**	
	%	**100**							
	Mean score (5)		Median	Mode	**± SD**			**67.6**	
	3.38		3.30	3.30	.51455				

4.8.1.B: Preparation process characteristics of MDTs cancer committee (during-meeting stage) domain

As shown in Table (4.8.1.B), the part two from the first domain illustrated the preparation process in during-meeting stage. Interestingly, in these tables the finding of team members stated that the MDTs cancer committee uses MDTs forms and documents in the meeting process and the result was satisfactory. More than three quarters of participants strongly were agreeable respectively. These findings related to the most majority of result and the

first rank of the second part in the first domain. The relative weight was more than two thirds (80%). The study result was congruent with Jalil, et al., (2012) who found more than (90%) agreed that they uses MDTs forms and documents in the meeting.

Furthermore, the comments were written and signed, date was preformed which would be collected by the MDTs coordinator member during the meeting. The finding related to the second majority of result and the second rank of these domains. The relative weight was around two thirds (79.4%).The study results were congruent with (Lamb, B. et al., 2011c).

In otherwise, the notes were taken transparently during the meetings and that was satisfactory. More than two thirds (60%) of participants were agreeable and the relative weight was more than three quarters (76%). These study results were inconsistent with Taylor, et al., (2012) who found most team members (at least 90%) agreed that the notes were taken transparently during the meetings.

On the other hand, the time of MDTs cancer meeting was well organized, study finding was more than a half of participants (53%) were agreeable and the relative weight had (72.8%).Study result was consistent with Lamb, et al., (2011c) who found more than 96 % reported that was important for meeting discussion.

Moreover, the study finding of projection for radiology images was available during meeting and projection for pathology samples and reports were available during meeting that was unsatisfactory that both low relative weight was (59%, 59%) respectively. This study result was consistent with Lamb, et al., (2011c) who found more than (96%) needed pathological samples and radiological projection images during MDTs cancer meeting and discussion.

In the same context, during the meeting all treatment decisions were shared with MDT cancer core and non-core members (previous / current decisions). The study result was more than half of participants (51.3%) were agreeable and the relative weight had (74.8%).Whereas, allocated times for discussion cases were there and more time could be spent for discussing complex cases. The study finding was satisfactory, and the relative weight was more than three quarters (77.4%). These study results were consistent to some extent with Taylor, et al., (2012) who found (89%) agreed on that.

Unfortunately, team members stated that the cases were grouped on the MDTs cancer meeting agenda, e.g. new case; follow up, by complexity and by tumor type. The study

finding was related to the most minority of result and the last rank of these domains, the lowest relative weight was unacceptable (55.4%). The study finding was inconsistent with study carried out by Taylor, et al., (2012) who found (78%) agreed about that. Finally, the finding of team members stated that the standard MDTs cancer pro-forma documentation were used when electronic databases were not available during the meeting where around half of participants were agreeable (47.8%) and the relative weight was (70.2%).This study result was inconsistent with Lamb, et al., (2011c) who found (96%) agreed that there should be group for the cancer cases.

Totally, the sum of relative weight for part two in the first domain was related to the MDTs cancer committee members of the perpetration process characteristics in during-meeting stage that was fairly good 67.6% with (SD: 0.5145).On the other hand, the study findings by open ended questions, the majority of participants were consistent with these findings and results in this part. They were reported for the main things needed to be improved relating to the MDTs cancer preparation process in during meeting stage work effectively and the main challenges or obstacles were as the follows;

> *"The performance of MDTs cancer committee preparation of work process in during meeting stage and meeting room needed facilities to be improved as follows; availability and use of technology especially the interactive live projection systems for pathological samples of biopsy and radiological images projection. In otherwise, we needed to identify the prioritization and the criteria of cancer cases discussed firstly. Although there should be filling of the full data and documentation for each case immediately".*

Table (4.8.1.C): Distribution of responses by preparation process in post-meeting stage scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1.All MDTs* core members recommendation for the MDTs cancer cases are circulated after meeting related to care services									
No.	10	20	28	51	6	2.8	1.070	56	7
%	8.7	17.4	24.3	44.3	5.2				
2.All MDTs* core members are follow up the decisions of cases after meeting									
No.	4	21	40	41	9	2.74	.965	54.8	8
%	3.5	18.3	18.3	34.8	7.8				
3.Case summaries are collected after the MDT cancer committee meeting									
No.	10	62	32	10	1	3.61	.802	72.2	4
%	8.7	53.9	27.8	8.7	.9				
4.Information about patients to be discussed are collected and summarized after the MDT cancer committee meeting									
No.	8	64	29	11	3	3.55	.861	71	5
%	7.0	55.7	25.2	9.6	2.6				
5.The MDTs patient lists and decisions are circulated after the meeting									
No.	7	29	0	69	10	2.60	1.138	52	9
%	6.1	25.2	0	60	8.7				
6.All MDTs forms are completely fill immediately and circulated after MDTs meeting									
No.	9	53	38	12	3	3.46	.881	69.2	6
%	7.8	46.1	33.0	10.4	2.6				
7.Cancer cases are arrangement for plan actions after MDTs discussion									
No.	11	74	23	5	2	3.76	.756	75.2	2
%	9.6	64.3	20.0	4.3	1.7				
8.The clinic appointments are made and dates for surgery arranged after MDT cancer committee meetings									
No.	24	60	21	9	1	3.84	.875	76.8	1
%	20.9	52.2	18.3	7.8	.9				
9.All the MDTs cases need to be referral abroad are coordinated according to MDTs recommendations									
No.	26	47	29	12	1	3.74	.956	74.8	3
%	22.6	40.9	25.2	10.4	.9				
Total	No.	**115**				3.47	.4632	**Total Weight Mean**	
	%	**100**							
	Mean score (5)		Median	Mode	**± SD**			69.4	
	3.47		3.56	3.56	.46326				

4.8.1.C: Preparation process characteristics of MDTs cancer committee (Post-meeting stage) domain

As shown in Table (4.8.1.C), the third part of the first domain illustrated the preparation process in post-meeting stage. In these tables the finding of team members stated that all MDTs cancer core members recommendations for the MDTs cancer cases were circulated after meeting related to care services. Study finding was unsatisfactory; around half of participants were disagreeable (49.5%).The relative weight was (57%). These findings had a third minority of this part in the first domain and the third last rank. This study result was inconsistent with Lamb, et al., (2011c) who found (81%) of participants agreed that documented decisions should be projected for members to view.

Furthermore, the team members stated that all MDTs cancer core members had follow up the decisions related to cancer cases after meeting. Study finding was unsatisfactory. More than a third of participants were disagreeable (34.8%). The relative weight had poor (54.8%). This finding was for a second minority of this part in the first domain and second and last rank. Study result was inconsistent with both studies Lamb, et al.,(2011c) and Taylor, et al., (2012) who found most team members (more than 90%) agreed on the MDT coordinator should be solely responsible for tracking patients through the care pathway. On the other hand, the finding of team members stated that the case summaries were collected after the MDT cancer committee meeting was satisfactory. More than half of participants were agreeable (53.9%).The relative weight was (72.2%).

Moreover, the finding of team members stated that information about patients to be discussed were collected and summarized after the MDTs cancer committee meeting. Study finding was satisfactory, more than half of participants agreeable (55.7%), the relative weight had (71%). Unfortunately, the finding of team members stated that the MDTs cancer patient lists and decisions were circulated after the meeting was the most minority of result in this part of the first domain. More than a half were disagreeable (60%) and there was the last rank of these domains as well. The relative weight was the lowest (52%).

In otherwise, the finding of team members stated that all MDTs cancer committee forms were completely filled immediately and circulated after MDTs meeting. Around a half of them were agreeable and the relative weight was more than two thirds (69.2). Whereas, the finding of team members stated that cancer cases were arranged for plan actions after MDTs cancer discussion was the second majority of result in this part of the first domain, around two thirds of participants were agreeable (64.3%) and the second rank of these parts. The relative weight was acceptable (75.2%).

Interestingly, the finding of team members stated that the clinic appointments were made and dates for surgery arranged after MDTs cancer committee meetings were for the most majority of results in this part of the first domain. More than two thirds of participants were strongly agreeable (21%, 52.2%) respectively. The finding was the first rank of these parts and the relative weight was acceptable (76.8%). These results of study were congruent with Lamb, et al., (2011c) who found the follow up MDTs interventions should be day to day with cancer management plan.

Finally, the finding of team members stated that all the MDTs cancer cases needed to have referral abroad and they coordinated according to the MDTs cancer committee recommendations. More than a third of participants were agreeable (40.9%) and around a quarter were strongly agreeable (22.6%).The finding was the third rank of these parts and the relative weight was acceptable (74.8%).

Totally, the sum of relative weight for part three in the first domain related to the MDTs cancer committee members of the perpetration process characteristics in post-meeting stage, generally was acceptable around 70% with (SD:0.4632). On the other hand, through the analysis of study findings by open ended questions were considered and the majority of participants was consistent with these findings and results in this part. They were reported relating to the main things needed to be improved regarding the preparation process in post-meeting stage of MDTs cancer committee that works effectively and the main challenges or obstacles were as follows;

> *"The performance of MDTs cancer committee related to post-meeting stage of work process needed facilities to be improved as follows; follow up and tracking systems after discussed the cancer cases, arrangement for follow up of cancer patients relating to post clinical decisions and recommendation and MDTs feedback. after meeting, improve coordination for cancer cases with relevant specialist directly and immediately after meeting to arrangement the time of patient visits to completion procedures and action plan".*

Table (4.8.1.D): Distribution of responses by meeting Structure stage scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1. MDTs cancer patients pathway is clear and appropriate									
No.	10	18	35	48	4	2.84	1.022	56.8	9
%	8.7	15.7	30.4	41.7	3.5				
2.MDTs cancer documented decisions are projected the viewing for all *core and **non-core members									
No.	9	25	32	47	2	2.93	1.006	58.6	5
%	7.8	21.7	27.8	40.9	1.7				
3.All specialties are included in MDTs cancer committee									
No.	15	39	36	40.9	9	3.30	1.110	66	3
%	13.0	33.9	31.3	13.9	7.8				
4.**Non-core members in MDTs cancer committee have clearly articulated goals and understand their roles and responsibilities									
No.	8	24	42	37	4	2.96	.977	59.2	4
%	7.0	20.9	36.5	32.2	3.5				
5.The skills of non-core members overlap sufficiently so that work can be shared when necessary in MDTs cancer meetings									
No.	9	15	46	44	1	2.89	.925	57.8	7
%	7.8	13	40.0	38.3	.9				
6.**Non –core members within your unit share information that enables timely decision making by the direct cancer patient care team									
No.	7	24	33	48	3	2.86	.981	57.2	8
%	6.1	20.9	28.7	41.7	2.6				
7.The organizational structure of the MDT cancer committee is clear & taking into the inclusion of most important specialists of cancer care									
No.	21	50	30	11	3	3.65	.974	73	2
%	18.3	43.5	26.1	9.6	2.6				
8.The structure of the MDT cancer committee is well known, documented and distributed to all specialists taking care of cancer patients									
No.	14	18	30	48	5	2.90	1.111	58	6
%	12.2	15.7	26.1	41.7	4.3				
9.The structure & policy of the MDT cancer committee for cancer patients are descriptive and included in the process of employing specialists in the hospital among their job description									
No.	13	18	29	35	20	2.71	1.232	54.2	10
%	11.3	15.7	25.2	30.4	17.4				
10There are administrative staff to manage and coordinate MDT cancer committee activities									
No.	25	15.7	23	10	2	3.79	.6975	75.8	1
%	21.7	47.8	20.0	8.7	1.7				
Total	No.	**115**				3.08	.5042	**Total Weight Mean**	
	%	**100**							
	Mean score (5)		Median	Mode	± SD			**61.6**	
	3.47		3.56	3.56	.46326				

4.8.1.D: Meeting structure process characteristics of MDTs cancer team members

As shown in Table (4.8.1.D), part four from the first domain illustrated the meeting structure process of MDTs cancer committee. In these tables, the finding of team members stated that the MDTs cancer patients' pathway was clear and appropriate and it was unacceptable result. More than a third of participants were disagreeable (41.7%). The relative weight was (56.8%). This finding was for the second minority of this part in the

first domain and second and last rank. These results of study were inconsistent with Taylor, et al., (2012) who found only (10%) team members needed to be improved relating to the cancer patient pathway.

Furthermore, the team members stated that the MDTs cancer documented decisions were projected the viewing for all core and non-core members that were unsatisfactory. More than half of participants were disagreeable (40.9%). The relative weight was (58.6%). Study result was congruent with Lamb, et al., (2011c) who found less than a quarter of team members were always able to project treatment decisions (24%) when they asked 2054 participants in national survey study about the projection of treatment decisions so all members could view them or not. On the other hand, the finding of team members stated that the all specialties were included in MDTs cancer committee meeting that was acceptable. Around third of participants was agreeable (34%).The finding was the third rank of these parts and the relative weight had (66.2%). Study result was congruent to some extent with Taylor, et al., (2012) who found three MDTs cancer committees from fifteen committees had poor attendance of all specialists especially the key members.

In the same context, the finding of team members stated that the non-core members in MDTs cancer committee had clear articulated goals and understood their roles and responsibilities. Around third of participants were disagreeable (32.2%). The relative weight was (59.2%). Study result was contradicted with Shulman, et al., (2013) that survey of Australian study for the obstacles to sustaining cancer care multidisciplinary team meetings. In otherwise, the finding of team members stated that the skills of non-core members overlapped sufficiently so that the work could be shared when necessary in the MDTs cancer meetings and was unsatisfactory. More than a third of participants were disagreeable (38.3%). The relative weight was (57.8%). Study result was inconsistent with Atwal, et al., (2002) who found positively results of the multidisciplinary cancer integrated care pathways that improved inter professional collaboration and skills.

On the other hand, the finding of team members stated that the organizational structure of the MDT cancer committee was clear and took into the inclusion of most important specialists of cancer care that was acceptable. More than a half of participants were strongly agreeable (18.3%, 43.5%) respectively. The finding was the second rank of these parts and the relative weight has acceptable (73%). Study result was congruent with Jalil, et

al., (2012) who found around 30% had non-attendance relating to key specialist members that represented one of the main barriers affected MDTs cancer committees work in UK.

Additionally, the finding of team members stated that the structure of the MDTs cancer committee was well known documented and distributed to all specialists taking care of cancer patients and that was low. More than a third of participants (41.7%) were disagreeable and the relative weight had (59%). These study result was inconsistent with Lamb, et al., (2011c) who found more than (97%) of participants were well known MDTs, documented and distributed. It was worthwhile that, the finding of team members stated that the structure and policy of the MDTs for cancer patients were descriptive and included in the process of employing specialists in the hospital among their job description and that was the most minority of results in this part of the first domain. Around a half of participants was disagreeable and strongly disagreeable (47.8%). Study finding was the last rank of these domains and the relative weight had the lowest of (54.2%).

Interestingly, the finding of team members stated that there were administrative staff to manage and coordinate MDTs activities and that was the most majority of results in this part of the first domain. Around two thirds of participants were agreeable and strongly agreeable (47.8%, 21.7 %) respectively. Study finding was the first rank of these domains. The relative weight was the highest of (75.8%). These study results were congruent with cancer action team NHS, in UK, (2009) only found (9%) of all participants of the study needed membership administrative staff to change and make the MDTs more effective. Totally, the sum of relative weight for the fourth part in the first domain related to the meeting structure process characteristics of MDTs cancer committee members. Generally that was to some extent low 61.6% with (SD:0.5042). Moreover, the study findings by open ended questions, the majority of participants were consistent with these findings and results in this part. They were reported as the main things needed to be improved relating to the structure of MDTs work effectively and the main challenges or obstacles as follows;

> *"Performance of MDTs cancer committee related to meeting structure work process needed to be improved as follows; commitment to MDT process and role of leader, clarity of purpose of MDT, promoted MDT within organization, enthusiasm for MDT process, clarity of vision, policies of the MDTs patients tracking, MDTs pathways, tracking patients list, transfer patients between HCPs before and after MDTs meeting stages. There were lack of organizational structure for MDTs cancer committees at MOH and mutual support, political*

situations in GS; wars, occupation, siege, closures of crossings and barriers affected adversely and hindered the work of the MDTs".

Table (4.8.2): Distribution of responses by organization, administration & Leadership scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1. MDT ** non-core member is not obligatory to attend all meetings unless I have a new cases									
No.	18	53	19	22	3	3.53	1.054	70.6	9
%	15.7	46.1	16.5	19.1	2.6				
2.MDT *Core members are attend for the full meeting and not just for the cases directly relevant to them									
No.	33	54	21	6	1	3.97	.873	79.4	2
%	28.7	47.0	18.3	5.2	.9				
3.The high managerial level supporting the MDT cancer *core members working as important role									
No.	5	23	56	31	5	3.84	.790	76.8	4
%	4.3	20.0	48.7	27.0	4.3				
4.Any * core member of the MDTs could be the chair/lead in the absence of the head of MDT cancer committee									
No.	23	28	54	23	10	3.87	.884	77.4	3
%	20.0	24.3	47.0	20.0	8.7				
5.The lead of MDT cancer committee lead should be a consultant/ senior oncologist or senior surgeon specialist									
No.	43	54	16	2	0	4.20	.740	84	1
%	37.4	47.0	13.9	1.7	0.0				
6.There are agreed guidelines for how an MDTs cancer committee operates, how members work together etc.									
No.	10	42	0	60	3	2.97	1.162	59.4	11
%	8.7	36.5	0	52.2	2.6				
7.Accepting the legal responsibility of the treating clinician, MDT cancer committee are accountable for treatment recommendations									
No.	19	61	29	5	1	3.80	.797	76	6
%	16.5	53.0	25.2	4.3	.9				
8.My supervisor/ manager provide opportunities to discuss the MDTs cases in unit/ department after an event									
No.	17	50	30	15	3	3.55	.984	71	8
%	14.8	43.5	26.1	13.0	2.6				
9.My supervisor/ manager take time to meet with staff to develop a plan for cancer patients before and after MDTs cancer-meetings									
No.	9	22	39	39	6	2.90	1.026	64	10
%	7.8	19.1	33.9	33.9	5.2				
10My supervisor/ manager models appropriate MDC team behavior									
No.	13	15	29	56	2	2.83	1.059	56.6	12
%	11.3	13.0	25.2	48.7	1.7				
11.Senior specialist cancer care representation is essential at every MDTs cancer meeting									
No.	25	56	25	6	3	3.82	.923	76.4	5
%	21.7	48.7	21.7	5.2	2.6				
12.The MDTs as a whole has active role in tracking patients through the cancer care pathway									
No.	14	10	22	66	3	2.70	1.084	54	13
%	12.2	8.7	19.1	57.4	2.6				
13.MDT cancer committee have an important active role in the cancer waiting time for cancer management									
No.	25	57	22	5	6	3.78	1.007	75.6	7
%	21.7	49.6	19.1	4.3	5.2				
14. MDTs cancer committee is collect and use defined minimum datasets (hospital based cancer registration)									
No.	0	31	27	57	31	1.97	.712	39.4	14
%	0.0	27.0	23.5	49.6	27.0				
Total	No.	**115**				**3.47**	.44173	**Total Weight Mean**	
	%	**100**							
	Mean score (5)		Median	Mode	± SD			**69.4**	
	3.47		3.43	3.43	.44173				

4.8.2: Organization, administration & Leadership process characteristics of MDTs cancer committee team members domain

As shown in Table (4.8.2), the second domain illustrated the organization, administration and leadership processes of MDTs committee. In these tables the finding of team members stated that the MDTs non-core member was not obligatory to attend all meetings unless I had a new case that was acceptable. Around two thirds of participants were agreeable and strongly agreeable (46.1%, 15.7%) respectively. The relative weight had (70.6%). Study result was inconsistent with Taylor, et al., (2009) who found (89%) of participants agreed by non-core members should be able to attend just to discuss patients in their care.

It was worthwhile to mention that, the team members stated that the MDTs cancer core members attended for the full meeting and not just for the cases directly relevant to them was satisfactory. More than three quarters of participants were strongly agreeable and agreeable (28.7%, 47%) respectively. The finding was the second rank of these domains; the relative weight was well (79.4%). Study result was inconsistent with Taylor, et al., (2009) who found (91%) of participants agreed by core members should attend for the full meeting and not just for the cases that were directly relevant to them.

On the other hand, the finding of team members stated that the high managerial level that supported the MDT cancer core members work as important role was satisfactory. The finding was the fourth rank of these domains. The relative weight was good (76.8%).Study result was incongruent with Lamb, et al., (2011c) who found (60%) of participants organizational support was readily available.

Additionally, the finding of team members stated that any core member of the MDTs could be the chair or lead in the absence of the head of MDT cancer committee that was well, around half of participants that were strongly agreeable and agreeable (20%, 24.3%) respectively. The finding was the third rank of these domains. The relative weight was well (77.4%). These study results were incongruent with cancer action team NHS, in UK, (2009) who found (68%) of all participants agreed that any core member of the MDTs cancer could be the chair or lead.

Interestingly, the finding of team members stated that the head of MDTs cancer committee should be a consultant or senior oncologist or senior surgeon specialist that was highly acceptable and there was the most majority finding of the these domains. Around two thirds of participants agreeable and strongly agreeable (47.8%, 21.7%) respectively. Study

finding was the first rank of these domains and the relative weight was the highest (84%). These study results were incongruent with cancer action team NHS, in UK, (2009) who found (68%) of all participants agreed that any core member of the MDT could be the chair or lead but only (58%) of them stated that the leadership of MDTs cancer committee (the chair/MDT lead) should be a doctor.

In otherwise, the finding of team members stated that there were agreed guidelines for how an MDTs cancer committee operates, how members work together was unsatisfactory, more than a half of participants were disagreeable (52.2%).Study finding was the third minority of rank in these domains and the relative weight was (59.4%).Study result was congruent with Lamb, et al.,(2011c) who found (90%) of participants agreed that there should be agreed guidelines for how an MDTs cancer operates, how members work together.

Regarding accepting the legal responsibility of the treating clinician, MDTs cancer committee was accountable for treatment recommendations of the finding that was acceptable. More than two thirds of participants were strongly agreeable and agreeable (16.5%, 53%) respectively and the relative weight was (76%). These study results consistent with Sidhom and Poulsen, (2006) who found that the paucity of malpractice litigation involving MDTs cancer committee suggested that they were a medico legally safe decision-making process, to the extent that team discussions had become the standard of care, clinicians remain obliged to continue managing their patients via this useful forum because the MDTs discussion and management of patients with cancer through MDTs cancer committee had become the standard of care in many cancer subspecialties and MDTs cancer committee could provide comprehensive cancer care, but doctors remain individually liable.

In the same context, the finding of team members stated that my supervisor or manager provided opportunities to discuss the MDTs cancer cases in unit or department after an event was well. Around two thirds of participants were strongly agreeable and agreeable (14.8%, 43.5%) respectively and the relative weight was (71%). Whereas, the finding of team members stated that my supervisor or manager took time to meet with staff to develop a plan for cancer patients before and after MDTs -meetings was fairly good, a third of participants were disagreeable (33.9%) and the relative weight had (64%). These study results were congruent with Lamb and Payne, (2010) who found the weight of opinion of

different professionals in the decision-making process of the MDT. The opinion of surgeons, clinical oncologists, medical oncologists and radiologists was found to be 'nearly always' carry weight in decision making at MDTs (no significant differences between these groups). Interestingly, surgeons' opinion was perceived to carry more weight than that of radiologists, and clinical oncologist's opinion that was similarly perceived as carrying more weight than that of pathologists. Although, there was the time to meet with staff and discuss to consider whether clinicians from a variety of specialties should be given opportunities to train and develop team skills necessary to take prominent roles in cancer MDTs.

Moreover, the finding of team members stated that my supervisor or manager models appropriate MDTs cancer team behavior that was unsatisfactory. Around a half of participants were disagreeable (48.7%). The relative weight had (56.6%), this finding was the third minority of this domain and third or last of rank. These study results were incongruent with Taylor, et al., (2012) who found (18%) of participants stated about manager models that were appropriate to support the MDTs cancer team behavior. The perceptions were there as well as the qualities considerations to make a good MDTs supervisor or leader such as approachable; affable, good rapport with colleagues inspires others and had their confidence and trust, respected by colleagues, commands confidence, recognized expert, good role model and authority as well.

Formidably, the finding of team members stated that the senior specialist cancer care representation was essential at every MDTs cancer meeting that was satisfactory. More than two thirds of participants were agreeable and strongly agreeable (21.7%, 48.7%) respectively, the relative weight had (76.4%). These study results were inconsistent with Jalil, et al., (2013) who found there were 10 MDTs cancer members from 22 by semi-structured interview study method stated that the MDTs cancer key member was not presented relating to that impact and there was one of the main factors that influenced MDTs cancer decision making. Furthermore, the finding of team members stated that the MDTs as a whole had active role in tracking patients through the cancer care pathway that was unsatisfactory. More than a half of participants were disagreeable (57.4%). The relative weight was (54%). These findings were the second minority of this domain and the second last of rank. These study results were incongruent with Taylor, (2012) who found three quarters of doctors (75%) stated that the MDTs as a whole had a role in tracking patients through the care pathway.

Unfortunately, the finding of team members stated that the MDTs cancer committee were able to collect and use defined minimum datasets (hospital based cancer registration) was unacceptable with the lowest result. More than two thirds of participants were strongly disagreeable and disagreeable (27%, 49.6%) respectively. The relative weight was (39.4%). This finding was the most minority of this domain and the last of rank. These study results were completely contradicted with National cancer Action NHS survey study ,(2009) in UK who found (96%) agreed about that, also were inconsistent with United kingdom Association of Cancer Registration (UKACR, 2005).

Totally, the sum of relative weight for the second domain related to the organization, administration and leadership process characteristic of MDTs cancer committee members generally were fairly good 69.4% with (SD: 0.44173). Moreover, there were the study findings by open ended questions, the majority of participants were consistent with these findings and results in this domain. They were reported relating to the main things needed to be improved concerning the organization, administration and leadership of MDTs cancer committee work effectively and the main challenges or obstacles were as the follows;

> *"The same individual should chair the MDT meeting on a regular basis, the MDT lead individual should receive specific training to support them in this role,., focused on discussions that were relevant, In otherwise, there were lack of established data base systems for MDTs effectively working. On the other hand, we needed managerial support; organizational recognition and support, good relationships with managers, Moreover, we needed to be stabilized a clear operational policies that were regularly evaluated, adverse events analyze".*

4.8.3: Communication & Coordination process characteristics of MDTs cancer

As shown in Table (4.8.3), the third domain illustrated the communication and coordination processes of MDTs cancer committee. Interestingly, in these tables the finding of team members stated that the relationship between the leader and the MDTs cancer committee coordinator was key to ensuring the meeting ran effectively was very well. More than three quarters of participants were agreeable and strongly agreeable (58.3%, 27%) respectively. Study finding was the first rank of these domains and the relative weight was the highest (82.2%). These study results were congruent with Lamb, et al., (2011c) who found (90.9%) of doctors agreed that the relationship between the Chair and the MDT coordinator was key to ensuring the meeting ran effectively.

On the other hand, the finding of team members stated that the feedback between members and staff was delivered in a way that promoted positive interactions and future change was unsatisfactory. Around a half of participants were disagreeable (47.9%).The finding was the fourth-last rank of these domains and the relative weight was low (59.8%).

Table (4.8.3):Distribution of responses by Communication& Coordination scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1.The relationship between the leader and the MDTs cancer committee coordinator is key to ensuring the meeting runs effectively									
No.	31	67	16	1	0	4.11	.659	82.2	1
%	27.0	58.3	13.9	09	0.0				
2.Feedback between members & staff is delivered in a way that promotes positive interactions and future change									
No.	14	21	22	54	1	2.99	1.136	59.8	9
%	14.8	18.3	19.1	47.0	.9				
3.Information regarding cancer patient care is explained to all non -members and staff by the core member in relevant way & terms									
No.	7	18	40	49	1	2.83	.917	56.6	10
%	6.1	15.7	34.8	42.6	.9				
4.All MDT non-core members relay relevant information in a timely manner									
No.	5	17	41	51	1	2.77	.869	55.4	11
%	4.3	14.8	35.7	44.3	.9				
5.When communicating with MDT cancer core – members , they allow enough for your questions									
No.	16	68	24	7	0	3.81	.748	76.2	2
%	13.9	59.1	20.9	20.9	0.0				
6.MDTs non-core members verbally verify information that they receive from one another									
No.	9	57	35	13	1	3.52	.831	70.4	6
%	7.8	49.6	30.4	11.3	.9				
7.All MDTs core members follow a standardized method of sharing information when handing off cancer patients									
No.	10	34	44	25	2	3.22	.944	64.4	8
%	8.7	29.6	38.3	21.7	1.7				
8.Care plans are communicated to other health professionals in the treatment pathway within a locally agreed timeframe									
No.	11	54	39	9	2	3.55	.840	71	5
%	9.6	47.0	33.9	7.8	1.7				
9.All outcomes are recorded on a database and reviewed regularly by the MDT cancer -coordinator									
No.	7	15	33	76	17	2.3	1.068	46	12
%	6.1	13.0	28.7	66.1	14.8				
10.MDTs core members are seek information from all available sources									
No.	11	66	27	10	1	3.66	.804	73.2	4
%	9.6	57.4	23.5	8.7	.9				
11.There are agreed mechanisms for the MDT cancer committee to access/contact the specialist cancer care team for advice when needed									
No.	12	54	31	15	3	3.50	.940	70	7
%	10.4	47.0	27.0	13.0	2.6				
12.Any patient on the MDTs cancer list not discussed (notes, films or results missing lack of time) are automatically added to the next week's list									
No.	32	51	28	3	1	3.96	.842	73.8	3
%	27.8	44.3	24.3	2.6	.9				
Total	No.	**115**				**3.44**	.4421	**Total Weight Mean**	
	%	**100**							
	Mean score (5)		Median	Mode	**± SD**			**68.8**	
	3.44		3.40	3.30	.44210				

way and terms were unsatisfactory. Around a half of participants were disagreeable (48.7%). The relative weight was (56.6%). These findings were the third minority of this domain and third last of rank. These study results were congruent with Rowlands and Callen, (2013) that carried out by In-depth interview qualitative study method who found from 22 of MDTs lung cancer members that members of a hospital lung cancer team were not communicating effectively and changes were essential if multidisciplinary care was to be delivered efficiently and effectively. Multidisciplinary cancer care was a relatively new model of service delivery for patients with lung cancer. While guidelines existed on the formation of cancer care teams, they did not take into account the need to integrate this new model of service delivery with the existing medical model. Furthermore, the study highlighted the necessity to develop and implement electronic medical records to facilitate communication between all health professionals caring for patients with cancer.

Furthermore, the finding of team members stated that the all MDT non-core members relay relevant information with timely manner was unsatisfactory. More than third of participants were disagreeable (44.3%). the relative weight was (55.4%). It is worthwhile to mention that, the team members stated that when communicating with MDT cancer core-members, they allowed enough for your questions that were satisfactory. Around two thirds of participants were strongly agreeable and agreeable (13.9%, 59.1%) respectively. The finding was the second rank of these domains. The relative weight was well (76.2%). These findings were the second minority of this domain and the second last of rank. These study results were congruent with National Cancer Action NHS, (2009) who found by national survey more than a half of participants (51%) recommended to constitute an effective case management and clinical decision-making process of MDTs cancer work that should be the clear lines of responsibility and communication to all concerned and had good communication with each other (and with other teams), non-hierarchical open discussion, respectful, willingness to challenge and be challenged, non-threatening environment and participation as equals.

In the same context, the finding of team members stated that the MDTs cancer non-core members verbally verify information that they received from one another was satisfactory. Around third of participants were strongly agreeable and agreeable (8.7%, 29.6%), respectively and the relative weight was (70.4%). Whereas, the finding of team members stated that care plans were communicated to other health professionals in the treatment pathway within a locally agreed timeframe was good. More than a half of participants were

strongly agreeable and agreeable (9.6%, 47%) respectively and the relative weight was (71%).

Unfortunately, in (table 4.8.3), it shows the finding of team members stated that all outcomes were recorded on a database and reviewed regularly by the MDTs cancer coordinator that was unacceptable and the lowest result, more than three quarters of participants were strongly disagreeable and disagreeable (14.8%, 66.1%) respectively. The relative weight had lowest (46%). This finding was the most minority of this domain and the last rank. These study results were incongruent with Jalil, et al., (2012) by national survey for 265 MDTs cancer coordinators who found more than (66.9%) of members felt the role of the MDTs cancer coordinator was therefore central to the care of cancer patients, locally, and also through the coordination and sharing of data on a wider level. In otherwise, the finding of team members stated that the MDTs core members did seek information from all available sources that were satisfactory. More than a half of participants strongly agreeable and agreeable (9.6%, 57.4%) respectively. The relative weight was (73.2%).

Formidably, the finding of team members stated that there were agreed mechanisms for the MDT cancer committee to access or contact the specialist cancer care team for advice when needed and that was fairly good. More than a half of participants were strongly agreeable and agreeable (10.4%, 47.4%) respectively, but the relative weight was well (70%). These study results were congruent with Taylor, et al., (2010) who found (75%) of responses agreed that there were agreed mechanisms for the MDTs cancer to access or contact the specialist care team for advice when needed.

Additionally, the finding of team members stated that any patient on the MDTs cancer list did not discuss (notes, films or missing results, lack of time) and so on and they were automatically added to the next week list that was well. More than two thirds of participants were strongly agreeable and agreeable (27.8%, 44.3%) respectively. The finding was the third rank of these domains and the relative weight was well (73.8%). Study result was incongruent with Lamb, et al., (2011c) who found (96%) of participants agreed about the cancer cases that were not discussed on the MDTs cancer list related to lack of time or any reason should be added to the next week. Totally, the sum of relative weight for the third domain related to the communication and coordination process characteristic of MDTs cancer committee members generally were fairly good 68.8% with

(SD: 0.4421). On the other hand, through the analysis of study findings by open ended questions, related to the majority of participants that were consistent with these findings and results in this domain. They were reported concerning the main things needed to be improved relating to the communication and coordination of MDTs cancer committee work effectively and the main challenges or obstacles were;

> *"MDTs related to communication and coordination work process needed to be improved as follows; informed and implementation of agreed policy and protocols of MDTs communication, written guidelines and protocol for MDTs coordinator work, use of technological communication facilities having interactive MDTs electronic HIS that could produce letters as well as data collection, sharing technical support as well as the relevant equipment to good connecting and interrelationship with all core members and all diagnostics and treatment facilities, enhancement of physical environment of meeting venue such as having a regular venue with easy access, location for each core members, visualized materials".*

Table (4.8.4.A): Distribution of responses by case management & clinical decision making

.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
1.The MDTs cancer committee are consider all clinically appropriate treatment options even if they cannot offer/provide them locally									
No.	15	78	18	4	0	3.90	.64	78	9
%	13.0	67.8	15.7	3.5	0.0				
2.Patient's management based on evidence base medical practice (international protocols & guidelines).									
No.	19	71	21	3	1	3.90	.725	78	9R
%	16.7	61.7	18.3	2.6	.9				
3.Standard treatment protocols for patients are used whenever possible									
No.	23	80	11	1	0	4.09	.571	81.8	4
%	20.0	69.6	9.6	.9	0				
4.In-hospitals formal protocols are needed to manage referral of patient cases between MDTs cancer committee									
No.	24	57	16	16	2	3.74	1.001	74.8	14
%	20.9	49.6	13.9	13.9	1.7				
5.All cancer patients with recurrence/progressive disease are discussed by an MDTs cancer meeting									
No.	13	48	35	17	2	3.46	.939	69.2	17
%	11.3	41.7	30.4	14.8	1.7				
6.The MDTs cancer committee are always be notified if their treatment recommendations are not implemented									
No.	10	38	36	19	12	3.13	1.120	62.6	19
%	8.7	33.0	31.3	16.5	10.4				
7.Staff continuously scan the environment for important information that effect on clinical decision making									
No.	14	16	37	46	2	2.95	1.050	59	21
%	12.2	13.9	32.2	40.0	1.7				
8.The supervisor/ manager meets to reevaluate cancer patients care goals when aspects of the situation have changed									
No.	10	18	33	50	4	2.83	.970	56.6	23
%	8.7	15.7	28.7	43.5	3.5				
9.The supervisor/ manager and specialists share information regarding potential complications (e.g. patient changes, bed availability).									
No.	15	71	19	7	3	3.77	.852	75.4	14
%	13	61.7	16.5	6.1	2.6				
10.Requests for tests and treatments are recorded, documented during the MDTs cancer meeting report (session).									
No.	13	74	24	4	0	3.83	.661	76.6	11
%	11.3	64.3	20.9	3.5	0.0				
11.The MDTs cancer committee as a whole has an active role in tracking patients through the cancer care pathway									
No.	0	60	0	41	14	2.92	1.171	58.4	22
%	0	52.2	0	35.6	12.2				
12.Majority agreement of a treatment recommendation is acceptable									
No.	17	78	17	3	0	3.95	.633	79	6
%	14.8	67.8	14.8	2.6	0.0				
13.The MDTs cancer team more supporting for oncologists in his treatment decision									
No.	30	72	13	0	0	4.15	.596	83	2
%	26.1	62.6	11.3	0.0	0.0				
14.The MDTs cancer decisions are benchmarked against those of similar MDTs									
No.	10	16	0	72	17	2.39	1.193	47.8	24
%	8.7	13.9	0	62.6	14.8				
15.A clinician are able to bring the case of a private patient to the MDT cancer committee for discussion at the meeting									
No.	7	42	48	15	3	3.30	.870	66	18
%	6.1	35.5	41.7	13.0	2.6				

Table (4.8.4.B): Distribution of responses by case management & clinical decision making scale items.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD	Weight Mean	Rank
16.If a patient chooses a treatment that is not in line with MDT cancer committee recommendations this are recorded									
No.	6	41	39	19	10	3.12	1.036	62.4	20
%	5.2	35.7	33.9	16.5	8.7				
17.Decisions & recommendations which emanating from MDTs cancer committee are bound and obligatory implementation for all HCPs those involved in providing services cancer patients window									
No.	18	62	28	7	0	3.79	.778	75.8	11
%	15.7	53.9	24.3	6.1	0.0				
18.MDTs have an active role in reducing of cancer waiting time									
No.	25	64	18	7	1	3.91	.778	78.2	7
%	21.7	55.7	15.7	6.1	.9				
19.The MDTs are responsible for collecting key information that directly affects treatment decisions (e.g. staging and co-morbidity)									
No.	20	70	20	5	0	3.91	.720	78.2	7 R
%	17.4	60.9	17.4	4.3	0.0				
20.The MDTs cancer committee identifies and manage all types of cancer patients									
No.	15	45	40	14	1	3.51	.902	70.2	16
%	13	39.1	34.8	12.2	.9				
21.The MDT cancer committee provides treatment and follow up for any types of cancer patients and ensure to receives multi-disciplinary management with appropriate oncological input for each one									
No.	13	58	35	9	0	3.65	.784	73	14
%	11.3	50.4	30.4	7.8	0.0				
22.MDT cancer committee decisions are improve health outcomes for cancer cases									
No.	23	69	18	5	0	3.96	.730	79.2	5
%	20.0	60.0	15.7	4.3	0.0				
23.Without the MDT cancer committee the clinical decisions are much worse									
No.	47	42	24	0	2	4.15	.871	83	2 R
%	40.9	36.5	20.9	0.0	1.7				
24.MDT cancer committee improve evidence-based treatment decisions									
No.	45	49	17	3	1	4.17	.837	83.4	1
%	39.1	42.6	14.8	2.6	.9				
Total	No.	115				**3.59**	**.399**	**Weight Mean**	
	%	100							
	Mean score (5)		Median	Mode	± SD			**71.8**	
	3.59		3.54	3.67	.39954				

4.8.4: Case management and clinical decision making process characteristics of MDTs cancer committee team members domain.

As shown in Table 4.8.4 (A & B), the four domains illustrated the case management and clinical decision making process characteristics of MDTs cancer committee. In these tables, the finding of team members stated that the MDTs cancer committee considered all clinically appropriate treatment options even if they cannot offer or provide them locally and that was good. More than three quarters of participants were agreeable and strongly agreeable (13%, 67.8%) respectively. The relative weight was satisfactory (78%). Although, patient management was based on evidence of medical practice (international

protocols and guidelines), it had the same relative weight and also was satisfactory (78%).More than three quarters of participants were agreeable and strongly agreeable (16.7%, 61.7%) respectively. These study results were congruent with Taylor, et al., (2010) who found most team members (at least 90%) that there they agreed that the MDTs should consider all clinically appropriate treatment options even if they could not offer or provide them locally.

Additionally, the finding of team members stated that the standard treatment protocols for patients were used whenever possible and they were well. More than three quarters of participants were strongly agreeable and agreeable (20%, 69.6%) respectively. The finding was the fourth rank of these domains and the relative weight was very good (81.8%). These study result congruent with Lamb, et al., (2011c), who found most team members (93%) of doctors that agreed on the standard treatment protocols for patients should be used whenever possible.

In the same context, the finding of team members stated that the in-hospitals formal protocols were needed to manage referral of patient cases between MDTs cancer committee and that was satisfactory. More than two thirds of participants were strongly agreeable and agreeable (20.9%, 49.6%), respectively. The relative weight was (74.8%). Whereas, the finding of team members stated that all cancer patients with recurrence or progressive disease were discussed by an MDTs cancer meeting and that was fairly good. More than a half of participants were strongly agreeable and agreeable (11.3%, 41.7%) respectively. The relative weight was (69.2%). These study results were consistent with Lamb, et al., (2011c) who found three quarters (75%) of doctors agreed that patients with recurrence or progressive disease should be discussed by an MDT.

Unequivocally, the finding of team members stated that the MDTs cancer committee was always is notified if their treatment recommendations were not implemented and was unacceptable. Less than a third of participants were agreeable (33%) and the relative weight has low (62.6%).These study results were incongruent with Taylor, et al., (2010) who found (85.6%) of doctors in MDTs cancer members that agreed and there should always be notification if their treatment recommendations were not adopted. Similarity, the finding of team members stated that the staff continuously scan the environment for important information that effected clinical decision making and that was unsatisfactory. More than a third of participants were disagreeable (40%). the relative weight was poor

(59%). These findings were the fourth minority of this domain and fourth last of rank. These study results were incongruent with (Raine, R. et al., 2014).

Furthermore, the finding of team members stated that the supervisor or manager met to reevaluate cancer patients care goals when aspects of the situation had changed and that was unsatisfactory. More than a third of participants were disagreeable (43.5%). The relative weight was poor (56.6%). These findings were the second minority of this domain and the second last of rank as well.

Formidably, the finding of team members stated that the supervisor or manager and specialists shared information regarding potential complications (e.g. patient changes, bed availability) was satisfactory. More than two thirds of participants were strongly agreeable and agreeable (13%, 61.7%) respectively and the relative weight was (75.4%).

In the same direction, the finding of team members stated that the requests for tests and treatments were recorded, documented during the MDTs cancer meeting report (session) was well. More than three quarters of participants were strongly agreeable and agreeable (11.3%, 64.3%) respectively and the relative weight was (76.6%).These study results were incongruent with Taylor, et al., (2010) who found (68%) in MDTs cancer members that agreed but only (64%) of doctors at least likely agreed on the requests for tests and treatments should be booked during the MDTs cancer meeting.

In otherwise, the finding of team members stated that the MDTs cancer committee as a whole had an active role in tracking patients through the cancer care pathway and that was unsatisfactory. More than half of participants were disagreeable (52%), the relative weight was unacceptable (58.4%). These findings were the third minority of this domain and third last of rank. These study results were inconsistent with Lamb, et al., (2011) who found three quarters of doctors (75%) in MDTs cancer members that agreed that the MDTs cancer committee as a whole had a role in tracking patients through the care pathway.

As a matter of fast, the finding of team members stated that the majority agreement of a treatment recommendation was acceptable as well. More than three quarters of participants were strongly agreeable and agreeable (11.3%, 64.3%) respectively. The relative weight was (79%) These study results were congruent, to some extent, with Taylor, et al., (2010) who found (84.9%) in MDTs cancer members that agreed on the majority agreement of a treatment recommendation and that was acceptable. Optimistically, the finding of team

members stated that the MDTs cancer team were more supportive for oncologists in his treatment decision and more than three quarters of responses were agreed and the relative weight was satisfactory (83%).These findings were the second majority of this domain and second of rank.

Unfortunately, in table (4.8.4.A), it shows the finding of team members stated that the MDTs cancer decisions were benchmarked against those of similar MDTs that was unacceptable and had the lowest result. More than two thirds of participants were strongly disagreeable and disagreeable (14.8%, 62.6%) respectively. The relative weight was the lowest (47.8%). These findings were the most minority of this domain and the last of rank. These study results were congruent with Lamb, et al., (2011c) who found (44%) of doctors only in MDTs cancer members that agreed on the benchmarking against other MDTs or networks.

And uncover the truth, in table (4.8.4.B), it shows the finding of team members stated that the clinician was able to bring the case of a private patient to the MDT cancer committee for discussion at the meeting and that was fairly acceptable. More than a third of participants were agreed (35.5%). The relative weight was (66%). These study results were incongruent with Taylor, et al., (2010), who found (91.6%) of doctors agreed that the clinician should be able to bring the case of a private patient to the MDT for discussion at the meeting.

Moreover, the finding of team members stated that a patient chose a treatment that was not in line with MDT cancer committee recommendations and this record was unsatisfactory, the relative weight was (62..4%). These study results were incongruent with Taylor, et al., (2010) who found (83.8%) of doctors agreed that if a patient chose a treatment that was not in line with MDT recommendations this should be recorded.

Essentially, the finding of team members stated that decisions and recommendations which emanating from MDTs cancer committee were bound and obligatory implementation for all HCPs those involved in providing services cancer patients window was good. More than a half of responses agreed (53.9%).The relative weight was (75.8%).

It is worthwhile to mention, both findings of team members stated that the MDTs had an active role in reduction of cancer waiting time and the MDTs were responsible for collecting key information that directly affected treatment decisions (e.g. staging and co-

morbidity) were the same highly agreed referring to two thirds of participants. The same repetition of ranking and relative weight was satisfactory (78.2%) respectively. These study findings were congruent with both studies by Taylor, et al., (2010) and Lamb, et al., (2011c) who found more three quarters of multidisciplinary cancer team members perceptions about data collection, analysis and audit of outcomes agreed that the MDTs cancer should be responsible for collecting key information that directly affected treatment decisions (e.g. staging and co- morbidity)

On the other hand, the finding of team members stated that the MDTs cancer committee identified and managed all types of cancer patients with more than a third of participants agreed. The relative weight was (70.2%).

What could be more important to be mentioned, the finding of team members stated that the MDT cancer committee provided treatment and follow up for any types of cancer patients and ensure to receive multi-disciplinary management with appropriate oncological input for each one and that was acceptable. More than half of responses agreed (50.4%).The relative weight was (73%). Whereas, the finding of team members stated that the MDT cancer committee decisions improved health outcomes for cancer cases and that was satisfactory. More than three quarters of participants were strongly agreeable and agreeable (20. %, 60%), respectively and the relative weight was (79.2%). Interestingly, the finding of team members stated that without the MDT cancer committee the clinical decisions were much worse and that was very well. More than three quarters of participants were strongly agreeable and agreeable (40.9%, 36.5%) respectively. Study finding was the second rank of these domains and the relative weight was high (82.2%).

Optimistically, the finding of team members stated that the MDT cancer committee improved evidence-based treatment decisions and that was very well. More than three quarters of participants were strongly agreeable and agreeable (39.1%, 42.6%) respectively. Study finding was the first rank of these domains and the relative weight was the highest (83.4%). These study results were congruent with Jalil, et al., (2014) and Taylor, et al., (2010) who found more responses, had (90%) and agreed it to improve MDTs cancer clinical decision making relation with improved evidence-based treatment decisions.

Totally, the sum of relative weight for the fourth domain related to the case management and clinical decision making process characteristic of MDTs members generally was good

71.8% with (SD: 0.39954). On the other hand, through the analysis of study findings by open ended questions, the majority of participants were consistent with these findings and results in this domain. They were reported relating to the main things needed to be improved concerning the case management and clinical decision making of MDTs cancer committee work effectively and the main challenges or obstacles were as follows;

> *"Performance of MDTs cancer committee work needed to be enforced relating to case management and good clinical decision-making process by ;improved consistency, structured and efficient decision-making; robust annotation of decisions with clear concise treatment plan recorded; consensus; adherence to MDTs protocols and guidelines; establishing national MDTs cancer policy and guidelines, establishing sub-MDTs cancer committees according to each specialty, action plan and follow up after meetings and implementation of decision with clear lines of responsibility and all of them must be concerned".*

4.9 Inferential statistics

In this section the researcher discusses the differences in the overall performance of MDTs cancer committee status in reference to independent variables. The independent variables were characteristics and performance of characteristic variables, so regarding to the inferential statistics between the demographic and professional data " gender, age groups, educational level, professional level, total years of experience, place of work and jobs, with all study domains. Using t-test and ANOVA tests, results shows that there is variation in means scores but not reach to the statistical significant level (Annex 13). This could be the study participant are originally from the same professions "medical doctors" and are working in the same ministry regarding to administrative issues, protocols they exposed to the same work and professional circumstances.

Chapter 5

Conclusion and Recommendation

5.1 Conclusion

This chapter overwhelmingly provides the main conclusions of this study as well as some recommendations that may help and provide guidance to the health decision and policy makers in order to largely improve the quality of cancer patients care by adopting the better performance of MDTs cancer committee members working for cancer management that was based on the results of this study.

This study sharply utilized descriptive, analytical points across sectional design with a quantitative approach. The researcher genuinely used interview questionnaire (37) "yes" and "no" questions with short, descriptive and reasonable clarification. This was clarified the nature of cases by using open questions, (91) Likert scale questions with conservation by two main open questions referring to data collection tool that was self-developed. A systematic randomized sampling (the second specialist one) was selected.

The study was conducted to evaluate the performance of MDTs cancer committee working by main four domains in Likert scale (five scores) that are important for effective MDTs performance work that included; socio-demographic, occupational, educational and the cancer team members characteristics, team work, attendance and participation, MDTs preparations; stages of MDT meetings process (pre, during and post-meeting stages), structure, communication, coordination, organization , administration and leadership of MDTs cancer pathway, MDTs cancer tracking systems, cancer waiting time management (CWT), MDTs case presentation dynamic process, cases management and clinical decision making process characteristics, the physical environment and MDTs place, technology management and administrative aspects. The domains of the MDTs meetings processes fairly include open ended questions. Optimistically, high response rate of (99.1%) ensured high validity of the study findings. Other measures such as the experts validation and piloting were used to assure the questionnaire validity. The reliability reached the highly coefficient level, as the Cronbach Alpha coefficient was 0.982.

The total number of the study population was 246 and the study sample was 116 with highly acceptable response rate (99.1%). In consistency with the general bulk that are introducing cancer cases care by specialties and subspecialties to cover all disciplines and departments distribution of specialists in the three hospitals according to the bulk of

introducing cancer cases care, (57.4%) of respondents were surgical at hospital, (13.0%) is related to Obstetric and Gynecological hospital (22.6%) is related to Medical hospital, (3.5%) is related to Radiological departments and (3.5%) is related to Pathology departments but those are inconsistent with the general gender distribution of specialists in the hospitals, (96.5%) of respondents were male.

Promising demographic areas were found as almost two thirds of respondents were aged up to 40 years and the majority were specialists doctors (holding Board degree and Master degree). More than half of respondents were professional practitioner specialists (without managerial positions), meanwhile a considerable portion had long work experience as more than two thirds had work experience up to 10 years.

The study results revealed that overall status of performance evaluation of MDTs cancer committee members work for cancer management was fairly good (67%). That reflected a positive perception of sampled specialists towards the performance of cancer care and sharing responsibilities which were considered as an important conducive factor for practicing MDTs cancer work although it was established five years ago only.

Findings showed that performance of MDTs cancer committee work was substantially affected by a variety of influencing factors. These factors were immensely perceived as conducive factors which enhanced the practicing of cancer management or hindered factors which acted as barriers and challenges for implementation of cancer care.

Essentially, team functioning and performance were drivers of effective clinical decisions in cancer MDTs committee work, but their monitoring and evaluation of performance indicators regularly had lack of. Around (90%) of participants that stated there were not regularity follow up the performance indicators. More than a half of participants stated that the MDTs cancer committee decisions positively supported the cancer care strategy in MOH. In spite of that, the findings of this study was related to measurement of MDTs cancer performance indicators as a systematic approach that was poor and unsatisfactory except attendance rate (2.3%) times monthly.

Interestingly, the average of cancer cases was discussed by MDTs cancer members and it was around 12 cases per meeting weekly. With further validation, a combination of the interview questionnaire with open ended questions evaluation tools reported they could be used alongside existing systematic methods to provide a science-driven, standardized, and

transparent base for evaluation and monitoring that improved team performance of cancer MDTs, with the ultimate goal of improving care for cancer patients.

In otherwise, the cancer waiting time for intervention after the case discussion was highly satisfactory and within the international range of standards. The average time was less than two weeks and was less than 9 days. On the other hand, unavailability and shortage of diagnostic and treatment resources become more limited, there is a greater urgency for technological solutions to be identified that will enable the MDTs cancer services to be delivered more effectively. Also limited training and research opportunities in cancer care for specialists as (the majority of them 75% had not received training courses related to cancer care at the last 5 years. M & E of performance indicators regularly has been lacking (90%)of participants stated there are poor except attendance rate was 2.3 times per month. In otherwise, the dynamics of cases presentation process shown as; the average case presentation by him-self in your department was 3 cases, the average case presentation in MDTs cancer committee monthly was (10.73),the average leakage of cases without presentation in monthly was (7.55),the average delayed case presentation after the end of diagnosis monthly was around (4) cases, the total average delayed of intervention more than two weeks after presentation monthly was (3) cases, the average expected time implementation of decisions after case discussed by was very well around 9 days, the total average of time preparation case was 26 minutes, the average of time for weekly MDTs cancer meeting was 2.30 hours and the average of each case discussed during meeting was 15.5 minutes. In the same context, all of these indicators reflected actually the standards cancer waiting time management with compliance level of cancer care in Al-Shifa Medical Complex.

These gaps of knowledge reflected a lack of attention to training, education and research applications in cancer care delivery and found more than three quarters of responses in this study that did not receive any education or training programs related to cancer care during the period of work (both inside and outside MOH) at the last 5 years. Furthermore, the study results showed that the vast majority of participants pointed out that they did not receive training related to cancer care services and MDTs cancer committee work.

Unfortunately, the study results showed that the vast majority of participants pointed out that they did not receive training related to cancer care services and MDTs cancer committee work of more than (75%).

At the start of this study of multidisciplinary cancer medical team meetings, can identify the technological needs and solutions that would support the work of the MDTs cancer committee members, or suggest ways that the existing technology might be improved, and make the team more effective. Study results showed that this dimension was very poor. Although the existence of the MDTs cancer practice was identified in Chapter 4 to improve cancer patient services, and continuous quality improvement intervention, it needed support for two reasons; to maintain its existence and improve the internal and external MDTs cancer committee process characteristics.

The study showed that there was an expressed need to technology, good preparation, communication and coordination, organization, administration and training of those core and non-core members of the MDTs cancer committee. Perhaps it was the time to seriously consider to fill the gap and variations in the MDTs cancer working on decision implementation and cancer waiting time standards in receiving cancer diagnosis and treatment among cancer patients journeys, education and training in the skills required to carry out the active role with maximum effectiveness, with the view of further enhancement of cancer care. The MDTs meeting should not be seen in isolation, but as a pivotal point in the cancer patient care pathway, linking information about patients and their disease to the decision making process, and then to the on-going care of the patient thereafter. The role of the MDTs cancer committee was therefore central to the care of cancer patients, both locally, and also through the coordination and sharing of cancer care, expertise, knowledge and data on a wider level.

Study results showed the preparation for MDTs cancer committee process characteristics in (Pre-meeting stage) was the poorest domain and lowest result (60.2%). The preparation for MDTs cancer committee process characteristics in (during-meeting stage) domain result was (67.6%).The preparation for MDTs cancer committee process characteristics in (post-meeting stage) was the second-well domain (69.4%). The Structure of MDTs cancer committee process characteristic was the second last domain (61.6%). The MDTs organization, administration and leadership process characteristics was the second repeated-well domain (69.4%). The MDTs cancer communication and coordination process characteristic domain was (68.8%). Case management and clinical decision making process characteristics were the first domain and highest percentage (71.8%). Totally, the total scores that measured performance evaluation of MDTs cancer committee by Likert scale was fairly good 67% with (SD: 0.33677).

There were no statistically significant differences in perceptions about performance evaluation of MDTs cancer committee members in certain domains and independent variables. On the contrary, the mean differences were noted in relation to gender, years of experience, job position, and place of work, professional levels, educational level, age groups and type of discipline.

This study found scant research relating to how cancer specialists work together as clinical team in either virtual or actual MDTs cancer committee settings. This was a rare type of research and the first study in the Arab countries in the Middle East with the exception of some research in specific type of cancer tumor.

Internationally, very little attention had been given to the patient experience in different multidisciplinary care models and how patient experience, care support, and health-related quality of life were affected by "dose–response" or the amount, duration, and scope of MDTs cancer committee involvement. Almost no research existed comparing the different models and how performance attributes (e.g., team cohesion, coordination of care, adherence to guideline-based care, reduced costs, and improved outcomes) vary by characteristics of the breadth of specialties and subspecialties, the hospitals setting (e.g., academic based vs. community based), and the environmental context within which these programs function. In particular, internationally, the relationship between MDTs cancer committee involvement specialists and patient engagement in clinical research, including clinical trials, is a high-priority research topic.

Furthermore, despite the research advancement on the organization, functioning, and performance of health-care team the finding, in this study was found very scant research and two thirds of responses of (78%) did not participate in research and scientific papers previously related to the field of oncology and cancer services. The average was (1.5) papers only with a long period of work. Our understanding of the previous of various forms of MDTs cancer in cancer care and our knowledge of what affected the performance of MDTs cancer still had many gaps.

Moreover, the strict temporal health organization needed for the MDTs cancer committee and its associated task environment was both a strength and weakness of the health care system. Optimistically, when cancer work rhythms became embedded in the healthcare organizational processes, they became stronger and more dependable relating to the change that became difficult when firmly established concerning the work routine of the cancer work rhythms. This will absorb a certain amount of disturbance, but when they were fragile

and became unstable, the cancer work rhythm recovery could be difficult. So we needed to further develop our conceptual models of MDTs cancer committee settings or context, team structure and function to actively consider change over time in team composition.

The MDTs cancer committee work was not single-dose interventions; they were longitudinal and sustainable cancer care structures that required theoretical, technical, managerial and systematic group thinking approaches that went beyond the more typical cross-sectional snapshots of team structure, process, and performance. The performance of MDTs cancer committee work needed a lot of efforts to enhance the effective and successful practicing of cancer management in Al-Shifa Medical Complex by increasing attention, improvement and awareness of doctors about this important and active role for cancer care.

The Strategies for change to better cancer management should have an emphasis on active role participation of MDTs cancer committee work through audit, feedback, tracking system and response, acknowledging the clinical needs and practical constraints of the MDTs cancer committee and fitting the tracking systems around the team's work-flow and cancer care patients pathway.

Finally, performance evaluation is driver of effective MDTs cancer committee work, but their evaluation was missing. This study provides validation evidence for performance evaluation of MDTs cancer committee members and demonstrates that cancer care team members have the ability to evaluate their performance at reasonable levels of validity and with significantly less resource than evaluation that requires the presence of an external expert assessor. With this validation evaluation tools reported here, it could be used alongside existing MOH cancer evaluation programs and statistical reports to provide a science-driven, standardized, and transparent base for evaluating and improving performance of MDTs cancer committee members, with the ultimate goal of improving care for cancer patients.

5.2 Recommendations

Based on the study finding the researcher would provide useful recommendations as outlined below: decision and health policy makers, health managers, leaders, health care professionals and researchers need to consider these recommendations and intensively work to address them.

1. Gradually, expand the scope of work of the MDTs cancer committee to include new core members and sub-speciality such as anesthesia specialist, oncology clinical nurse, oncology pharmacists and palliative care specialist with an increase of the administrative and medical secretary staff. with increase the frequency of meeting.
2. Building the monitoring and evaluation system regularly to ensure the performance indicators of MDTs cancer committee are measuring work as efficiently and effectively in all times.
3. High recommendation to establish written, updated, disseminated operational MDTs cancer committee guidelines, policy, protocols and procedures in job description, tasks, duties that need to be clearly defined for doctors and other HCPs.
4. Build, create and sustain availability and using technological resources such as electronic interactive central program, PACS, PAS, e-learning MDTs and e-tracking system programs that were connected by all cancer services facilities as systematic thinking approach, integrated with live linking diagnosis and intervention digital projection program.
5. Enhance clinical productivity by simplifying access to patient information (for all healthcare providers), preparation of presentation materials, report generation and dissemination and access to clinical practice guidelines during discussion
6. Building the pathological unit inside the ORs department for frozen section to improve the accuracy of pathological readings sample with applying double check reading diagnostic results policy for pathological slides sample readings that decrease the debate and enhance definitive, final and professional points for cancer diagnosis in details.
7. Linking all data source related to MDTs cancer committee work with MOH national cancer registry that providing bilateral information flow between research and practice in cancer treatment by capturing clinical intervention and their result to encourage research and scientific projects through systematic collection and analysis approach.
8. Establishing unified national clear pathway for cancer patients to reach the MDTs cancer committee and public dissemination with national standardization of cancer waiting time management according to each process for diagnosis and treatment of cancer care with trained policy for guidelines that include private, PHC, hospitals

and NGOs sectors by connecting and sustaining feedback process directly with MDTs cancer committee.

9. Implementing the successful experience of MDTs cancer committees that distributes all MOH hospitals and establishes the national MDTs cancer steering committee managed by MOH that was divided to sub-MDTs cancer committee in each hospital according to disciplines, specialty and types of tumor.
10. Establishing cancer care center in the Gaza Strip that includes all cancer services under one celling.

5.2.3 Recommendations for further studies

The researcher would recommend conducting further research studies covering the following areas:

1. Conducting studies to explore the potential relationship between multidisciplinary cancer care and cancer patient survival rate. (Retrospective study).
2. Conduct more research including both qualitative and quantitative methods for the specific of the most common types of cancer tumors discussed in multidisciplinary care and clinical outcomes.
3. Conduct comparative studies among quality of cancer care management decisions by multidisciplinary teams (a systematic review method).
4. Conduct the national papillary & micro-papillary carcinoma auditing studies that use of multidisciplinary care teams by surgeons in Gaza Strip.
5. Conduct more research for study the developing a multidisciplinary cancer care program for common cancer types.
6. Conduct research about the Multidisciplinary team working across different tumor types of colorectal cancer (national survey studies).
7. Assessment the role of clinical decision support technology and multidisciplinary team cancer meetings (observational and action research).
8. Conduct the comparison studies that evaluate the Factors that affecting on the clinical decision-making and decision implementation in cancer multidisciplinary teams.(triangulation study).
9. Conduct research to assess the cancer case dynamics processes in multi-disciplinary medical team meetings and the use of communication technology.
10. Conducting studies that assess the impact of the Cost-effectiveness of cancer care with MDTs cancer committee working and national comparison hospitals.

Chapter (6)

References

Abed, Y., El Saka, B., Hamdan, Kh., Abo Saman, Kh. And Yaghi, H.(2010). Cancer incidence in the Gaza Strip, Palestine (1998– 2008)". Cancer Registry: MOH.

Abou Amer, W. (2012). Cancer prevention and control. Evaluation of the strategy in Gaza Governorates. Published master's thesis. Al Quds University

Amir, Z., Scully, J., & Borrill, C. (2004). The professional role of breast cancer nurses in multi-disciplinary breast cancer care teams. *European Journal of Oncology Nursing*, 8(4), 306-314.

Atwal, A., & Caldwell, K. (2002). Do multidisciplinary integrated care pathways improve inter professional collaboration?. Scandinavian journal of caring sciences, 16(4), 360-367.

Boon, Kia, R., A., Faizallah, R., & Singhal, A. (2010). OC-089 One-year experience of a hepato-pancreatobiliary cancer service in a large district general hospital: impact on local cancer care delivery. Gut, 59 (Suppl 1), A37.

Bass III, Pat F. (2014). Living past cancer: Late effects and long-term care.

Booth, Sara, Polly E., and Margaret K.(2009).Palliative care in the acute hospital setting: A practical guide". Oxford University Press.

Borras, J. M., Albreht, T., Audisio, R., Briers, E., Casali, P., Esperou, H., Wilson, R. (2014).Policy statement on multidisciplinary cancer care. *European Journal of Cancer*, 50(3), 475-480.

Buljac-Samardzic, M., Dekker-van Doorn, C.M., van Wijngaarden, J.D., & van Wijk, K. P.,(2010).Interventions to improve team effectiveness: a systematic review. *Health Policy*, 94(3), 183-195

Blazeby, J. M., Wilson, L., Metcalfe, C., Nicklin, J., English, R., & Donovan, J. L. (2006). Analysis of clinical decision-making in multi-disciplinary cancer teams. *Annals of Oncology, 17(3), 457-460.*

Chavez-Mac Gregor, M., &Valero, V.(2012).Effects of multidisciplinary team working on breast cancer survival: retrospective, comparative, interventional cohort study of 13722 women: Kesson EM, Allardice GM, George WD,(Gartnavel Royal Hosp, Glasgow, UK; Western Infirmary, Glasgow, UK;) *BMJ*344:e2718, 2012 §. Breast Diseases: A Year Book Quarterly,23(4), 324-325.

Chirgwin,J.,Craike,M.,Gray,C.,Watty,K.,Mileshkin,L.,&Livingston,P.M.(2010). Does multidisciplinary care enhance the management of advanced breast cancer?:evaluation of advanced breast cancer multidisciplinary team meetings. *Journal of oncology practice*, 6(6), 294-300..

Chad Dingman, L.M.S. W., OSW-C, P. D. H., &MSR, C. (2008). A coordinated, multidisciplinary approach to caring for the patient with head and neck cancer. *Journal Support Oncology*, 6, 125-131.

Dakkak I., Palestinian Academic Society for the Study of International Affairs -PASSIA, (2009).

Devitt, B., Philip, J., & McLachlan, S. A. (2010). Team dynamics, decision making, and attitudes toward multidisciplinary cancer meetings: health professionals' perspectives. Journal of Oncology Practice, 6(6), e17-e20.

Fennell, M.L., Das, I.P., Clauser, S., Petrelli, N., & Salner, A.(2010).The organization of multidisciplinary care teams: modeling internal and external influences on cancer care quality. *JNCI Monographs*, 2010(40),72-80.

.

Fleissig, A., Jenkins, V., Catt, S.,& Fallow field, L.(2006).Multidisciplinary teams in cancer care: are they effective in the UK?. *The lancet oncology*, 7(11), 935-943.

Ford,E.,Jenkins,V.,Fallowfield,L.,Stuart,N.,Farewell,D.,&Farewell,V.(2011). Clinicians‟ attitudes towards clinical trials of cancer therapy. *British journal of cancer*, 104(10), 1535-1543.

Friedl and, P.L.,Bozic,B.,Dewar,J.,Kuan,R.,Meyer,C.,&Phillips,M.(2011).Impact of multidisciplinary team management in head and neck cancer patients. *British journal of cancer*, 104(8), 1246-1248.

Fisher, S. E. (2009). Assessment of quality of life in individual patients with head and neck cancer: opinions and preferences of patients and clinicians. University of Leeds.

Farrell, C., Molassiotis, A., Beaver, K., & Heaven, C. (2011). Exploring the scope of oncology specialist nurses' practice in the UK. European Journal of Oncology Nursing, 15(2), 160-166.

Improvement CWS, N. H. S. (2008). Ensuring better treatment: going further on cancer waits. *NHS Improvement: Leicester*.

Guillem, P., Bolla, M., Courby, S., Descotes, J.L., Laramas, M., & Moro-Sibilot, D. (2011). [Multidisciplinary team meetings in cancer ology: setting priorities for improvement].*Bulletin du cancer*, 98(9), 989-998.

Harley, C., Adams, J., Booth, L., Selby, P., Brown, J.,& Velikova, G.(2009).Patient experiences of continuity of cancer care: development of a new Medical Care Questionnaire (MCQ) for oncology outpatients. *Value in Health*, 12(8), 1180-1186.

Hong, N. J. L., Wright, F. C., Gagliardi, A. R., Brown, P., & Do brow, M. J. (2009). Multidisciplinary cancer conferences: exploring the attitudes of cancer care providers and administrators. Journal of inter professional care,23(6), 599-610.

Hong, N. J., Wright, F. C., Gagliardi, A. R., & Paszat, L. F. (2010). Examining the potential relationship between multidisciplinary cancer care and patient survival: an international literature review. Journal of surgical oncology, 102(2), 125-134.

Hong, J. S., Young, C. J., & Solomon, M. J. (2014). Observational study of decision making concerning radiotherapy in rectal cancer. International Journal of Surgery, 12(5), 390-393.

Jessop, J., Beagley, C., & Heald, R. J. (2006). The Pelican Cancer Foundation and The English National MDT- TME Development Program. Colorectal Disease, 8(s3), 1-2.

Jalil, R., Ahmed, M., Sevdalis, N., & Green, J. S. A. (2012). P103 Don't forget the patient: Factors that impact on decision-making and decision implementation in cancer MDT meetings. *European Urology Supplements*,11(5), 226.

Jalil, R., Ahmed, M., Green, J. S., & Sevdalis, N. (2013). Factors that can make an impact on decision-making and decision implementation in cancer multidisciplinary teams: an interview study of the provider perspective. *International Journal of Surgery*, 11(5), 389-394.

Kane, B. (2008). *An analysis of the dynamics of multi-disciplinary medical team meetings and the use of communication technology [Thesis]* (Doctoral dissertation).

Kane, B., O'Byrne, K., & Luz, S. (2010, October). Assessing support requirements for multidisciplinary team meetings. In Computer-Based Medical Systems (CBMS), 2010 IEEE 23rd *International Symposium* on (pp. 110-115). IEEE.

Kesson, E. M., Allardice, G. M., George, W. D., Burns, H. J., & Morrison, D. S. (2012). Effects of multidisciplinary team working on breast cancer survival: retrospective, comparative, interventional cohort study of 13 722 women.

Lafferty, J., Rankin, F., Duffy, C., Kearney, P., Doherty, E., Mc Menamin, M.,& Coates, V.(2011).Continuity of care for women with breast cancer: a survey of the views and experiences of patients, carers and health care professionals. *European Journal of Oncology Nursing*, 15(5), 419-427.

Lemieux, J., Maunsell, E., & Provencher, L. (2008). Chemotherapy-induced alopecia and effects on quality of life among women with breast cancer: a literature review. Psycho-oncology, 17(4), 317.

Lamb, B., Green, J. S. A., Vincent, C., & Sevdalis, N. (2011a). Decision making in surgical oncology. Surgical oncology, 20(3), 163-168.

Lamb, B., Payne, H., Vincent, C., Sevdalis, N., & Green, J. S. (2011b). The role of oncologists in multidisciplinary cancer teams in the UK: an untapped resource for team leadership?. *Journal of evaluation in clinical practice*,17(6), 1200-1206.

Lamb, B. W., Brown, K. F., Nagpal, K., Vincent, C., Green, J. S., & Sevdalis, N. (2011c). Quality of care management decisions by multidisciplinary cancer teams: a systematic review. *Annals of surgical oncology*, 18(8), 2116-2125.

Lamb,B.W.,Sevdalis,N.,Arora,S.,Pinto,A.,Vincent,C.,&Green,J.S.(2011d). Teamwork and team decision-making at multidisciplinary cancer on ferences: barriers, facilitators, and opportunities for improvement. *World journal of surgery*, 35(9), 1970-1976.

Lamb, B.W., Sevdalis, N., Vincent, C.,& Green, J.S. A.(2012).Development and evaluation of a check list to support decision making in cancer multidisciplinary team meetings: MDT-QuIC. *Annals of surgical oncology*, 19(6), 1759-1765

Lamb, B. W., Sevdalis, N., Benn, J., Vincent, C., & Green, J. S. A.(2013). Multidisciplinary cancer team meeting structure and treatment decisions: a prospective correlational study. *Annals of surgical oncology*, 20 (3), 715-722.

Lamb, B.W., Taylor, C., Lamb, J.N., Strickland, S.L., Vincent, C., Green ,J. S.A., & Sevdalis, N.(2013).Facilitators and barriers to team working and patient centeredness in multidisciplinary cancer teams: Findings of a national study. *Annals of surgical oncology*, 20 (5), 1408-1416.

Michael P. Kosty, MD, FACP, FASCO, Todd Pickard, MMSc, PA-C, and Pamela Viale, RN, MS, CNS, ANP. ASCO (2016). Collaborative Practice in an Era of Multidisciplinary, Scripps Green Cancer Center, Scripps Clinic, 10666 North Torrey Pines Rd., MS217, La Jolla, CA 92037; email: mkosty@scripps.edu.© *by American Society of Clinical Oncology*.asco.org/*edbook.*

.

McCarthy M., Emal, A., Simard, E. P., Dorell, C., Noone, A. M., Markowitz, L. E., Kohler, Edwards, B. K..(2012). Measuring quality in cancer services. Study report, Service Delivery and Organization Research Program.

Mickan, Sharon M.(2005).Evaluating the effectiveness of health care teams. Australian Health Review,29(2), 211-217.

Marsh, C. J., Boult, M., Wang, J. X., Maddern, G. J., Roder, D. M., & Kollias, J. (2008). The National Breast and Ovarian Cancer Centre (NBOCC) Audit: the use of multidisciplinary care teams by breast surgeons in Australia and New Zealand. Medical Journal of Australia, 188(7), 385.

Ministry Of Health Guidance for Implementing High-Quality Multidisciplinary Meetings: Achieving best practice cancer care (2012). Wellington: Published in October 2012 by the Ministry of Health New Zealand.

Ministry Of Health, MOH. Palestinian National Health Strategy2011-2013. Palestine, (2011).

Ministry Of Health, PHIC, Hospital annual report, Gaza Strip 2013. Palestine, (2014).

Parker, G., Corden, A.,& Heaton, J.(2011).Experiences of and influences on continuity of care for service users and carers: synthesis of evidence from a research programme. *Health &Social Care in the Community*, 19(6), 576-601.

Patkar, V., Acosta, D., Davidson, T., Jones, A., Fox, J.,& Keshtgar, M.(2011).Cancer multidisciplinary team meetings: evidence, challenges, and the role of clinical decision support technology. *International journal of breast cancer*,2011.

Patkar, V., Acosta, D., Davidson, T., Jones, A., Fox, J., & Keshtgar, M. (2012). Using computerized decision support to improve compliance of cancer multidisciplinary meetings with evidence-based guidance. *BMJ open, 2(3), e000439.*

Palestinian Central Bureau of Statistics PCBS, (2015a): "On the eve of the international population day",(www.pcbs.gov.ps/Portals/_pcbs/PressRelease/int_Pop_2014e.pdf.Accessed April4, 2015).

Palestinian Central Bureau of Statistics PCBS, (2015c). Population, Housing, and Establishment Census Ramallah, Palestine.

Palestinian Central Bureau of Statistics PCBS, Results of the family survey 2014. Palestine, (2015c).

Plastow, N.A.,& Boyes, C.(2006).Unidisciplinary continuing professional development in a multidisciplinary world: experiences from practice. Work Based Learning in Primary Care,4(4), 322-344

Reichardt, P., Morosi, C., Wardelmann, E., & Gronchi, A. (2012). Gastrointestinal stromal tumors: evolving role of the multidisciplinary team approach in management.

Ruhstaller, T., Roe, H., Thürlimann, B., & Nicoll, J. J. (2006). The multidisciplinary meeting: an indispensable aid to communication between different specialties. *European journal of cancer*, 42(15), 2459-2462.

Rowlands, S., & Callen, J. (2013). A qualitative analysis of communication between members of a hospital- based multidisciplinary lung cancer team. *European journal of cancer care, 22*(1), 20-31.

Raine, R., Wallace, I., a'Bháird, C. N., Xanthopoulou, P., Lanceley, A., Clarke, A., ... & Ferlie, E. (2014). Improving the effectiveness of multidisciplinary team meetings for patients with chronic diseases: a prospective observational study.

Stairmand, J., Signal, L., Sarfati, D., Jackson, C., Batten, L., Hold away, M., & Cunningham, C. (2015). Consideration of comorbidity in treatment decision making in multidisciplinary cancer team meetings: a systematic review. *Annals of Oncology*, mdv025.

Taylor ,C., Munro, A. J., Glynne Jones, R., Griffith, C., Trevatt, P., Richards, M. ,& Ramirez, A.J.(2010). Multidisciplinary team working in cancer: what is the evidence?. BMJ, 340.

Taylor, C. ,Shewbridge, A., Harris, J.,& Green, J.S.(2013).Benefits of multidisciplinary teamwork in the management of breast cancer. *Breast Cancer: Targets and Therapy*, 5, 79.

United Nations Office for the Coordination of Humanitarian Affairs, "Fact sheet", (OCHA, 2014),(www.ochaopt.org/reports.aspx?id=103pdf.Accessed in April 20, 2015).

Valdagni, R., Albers, P., Bangma, C., Drudge-Coates, L., Magnani, T., Moynihan, C., Costa, A. (2011). The requirements of a specialist Prostate Cancer Unit: a discussion paper from the European School of Oncology. *European Journal of Cancer*, 47(1), 1-7.

Victorian Government Department of Human Services. Achieving best practice cancer care: A guide for implementing multidisciplinary care. Melbourne: Metropolitan Health and Aged Care Services Division.2007.(http://www.health.vic.gov.au/cancer/docs/mdcare/multidisciplinarypolicy0702.pdf. Accessed March 10, 2015)

WHO," Knowledge into Action, Cancer Control, WHO Guide for Effective Programs, Prevention Geneva."(2007).

WHO, Towards a Strategy for Cancer Control in the Eastern Mediterranean Region. Geneva. Switzerland, (2009).

WHO, (2013): "Cancer Fact Sheet N0297"(http://www.who.int/mediacentre/factsheets/fs297/en/. Accessed March 2,2015).

Walsh, J., Harrison, J. D., Young, J. M., Butow, P. N., Solomon, M.J., & Masya, L. (2010). What are the current barriers to effective cancer care coordination? A qualitative study. *BMC Health Services Research*,10(1), 132.

Wright, T. C., Massad, L. S., Dunton, C. J., Spitzer, M., Wilkinson, E. J., & Solomon, D. (2007). 2006 consensus guidelines for the management of women with abnormal cervical cancer screening tests. American journal of obstetrics and gynecology, 197(4), 346-355.

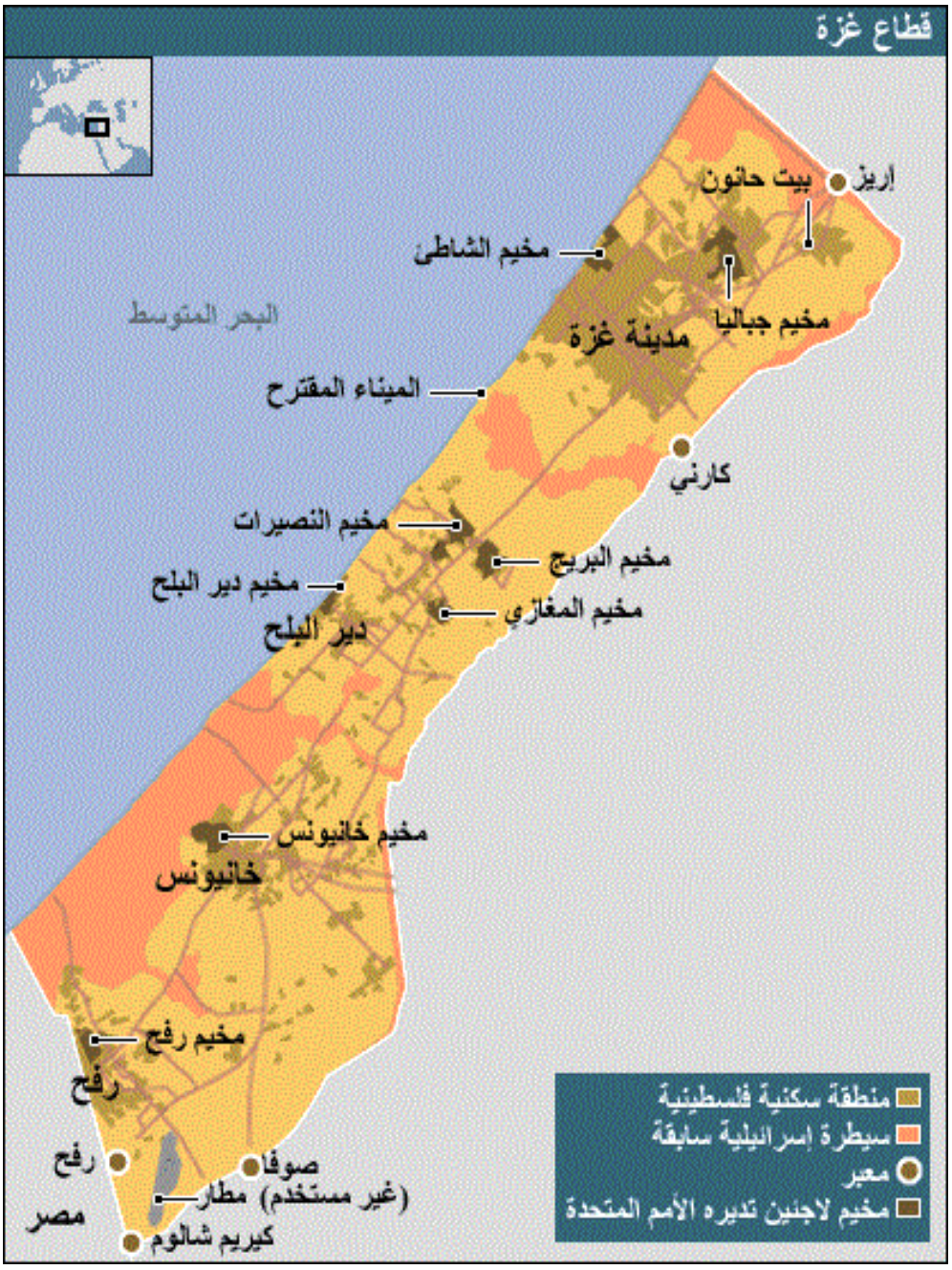
Wilson, J., Kennedy, K., Ewings, P., & Macdonagh, R. (2008). Analysis of consultant decision-making in the management of prostate cancer. Prostate cancer and prostatic diseases, 11(3), 288-293.

Wood, J. J., Metcalfe, C., Paes, A., Sylvester, P., Durdey, P., Thomas, M. G., & Blazeby, J. M. (2008). An evaluation of treatment decisions at a colorectal cancer multi-disciplinary team. Colorectal Disease, 10(8), 769-772.

Chapter 7

Annexes

Annex (1): Location Map of Gaza Strip



Al Seraj.net

Annex (2: Distribution of their work by multi-disciplines variables

Categories		Number	%
Place of work at Shifa hospital	Surgical hospital.	66	57.4%
	Medical hospital.	26	22.6 %
	Obstetric &Gynae.	15	13.0 %
	Radiological depts.	4	3.5%
	Pathology depts.	4	3.5%
	Total	**115**	**100%**
Surgical specialties	General surgery	29	43.9
	Chest surgery	4	6.1
	Orthopedic surgery	5	7.6
	Neurosurgery	4	6.1
	Urological surgery	8	12.2
	Colorectal surgery	3	4.5
	ENT surgery	6	9.1
	Maxillofacial surgery	4	6.1
	Burn & Plastic surgery	4	6.1
	Total	**66**	**100%**
Medical specialties	Endocrinology	3	11.5
	Neurology	2	7.7
	Hematology	5	19.2
	GIT & Liver	1	3.8
	Dermatology	2	7.7
	G. Medical	5	19.2
	Chest	3	11.5
	Nephrology	1	3.8
	Oncology	4	15.4
	Total	**26**	**100%**
Obstetrics & gynae. specialties	Gynecological surgery	13	86.7
	Gynecological	1	6.7
	Early screening unit	1	6.7
	Total	**15**	**100%**
Professional level	Specialist	26	22.6
	Senior specialist	34	29.6
	Consultant	25	21.7
	Senior consultant	30	26.1
	Total	**115**	**100.0**
Current job	Head of unit	5	4.3
	Head of division	2	1.7
	Head of dept	48	41.7
	Departments director.	3	2.6
	Hospital director	5	4.3
	Professional	48	41.7
	Others	2	1.7
	Total	**115**	**100.0**

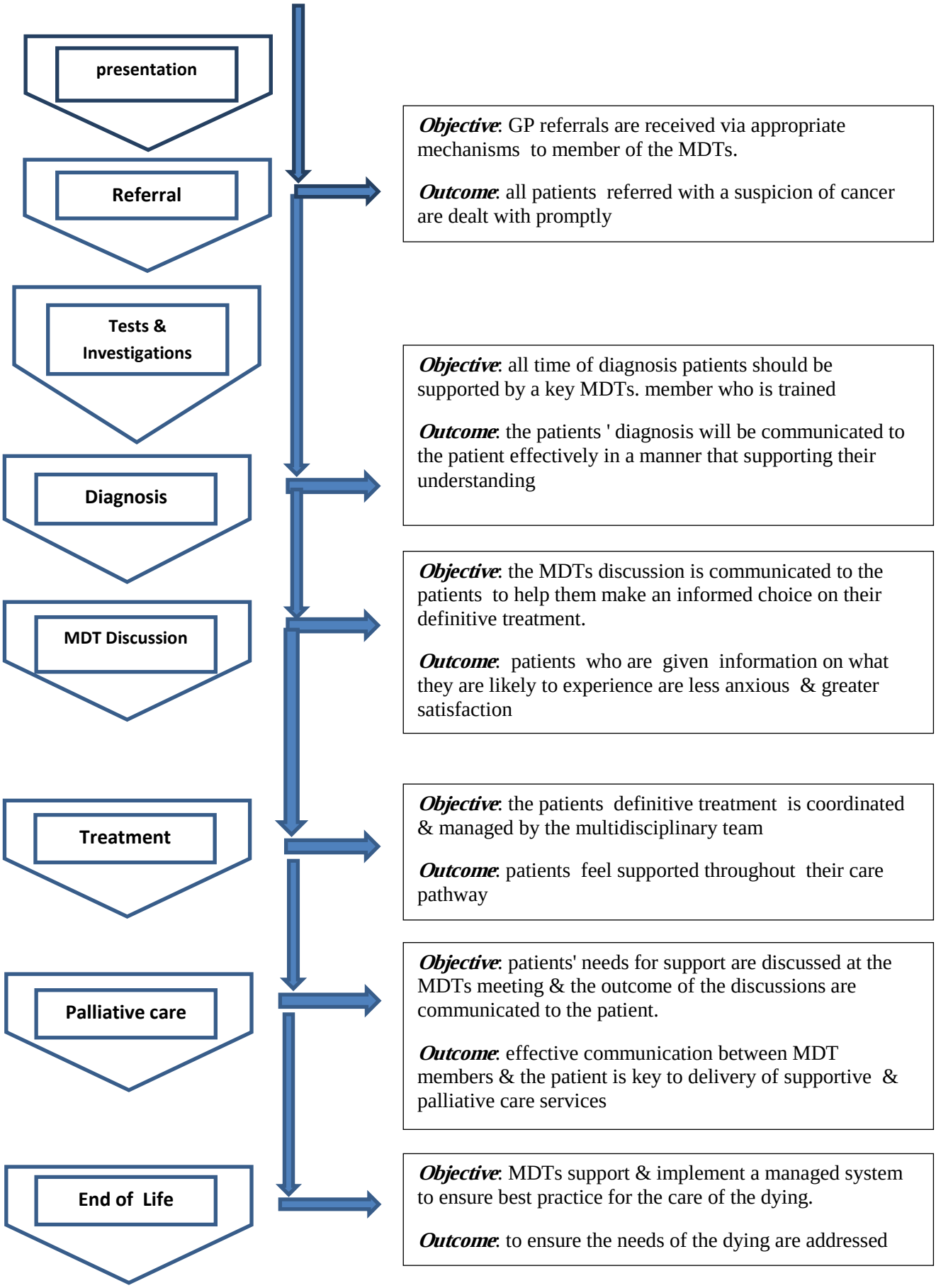
Categories		Number	%
Years of experience	**(Mean** 15.92**, S.D.,** 7.566, **Mode** 10) **years**		
	1-5 years	12	10.4
	6-10 years	20	17.4
	11-15 years	27	23.5
	16-20 years	32	27.8
	>20 years	24	20.9
	Total	115	100.0
Years of experience after specialization	**Mean** 11.03, **Mod**e, 20, **SD** 7.398		
	1-5years	33	28.7
	6-10 years	26	22.6
	11-15 years	27	23.5
	16-20 years	17	14.8
	>20 years	12	10.4
	Total	**115**	**100.0**

Annex (3) Measuring domains that are important for MDT effective functioning

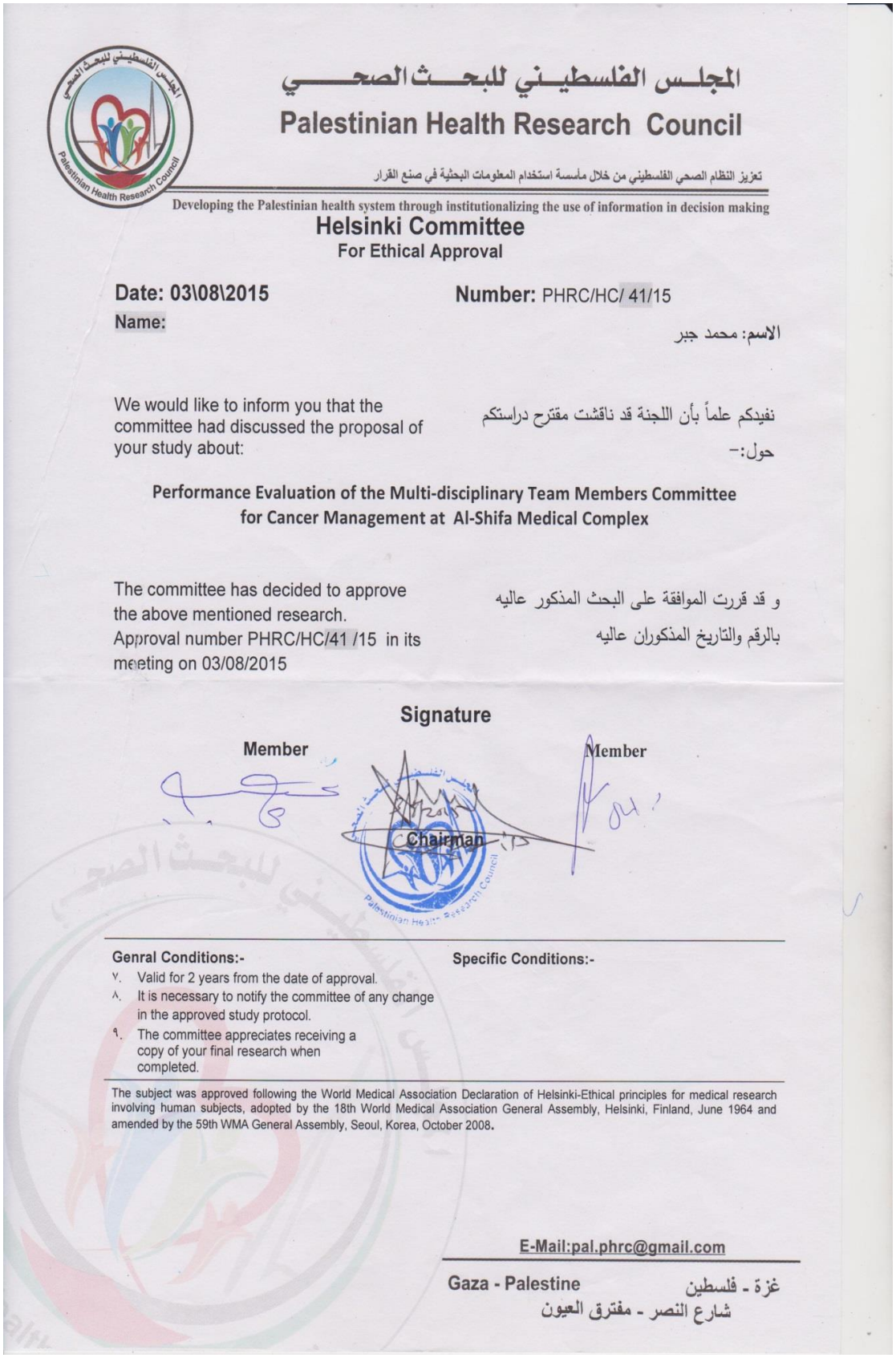
Annex (4) Multidisciplinary Team Meeting Flow Chart for cancer patient

Annex (5) The MDTs cancer communication Pathway Protocol

SE Wales Cancer Network , 2008



Annex(6): Ethical approval from Helsinki committee –Gaza governorate



المجلس الفلسطيني للبحث الصحي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee

For Ethical Approval

Date: 03\08\2015 **Number:** PHRC/HC/ 41/15

Name: الاسم: محمد جبر

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

Performance Evaluation of the Multi-disciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/41 /15 in its meeting on 03/08/2015

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member **Chairman** **Member**

Genral Conditions:-

٧. Valid for 2 years from the date of approval.
٨. It is necessary to notify the committee of any change in the approved study protocol.
٩. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

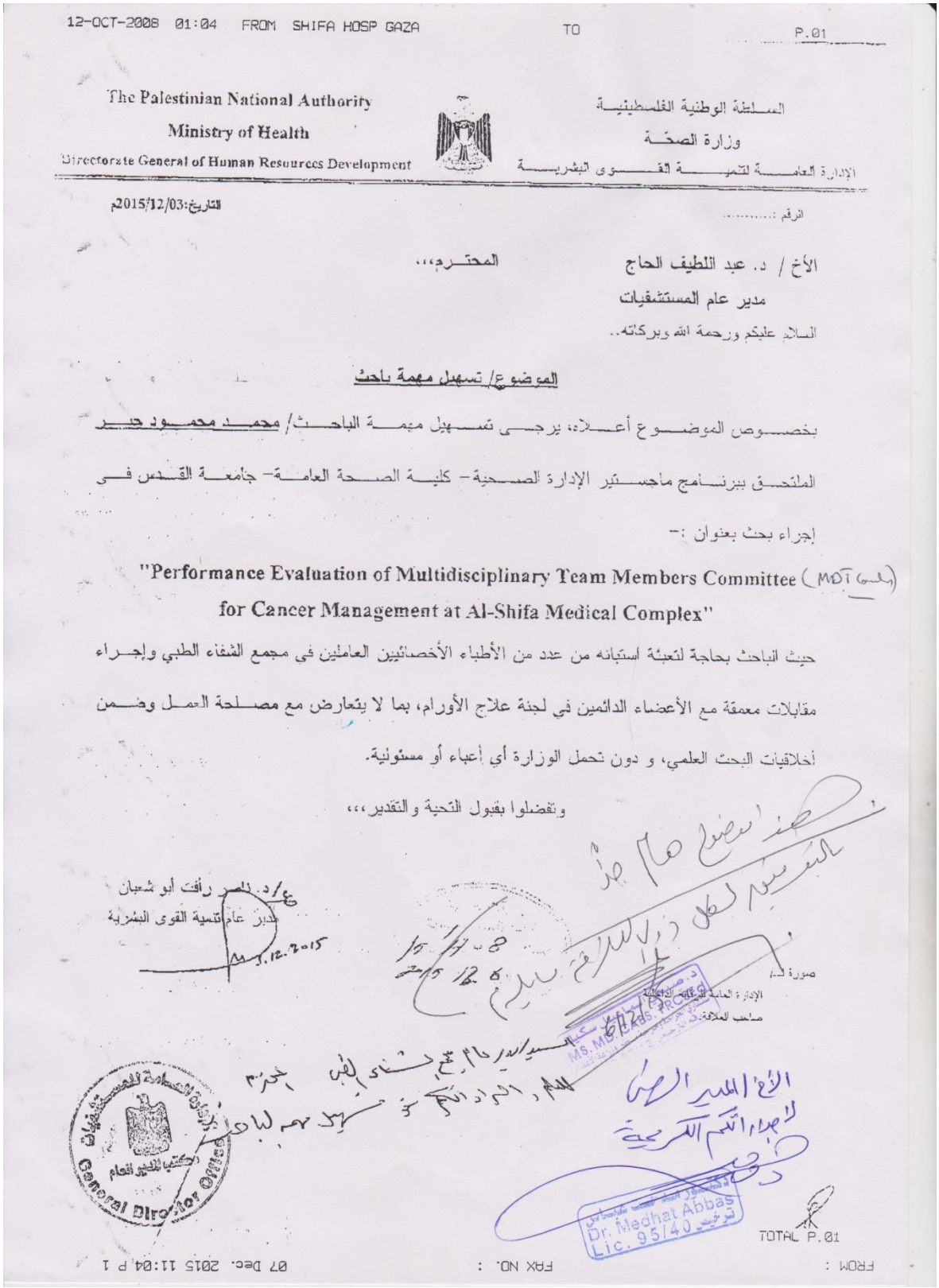
The subject was approved following the World Medical Association Declaration of Helsinki-Ethical principles for medical research involving human subjects, adopted by the 18th World Medical Association General Assembly, Helsinki, Finland, June 1964 and amended by the 59th WMA General Assembly, Seoul, Korea, October 2008.

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

Annex (7): Administrative approval from MOH



12-OCT-2008 01:04 FROM SHIFA HOSP GAZA TO P.01

The Palestinian National Authority
Ministry of Health
Directorate General of Human Resources Development

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة لتنمية القوى البشرية

التاريخ:2015/12/03م

الرقم:.....

الأخ / د. عبد اللطيف الحاج
مدير عام المستشفيات

المحترم،،،

السلام عليكم ورحمة الله وبركاته..

الموضوع/ تسهيل مهمة باحث

بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث/ محمد محمود حنر الملتحق ببرنامج ماجستير الإدارة الصحية- كلية الصحة العامة- جامعة القدس في إجراء بحث بعنوان :-

"Performance Evaluation of Multidisciplinary Team Members Committee (MDT) for Cancer Management at Al-Shifa Medical Complex"

حيث الباحث بحاجة لتعبئة استبانه من عدد من الأطباء الأخصائيين العاملين في مجمع الشفاء الطبي وإجراء مقابلات معمقة مع الأعضاء الدائمين في لجنة علاج الأورام، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، و دون تحمل الوزارة أي أعباء أو مسئولية.

وتفضلوا بقبول التحية والتقدير،،،

ع/د. ناصر رأفت أبو شعبان
مدير عام تنمية القوى البشرية
3.12.2015

صورة لـ:
الإدارة العامة للشئون الإدارية
صاحب العلاقة

Ms. Medhat Abbas
Dr. Medhat Abbas
Lic. 95/40

General Director Office

TOTAL P.01

07 Dec. 2015 11:04 P 1 FAX NO. : FROM :

Annex (8): Administrative approval from Al-Quds University- Jerusalem

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2015/7/26
الرقم/: ك ص ع –غ/7-6/2015

حضرة الدكتور ناصر أبو شعبان المحترم
مدير عام تنمية القوى البشرية–وزارة الصحة

تحية طيبة وبعد،،،

الموضوع: تسهيل مهمة للطالب محمد جبر

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

Performance Evaluation of the Multi-disciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex

كمتطلب للحصول على درجة الماجستير في الصحة العامة–مسار الإدارة الصحية وعليه نرجو التكرم بالموافقة والايعاز لمن يلزم بتسهيل مهمة الطالب بجمع البيانات الخاصة ببحثه من الأطباء الأخصائيين العاملين بمجمع الشفاء الطبي التابع لوزارتكم الموقرة علماً بأن المعلومات ستكون متوفرة لدى الباحث والجامعة فقط وسنطلعكم على النتائج في حينها .

واقبلوا فائق الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة
فرع غزة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-2799234
Gaza Branch/Telefax 08-2644220-2644210
P.O. box 51000 Jerusalem

فرع القدس / تلفاكس 02-2799234
فرع غزة / تلفاكس 08-2644220-2644210
ص.ب. 51000 القدس

Annex (9): Explanation about the study to the participants (English and Arabic):

جامعة القدس
برنامج الدراسات العليا - كلية الصحة العامة
تخصص الإدارة الصحية

Dear participant doctor ----------esquire.

Peace be upon you, and the mercy of Allah and His blessings . After ,,,

Subject: filling a questionnaire

We ask Allah the almighty that this questionnaire reach you and you will enjoy the best health and the best case.

Referring to the topic above, I put in your hands this questionnaire and as a research tool that developed to get results after studied and analyzed, to answer the questions of this research as a part of study requirements to complete a master's degree in health management path through the graduate program at the Faculty of Public health Al-Quds University (Abu Dees / Gaza) and on study of the subject entitled:

Performance Evaluation of Multidisciplinary Team Members Committee for

Cancer Management at Al-Shifa Medical Complex

The aim is to stand up to the current situation of cancer and oncology management at Al-Shifa Medical Complex through evaluation of the performance of the multidisciplinary cancer committee team members and to identify the level of health services provided to this category of patients.

The researcher intending to apply an interview questionnaire to collect the data needed for through the questionnaire that contain nine domains, each domain includes many questions focuses on the core of the study. I hope you to answer the question accurately and, giving your opinions on each statement as expressing your point of view to serve the research purpose. So I hope you to read all the statements and determine the number (1-2-3-4-5) to reflect your opinion to note that these figures the following meanings;

(5) Strongly agree, (4) Agree, (3) Neutral, (2) Disagree, (1) Strongly Disagree

Knowing that the information and data recorded and views that will be obtained from questionnaire will be make a deal with full privacy an restrict confidentiality for the participants to ensure that will remain secret, including not constitute a violation of their privacy within the sample of research selected will only be used for the purpose of scientific research.

Yours sincerely accept the thanks and appreciation for your cooperation meaningful & fruitful

Researcher

Mohamed Mahmoud Gabr

1

جامعة القدس
برنامج الدراسات العليا - كلية الصحة العامة
تخصص الإدارة الصحية

الأخ الدكتور / الأخت الدكتورة ----------الفاضل/ة ،،،

السلام عليكم ورحمة الله وبركاته . وبعد...

الموضوع / تعبئة استبانة

نسأل الله العلي القدير أن تصلكم هذه الاستبانة وأنتم تنعمون بأفضل صحة وأحسن حال .

بالإشارة للموضوع أعلاه أضع بين أيديكم هذه الاستبانة وذلك كأداة بحثية تهف تعبئتها إلى الحصول على نتائج بعد دارستها وتحليها للإجابة على أسئلة البحث الصحي كمتطلب استكمال الحصول على درجة الماجستير في مسار الإدارة الصحية من خلال برنامج الدراسات العليا بكلية الصحة العامة بجامعة القدس- أبوديس - غزة والمتعلق بدراسة موضوع بعنوان :

تقييم اداء أعضاء فريق اللجنة متعددة التخصصات لعلاج الأورام بمجمع الشفاء الطبي

Performance Evaluation of Multidisciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex

والتي تهدف إلى الوقوف على صورة وضع إدارة علاج الاورام بمجمع الشفاء الطبي من خلال تقييم عمل لجنة الاورام متعددة التخصصات بالمجمع والتعرف على مستوى الخدمات الصحية المقدمة لهذه الفئة من المرضى .

حيث أن الباحث بصدد تطبيق استبانة لجمع البيانات والمعلومات اللازمة لذلك ، وتشمل هذه الاستبانة تسعة محاور رئيسية ويتضمن كل محور مجموعة من الفقرات، فنأمل منكم تعبئتها بإجاباتكم أخذاً فيها الدقة والموضوعية بإبداء الراي في كل عبارة حسب ما يعبر عن وجهة نظركم بما يخدم الغرض البحثي المرجو تحقيقه .

لذا نأمل قراءة كل عبارة وتحديد رقم (1-2-3-4-5) ليعكس رأيكم علما بأن لهذه الأرقام المعاني الآتية:

(5) موافق بشدة ، (4) موافق ، (3) محايد ، (2) غير موافق ، (1) غير موافق بشدة .

مع العلم بأن المعلومات والبيانات المدونة والآراء التي سيتم الحصول عليها في هذه الاستبانة سوف يتم التعامل معها مع ضمان الخصوصية الكاملة للمشاركين وستظل سرية بما لا يشكل انتهاك لخصوصيتهم ضمن العينة الدراسية المختارة ولن تستخدم إلا لغرض البحث العلمي املين منكم أن تحظى هذه الدراسة بعنايتكم واهتمامكم ، لتكون سببا في نجاحها.

وتفضلوا بقبول خالص الشكر والتقدير على تعاونكم الهادف و المثمر

الباحث

محمد محمود جبر

1

Annex (10): The Questionnaire(English and Arabic)

Serial number : ☐

Date of filling questionnaire: ☐ / / **Date of data entry :** ☐ / /

Part one: (Socio- demographic data) Personal data						
S1	**Gender**	☐ Male		☐ Female		
S2	**Age in years**	☐ years old				
S3	**Marital status**	☐ Single	☐ Married	☐ Widow	☐ Divorced	
S4	**Address**	☐ North G	☐ Gaza city	☐ Middle zoon	☐ Khanyounis	☐ Rafah
S5	**Educational level**	☐ High diploma	☐ Master	☐ Board	☐ PhD	☐ Other:----------
S6	**Average monthly income of NIS for doctor**	☐ NIS				
Part two : Occupational & Professional data						
O1	**Place of work in Al-Shifa**	**Department / Unit**				
O1.A	☐ **Surgical hospital**	☐ General surgery	☐ Chest surgery	☐ Orthopedic surgery	☐ Neurosurgery	
		☐ Vascular surgery	☐ Cardiac surgery	☐ pediatric surgery	☐ Urological surgery	
		☐ Colorectal surgery	☐ ENT surgery	☐ Maxillofacial surgery		
		☐ Burn & Plastic surgery	☐ Other : select----------			
O1.B	☐ **Medical hospital**	☐ Endocrinology	☐ Neurology	☐ Cardiology	☐ Hematology	☐ GIT & Liver
		☐ Dermatology	☐ G. Medical	☐ Chest	☐ Nephrology	☐ Oncology
		☐ Other : select----------				
O1.C	☐ **Obstetric & Gynecological Hospital**	☐ Gynecological surgery	☐ Gynecological Endoscopy	☐ Early screening unit		
		☐ Other : select----------				
O1.D	☐ **Radiological departments**	☐ Ultrasound dept.	☐ CT-scan dept.	☐ Radiological diagnostic interfere dept		
		☐ Radiotherapy dept.	☐ Fluoroscopy dept.	☐ MRI dept.		
O1.E	☐ **Pathology dep.**	☐ Histopathology dept.	☐ Cytopathology dept.			
O2	**Branching of Sub-speciality:** ----------					
O3	**Currently the high grade profess.level**	☐ Specialist	☐ Senior specialist	☐ Consultant	☐ Senior consultant	
O4	**Current job position**	☐ Head of unit	☐ Head of division	☐ Head of dept.	☐ Departments director.	
		☐ Hospital director	☐ Professional practitioner	☐ General director	☐ Other:----------	
O5	**Total years of experience**	☐	O6	**Total years experience in other place before working at Al-Shifa M.C**	☐ Years	
O7	**Actual years of experince after obtaining specialist degree**				☐ Years	
O8	The number of scientific & technical committees at the MOH that you are currently sharing as permanent member which are non-related cancer **(as a core memebr)**				☐ Committee	
O9	The number of scientific & technical committees at the MOH that you currently participate in a month but is not related to cancer **(as a participant)**				☐ Committee	
O10	The number of educational & training programs that you are received about cancer, care management during the period of work in MOH at the last five years **(within the Ministry of Health).**				☐ Program	
O11	The number of educational & training programs that you are received in the cancer care management during the period of work in MOH at the last five years **(Outside the Ministry of Health).**				☐ Program	

2

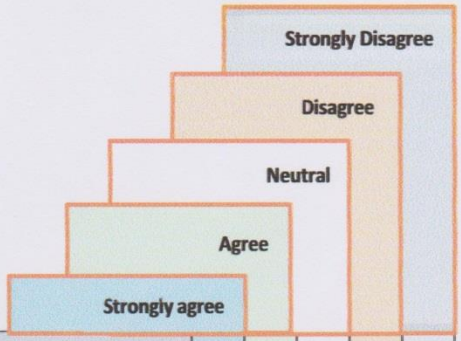
Part three: The performance data that related to multidisciplinary team cancer committee members								
P1	Number of times you participate in the MDTs committee monthly	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
P2	The number of cases that are discussed monthly through your department in the MDTs cancer committee					☐ Cases		
P3	The number of cases that are discussed & presented monthly by yourself through your department in the MDTs cancer					☐ Cases		
P4	The number of cancer cases that are involved your management / intervention a month without presented & without being discussed in MDTs committee through your department					☐ Cases		
P5	The number of cancer cases that are deferred discussed & not presented to the MDTs cancer committee regardless of the reason for the delay within two weeks of end diagnosis					☐ Cases		
P6	The number of cancer cases that are involved to implement the MDTs surgical / medical intervention decisions after two weeks of discussion in MDTs cancer committee					☐ Cases		
P7	The time expected in days to implement the MDTs cancer committee decisions & recommendations after discussing the case					☐ Days		
P 8	Are there cancer cases which discussed in MDTs meeting disappear or difficult to tracking before completion the follow up implementation of MDTs recommendations & decisions within two weeks from the date of discussion							
	☐ Yes	☐ No	☐ To some extent	☐ Don't know				
P8.A	If yes determine the cause::							
P8.B	determine what is the nature of these cases, if possible:							
P 9	Are there cancer cases postponed after taking the MDTs decisions / action plan for surgical or medical intervention more than two weeks after discussed from your department							
	☐ Yes	☐ No	☐ To some extent	☐ Don't know				
P9.A	If yes determine the cause:							
P9.B	Select what is the nature of these cases, if possible:							
P 10	Are there cancer cases not taking a final decision for medical or surgical intervention by the MDT's work after two weeks from discussed in MDTs cancer committee							
	☐ Yes	☐ No	☐ To some extent	☐ Don't know				
P10.A	If yes determine the cause:							
P10.B	Select what is the nature of these cases, if possible:							
P 11	Are there cancer cases taken recommendations by MDTs cancer committee after discussing that needs for further diagnosis & more instigations**(Investigations are not sufficient)** before making a final decision to determine the pathway/ action plan of the cancer management							
	☐ Yes	☐ No	☐ To some extent	☐ Don't know				
P11.A	If yes Select reason:							
P11.B	Determine what is the nature of these cases, if possible:							
P 12	Are your participation in the MDTs cancer committee helped to develop the regulations and protocols of work for cancer cases management in your department							
	☐ Yes	☐ No	☐ To some extent	☐ Don't know				

Part three: The performance data related to multidisciplinary team cancer committee members				
P13	The weekly meeting of the MDTs cancer committee meeting in hours are			☐ Hours
P 14	The time allocated for each weekly meeting of the MDTs committee enough to discuss all cases			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P15	The total number of cancer cases that are discussed weekly by the MDTs cancer committee in every meeting are :			☐ Cases
P16	The time period per minute are taken to prepare the cancer cases for the MDTs cancer meeting before the cases discussed at every meeting are :			☐ Minutes
P17	How long time takes to discuss one case per minute during the meeting of the MDTs cancer Committee meeting			☐ Minutes
P18	The number of research and scientific you participated previously related to the field of oncology, cancer services			☐ Paper/research
P 19	Are there a special performance indicators for MDTs cancer committee working			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P19.A	If yes, are follow up done to these indicators regularly			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 20	Following up & monitoring the survival rate indicator for cancer cases dissussed in MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 21	Are following & monitoring the mortality rate indicator for cncer cases dissussed in MDTs committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 22	Following up & monitoring the patients waiting time intervals indicator for completion of the diagnostic procedures of cancer cases before starting of cancer management			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 23	Following up & monitoring the patients waiting time indicator for starting of treatmnet intervention			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 24	Are following & monitoring the patients waiting time management indicator for completion of the treatment intervention according to MDTs cancer committee recommendations & decisions of action plan			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 25	Are following & monitoring of unexpected complications indicator that may occur in some cases that have been discussed by the MDTs cancer committee during & after the implementation of management plan			
	☐ Yes	☐ No	☐ No To some extent	☐ Don't know
P 26	Are following & monitoring the incidence rate indicator for new cancer cases that are presented on the MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 27	Are following & monitoring the number of old cancer cases rate indicator that are represented on the MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know

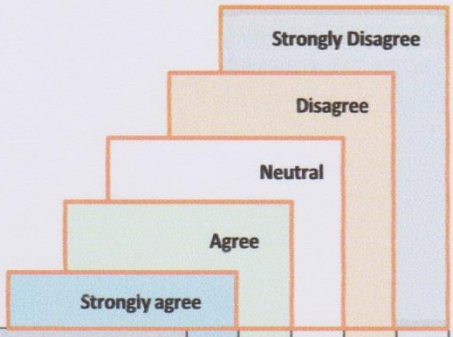
Part three: The performance data related to multidisciplinary team cancer committee members				
P 28	Are following & monitoring the length periods of time between diagnosis and treament of cancer patients indicator after presented and disscussed on MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 29	Are following & monitoring the attendance rate for the *core members of the MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 30	Are following & monitoring the attendance rate for the **non- core members of the MDTs cancer committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 31	Are the MDTs cancer committee decisions & recommendations positively support the decisions of other relevant committees to provide cancer services for cancer patients at MOH such as refferal abraod			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 32	Are the MDTs cancer committee decisions positively support the cancer care strategy in MOH			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 33	Are the MDTs cancer committee meetings contribute to the exploitation of the possibilities and resources avilable to better diagnosis for cancer patients			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 34	Are the decisions & recommendations emanating from the MDTs cancer committee window bound implementation for all participants & HCPs to provide diagnostic and treatment services inside the Al-Shifa Medical Complex			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 35	Is there an active training role played by the MDTs cancer committee toward the development of professional skills related to cancer patients management			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know
P 36	If the answer (yes) select the category of targeted training / categories are : ----------,----------,----------,---------- ----------,----------,----------,----------			
P 37	Is the* core members of the MDTs cancer committee involved & participate in the training process, through to express an opinion during meetings of the Committee			
	☐ Yes	☐ No	☐ To some extent	☐ Don't know

* Core members : are the 26 permanent members of the MDT cancer committee.

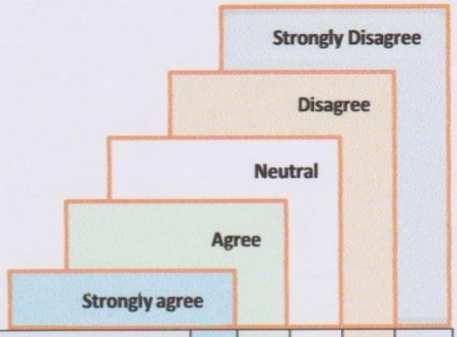
** Non-core members :are all specialists working in all departments of the hospitals at Al-Shifa Medical Complex



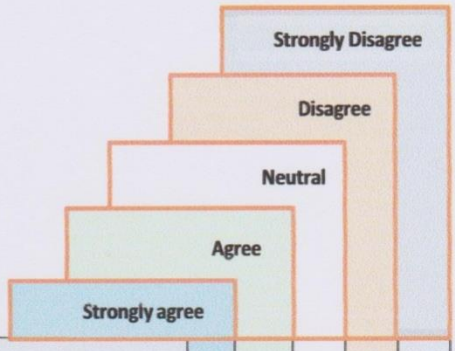
1. Preparation for MDTs cancer meeting stages		5	4	3	2	1
1.A Preparation for MDTs cancer committee (Pre-meeting stage)						
A.1	Weekly MDTs cancer committee meeting time is appropriate					
A.2	The MDT cancer committee meetings place is appropriate					
A.3	Supporting logistics MDT cancer meetings forms are available & clear					
A.4	MDTs cancer meeting rooms have equipment for projecting and viewing radiology images					
A.5	MDTs meetings need to be able to access retrospective pathology reports					
A.6	The agenda of MDTs cancer meeting are circulated prior to the meeting					
A,7	The cancer patients lists are formulated and circulate prior to the meeting					
A.8	All case notes/reports/images, past and present, medical records are available for all MDT members before any meeting					
A.9	A minimum dataset of diagnostic information (pathology and radiology) for each patient are available before the meeting					
A.10	The cancer medical files for the MDTs patients are formulated and circulate prior to the meeting					
A.11	The MDTs cancer committee reports & data are timely disseminated for all the committee members pre the meetings					
A.12	The MDTs cancer urgent cases are brought firstly forward for discussion					
1.B Preparation for MDTs cancer committee (during-meeting stage)						
B.1	The MDT cancer committee uses MDTs forms to document the meeting process					
B.2	The comments are writing & signing / date proforma "forms" which will be collected by the MDTs coordinator member during the meeting					
B.3	The Notes are taken transparently during the meetings					
B.4	The time of MDT cancer meeting is well organized					
B.5	Projection for radiology images is available during meeting					
B.6	Projection for pathology samples & reports is available during meeting					
B.7	During the meeting all treatment decisions are shared with MDT cancer *core & **non-core members (previous / current decisions)					
B.8	Allocated times for discussing cases are and more time can be spent for discussing complex cases					



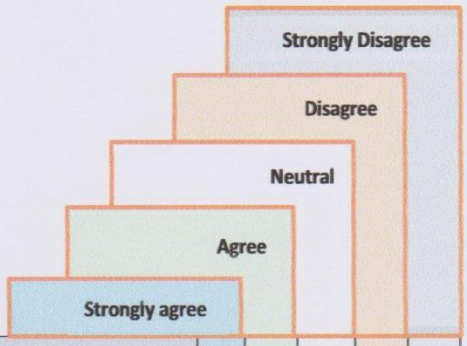
		5	4	3	2	1
1.B Preparation for MDTs cancer committee (during-meeting stage)						
B.9	Cases are grouped on the MDTs meeting agenda, e.g. new case, follow-up, by complexity, by tumor type etc..					
B.10	Standard MDTs cancer pro-forma documentation are used when electronic databases are not available during the meeting					
1.C Preparation for MDTs cancer committee (post-meeting stage)						
C.1	All MDTs* core members recommendations for the MDTs cancer cases are circulated after meeting related to care services					
C.2	All MDTs* core members follow up the decisions of cases after meeting					
C.3	Case summaries are collected after the MDT cancer committee meeting.					
C.4	Information about patients to be discussed are collected and summarized after the MDT cancer committee meeting					
C.5	The MDTs patient lists and decisions are circulated after the meeting					
C.6	All MDTs forms are completely filled immediately and circulated after MDTs meeting					
C.7	Cancer cases are arranged for plan actions after MDTs discussion					
C.8	The clinic appointments are made and dates for surgery arranged after MDT cancer committee meetings					
C.9	All the MDTs cases need to be referral abroad are coordinated according to MDTs recommendations					
1.D The Structure of MDTs cancer committee						
D.1	MDTs cancer patients pathway is clear and appropriate					
D.2	MDTs Documented decisions are project the viewing for all *core and **non-core members					
D.3	All specialties are included in MDTs cancer committee					
D.4	**Non-core members in MDTs cancer committee have clearly articulated goals and understand their roles and responsibilities					
D.5	The skills of non-core members overlap sufficiently so that work can be shared when necessary in MDTs cancer meetings.					
D.6	**Non –core members within your unit share information that enables timely decision making by the direct cancer patient care team					



1.D The Structure of MDTs cancer committee		5	4	3	2	1
D.7	The organizational structure of the MDT cancer committee is clear & taking into the inclusion of most important specialists of cancer care					
D.8	The structure of the MDT cancer committee is well known, documented and distributed to all specialists taking care of cancer patients					
D.9	The structure & policy of the MDT cancer committee for cancer patients are descriptive and included in the process of employing specialists in the hospital among their job description					
D.10	There are administrative staff to manage and coordinate MDT cancer committee activities					
2. MDTs organization , administration & Leadership						
2.1	MDT ** non-core member is not obligatory to attend all meetings unless I have a new cases					
2.2	MDT *Core members attend for the full meeting and not just for the cases directly relevant to them.					
2.3	The high managerial level supporting the MDT cancer *core members are working as important role					
2.4	Any * core member of the MDTs could be the chair/lead in the absence of the head of MDT cancer committee					
2.5	The lead of MDT cancer committee should be a consultant/ senior oncologist or senior surgeon specialist.					
2.6	There are agreed guidelines for how an MDTs cancer committee operates, how members work together etc.					
2.7	Accepting the legal responsibility of the treating clinician, MDT cancer committee are accountable for treatment recommendations					
2.8	My supervisor/ manager provide opportunities to discuss the MDTs cases in unit/ department after an event.					
2.9	My supervisor/ manager take time to meet with staff to develop a plan for cancer patients before and after MDTs cancer-meetings.					
2.10	My supervisor/ manager models appropriate MD team behavior					
2.11	Senior specialist cancer care representation is essential at every MDTs cancer meeting					
2.12	The MDTs as a whole has active role in tracking patients through the cancer care pathway					
2.13	MDT cancer committee have an important active role in the cancer waiting time for cancer management					
2.14	MDTs cancer committee collect and use defined minimum datasets (hospital based cancer registration).					



3. Communication & Coordination		5	4	3	2	1
3.1	The relationship between the leader and the MDTs cancer committee coordinator is key to ensuring the meeting runs effectively					
3.2	Feedback between members & staff is delivered in a way that promotes positive interactions and future change					
3.3	Information regarding cancer patient care is explained to all non -members and staff by the core member in relevant way & terms					
3.4	All MDT non-core members relay relevant information in a timely manner					
3.5	When communicating with MDT cancer core – members , they allow enough for your questions					
3.6	MDTs non-core members verbally verify information that they receive from one another					
3.7	All MDTs core members follow a standardized method of sharing information when handing off cancer patients					
3.8	Care plans are communicated to other health professionals in the treatment pathway within a locally agreed timeframe					
3.9	All outcomes are recorded on a database and reviewed regularly by the MDT cancer coordinator					
3.10	MDTs core members seek information from all available sources					
3.11	There are agreed mechanisms for the MDT cancer committee to access/contact the specialist cancer care team for advice when needed					
3.12	Any patient on the MDTs cancer list not discussed (notes, films, results missing or lack of time) are automatically added to the next week's list					
4. MDTs Case management and clinical decision making						
4.1	The MDTs cancer committee consider all clinically appropriate treatment options even if they cannot offer/provide them locally					
4.2	Patient's management based on evidence base medical practice (international protocols & guidelines).					
4.3	Standard treatment protocols for patients are used whenever possible					
4.4	In-hospitals formal protocols are needed to manage referral of patient cases between MDTs cancer committee					
4.5	All cancer patients with recurrence/progressive disease are discussed by an MDTs cancer meeting					
4.6	The MDTs cancer committee are always been notified if their treatment recommendations are not implemented					



4. MDTs Case management and clinical decision making		5	4	3	2	1
4.7	Staff continuously scan the environment for important information that effect on clinical decision making					
4.8	The supervisor/ manager meets to reevaluate cancer patients care goals when aspects of the situation have changed					
4.9	The supervisor/ manager and specialists share information regarding potential complications (e.g. patient changes, bed availability).					
4.10	Requests for tests and treatments are recorded, documented during the MDTs cancer meeting report (session).					
4.11	The MDTs cancer committee as a whole has an active role in tracking patients through the cancer care pathway					
4.12	Majority agreement of a treatment recommendation is acceptable					
4.13	The MDTs cancer team more supporting for oncologists in his treatment decision					
4.14	The MDTs cancer decisions are benchmarked against those of similar MDTs					
4.15	A clinician is able to bring the case of a private patient to the MDT cancer committee for discussion at the meeting					
4.16	If a patient chooses a treatment that is not in line with MDT cancer committee recommendations this is recorded					
4.17	Decisions & recommendations which emanating from MDTs cancer committee are bound and obligatory implementation for all HCPs those involved in providing services cancer patients window					
4.18	MDTs have an active role in reducing of cancer waiting time					
4.19	The MDTs are responsible for collecting key information that directly affects treatment decisions (e.g. staging and co-morbidity)					
4.20	The MDTs cancer committee identifies and manage all types of cancer patients					
4.21	The MDT cancer committee provides treatment and follow up for any types of cancer patients and ensure to receives multi-disciplinary management with appropriate oncological input for each one					
4.22	MDT cancer committee decisions improve health outcomes for cancer cases					
4.23	Without the MDT cancer committee the clinical decisions are much worse					
4.24	MDT cancer committee improve evidence-based treatment decisions					

5. What are (the main five pillars) that need to be improved working of MDTs cancer care committee in Al-Shifa Medical Complex?

1.

2.

3.

4.

5

6. What are the main challenges & obstacles in the working of MDTs cancer committee in Al-Shifa Medical Complex?

1.

2.

3.

4.

5

.

6.

الرقم المسلسل :

تاريخ تعبئة الاستبيان : / /

تاريخ إدخال للبيانات: / /

الجزء الأول : البيانات الشخصية (الوظيفية)						
S1	**الجنس**	☐ ذكر			☐ انثى	
S2	**العمر بالسنوات**	سنة				
S3	**الحالة الاجتماعية**	☐ أعزب / ة	☐ متزوج / ة	☐ أرمل / ة	☐ منفصل / ة	
S4	مكان السكن	☐ شمال	☐ غزة	☐ وسطى	☐ خانيونس	☐ رفح
S5	**المستوى التعليمي**	☐ دبلوم عالي	☐ ماجستير	☐ بورد	☐ دكتوراة	☐ أخرى
S6	**متوسط الدخل الشهري للطبيب نفسه بالشيكل**	شيكل				
الجزء الثاني : البيانات المهنية (الوظيفية)						
O1	**مكان العمل داخل المجمع**	**القسم المعني / الوحدة**				
O1. A	☐ مستشفى الجراحة	☐ جراحة عامة	☐ جراحة صدر	☐ جراحة العظام	☐ جراحة مخ وأعصاب	
		☐ جراحة أوعية	☐ جراحة قلب	☐ جراحة أطفال	☐ جراحة مسالك بولية	
		☐ جراحة المستقيم والشرج	☐ جراحة أنف وأذن وحنجرة	☐ جراحة الوجه والفكين		
		☐ جراحة الحروق والتجميل	☐ أخرى حدد:----------			
O1. B	☐ مستشفى الباطنة	☐ غدد صماء	☐ باطنة أعصاب	☐ باطنة قلب	☐ أمراض الدم	☐ كبد وجهاز هضمي
		☐ جلدية	☐ باطنة عامة	☐ صدرية	☐ أمراض كلى	☐ الأورام ☐ أخرى حدد:----------
O1. C	☐ مستشفى الولادة	☐ جراحة أمراض النساء	☐ جراحة مناظير النساء	☐ وحدة الفحص المبكر وعنق الرحم		
		☐ أخرى حدد:----------				
O1. D	☐ دائرة أقسام الأشعة	☐ الأشعة التلفزيونية	☐ الأشعة المقطعية	☐ الأشعة التشخيصية التداخلية		
		☐ الأشعة العلاجية	☐ الأشعة الملونة	☐ الأشعة الطبقية المحورية	☐ أشعة تصوير الثدي	
O1. E	☐ دائرة الباثولوجي	☐ علم الأمراض النسيجية (هيستوباثولوجي)		☐ علم أمراض الخلايا (سيتولوجي)		
O2	التخصص الطبي المنفرد					
O3	**درجة مستوى الترفيع المهني حاليا**	☐ أخصائي	☐ أخصائي أول	☐ استشاري	☐ استشاري أول	
O4	**المسمى الوظيفي الحالي**	☐ رئيس وحدة	☐ رئيس شعبة	☐ رئيس قسم	☐ مدير دائرة	☐ مدير مستشفى ☐ ممارس مهني
		☐ مدير عام	☐ أخرى حدد:----------			
O5	سنوات الخدمة الفعلية الأجمالية		**سنوات الخدمة في مكان آخر قبل مجمع اشفاء الطبي**		سنة	
O7	سنوات الخدمة الفعلية بعد الحصول على درجة أخصائي فأعلى				سنة	
O8	عدد اللجان العلمية و الفنية في وزارة الصحة التي أنت عضو دائم فيها حاليا غير ذات العلاقة بالأورام				لجنة	
O9	عدد اللجان العلمية و الفنية بوزراة الصحة التي تشارك أنت فيها شهريا غير ذات العلاقة بالأورام				لجنة	
O10	عدد البرامج العلمية و التدريبية التي تلقيتها في مجال رعاية وعلاج الأورام والسرطان خلال فترة العمل بوزارة الصحة آخر خمس سنوات *(داخل وزراة الصحة)*				برنامج	
O11	عدد البرامج العلمية والتدريبية التي تلقيتها في مجال رعاية وعلاج الأورام والسرطان خلال فترة العمل بوزارة الصحة آخر خمس سنوات *(خارج وزارة الصحة)*				برنامج	

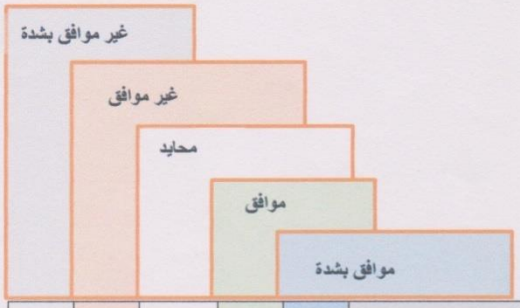
الجزء الثالث : البيانات ذات العلاقة بأداء أعضاء فريق اللجنة متعددة التخصصات MDTs							
P1	عدد مرات مشاركتك في حضور لجنة MDT شهريا	☐ ٠	☐ ١	☐ ٢	☐ ٣	☐ ٤	☐ ٥
P2	عدد الحالات التي يتم مناقشتها من خلال قسمك في لجنة الاورام شهريا						
P3	عدد الحالات التي يتم مشاركتك و عرضك لها شخصيا على لجنة الأورام شهريا ب من خلال قسمك المعني						
P4	عدد الحالات التي تشارك بعلاجها شهريا دون عرضها ودون ان يتم مناقشتها مع من خلال لجنة الاورام						
P5	عدد الحالات التي يتم تأجيل مناقشتها و عرضها على اللجنة بغض النظر عن سبب التأجيل خلال أسبوعين من التشخيص						
P6	عدد الحالات التي تشارك بها لتنفيذ قرار اللجنة لإجراء تدخل طبي أو جراحي بعد مناقشتها بأسبوعين						
P7	الزمن المتوقع بالأيام لتنفيذ قرارات لجنة الاورام وتوصياتها بعد مناقشة الحالة		يوم				
P 8	عدد حالات الأورام التي يتم مناقشتها وتختفي ويصعب تتبعها قبل تنفيذ القرار الطبي للجنة وتوصياتها خلال أسبوعين من تاريخ المناقشة	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P8.A	إذا كانت الإجابة بنعم حدد السبب :						
P8.B	حدد ما هي طبيعة هذه الحالات إن أمكن						
P 9	هل هناك الحالات يتم تأجيل تنفيذ قرار اللجنة أكثر من أسبوعين لإجراء تدخل طبي أو جراحي بعد مناقشتها من قبل قسمك المعني	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P9.A	إذا كانت الإجابة بنعم حدد السبب :						
P9.B	حدد ما هي طبيعة هذه الحالات إن أمكن						
P 10	هل هناك حالات أورام لا يتم أخذ قرار نهائي لها من خلال عمل اللجنة لإجراء تدخل طبي أو جراحي بعد مناقشتها بأسبوعين	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P10. A	إذا كانت الإجابة بنعم حدد السبب :						
P10. B	حدد ما هي طبيعة هذه الحالات إن أمكن						
P 11	هل هناك حالات أورام يتم إتخاذ توصيات من قبل اللجنة بعد مناقشتها بأنها تحتاج لمزيد من التشخيص والفحوصات(الفحوصات غير كافية) قبل إتخاذ قرار نهائي للتحديد مسار العلاج للحالة	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P11. A	إذا كانت الإجابة بنعم حدد السبب :						
P11. B	حدد ما هي طبيعة هذه الحالات إن أمكن						
P 12	هل مشاركتك في لجنة الاورام ساعد في تطوير لوائح وبروتوكوت العمل في علاج حالات الأورام السرطانية بقسمك .	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P13	مدة اللقاء الأسبوعي لأجتماع لجنة الأورام بالساعات هي		ساعة				
P 14	هل الزمن الذي المخصص للقاء الواحد أسبوعيا في لجنة الأورام كافي لمناقشة جميع الحالات	☐ نعم	☐ لا	☐ إلى حد ما	☐ لا أعلم		
P15	عدد حالات الأورام الذي يتم مناقشته أسبوعيا باللقاء الواحد للجنة الأورام هو		حالة				
P16	الزمن الذي تستغرقه بالدقيقة للتحضير للحالات قبل مناقشتها في كل اجتماع للجنة الأورام		دقيقة				
P17	الزمن الذي يستغرقه مناقشة الحالة الواحدة بالدقيقة في اللقاء الواحد أثناء إجتماع الجنة هو		دقيقة				
P18	عدد الأبحاث أو الأوراق العلمية التي شاركت فيها في مجال الأورام والسرطان سابقا هو		بحث				

الجزء الثالث : تابع البيانات ذات العلاقة بأداء أعضاء فريق اللجنة متعددة التخصصات MDTs					
P 19	هل يوجد نظام مؤشرات أداء خاص بلجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P19.A	إذا كانت الإجابة بنعم هل يتم متابعة تلك المؤشرات بإنتظام	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 20	هل يتم متابعة مؤشرات معدل (الحياة) (Survival rate) للحالات التي تعرض على اللجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 21	هل يتم متابعة مؤشرات معدل (الوفيات) (Mortality rate) للحالات التي تعرض على اللجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 22	هل يتم متابعة مؤشرات معدلات انتظار مرضى الاورام لاستكمال للتشخيص قبل البدء بالعلاج للحالات التي تعرض على اللجنة	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 23	هل يتم متابعة مؤشرات معدلات انتظار مرضى الاورام للبدء بالعلاج	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 24	هل يتم متابعة مؤشرات معدلات انتظار مرضى الاورام لاستكمال العلاج المقرر حسب توصيات وخطة علاج التي وضعتها اللجنة	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 25	هل يتم متابعة مؤشرات المضاعفات الغير متوقع حدوثها لبعض الحالات التي تم مناقشتها من قبل اللجنة أثناء أو بعد تنفيذ خطة العلاج لها	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 26	هل يتم متابعة مؤشرات معدلات حدوث حالات الأورام الجديدة التي تعرض على لجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 27	هل يتم متابعة مؤشرات معدلات الحالات الأورام المتابعة التي عرضت أكثر من مرة على اللجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 28	هل يتم متابعة مؤشرات الفترة الزمنية بين التشخيص والعلاج لحالات الأورام بعد العرض على اللجنة	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 29	هل يتم متابعة مؤشر معدلات الحضور *للأعضاء الدائمين للجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 30	هل يتم متابعة مؤشر معدلات الحضور **للأعضاء غير الدائمين للجنة الأورام متعددة التخصصات	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 31	هل قرارت لجنة الأورام وتوصياتها تدعم إيجابا قرارت اللجان الأخرى ذات العلاقة بتقديم الخدمات لهذه الفئة بوزارة الصحة مثل لجنة العلاج بالخارج	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 32	هل تساهم لجنة الأورام في استغلال إمكانيات وموارد التشخيص المتاحة بشكل أفضل لمرضى الأورام بوزارة الصحة	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 33	هل تدعم لجنة الأورام متعددة التخصصات استراتيجية رعاية مرضى السرطان بوزارة الصحة بشكل إيجابي	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 34	هل تعتبر قرارت وترصيات المنبثقة عن لجنة الأورام نافذة وملزمة التنفيذ لكافة الجهات المشاركة وذوي العلاقة بتقديم خدمات التشخيص والعلاج داخل مجمع الشفاء الطبي	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 35	هل هناك دور تدريبي تقوم به للجنة الأورام إتجاه تطوير المهارات الطبية المهنية ذات العلاقة بعلاج مرضى الأورام	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم
P 36	إذا كانت الإجابة (بنعم) حدد الفئة / الفئات المستهدفة من التدريب :-.----------				
P 37	هل يشارك *الأعضاء الدائمين للجنة الأورام في عملية التدريب وذلك من خلال إبداء الرأي خلال لقاءات اللجنة	☐ نعم	☐ لا	☐ إلى حدٍ ما	☐ لا أعلم

*الأعضاء الدائمين للجنة : هم ٢٦ عضو دائم أساسين للجنة لأورام متعددة التخصصات داخل مجمع الشفاء الطبي

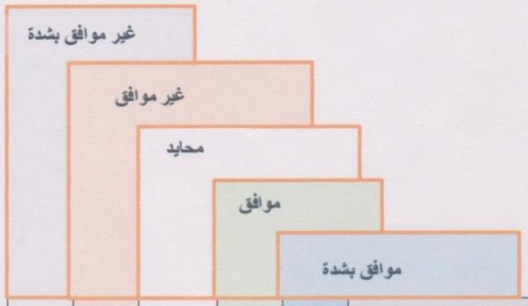
** الأعضاء غير الدائمين للجنة : هم كافة الأخصائيين العاملين بأقسام مجمع الشفاء الطبي

٤

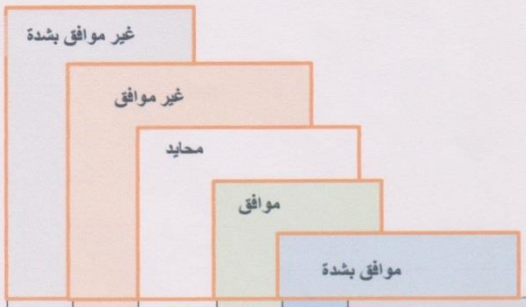


١	٢	٣	٤	٥	1.مراحل التحضير للقاء لجنة الأورام متعددة التخصصات MDTs	
					1.A مرحلة التحضير لما قبل اللقاء للجنة الأورام متعددة التخصصات	
					وقت اللقاء الأسبوعي للجنة الأورام متعددة التخصصات ملائم	A.1
					مكان اللقاء للجنة الأورام متعددة التخصصات ملائم	A.2
					مكونات الدعم اللوجستي للجنة الأورام متعددة التخصصات واضحة ومتوفرة	A.3
					قاعة أو غرف اللقاء للجنة الأورام تحتوي على الأدوات ووسائل العرض والمشاهدة للصور الشعاعية	A.4
					لقاءات لجنة الأورام متعددة التخصصات تحتاج للقدرة على الوصول لتقارير الباثولوجي بشكل مسبق	A.5
					أجندة لقاء لجنة الأورام متعددة التخصصات يتم تعميمها قبل الاجتماع	A.6
					قائمة مرضى السرطان يتم صياغتها وتعميمها قبل لقاء لجنة الأورام متعددة التخصصات	A.7
					كل ملاحظات حالة الأورام وتقاريرها وصورها التشخيصية السابقة والحالية والسجل الطبي يتم توافرها لأعضاء لجنة الأورام متعددة التخصصات قبل اللقاء	A.8
					الحد الدنى من مجموعة البيانات للمعلومات التشخيصية (الباثولوجي و الشعاعية) تكون متوفرة لكل مريض قبل لقاء المناقشة للجنة الأورام متعددة التخصصات	A.9
					الملفات الطبية لمرضى الأورام يتم صياغتها وتعميمها أو تمرر قبل لقاء لجنة الأورام متعددة التخصصات	A.10
					تقارير وبيانات لجنة الأورام متعددة التخصصات يتم نشرها في الوقت المناسب قبل اللقاءات أعضاء اللجنة	A.11
					الحالات الطارئة يتم تحضيرها أولاً للمناقشة من قبل لجنة الأورام متعددة التخصصات	A.12
					1.B مرحلة التحضير أثناء اللقاء للجنة الأورام متعددة التخصصات	
					تستخدم لجنة الأورام متعددة التخصصات نماذج لتوثيق عملية اللقاء أثناء المناقشة	B.1
					التعليقات يتم كتابتها والتوقيع عليها بتاريخه على نماذج لجنة الأورام متعددة التخصصات بعد جمعها من قبل منسق اللجنة أثناء اللقاء	B.2

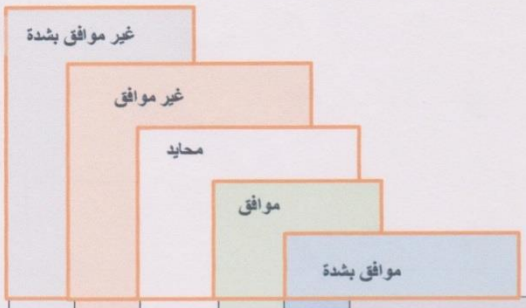
٥



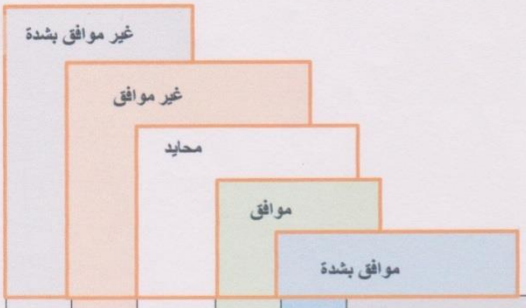
١	٢	٣	٤	٥	1.مراحل التحضير للقاء لجنة الأورام متعددة التخصصات MDTs	
					1.B مرحلة التحضير أثناء اللقاء للجنة الأورام متعددة التخصصات	
					الملاحظات يتم أخذها وتدوينها بشفافية أثناء اللقاء	B.3
					زمن اللقاء يتم تنظيمه بشكل جيد أثناء اللقاء	B.4
					يتوفر عرض الصور الشعاعية أثناء اللقاء	B.5
					يتوفر عرض عينات الباثولوجي وتقاريرها أثناء اللقاء	B.6
					يتم إشراك الأعضاء الدائمين والغير دائمين للجنة الأورام متعددة التخصصات بكافة القرار ات العلاجية السابقة والحالية	B.7
					يتم استثمار الوقت لمناقشة الحالات المعقدة والتي تستغرق وقتاً أكثر لمناقشتها أثناء اللقاء	B.8
					يتم تجميع ووضع الحالات في أجندة اللقاء على شكل قوائم حسب نوعها (الحالات الجديدة ، الحالات المتابعة القديمة ، الحالات المعقدة ، حسب نوع الورم السرطاني)	B.9
					هناك استخدام ذو مقياس لتوثيق معلومات نموذج لجنة الأورام متعددة التخصصات عندما لا تتوفر قاعدة بيانات إلكترونية أثناء اللقاء	B.10
					1.C مرحلة التحضير بعد اللقاء للجنة الأورام متعددة التخصصات	
					يتم توزيع وتمرير كافة توصيات أعضاء لجنة الأورام متعددة التخصصات بعد اللقاء حسب نوع خدمة الرعاية الموصي بها	C.1
					كل الأعضاء الدائمين للجنة الأورام متعددة التخصصات القرارات المتخذة للحالات بعد اللقاء	C.2
					ملخصات الحالة يتم جمعها بعد عرض اللقاء للجنة الأورام متعددة التخصصات	C.3
					معلومات المرضى التي تم مناقشتها في لقاء اللجنة يتم تلخيصها وتجميعها بعد لقاء لجنة الأورام متعددة التخصصات	C.4



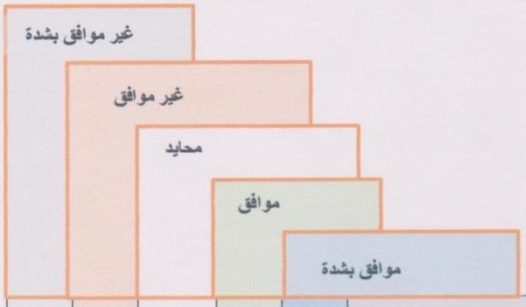
		٥	٤	٣	٢	١
1.مراحل التحضير للقاء لجنة الأورام متعددة التخصصات MDTs						
1.C مرحلة التحضير بعد اللقاء للجنة الأورام متعددة التخصصات						
C.5	قائمة المرضى وقراراتها التي تم مناقشتها في لجنة الأورام متعددة التخصصات يتم توزيعها بعد اللقاء					
C.6	كل النماذج الخاصة بلجنة الأورام متعددة التخصصات يتم استكمالها وتعبئتها بشكل لحظي وتوزيعها بعد اللقاء للجنة					
C.7	كل حالات الأورام بعد مناقشتها في لقاء اللجنة يتم ترتيبها من أجل الخطط العلاجية أو التداخلية التي تم أتخاذها					
C.8	يتم ترتيب وعمل مواعيد لزيارة العيادة المعنية وترتيب تاريخ للتدخل الجراحي بعد لقاءات لجنة الأورام متعددة التخصصات					
C.9	كل حالات الأورام التي تم مناقشتها وتحتاج لتحويل للعلاج بالخارج يتم التنسيق لها حسب توصيات لجنة الأورام متعددة التخصصات					
1.D الهيكل التنظيمي للجنة الأورام متعددة التخصصات MDTs						
D.1	طريق وصول حالات السرطان للجنة الأورام متعددة التخصصات وواضحة ومناسبة					
D.2	القرارات الموثقة لجنة الأورام متعددة التخصصات التي اتخذت يتم عرضها ومشاهدتها من قبل كل الأعضاء الدائمين والغير دائمين للجنة الأورام متعددة التخصصات					
D.3	كل الأخصائيين مشمولين في لجنة الأورام متعددة التخصصات					
D.4	كل الأعضاء الغير دائمين للجنة الأورام متعددة التخصصات لديهم أهداف مترابطة وواضحة وفهم لأدوارهم ومسئولياتهم					
D.5	مهارات الأعضاء الغير دائمين للجنة تتوافق / تتطابق بشكل كافي لذلك امكانية العمل بمبدأ المشاركة للقاءات اجتماع لجنة الأورام متعددة التخصصات عندما يكون ذلك ضروريا					
D.6	الأعضاء الغير دائمين داخل قسمك/وحدتك يتبادلون ويتشاركون المعلومات التي تمكنهم من اتخاذ القرار في الوقت المناسب بواسطة فريق رعاية مرضى السرطان المباشر للحالة					
D.7	الهيكل التنظيمي للجنة الأورام متعددة التخصصات واضح ويأخذ بعين الاعتبار إدراج معظم الأخصائيين المهمين في تقديم رعاية مرضى السرطان					
D.8	هيكلية لجنة الأورام متعددة التخصصات معرفة بشكل جيد وموثقة وتم توزيعها على جميع الأخصائيين اللذين يقدمون الرعاية لمرضى السرطان					



		٥	٤	٣	٢	١
1.مراحل التحضير للقاء لجنة الأورام متعددة التخصصات MDTs						
1.D الهيكل التنظيمي للجنة الأورام متعددة التخصصات MDTs						
D.9	هيكلية وسياسة لجنة الأورام متعددة التخصصات لمرضى السرطان مشروحة وتدرج في عملية توظيف الأخصائيين في المستشفى من خلال وصفهم الوظيفي					
D.10	يوجد طاقم وظيفي إداري لإدارة وتنسيق أنشطة لجنة الأورام متعددة التخصصات					
2.التنظيم والادارة والقيادة للجنة الأورام متعددة التخصصات MDTs						
2.1	الأعضاء الغير دائمين للجنة الأورام متعددة التخصصات ليس إلزاماً عليهم حضور لقاء اللجنة إلا إذا كان لديهم حالة سرطان جديدة					
2.2	الأعضاء الدائمين للجنة الأورام متعددة التخصصات يجب عليهم حضور لقاء اللجنة كاملاً حتى وإن لم تكن لديهم حالات جديدة تخصهم مباشرة ليناقشوها					
2.3	المستوى الإداري ا لأعلى يلعب دوراً هاما في دعم الأعضاء الدائمين للجنة الأورام متعددة التخصصات وعملهم					
2.4	يمكن لأي عضو من الأعضاء الدائمين للجنة أن يقود زمام المبادرة لإدارة اللقاء في حال غياب رئيس اللجنة					
2.5	ينبغي أن يكون رئيس اللجنة أو من يقودها هو جراح أو طبيب أورام يحمل درجة استشاري أو أخصائي أول رفيع المستوى					
2.6	يوجد دليل عمل متفق عليه لكيفية عملها ويوضح كيف يعمل أعضاء اللجنة أنفسهم مع بعضهم البعض					
2.7	تقبل المسئولية القانونية للطبيب المعالج وتحمل المسائلة الطبية من قبل التوصيات العلاجية المنبثقة عن قرارات لجنة الأورام متعددة التخصصات					
2.8	مشرفك أو مديرك يوفر فرص لمناقشة قضايا لجنة الأورام متعددة التخصصات في قسمه / وحدته بعد لقاء اللجنة					
2.9	مشرفك أو مديرك يستغرق وقتاً طويلاً للاجتماع مع الموظفين لوضع خطة لمرضى السرطان قبل وبعد لقاءات مناقشة لجنة الأورام متعددة التخصصات					
2.10	مشرفي أو مديري يعكس صورة نماذج مناسبة للتصرف والسلوك كفريق					
2.11	يجب أن يمثل رعاية السرطان في كل لقاء للجنة الأورام أخصائي رفيع المستوى ويعتبر ذلك أساسا في لقاءات لجنة الأورام متعددة التخصصات					



		٥	٤	٣	٢	١
2.التنظيم والادارة والقيادة للجنة الأورام متعددة التخصصات MDTs						
2.12	لجنة الأورام متعددة التخصصات لديها ككل لديها دور فعال في تتبع المرضى خلال مسار / طريق وصول الرعاية لمرضى السرطان					
2.13	لجنة الأورام متعددة التخصصات لها دور هام وفعال في إدارة وقت انتظار العلاج لمرضى سرطان					
2.14	لجنة الأورام متعددة التخصصات تجمع وتستخدم الحد الأدنى من قاعدة البانات والمعلومات كأداة تسجيل أساسية لرصد الأورام بالمستشفى					
3.التواصل والتنسيق للجنة الأورام متعددة التخصصات MDTs						
3.1	العلاقة بين قائد فريق لجنة الأورام متعددة التخصصات ومنسق اللجنة هي المفتاح لضمان ان اللقاء / الاجتماع للجنة يسير بفعالية					
3.2	تتم التغذية الراجعة بين أعضاء فريق اللجنة والموظفين بطريقة تعزز التفاعلات الإيجابية والتغيير في المستقبل					
3.3	يتم شرح المعلومات المتعلقة برعاية مريض السرطان بواسطة عضو دائم اساسي في اللجنة لكافة الأعضاء الغير دائمين والموظفين باستخدام مصطلحات وبطريقة نقاش ذات صلة					
3.4	يتم نقل المعلومات ذات الصلة بحالة السرطان التي تم نقاشها في الوقت المناسب لكافة الأعضاء الغير دائمين بلجنة الأورام متعددة التخصصات					
3.5	عند الاتصال مع الأعضاء الدائمين للجنة الأورام متعددة التخصصات فهم يسمحون لك بطرح اسئلتك بشكل كاف					
3.6	يتحقق الأعضاء الغير دائمين بلجنة الأورام متعددة التخصصات من المعلومات الشفهية التي يحصلون عليها من بعضهم البعض					
3.7	جميع الأعضاء الدائمين للجنة الأورام متعددة التخصصات يتبعون طريقة موحدة وممعيرة لتبادل المعلومات عندما يتم تسليم مرضى السرطان					
3.8	يتم الإبلاغ والتواصل عن خطط الرعاية الموصي بها من اللجنة لغيرهم من المهنيين الصحيين في مسار رحلة العلاج في غضون فترة زمنية متفق عليها محليا					
3.9	تم تسجيل جميع النتائج على قاعدة بيانات ومراجعتها بانتظام من قبل منسق لجنة الأورام متعددة التخصصات					
3.10	يسعى الأعضاء الدائمين للجنة الأورام متعددة التخصصات للمعلومات من جميع المصادر المتاحة					



		٥	٤	٣	٢	١
3. التواصل والتنسيق للجنة الأورام متعددة التخصصات MDTs						
3.11	هناك آليات متفق عليها للجنة الأورام حول كيفية الوصول والاتصال بأحد أخصائي فريق لجنة الأورام لأخذ النصح والمشورة عند الحاجة					
3.12	أي مريض على قائمة المناقشة للجنة الأورام متعددة التخصصات يفتقد ل الملاحظات المدونة او افلام الأشعة او نتائج الفحوصات أو تفتقر إلى الوقت للمناقشة يتم إضافتها تلقائيا للقاء الأسبوع القادم					
4.تقييم علاج الحالة واتخاذ القرار الطبي و الإكلينيكي للجنة الأورام MDTs						
4.1	كل الخيارات العلاجية الاكلينيكية للجنة الأورام متعددة التخصصات تعتبر مناسبة حتى إذا لم يتمكنوا أعضاء الفريق من توفير أو تقديم علاج محلي لهم					
4.2	علاج المرضى يعتمد على الممارسة الطبية المبنية على الأدلة والبراهين القائمة على البرتوكولات والتوجيهات الدولية					
4.3	تستخدم اللجنة برتوكولات علاجية ذات معايير قياسية كلما كان ذلك ممكنا					
4.4	في المستشفيات داخل المجمع هناك حاجة إلى برتوكولات رسمية لإدارة تحويل حالات المرضى بين لجان الأورام متعددة التخصصات					
4.5	لجنة الأورام متعددة التخصصات تناقش كل مرضى السرطان اللذين يرجع لهم المرض مرة اخرى أو يتقدم بهم المرض					
3.6	دائماً يتم إبلاغ لجنة الأورام متعددة التخصصات إذا لم يتم تنفيذ توصياتهم لعلاج الحالة					
4.7	الموظفين باستمرار يعملون على مسح البيئة المحيطة للحصول على المعلومات الهامة التي تؤثر على اتخاذ القرار ات الإكلينيكية للحالة					
4.8	المشرف / المدير يجتمع لإعادة تقييم أهداف رعاية مرضى السرطان عندما تتغير جوانب الوضع العام لسبب ما					
4.9	المشرف / المدير والأخصائيين يتبادلون المعلومات بشأن المضاعفات المحتملة مثل (التغيرات التي تطرأ على المريض ، القدرة على توفير سرير له) .					
4.10	يتم تسجيل طلبات الفحوصات والعلاجات المطلوبة للمريض وتوثيقها أثناء لقاء لجنة الأورام متعددة التخصصات					
4.11	لجنة الأورام متعددة التخصصات ككل لها دور فعال في تتبع المرضى خلال مسار رحلة رعاية مرضى السرطان					
4.12	الاتفاق بالأغلبية على توصية العلاج للحالة يكون مقبولاً					
4.13	فريق لجنة الأورام متعددة التخصصات هو أكثر دعماً لأخصائي الأورام في قرار علاجهم					

١٠

	4.علاج الحالة واتخاذ القرار الإكلينيكي للجنة الأورام متعددة التخصصات	٥	٤	٣	٢	١
4.14	تقاس قرارات لجنة الأورام متعددة التخصصات من خلال نقل التجربة للجنة أورام متعددة التخصصات أخرى مماثلة لها من مكان آخر					
4.15	الطبيب له القدرة على إحضار مريضة الخاص (من القطاع الخاص) لمناقشة حالته في لقاء لجنة الأورام متعددة التخصصات					
4.16	إذا إختار المريض العلاج الذي لا يتماشى مع توصيات لجنة الأورام متعددة التخصصات يتم تسجيل ذلك					
4.17	القرارات والتوصيات المنبثقة عن لجنة الأورام متعددة التخصصات تنفيذها يكون إلزامياً ونافذاً على جميع مقدمي الرعاية الصحية المشاركين في تقديم خدمات رعاية السرطان					
4.18	لجنة الأورام متعددة التخصصات لها دور فعال في تقليل وقت انتظار مرضى السرطان					
4.19	لجنة الأورام متعددة التخصصات هي المسئولة بشكل مباشر عن جمع المعلومات الاساسية التي تؤثر بشكل مباشر على قرارات العلاج مثل تحديد مرحلة السرطان ودرجة المراضة والانتشار للمرض					
4.20	لجنة الأورام متعددة التخصصات تحدد وتدير كل انواع السرطان للمرضى					
4.21	تقوم لجنة الأورام متعددة التخصصات بعلاج ومتابعة أي نوع من أنواع السرطان للمرضى وتضمن ان يتلقى المريض علاج متعدد التخصصات مع تدخلات قسم الأورام المناسب لكل مريض					
4.22	قرارات لجنة الأورام متعددة التخصصات تعمل على تحسين نتائج الحالة الصحية لحالات السرطان					
4.23	بدون لجنة الأورام متعددة التخصصات القرارات السريرية للمرضى ستكون أسوأ بكثير					
4.24	لجنة الأورام متعددة التخصصات حسنت من القرارات العلاجية المبنية على البراهين					

5. ماهي أهم خمسة محاور رئيسية يمكن من خلال تحسين كفاءة عمل لجنة الأورام متعددة التخصصات داخل مجمع الشفاء الطبي ؟

١.

٢.

٣.

٤.

٥.

6. ماهي أهم المعوقات والتحديات رئيسية التي يمكن أن تؤثر على عمل لجنة الأورام متعددة التخصصات داخل مجمع الشفاء الطبي ؟

١.

٢.

٣.

٤.

٥.

٦.

١٢

Annex (11): Questionnaire review experts

جامعة القدس

برنامج الدراسات العليا - كلية الصحة العامة

تخصص الإدارة الصحية

4

الاخ الدكتور / الأخت الدكتورة ----------المحترم/ ة ،،،

السلام عليكم ورحمة الله وبركاته وبعد،،،

الموضوع : تحكيم استبانة بحث علمي

نسأل الله العلي القدير أن يصلكم هذه الاستبانة وأنتم تنعمون بأفضل صحة وأحسن حال .

يقوم الباحث / محمد محمود جبر بدراسة موضوع بعنوان :

Performance Evaluation of Multidisciplinary Team Members Committee for Cancer Management at Al-Shifa Medical Complex

تقييم أداء أعضاء فريق لجنة علاج السرطان متعددة التخصصات بمجمع الشفاء الطبي

وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في الإدارة الصحية من خلال برنامج الدراسات العليا تخصص إدارة صحية بكلية الصحة العامة بجامعة القدس- غزة، وهو بصدد تطبيق استبانة لجمع البيانات والمعلومات اللازمة لذلك ، حيث تشمل هذه الاستبانة سبعة محاور رئيسية ويتضمن كل محور مجموعة من الفقرات، فنأمل منكم تعبئتها بإجاباتكم أخذاً فيها الدقة والموضوعية بإبداء الرأي في كل عبارة حسب ما ترونه مناسبا رجاء قراءة العبارة وتحديد رقم (1-2-3-4-5) ليعكس رأيكم علما بأن لهذه الأرقام المعاني الآتية :

(5) موافق بشدة ، (4) موافق ، (3) محايد ، (2) غير موافق، (1) غير موافق بشدة .

مع العلم بأن المعلومات التي سيتم الحصول عليها سوف يتم التعامل معها بسرية تامة ولن تستخدم إلا لغرض البحث العلمي املين منكم ان تحظى هذه الدراسة بعنايتكم واهتمامكم ، لتكون سببا في نجاحها.

وتفضلوا بقبول خالص الشكر والتقدير على تعاونكم الهادف المثمر

الباحث / محمد محمود جبر

رقم جوال **0595914777**

0

Annex (12):Table of review experts

	Name	Location
1.	Dr. Bassam Abu Hamad	Al-Quds University
2.	Dr.Khitam Abu Hamad	Al-Quds University
3.	Dr. Subhi Skik	MOH
4.	Dr. Ashraf Al Jedy	Islamic University
5.	Dr. Yousef Al Jeesh	Islamic University
6.	Dr. Midkal Hassuna	MOH
7.	Dr. Amal Abu Jame,e	MOH
8.	Dr. Mazen Abu Kammar	NGOs
9.	Dr. Moatasem Salah	MOH
10.	Dr. Abdullah El Habeel	Al Azher University
11.	Dr.Yousef Awad	MOH
12.	Dr. Nabil Al baraqunee	MOH
13.	Dr. Khalil Hamdan	Oncologist
14	Dr.Mohammed El-LAhlah	Al-Quds University

Annex (13): Tables of Inferential statistics

13.1 Independent sample t-test for comparison between mean scores of gender of MDT members perception of all domains (n = 115).

No.	Domains	Gender	N	Mean Score (5)	t. value	Sig. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage)	Male	111	3.01	.209	.089
		Female	4	2.95		
2.	Preparation for MDTs cancer committee (during-meeting stage)	Male	111	3.39	.712	.575
		Female	4	3.20		
3.	Preparation for MDTs cancer committee (post-meeting stage)	Male	111	3.49	2.498	.405
		Female	4	2.92		
4.	The Structure of MDTs cancer committee	Male	111	3.09	.539	.120
		Female	4	2.95		
5.	MDTs organization , administration & Leadership	Male	111	3.48	1.184	.570
		Female	4	3.21		
6	Communication & Coordination	Male	111	3.45	.88	.854
		Female	4	3.25		
7	MDTs Case management and clinical decision making	Male	111	3.60	1.442	.908
		Female	4	3.31		
	Total	Male	111	3.36	1.432	.666
		Female	4	3.11		

13.2: One-way Analysis of variance (ANOVA) in mean scores and significance level of MDT members' age groups of all domains (n = 115).

No.	Domains	Age groups	Mean	df	Mean Square	F	P. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage	< 30-40 years	3.089	2	.076	.673	.512
		41-50 years	2.970	112	.336		
		>50 years	2.975	114			
2.	Preparation for MDTs cancer committee (during-meeting stage)	< 30-40 years	3.3805	2	.092	.000	1.000
		41-50 years	3.381	112	.279		
		>50 years	3.380	114			
3.	Preparation for MDTs cancer committee (post-meeting stage)	< 30-40 years	3.468	2	.151	.002	.998
		41-50 years	3.474	112	.386		
		>50 years	3.476	114			
4.	The Structure of MDTs cancer committee	< 30-40 years	3.103	2	.196	.103	.903
		41-50 years	3.062	112	.494		
		>50 years	3.108	114			
5.	MDTs organization administration & Leadership	< 30-40 years	3.634	2	.073	.181	.835
		41-50 years	3.540	112	.232		
		>50 years	3.665	114			
6	Communication & Coordination	< 30-40 years	3.357	2	.142	1.509	.226
		41-50 years	3.331	112	.304		
		>50 years	3.385	114			
7	MDTs Case management and clinical decision making	< 30-40 years	3.634	2	.048	1.077	.344
		41-50 years	3.540	112	.205		
		>50 years	3.665	114			
8	Total	< 30-40 years	3.357	2	.036	.231	.794
		41-50 years	3.331	112			
		>50 years	3.385	114	.222		
		Total	3.350				

Table (13.3): One-way Analysis of variance (ANOVA) in mean scores and significance level of MDT members' educational level of all domains (n = 115).

No.	Domains	Educational level	Mean	df	Mean Square	F	P. value
1	Preparation for MDTs cancer committee (Pre-meeting stage)	Master degree	3.59	3	.017	.070	.933
		Board	3.62	111	.242		
		PhD.	2.98	114			
2	Preparation for MDTs cancer committee (during-meeting stage)	Master degree	3.429	3	.084	.315	.730
		Board	3.370	111	.268		
		PhD.	3.322				
3	Preparation for MDTs cancer committee (post-meeting stage)	Master degree	3.546	3	.233	1.09	.341
		Board	3.466		.214		
		PhD.	3.364	111			
4	The Structure of MDTs cancer committee	Master degree	3.139	3	.113	.442	.644
		Board	3.075	111	.257		
		PhD.	3.014	114			
5	MDTs organization administration & Leadership	Master degree	3.514	3	.059	.301	.741
		Board	3.461	111	.198		
		PhD.	3.425	114			
6	Communication & Coordination	Master degree	3.468	3	.026	.129	.879
		Board	3.421	111	.198		
		PhD.	3.456				
7	MDTs Case management and clinical decision making	Master degree	3.594	3	.040	.246	.782
		Board	3.615	111	.162		
		PhD.	3.544				
	Total	Master degree	3.39	3	.055	.481	.620
		Board	3.34		.114		
		PhD.	3.30	111			
		Total	3.35	114			

Significance level (*0.05

Table (13.4): One-way Analysis of variance (ANOVA) in mean scores and significance level of MDT members' currently professional level of all domains (n = 115).

No.	Domains	Professional levels	Mean	df	Mean Square	F	P. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage	Specialist	3.0490	3	.077	.316	.814
		Senior specialist	3.0428	111	.242		
		Consultant	2.9818				
		Senior consultant	2.9424	114			
2.	Preparation for MDTs cancer committee (during-meeting stage)	Specialist	3.4731	3	.135	.505	.680
		Senior specialist	3.3071	111	.268		
		Consultant	3.3800				
		Senior consultant	3.3833	114			
3.	Preparation for MDTs cancer committee (post-meeting stage)	Specialist	3.5299	3	.043	.194	.900
		Senior specialist	3.4412	111	.219		
		Consultant	3.4756	114			
		Senior consultant	3.4556				
4.	The Structure of MDTs cancer committee	Specialist	3.1615	3	.085	.329	.804
		Senior specialist	3.0310	111	.259		
		Consultant	3.0720				
		Senior consultant	3.0867	114			
5.	MDTs organization administration & Leadership	Specialist	3.4396	3	.081	.410	.746
		Senior specialist	3.4307	111	.198		
		Consultant	3.5514				
		Senior consultant	3.4762	114			
6	Communication & Coordination	Specialist	3.3731	3	.092	.464	.708
		Senior specialist	3.4235	111	.198		
		Consultant	3.5120	114			
		Senior consultant	3.4667				
7	MDTs Case management and clinical decision making	Specialist	3.6170	3	.030	.185	.906
		Senior specialist	3.6054	111	.163		
		Consultant	3.5417	114			
		Senior consultant	3.6056				
	Total	Consultant	3.3776	3	.014	.121	.947
		Senior consultant	3.3260	111	.116		
		Specialist	3.3592	114			
		Total	3.3452				

Significance level (*0.0

Table (13.5): One-way Analysis of variance (ANOVA) in mean scores, significance level of MDT members' Total years of experience groups of all domains (n = 115).

No.	Domains	Total years of experience	Mean	df	Mean Square	F	P. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage)	< 10 years	3.094	2	.177	.739	.480
		10-20 years	2.974	112	.239		
		>20 years	2.962	114			
2.	Preparation for MDTs cancer committee (during-meeting stage)	< 10 years	3.459	2	.308	1.165	.316
		10-20 years	3.309	112	.264		
		>20 years	3.450	114			
3.	Preparation for MDTs cancer committee (post-meeting stage)	< 10 years	3.469	2	.001	.006	.994
		10-20 years	3.471	112	.218		
		>20 years	3.481	114			
4.	The Structure of MDTs cancer committee	< 10 years	3.092	2	.014	.056	.946
		10-20 years	3.069	112	.259		
		>20 years	3.108	114			
5.	MDTs organization administration & Leadership	< 10 years	3.502	2	.047	.236	.790
		10-20 years	3.443	112	.198		
		>20 years	3.497	114			
6	Communication & Coordination	< 10 years	3.425	2	.256	1.316	.272
		10-20 years	3.400	112	.194		
		>20 years	3.571	114			
7	MDTs Case management and clinical decision making	< 10 years	3.682	2	.259	1.639	.199
		10-20 years	3.531	112	.158		
		>20 years	3.632	114			
	Total	< 10 years	3.389	2	.078	.687	.505
		10-20 years	3.314	112	.114		
		>20 years	3.386	114			
		Total	3.345				

Table (13.6): One-way Analysis of variance (ANOVA) in mean scores, significance level of MDT members' according to place of work surgical, medical. and Obstetric. hospitals of all domains (n = 115).

No.	Domains	Type of hospital	Sum of Squares	df	Mean Square	F	P. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage	Surgical hospital.	3.015	2	.213	.889	.473
		Medical hospital.	3.094	112	.239		
		Obstetric & Gynae. hospt.	2.885	114			
2.	Preparation for MDTs cancer committee (during-meeting stage)	Surgical hospital.	3.398	2	.404	1.555	.191
		Medical hospital.	3.277	112	.260		
		Obstetric & Gynae. hospt.	3.607	114			
3.	Preparation for MDTs cancer committee (post-meeting stage)	Surgical hospital.	3.498	2	.239	1.118	.352
		Medical hospital.	3.526	112	.214		
		Obstetric & Gynae. hospt.	3.437	114			
4.	The Structure of MDTs cancer committee	Surgical hospital.	3.107	2	.211	.824	.513
		Medical hospital.	3.165	112	.256		
		Obstetric & Gynae. hospt.	2.920	114			
5.	MDTs organization administration & Leadership	Surgical hospital.	3.525	2	.248	1.284	.281
		Medical hospital.	3.363	112	.193		
		Obstetric & Gynae. hospt.	3.533	114			
6	Communication & Coordination	Surgical hospital.	3.474	2	.072	.362	.835
		Medical hospital.	3.396	112	.200		
		Obstetric & Gynae. hospt.	3.460	114			
7	MDTs Case management and clinical decision making	Surgical hospital.	3.635	2	.154	.962	.431
		Medical hospital.	3.530	112	.160		
		Obstetric & Gynae. hospt.	3.583	114			
	Total	Surgical hospital.	3.379	2	.095	.830	.509
		Medical hospital.	3.336	112	.114		
		Obstetric & Gynae. hospt.	3.347				
		Total	3.345	114			

Significance level (*0.05)

Table (13.7): One-way Analysis of variance (ANOVA) in mean scores and significance level of MDT members' Jobs" Head of dept. & less Professional practitioner and director of all domains (n = 115).

No.	Domains	Current job position	Mean	df	Mean Square	F	P. value
1.	Preparation for MDTs cancer committee (Pre-meeting stage	Head of dept. & less	2.984	2	.025	.102	.903
		Professional practitioner	3.027	112	.242		
		Director	3.013	114			
2.	Preparation for MDTs cancer committee (during-meeting stage)	Head of dept. & less	3.353	2	.054	.199	.820
		Professional practitioner	3.415	112	.269		
		Director	3.357	114			
3.	Preparation for MDTs cancer committee (post-meeting stage)	Head of dept. & less	3.474	2	.076	.349	.706
		Professional practitioner	3.490	112	.217		
		Director	3.333	114			
4.	The Structure of MDTs cancer committee	Head of dept. & less	3.105	2	.301	1.188	.309
		Professional practitioner	3.099	112	.253		
		Director	2.800	114			
5.	MDTs organization administration & Leadership	Head of dept. & less	3.511	2	.109	.553	.577
		Professional practitioner	3.440	112	.197		
		Director	3.367	114			
6	Communication & Coordination	Head of dept. & less	3.497	2	.330	1.707	.186
		Professional practitioner	3.418	112	.193		
		General director	3.1857	114			
7	MDTs Case management and clinical decision making	Head of dept. & less	3.598	2	.302	1.922	.151
		Professional practitioner	3.628	112	.157		
		Director	3.316	114			
	Total	Head of dept. & less	3.360	2	.088	1.922	.151
		Professional practitioner	3.359	112	.114		
		Director	3.196	114			

Significance level (*0.05)

ملخــص الدراســة

تقييم أداء أعضاء فريق لجنة الأورام متعددة التخصصات لعلاج السرطان بمجمع الشفاء الطبي

إعداد: محمد محمود جبر

إشراف: أ. د يحيى عابد

مقدمة: لقد اصبح علاج مرضى السرطان من خلال فريق لجنة الأورام متعددة التخصصات لعلاج السرطان ومناقشتها من قبل أعضاء الفريق من الممارسات المعتمدة في جميع انحاء العالم ومن اجل صياغة خطة علاجية مبنية على كافة مستويات سلامة المرضى مما يعزز مستوى المسؤولية والمساءلة الطبية من خلال تقديم رعاية لمرضى الأورام والسرطان بفعالية وكفاءة افضل.

هدف الدراسة: لتحسين نتائج السرطان ورعاية المرضى وتوفير عناصر داعمة وآليات لعملية تعزيز البيئة الرسمية وتقاسم أفضل الممارسات الطبية لرعاية مرضى الأورام من خلال فريق متعدد التخصصات لرعاية الأورام يمكن أن يعمل معا على تحسين نوعية الحياة لمرضى السرطان.

ومنهجية الدراسة: تم إجراء دراسة مقطعية وصفية تحليلية بتصميم كمي وباستخدام استبانات مقابلة المعبئة بشكل فردي من خلال استبانة مقابلة تشمل أسئلة مفتوحة كطرق لجمع البيانات؛ حيث تم اختيار عينة الدراسة بالطريقة المنتظمة ثاني طبيب أخصائي في القائمة من الأخصائيين العاملين في الثلاث مستشفيات داخل مجمع الشفاء الطبي الموزعين على ٤٧ قسم اختيارهم بطريقة منتظمة. وقد استجاب١١٥ من حجم العينة المحسوبة والبالغة ١١٦و بمعدل استجابة ٩٩,١%وسنهم يتراوح ما بين ٣٠ – ٥٩ سنة ومتوسط أعمارهم كان ٤٤,٣ عاماً والأغلبية العظمى كانوا بمنصب إداري رئيس قسم بنسبة ٤٧,١%، وقد كان معدل الثبات الكلي عالي لاستبانة الدراسة حيث بلغ 0.982 وكانت المحاور الرئيسية التي تتضمن قياس وتقييم الاداء لعمل اللجنة ما يلي: مؤشرات قياس أداء اللجنة ، معدل الحضور للقاءات، معدلات انتظار رعاية وعلاج مرضى السرطان، العملية الديناميكية لعرض ومناقشة حالة الأورام من خلال اللجنة، وعملية التحضير قبل وأثناء وبعد اللقاء لأعضاء اللجنة والقيادة والهيكل التنظيمي لعمل الفريق والادارة والتنظيم والتواصل والتنسيق وإدارة العلاج للحالة واتخاذ القرار الاكلينيكي والمعوقات والتحديات ومجالات التحسين التي من شأنها ان تؤثر على عمل وأداء فريق لجنة الاورام متعددة التخصصات لرعاية السرطان في كل محور وعملية مما ذكر أعلاه.

تحليل البيانات : تم استخدام البرنامج الاحصائي SPSS وتم استخدام t-test لإيجاد الفروق بين متغيرين و استخدام ANOVA لأكثر من متغيرين لتوضيح العوامل المؤثرة في الدراسة.

نتائج الدراسة: وكشفت النتائج ان الحالة العامة لتقييم اداء عمل فريق لجنة الاورام متعددة التخصصات كان جيداً لحد ما وبلغت نسبة جميع محاور الدراسة الكلية بشكل عام ما يعادل ٦٧% مما عكس تصورات الاخصائيين العاملين باللجنة تجاه الوضع الراهن لإداء اللجنة.

وفي الوقت نفسه، باعتبارها أول تجربة للجنة السرطان MDTs التي نشأت في قطاع غزة والتي لا تزال هي فقط. وكانت لجنة السرطان MDT نتائج محور التحضير في (مرحلة ما قبل الاجتماع) أفقر نطاق وأدنى نتيجة (٦٠,٢٪)، وفي مرحلة التحضير والجهوزية (خلال-اللقاء لمناقشة) كانت النتيجة (٦٧,٦٪)، وفي (مرحلة ما بعد الاجتماع) كان (٦٩,٤٪)، كما وجد محور الهيكل التنظيمي (٦١,٦٪)، وكان محور التنظيم، والإدارة والقيادة (٦٩,٤٪)، وكان التواصل والتنسيق (٦٨,٨٪) وكان محور إدارة علاج الحالة واتخاذ القرار الإكلينيكي المحور الأول وأعلى نسبة في الدراسة (٧١,٨٪.(من ناحية أخرى، وعدم توافر ونقص الموارد التشخيص والعلاج تصبح أكثر محدودية، هناك إلحاح كبير للحلول التكنولوجية التي من شأنها تمكين الخدمات سرطان من خلال عمل لجنة الأورام MDTs ليتم بشكل أكثر فعالية، وذلك باستخدام الدعم المحوسب لتحسين عمل لجنة سرطان متعددة التخصصات. أيضا فرص التدريب والبحوث في رعاية مرضى السرطان محدودة جدا للمتخصصين للأغلبية منهم ٧٥٪ لم يتلقوا دورات تدريبية تتعلق رعاية مرضى السرطان في أخر خمس سنوات عمل لهم بالوزارة . كما ان مراقبة وتقييم مؤشرات الأداء بانتظام لعمل اللجنة ضعيفة جدا حيث تصل إلى (٩٠٪) من المشاركين قالوا ان اللجنة تفتقر لذلك. إلا أن نسبة الحضور كانت ٢,٣ مرات شهريا.

وخلاف ذلك ، ديناميكيات عملية عرض الحالات كما هو مبين، وكان إجمالي متوسط عرض الحالات ذاتيا بواسطة الطبيب في قسمه المعني ٣ حالات، متوسط إجمالي العرض الحالات على اللجنة لكل قسم شهريا (١٠,٧٣)، وكان متوسط تسرب الحالات دون عرضها على اللجنة في شهر (٧,٥٥(، ومتوسط تأخر عرض الحالات بعد انتهاء تشخيص الحالة (٤) حالات، ومتوسط مجموع تأخر التدخل الطبي او الجراحي أكثر من أسبوعين بعد عرضها على اللجنة شهريا (٣) حالات، وكان متوسط الوقت الكلي المستغرق لتنفيذ القرارات بعد مناقشتها جيد للغاية حوالي ٩ أيام فقط، وكان متوسط الوقت الكلي لتحضير الحالة للمناقشة ٢٦ دقيقة، ومتوسط الوقت للقاء الاسبوعي الواحد للجنة كان ٢,٣٠ ساعة ومتوسط الوقت الذي يستغرقه مناقشة الحالة الواحدة خلال الاجتماع ١٥,٥ دقيقة.

كما أظهرت النتائج أنه لا يوجد هناك فروق إذا ما قورنت بالمتوسط الحسابي بين أداء الأخصائيين في اللجنة وما يخص سنوات الخبرة والعمر والمستوى الوظيفي والدرجة المهنية لصالح الأكثر خبرة والأكبر عمرا والأقل ومن ناحية أخرى فروق إيجابية للمتوسط الحسابي لصالح الأقل درجة وظيفيا من بين المستويات . من ناحية أخرى، أظهرت النتائج عدم وجود فروق ذات دلالة إحصائية بين المشاركين في الأداء بما يخص الجنس، والعمر، والحالة الاجتماعية.

الخلاصة:

التوصيات :

- إنشاء لجان فرعية تخصصية متعددة التخصصات حسب أنواع السرطان والخدمات التخصصية المتوفرة بالمستشفى تنبثق عن اللجنة الرئيسية متعددة التخصصات لرعاية مرضى الاورام .
- زيادة معدل اللقاء للجنة متعددة ة التخصصات لأكثر من لقاء أسبوعي لمرضى الأورام.

- رفع نسبة الحضور للوحدات التخصصية والأقسام لتشمل كافة التخصصات والالتزام لحضور الأعضاء الدائمين للجنة بشكل دوري .
- إنشاء مركز متخصص لرعاية الأورام والسرطان مركزي في قطاع غزة .
- دعم التدريب والتطوير للكادر الطبي في مجال رعاية الأورام وأبحاث السرطان .
- وضع دليل موحد مكتوب ومنشور يتم التدريب عليه يوضح آليات التعامل والسياسات والإجراءات والبرتوكولات العلاجية من خلال اللجنة متعددة التخصصات لعلاج الأورام والسرطان بمجمع الشفاء الطبي
- تأسيس دليل خاص وطني يوضح معايير الزمنية وفترات الانتظار للعلاج وتشخيص مراحل السرطان وإدارة العلاج من قبل اللجنة لكل مرحلة من مراحل رحلة مريض السرطان .
- إدخال العنصر التكنولوجي والحوسبة وتوفيرها والتدريب على استخدامها لطبيعية عمل اللجنة الفني والطبي تشخيصا وعلاجا وربطها بالبرامج ذات العلاقة بالمجمع .
- إنشاء قاعدة بيانات موحدة مربوطة مع المركز القومي لرصد الاورام بوزارة الصحة .
- دعم منظومة التتبع والمتابعة لحالات الأورام التي يتم مناقشتها وأخذ قرار طبي بخصوصها من خلال اللجنة ووضع بروتوكول خاص بذلك .
- تأسيس منظومة تقييم لإداء عمل اللجنة متعددة التخصصات لرعاية الأورام بشكل دوري من خلال مؤشرات قياس للمتابعة والتقييم بشكل دائم بضمن الارتقاء بعمل اللجنة .