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Evaluation of Physical Therapy Services at UNRWA Health Centers- Gaza Governorates

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Evaluation of Physical Therapy Services at UNRWA Health Centers- Gaza Governorates

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Dedication

To my beloved parents
Who always have confidence in me and taught me to value myself.
They are my pillar of strength.
Their endless love, support and encouragement are a constant source of inspiration in my life.

To my beloved sister, Ghada
My better half, who always is there for me during the good and the bad. She believes in me even when I did not believe in myself. Her support and encouragement help me to do my best throughout my life.

To my beloved brothers
For their eternal support, encouragement and prayer.

&

To all my lovely family

Abeer F. Jadalla

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Last but not least, deepest thanks to all people took part in making this thesis real.

With sincere respect
Abeer F. Jadalla

Declaration

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

Signed:

Abeer Fayez Jadalla

14/8/2018

Abstract

The demand for physical therapy services in the Gaza Strip is increasing as a result of increasing number of disabilities due to accidents or wars, increasing the number of elderly people with chronic conditions, obesity, sports injuries, and unhealthy lifestyle habits. The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) provides preventive and curative physical therapy services free of charge to all refugees throughout its health care centers in the Gaza Strip.

This study aims to evaluate the physical therapy services provided to clients at physical therapy units of UNRWA`shealth care centers in the Gaza Strip. A mixed-methods design was used, in which both quantitative and qualitative data were involved. The quantitative data were collected through a face to face interview questionnaire, from clients who utilized the physical therapy services of UNRWA health care centers- physical therapy units of the study. In total, 400 clients participated in the quantitative part of this study with 100% response rate and 150 clients' medical records were reviewed, as well. In addition, thirteen in-depth interviews were conducted with one key informant and twelve physical therapy providers. The Statistical Package of Social Science software was used for the quantitative data entry and analysis, while Open Coding Thematic analysis was used to analyze the qualitative data.

Results of the study have shown that the main reasons for clients seeking physical therapy services were good quality of the provided physical therapy services, availability of qualified staff and presence of wide range of services, with percentages of 60.5%, 46.8% and 32.3%, respectively. From clients' perspectives, the overall mean percentage of clients' satisfaction with sharing information, skills of providers and physical environment were 88.9%, 94.31% and 90.13%, respectively. In addition, there was good continuity of care and interaction between physical therapy providers and clients; it was reflected by a high mean percentage of 93.27% and 95%, respectively. From clients' perspectives, the quality of care was high, with mean percentage of 94.23%. The vast majority of the study participants indicated that the received treatment alleviated their symptoms and improved their activity of daily living. In addition, 91.8% of the study participants indicated that their health status after received the sessions was better, and 93.5% were satisfied with the provided physical therapy services. The findings of the study have shown that there is relationship between health status and contact time with the providers, as well as, overall satisfaction of the clients with the provided services. Results of the qualitative study revealed that the main barriers for providers to provide the needed services with a good quality were high work overload, shortage of staff, and lack of professional development opportunities. Findings from the medical records review revealed that the overall completeness and utilization of documented data were 80% and 85.3% respectively.

Greater emphasize on empowering the providers and increasing the number of manpower, also, updating protocols and enriching the clinical instructions are required to provide more quality services. Further research studies are needed to explore the impact of the provided physical therapy services on improving the overall quality of life in the Gaza Strip and to evaluate the competencies of physical therapy providers in the Gaza Strip.

ملخص الدراسة

تقييم خدمات العلاج الطبيعي المقدمة في المراكز الصحية التابعة لوكالة الغوث الدولية في قطاع غزة

ان الحاجة لخدمات العلاج الطبيعي في قطاع غزة في تزايد، وذلك نتيجة للحروب المتكررة، و ارتفاع نسبة الاعاقات المسجلة، وتزايد عدد كبار السن ذوي الأمراض المزمنة.

وكالة الغوث الدولية تقدم خدمات العلاج الطبيعي الوقائية والعلاجية مجانا لجميع اللاجئين في المراكز الصحية التابعة لها في قطاع غزة.

تهدف هذه الدراسة لتقييم خدمات العلاج الطبيعي المقدمة للمستفيدين من الخدمة في أقسام العلاج الطبيعي في المراكز الصحية التابعة لوكالة الغوث الدولية في قطاع غزة.

اعتمدت هذه الدراسة طريقة البحث المندمج، حيث قامت الباحثة بجمع وتحليل البيانات والنتائج من خلال طرق وأدوات البحث الكمية والنوعية في نفس الدراسة، فقد تم جمع البيانات الكمية باستخدام استبيان من المستفيدين من خدمات العلاج الطبيعي بأقسام العلاج الطبيعي في المراكز الصحية التابعة لوكالة الغوث الدولية، حيث كان عدد المستفيدين الذين شاركوا في هذه الدراسة هو 400 مشارك، و قد بلغت نسبة الاستجابة 100٪. بالإضافة إلى أنه قد تمت مراجعة 150 ملف من ملفات المستفيدين من الخدمات. و قد تم جمع البيانات النوعية من خلال 13 مقابلة معمقة؛ مقابلة واحدة مع مقدم خدمة رئيسي و 12 مقابلة مع مقدمي خدمات العلاج الطبيعي في وكالة الغوث الدولية. و قد تم تحليل البيانات الإحصائية باستخدام الحزمة الاحصائية للعلوم الاجتماعية حيث أجريت الاختبارات الاستنتاجية والاحصائية والوصفية، في حين تم استخدام طريقة الترميز المفتوح والتحليل المرتبط بأفكار رئيسية لتحليل البيانات النوعية.

تشيرنتائج الدراسة إلى أن أهم الأسباب للمستفيدين من خدمات العلاج الطبيعي من المراكز الصحية التابعة لوكالة الغوث الدولية هي جودة خدمات العلاج الطبيعي المقدمة ومقدمي الخدمة المؤهلين والمدى الواسع للخدمات المقدمة، بنسبة 60.5٪ و 46.8٪ و 32.3٪ على التوالي.

من وجهة نظر المستفيدين من الخدمات، كان المعدل المتوسطلرضا المستفيدين عن ل مشاركة المعلومات بين مقدم الخدمة و المستفيد، معرفة ومهارات مقدم الخدمة و بيئة القسم كانت 88.9٪ و 94.31٪ و 90.13٪ على التوالي.

بالإضافة إلى أن الدراسة أشارت إلى أن هناك استمرارية جيدة للعلاج و تفاعل جيد بين مقدم الخدمة والمستفيدين قد انعكس ذلك بالمعدل المتوسط الذي قد بلغ 93.27٪ و 95٪ على التوالي.

و من وجهة نظر المستفيدين من الخدمات أيضا، فقد كانت جودة الخدمات العلاجية المقدمة عالية وانعكس ذلك بالمعدل المتوسط الذي بلغ 94.23٪. كما وأن الغالبية العظمى من المشاركين أشاروا إلى أن ما تلقوه من علاج قد خفف من أعراضهم و حسن نشاطهم في الحياة اليومية. وبالإضافة إلى ذلك، أشار 91.8٪ من المشاركين في الدراسة

إلى أن وضعهم الصحي بعد تلقي جلسات العلاج الطبيعي كان أفضل، و أيضا 93.5٪ أشاروا إلى رضاهم عن خدمات العلاج الطبيعي المقدمة.

وقد أظهرت نتائج الدراسة وجود علاقة بين الحالة الصحية للمستفيدين من الخدمة وكل من الوقت الذي يقضيه المستفيد مع مقدمي الخدمات و الرضا العام للمستفيدين من الخدمات عن الخدمات المقدمة.

وكشفت نتائج الدراسة النوعية أن الحواجز الرئيسية أمام مقدمي خدمات العلاج الطبيعي هو زيادة عبء العمل على مقدم الخدمة والنقص في عدد مقدمي الخدمة و قلة الدورات التدريبية. وكشفت النتائج أيضا من مراجعة السجلات أن إجمالي اكتمال وامكانية استخدام البيانات الموثقة بلغ 80٪ و 85.3٪ على التوالي.

تمكين مقدمي الخدمات أكثر وزيادة عدد الأيدي العاملة، وكذلك تحديث البروتوكولات وإثرائها بالتعليمات السريرية لازمة لتحسين جودة الخدمات المقدمة أكثر . كما أن
هناكحاجةلمزيدمنالدراساتالبحثيةلاستكشافتأثيرخدماتالعلاجالطبيعيالمقدمةعلىتحسينوعيةالحياةبشكلعامفيقطاعغزةولتقييمك فاياتمقدميالعلاجالطبيعيفيقطاعغزة.

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List of Abbreviations

APTA:	American Physical Therapy Association
GS:	Gaza Strip
MoH:	Ministry of Health
NGOs:	Non- Governomental Organizations
PCBS:	Palestinian Central Bureau of Statistics
PHC:	Primary Health Care
PHIC:	Palestinian Health Information Center
PMMS:	Palestinian Military Medical Services
PSPT	Palestinian General Syndicate for Physical Therapy
PT	Physical Therapy
SPSS:	Statistical Package of Social Science
UNRWA:	United Nations Relief and Works Agency for Refugees of Palestine in the Near East
UNSCO:	United Nations Special Coordinator for the Middle East Peace Process
WB:	West Bank
WCPT:	World Confederation for Physical Therapy
WHO:	World Health Organization

Chapter one
Introduction

1.1 Background

Globally, Physical Therapy (PT) is one of the main rehabilitationmodalities that can contribute to better quality of life; through maintaining or restoring function, retaining mobility and independence, and treating symptoms (Montagninietal., 2017). PT is one of the healthcare professions that concerns with developing, maintaining, and restoring maximum human movement and fucntional ability throughout lifespan(World Confederation for Physical Therapy-WCPT-, 2011). WCPT (2011) indicated that PT provides services of rehabilitation, health promotion, prevention and risk reduction to individuals and population in circumstances where movement and function are threatened by ageing, injury, pain, diseases, disorders, conditions or environmental factors.

PT services are provided by qualified physical therapists or by physical therapistassistants working under the supervision of physical therapists (Rothstein, 2001).

Physical therapists assess, plan and implement rehabilitative programs that maximize movement ability, relieve pain syndromes thus improve or restore functions, as well as, they treat or prevent physical challenges associated with injuries, diseases and other disorders, by implementing different techniques such as therapeutic exercises, ultrasound, heating, laser and other techniques (World Health Organization –WHO-, 2010).

Moreover, Physical therapistsalso provide consulting, education, research, and administration services (WCPT, 2011).

Globally, the demand for rehabilitation services is increasing due to its wide range of benefits for persons with health conditions that cause limitations in functioning throughout their life course, as well as for persons with disabilities, as rehabilitation is beneficial for health conditions which are linked to 75% of the total number of years lived with disability (WHO, 2017).

PT services in the Gaza Strip (GS) are provided by different sectors; Ministry of Health (MoH) through both Primary Health Care (PHC) centers and governmental hospitals, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), Non-Governmental Organizations (NGOs), Palestinian Military Medical Services (PMMS) and other private for profit providers.

Evaluation of health care services helps providers to improve their performance as part of a continuous quality improvement cycle (Reeve etal., 2015).

1.2 Research problem

UNRWA is one of the main PT services providers in the GS. It provides preventive and curative health services free of charge to all refugees to sustain and promote health. The Health Department of UNRWA in the GS has 11 PT units with 34 staff members. In 2017, the 11 PT units provided PT services to 13,052clientsthroughabout 192,251 PT treatment sessions (UNRWA, 2018).

There is information gap in the outcomes of PT services provided by PT units of UNRWA health care centers in the GS. Despite the magnitude and the importance for the essential needs for such services, no studies have been conducted to evaluate these provided services, . Therefore, the researcher aimed to evaluate PT services provided at PT units of UNRWA health care centers in the GS.

1.3 Justification of study

In the GS, UNRWA is one of the main PT providers. It provides PT services within eleven units in the GS free of charge to all the refugees. It has started to provide PT services in 1988, one year after upraise of the First Intifada. PT services which are provided by physical therapists in UNRWA are manual therapy, thermotherapy, cryotherapy, hydrotherapy, electrotherapy, therapeutic exercise, manipulation massage, functional training, gymnastic therapy and self-training.

In 2011, the percentage of people with disabilities was 2.4% of the total population in the GS (Palestinian Central Bureau of Statistics -PCBS-, 2014). Generally, the prevalence of disability increases with age by 32% is among elderly people aged 60 years and over (PCBS, 2015), accordingly, the demand for PT services in the GS is increasing, as the result of frequent wars, high percentage of disabilities remarked, and increasing number of elderly people who have chronic medical conditions. In 2016, a research study was conducted in the governmental hospitals in the GS to evaluate the PT services (Matar, 2016).

Generally, evaluation of PT services is very important to increase health promotion among Palestinians, and to increase effectiveness and efficiency of provided services, as well as, increasing balance between supplying and demanding on PT services in the GS.

To the researcher best knowledge, no previous studies have been conducted to assess the quality of the provided PT services in the eleven PT units of UNRWA in the GS. Therefore, this study explored the effectiveness of PT services in UNRWA in the GS. Furthermore, findings of this study have provided a clear picture about the current status of UNRWA's PT provided services, and filled important information gaps related to the degree of effectiveness of PT services in UNRWA, thus it couldhelp decision makers to improve the services in an efficient and effective way.

1.4 Aim of study

The overall aim of this study is to evaluate the PT services provided to patients at PT units of UNRWA health care centers in the GS, in order to increase efficiency and effectiveness of these services to improvehealth outcomes and increase wellbeing of Gaza's population.

1.5 Research objectives

1. To assess the quality of the provided PT services at PT units of UNRWA health care centers in the GS.
2. To assess the degree of clients' satisfaction with the provided PT services at PT units of UNRWA health care centers in the GS.
3. To explore areas of strengths and weaknesses in PT services at PT units of UNRWA health care centers in the GS.
4. To suggest recommendations that might help in enhancing PT services at PT units of UNRWA health care centers in the GS.

1.6 Research questions

1. How do clients perceive the quality of provided PT servicesat PT units of UNRWA health care centers in the GS?
2. How do clients perceive provider-client communication and information sharing?
3. Are PT services effective at PT units of UNRWA health care centers in the GS?
4. Do PT services meet clients' needs at PT units of UNRWA health care centers in the GS?
5. Are the provided physical therapy services in UNRWA health care centers responsive for clients` needs and expectations?
6. Are clients satisfied with provided services at PT units in UNRWA health care centers?
7. What are the main challenges for PTproviders in UNRWA health care centers?
8. What are strengths of PT services in UNRWA health care centers?

1.7 Context of the study

1.7.1 Geographic and Demographic contexts

Palestine is located at the Eastern coast of the Mediterranean Sea, to the south of Lebanon and to the west of Jordan (Daoudi, 2009). It was under the British Mandate from 1917to 1948 which ended in catastrophic way by establishment of the Israeli state. In 1948 approximately two thirds of Palestinian people were displaced from their homes to become refugees in the West Bank (WB), the GS, and neighboring countries such as Jordan, Syria, and Lebanon (Feldman, 2012).

The total area of Palestine is 27000 km^2; West Bank (WB) constitutes 21.6% of the total Palestinian land, while Gaza Strip constitutes 1.35 % of the total Palestinian land.

GS is a coastal area on the Mediterranean Sea, with a total surface area of 365 km^2 (45km long, 6-12 km wide). It is divided into five governorates: Gaza, North Gaza,Khan Younis, Rafah, and Deir El-Balah (El Baba etal, 2015).

In 2017, number of population in Palestine was 4.88 million, more than one third of population are in the GS, which is one of the most crowded places with an

estimatedpopulationof about 1,912,267 individuals live in the GS, its population density is about 5,239 individual per km^2, withpopulation growth of 3.3% (PCBS, 2018a). Percentage of refugees in the GS is 66.7% of population (PCBS, 2016).

According to WHO (2016), health care system in Palestine has faced significant challenges, since the Palestinian National Authority assumed authority for healthcare in 1994, due to the impact of occupation, blockade, political rift, geographical fragmentation, rapid population growth, shortages in basic supplies, and lack of adequate financial resources, and economic opportunities, which all lead to unsustainability of the Palestinian health care system.

After years of blockade on the GS and frequent wars by Israel, the socioeconomic status in the GS has been unprecedently declined. Therefore, according to PCBS (2017), poverty rate in the GS in 2017 is 53%, with 29.2% of individuals living in the GS were living below the poverty level. Furthermore, in the third quarter of 2016 in the GS, the unemployment rate was the highest worldwide, it was 43.2%, this percentage for females was 68.6%, and it was 35.4% for males (United Nations Special Coordinator for the Middle East Peace Process (UNSCO, 2017).

The GS had frequent wars, last one was in July and August 2014, it lasted 51 days, and its results among Palestinians were 2,251 deaths, and 11,232 injured people, 10% of whom is sufferinga permanent disability (Human Rights Council, 2015). Prevalence of disability in the GS needs to be updated, especially after war 2014, as the available official statistics for disability is only for 2011, according to PCBS, the prevalence of disability in the GS was 2.4%, and the most prevalent disability was the mobility disability as 47.2% for persons with disability have affected physical movement (PCBS, 2014). Accordingly, the demand for PT services has been increased due to injuries and disabilities, in parallel with the increasing needs of elderly people aged 60 years and above for PT interventions to manage their disabilities which is due to aging process.

There are five main health services providers in Palestine; MoH, UNRWA, NGOs, PMMS, and other private for profit providers.The main health care provider in Palestine is MoH, it provides primary, secondary and tertiary services for the whole population, and purchases the unavailable tertiary health services from abroad and domestic providers. MoH has 466 PHC; in the GS there are 54 PHC, and in WB there are 412PHC, 81 hospitals; 51in the WB

and 30in the GS. NGOs also provide primary, secondary, and tertiary services. NGOsplay important role in providing mental health counseling, physical therapy and rehabilitation services.They have189PHC, constituting 25.6% of all primary health care centers in Palestine, 34 hospitals; 20 in the WB and 14 in the GS (MoH, 2018). In the other hand, PMMS provides primary care services, and private for profit providers, through specialized hospitals and investigation centers, provides the three level of care; primary, secondary and tertiary (Manenti etal., 2016)

UNRWA Health programme delivers comprehensive preventive and curative primary health care services to Palestine refugees through 143 PHC in Jordan (26 PHC), Lebanon (27 PHC), Syria (26 PHC), the West Bank (42 PHC) and the Gaza Strip (22 PHC), and supports the clients to access secondary and tertiary health care services. The total number of registerd population in UNRWA has reached about 5.4 million Palestine refugees; about 61% of them utilized UNRWA's health services (UNRWA, 2018).
Additionally, according to UNRWA (2018), PT services are one of the provided services in UNRWA in the GS; as 13,052 clients received the services through 11 PHC; Beit-Hanoun, Jabalia, Gaza Town, North Gaza, Rimal, Sabra, Nuseirat, Burij, KhanYounis, Rafah, and Tel-Elsultan Health care centers. The provided services includemanual and mechanical therapeutic exercises, thermotherapy, cryotherapy, hydrotherapy, electrotherapy, therapeutic massage, functional training, and health education sessions.

1.7.2 Main health indicators

According to health annual reportof Palestinian Health Information Center –PHIC- of MoH (2017) in Palestine, in 2016, the crude birth rate in Palestine was 28.7 births per 1000 population, 30.9 births per 1000 population were recorded in the GS, while the crude death rate was 3.3 deaths for every 1000 of population. In addition, growth rate was 3.3% in the GS.
In 2014, infant mortality rate in Palestine was 18.2 per 1,000 live births, and under-five mortality rate in Palestine was 21.7 deaths per 1,000 live births(PCBS and MoH, 2015).
In 2016, the major causes of death in Palestine were 30.6% of deaths recorded due to cardiovascular diseases as the leading cause of death in Palestine, the second leading cause of death was cancer with 14.0% of total deaths, the third leading cause to death was cerebrovascular diseases with 12.8% of total deaths, the fourth and fifth leading causes were conditions in the perinatal period and complications of diabetes with 8.0%, the sixth

was the respiratory diseases with 6.3%. While the seventh cause was accidents of all kinds with 5.3% of deaths, the eighth leading causes were congenital anomalies and infectious diseases, especially septicaemia with 2.7%, and the tenth leading cause was digestive diseases with 2.4% (PHIC, 2017).

1.8 Operational definitions

1.8.1 Evaluation

A process that significantly examines a program, in purpose to make judgment and decisions about the program, to improve its effectiveness. It involves collecting and analyzing information about activities of program, characteristics, and outcomes (Patton, 1987).

1.8.2 Physical Therapists

Theresearcher defines physical therapists as "Highly-educated, licensed health care professionals, have Bachelor degree or higher in physical therapyfrom an accredited physical therapy program at a university,who could evaluate clients and plan for treatment, thus could help clientsin restoring or improving function, also physical therapists manage the PT settings"

1.8.3 Physical therapist assistants

The researcher defines physical therapist assistants as "Licensed health care professionals, have Diploma of two years of education from an accredited physical therapy program at a technical or community college, who provide the planned treatment for patients and work under supervision of physical therapist".

1.8.4 Quality of care

The dimensions of quality of care which will be conducted in this study are effectiveness, responsiveness, and appropriateness of PT services according to clients` perspective.

1.8.5 Waiting time

The researcher defines the waiting time in minutes as the time consumed by the client in waiting area of the PT unit to receive the session of treatment.

1.8.6 Contact time

The researcher defines the contact time in minutes as the time consumed by the client with the providerto receive the session of treatment at PT units.

Chapter Two

2. Literature review

2.1 Conceptual framework

Conceptual framework is a representation of linked concepts that is designed within a map to show what is important regarding the issue of interest. Therefore, Conceptual frameworks could manage thinking and observation, thus it provides comprehensive understanding of specific issue. There are four benefits for conceptual frameworks in PT setting; it helps to determine interventions, support and maintain sustainability, enhance communication among stakeholders, and encourage transparency of the provided service (Hudon etal., 2015).

According to the Donabedian model, the researcher demonstrates the dimensions that affect the PT performance. Each dimension has domains and each domain has different variables. Domains and variables that will be studied in this study are illustrated as the following:

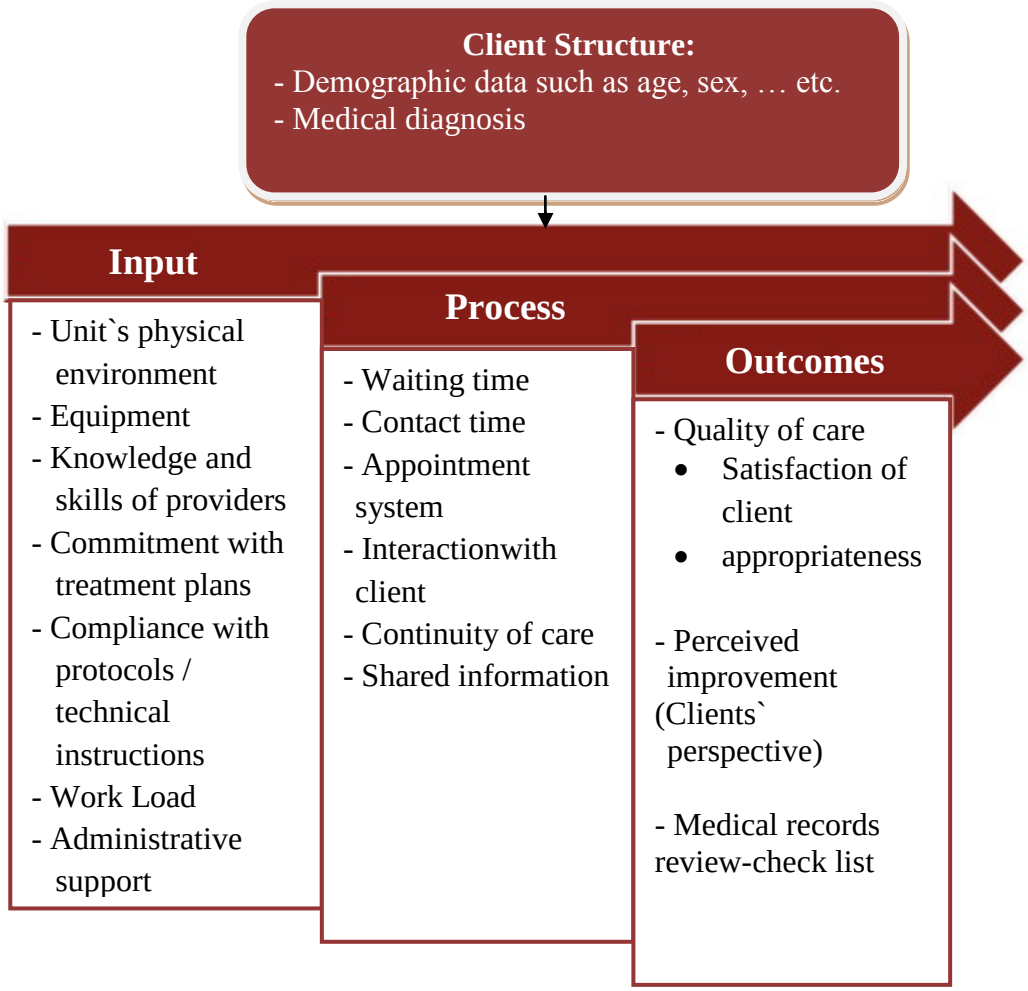
- Structure: this dimension includes client factors, such as demographic data such as age, sex, level of education, marital status, occupation, and medical diagnosis.It also includes provider factors, such asequipment, knowledge and skills of providers, work Load, commitment with treatment plans, compliance with protocols / technical instructions. All these variables affect the process of provided service, which in turn affect the outcome of the provided PT services.

- Process: this dimension includes waiting time, contact time, appointment system, interaction with client, continuity of care, and shared information. All of these variables affect the outcome and performance of PT services.

- Outcome: this dimension includes quality of care; satisfaction of client and appropriateness, as well as, perceived improvement from clients` perspective and medical records review-check list. These variables reflect the PT outcomes.

The following figure demonstrates the conceptual framework which was developed by the researcher, and adapted Donabedian Model.

Figure (2.1): Diagram of conceptual framework for the study



2.2 Physical therapy and its role

The vision of the leading role of PT in the 21st century is to promote health and health care for every person and reducing the need for drugs and surgeries as health interventions (Dean, 2009). Additionally, according to American Physical Therapy Association -APTA- (2011), PT is a health care profession that concerns with the restoration, maintenance, and promotion of physical function by using different modalities, it is provided for individuals of all ages who have or may develop impairments and activity limitations related to conditions of any system in the body; the musculoskeletal, neuromuscular, cardiovascular,

pulmonary, and integumentary systems,as well as external factors such as environmental and occupational negative health impact on human performance.

Moreover, the physiotherapy services have great role in treatment of diseases, aim to restoration disabled people to normal life, by application of different therapeutic procedures using physical and mechanical means including heat, cold, electromagnetic waves, electricity, ultrasound and low power laser (Gharibi etal., 2014).

2.3 Evaluation

Evaluation gives information that plays an important role of the capability of the health system to improve health effectively and efficiently for population, as well as, performance measurement plays an important role in guiding the decisions of various stakeholders; such as patients, clinicians, managers, governments and the public, help in directing the health system towards better outcomes. Accordingly, health system performance has a number of aspects to be measured; including population health, health outcomes, clinical quality and the appropriateness of care, responsiveness, equity and productivity (Smith, 2009).

Assessing quality of healthcare according to clients' perspective is very helpful for service providers by being more sensitive and responsive to their requirements to increase quality improvement and client satisfaction. However, its reliability and feasibility as a tool to measure healthcare quality and its reflection toclient satisfaction should be well studied according to several factors related to the nature of health service and complexity of the process of healthcare delivery (Alrashdi, 2012).

Quality of care from clients` perspective is increasingly used in evaluating performance of health care. Groenewegen and colleagues (2005) conducted a study to explore an international comparison of clients` views about what is important in evaluating health care quality, they found that clients of health care in different countries think differently about the importance of different aspects of quality of care to some extent, also, the most important aspect was that healthcare provider should take clients satisfaction seriously, while the least important was waiting time.

2.4 History and development of PT worldwide

PT has a very old origin. For thousands of years, PT treatments were using various methods; movements, water, heat and cold, electricity, and light, for those who have illnesses and disabilities (Terlouw, 2007). In Netherlands and other European countries, the beginning of PT practicingwas in the 18th century, when the application of manual therapy interventions directed by early physical therapists (Huijbregts, 2007). However, in 1900, there was growth in publications on PT, and the first organization of physicians dedicated to aspects of PT were founded (Terlouw, 2007).

Additionally, the second half of the 19th century was a period of increasing specialization in the field of PT by using more different treatment methods such as exercises, manipulation, massage, hydrotherapy, electrotherapy, light therapy, air therapy, and heat and cold therapy(Terlouw, 2007).

In the United States, manual therapy has been an intervention used by therapists since the beginning of the PT professionwith the founding of the American Women's Physical Therapeutic Association (AWPTA) in 1921 (Huijbregts, 2007).

There are differences in the role of physical therapists around the world, such as direct access; for example the direct access in Saudi Arabia is different than it is in the United Kingdom and the United States, as it is not permitted for the patient to access directly to PT and requires referral by another health professional, mainly physician. Physical therapists are permitted to assess patients, make diagnoses, plan for treatment, implement interventions, and provide preventive measures and advices (Alghadir etal., 2015).

2.5 PT in Palestine

Following the 1993 Oslo Peace Accords, the newly established Palestinian Authority (PA), was given responsibility for the administration of health care in Palestine functioning through the Ministry of Health (MoH) (Keelan, 2016).

In Palestine, the PT professionalshave a syndicate, called Palestinian General Syndicate for Physical Therapy (PSPT), it was founded in 1994. It is based in Jerusalem and has a center in the GS and three branches in the WB. The PSPT is responsible aboutphysical therapy professionals' affairs and attend to all with regard to the profession in Palestine;it is also

operates to defend the physical therapy professionals` rights and to regulate the profession of physical therapy and rehabilitation in Palestine (PSPT, 2012).

Regarding physical rehabilitation, there is a generally accepted referralsystem among the institutions that provide rehabilitation services; Bethlehem Arab Society for Rehabilitation (BASR) - Bethlehem in the WB, Abu Rayya Rehabilitation Center - Ramallah in the WB, Princess Basmah Rehabilitation Center - Jerusalem, Al-Wafa Medical Rehabilitation Center in the GS, Al-Amal Center in the GS. In 1994, the three centers in the WB signed an agreement with the MoH to coordinate the services provided to the persons with disability (World Bank, 2004).

Regarding beginning of PT practice in the GS, R. Jumaa (personal communication, August 6, 2018) stated that "*In the GS, PT practice began in the early 1970s, it began with two American physical therapists, who established the first PT department and trained eight Palestinians in the Baptist Hospital in the GS, it was a Diploma in PT of two years of education, which allowed the diplomats to work under supervision of physicians and the two American physical therapists. Later 1979-1980, 17 Gazan physical therapists gained Bachelor degree in PT from Egypt and returned to the GS to be the first qualified physical therapists. However, now there are four universities in Palestine providing degree in PT, two of them are in the GS, also, the training of PT assistant in the Palestine is still ongoing today at many community colleges*".

There is a study conducted at the GS by Hillis (2008) about patients satisfaction, who attended outpatients departments for PT services at Al-Shifa and Wafaa hospitals in the GS, the level of satisfaction was 87.4%. This study revealed a significant association between patient`s satisfaction with providers knowledge, the duration of PT session, and the duration of treatment course.

In addition, there is a study conducted in the GS by Matar (2016) which revealed that there is increasing in demand for PT services, because the increasing number of injuries and disabilities as a result of continuing wars and conflicts, as well as the rising numbers of elderly people aged 60 years and above. Recently, there was a study conducted about evaluation of PT services in MoH in the GS, in both in-patients and out-patients departments, it is found that, there are no protocols for PT settings, the health needs were met by PT services for 84% of patients, the accessibility of information was about 78.15%, the providers competency percentage was 74%, patients participation in treatment planning

was 72.4%, there was good interaction between patients and PT providers with a percentage of 82.8%, 88.4% of patients indicated that the PT providers were respectful, and the overall satisfaction of patients with provided PT services was 79.65%.

2.6 Importance of PT

The 21st-century physical therapists uniquely lead in health promotion and prevention of the lifestyle conditions, addresses many of their causes, as well as managing these conditions. An intensive commitment by physical therapists to increase healthy wellbeing and reduce health risk is consistent with minimizing the extensive social and economic burdens of lifestyle conditions globally (Dean, 2009).

One of the main roles of physical therapists is evaluation; it aims to identify diagnosis, prognosis, and plan of treatment for every patient. Regarding the goals of treatment, physical therapists provide suitable interventions for each patient, after that, conduct reexaminations, modify interventions as a necessary to achieve the expected goals and outcomes, in addition to developing and implementing discharge plans.

Healey and colleagues (2012) found that qualified physical therapists practice health promotion while treating older adults and it is reported that the one-on-one time spent help in providing relationships as the main motivator for health promotion. Furthermore, health and wellbeing promotion could be achieved by physical therapists through physical activity and exercise prescription (Verhagen and Engbers, 2009).

Health education is one of physical therapists role, and they are in best position to encourage healthy behaviors of clients. In a conducted study, it is found that most participants believes that it is proper for physical therapists to converse with them about the healthy behaviors , physical activity, maintaining a healthy weight, and stopsmoking (Black etal., 2016).

2.7 Outcomes of PT in PHC

Physical therapistsplay an important role in PHC, especiallyin managing chronic conditions such as musculoskeletal conditions, neurological conditions andpulmonary diseases. Regarding outcome of PT services at PHC, Cott and colleagues (2015) study reported that PT services in PHC provide severalpositive outcomes; including high clients satisfaction level, decreased waiting time, increased cost-effectiveness relative to hospitalbased services, reduced rates of referral to specialists, and improvedoutcomes which related to patients such as exercisetolerance, quality of life, and health status. Accordingly, in Saudi Arabia, Al-Abbad and Al-Haidary (2016) conducted a study to explore the perception of the physical therapy service leaders in Saudi Arabia regarding the integration of physical therapy service in PHC settings, and the results revealed that 81% of the participants reported that it would be advantageous to integrate physical therapy services in PHC, as it would offer earlier access to health care and would be more cost-effective, alsoit would contribute towards the prevention of common non-communicable health diseases.

Additionally, In the South of Brazil, Ribeiro and Soares (2014) conducted a study about the opportunities for PT contributions to PHC, and the results enhanced the possibility of inclusion of physical therapists as part of PHC team. Moreover, 92.4% of participants were familiar with PT, 41% of them reported their need for PT, mostly 54.4% for orthopedic disorders.

Moreover, Snow and colleagues (2001), conducted a study about public perspective with PT in PHC, and they found that the public poorly understand the importance of PT and the direct access of physical therapists; 73.4% of participants would access directly to physical therapists. In another hand, 67.3% of the sample has no knowledge of direct access. Thus, the public members might use physical therapists as primary care practitioners, if they aware about the role of the physical therapists.

2.8 Utilization of healthcare services

Studies showed that there are many factors affect the utilization of clients for health care services. Globally, Girmaand colleagues (2011) conducted a study in Jimma Zone, South West Ethiopia, to assess utilization of health services and associated factors, and this study determined the predictors of utilization of healthcare; sex, marital status, household income, socioeconomic status, presence of disabling health problem, presence of an illness episode, perceived transport cost, perceived treatment cost and distance to the nearest health center or hospital, as well as, the results revealed that utilization level was not satisfactory. Moreover, there is a study conducted in an urban area in South Africa, by Stellenberg (2015), it revealed that there was significant association between utilization of healthcare services with both affordability and accessibility.

Locally, there are recent studies conducted in this field, and to some extent its results were consistent to each other; the quantitative findings of Matar (2016) showed that physical therapy services in governmental hospitals at the GS are accessible to the majority of participants, and the public transportations are the most travel mode that used as expressed by 86.4% of participants compared to walking which expressed by 13.6% of participants, in addition, the mean of needed time to reach to the healthcare facility by using public transportations was 19.33 minutes, while it was 16.18 minutes by walking. Moreover 96% of participants received the physical therapy services free of charge. On the other hand, Anan (2011) study illustrated that health services in the Gaza Strip are accessible.

According to the accessibility to the physical therapy services, Cott and colleagues (2007) study revealed that the accessibility of people with chronic conditions were impeded, especially for those lacking private healthcare and those living in urban regions.Also, in the study of Kumari (2009), the findings revealed that the accessibility for attending the tertiary level health facility was difficult for 42% of the patients. Moreover, there is a study conducted at Gaza Strip by Matar (2016), reflected good accessibility of clients to the physical therapy services, and good accessibility of information.

On the other hand, Carter and Rizzo (2007) conducted a study in United States to identify determinants of out-patient physical therapy used by people with musculoskeletal conditions. The results revealed that the factors were positively associated with delivering physical therapy services were the following factors; having more than one

musculoskeletal condition, having some limitations in function, having seven or more ICD-9 (International Classification of Diseases, 9th Revision) codes, having a college or advanced degree, and residing in an urban area, while factors were negatively associated with receiving physical therapy services were being older than 65 years of age, having no high school degree, Hispanic ethnicity, African-American race, having public insurance or no insurance, and living in any US census region besides the Northeast.

Furthermore, in a study conducted in Ontario, by Landry and colleagues (2006) in order to document effect ofthe removal of medical coverage of physiotherapy services, the results showed that 18% of physiotherapy patients discontinued their physiotherapy after delisting because they could not pay for it.

2.9 Quality of PT Services

Quality of healthcare is a subjective and multi-dimensional concept. Donabedian (1980) defined healthcare quality as *'the application of medical science and technology in a manner that maximizes its benefit to health without correspondingly increasing the risk'*, as well as, in PT, quality based care is a hallmark, and effectiveness of treatment must be clear to all stakeholders of the service; patients, providers, managers and funders (Westby etal., 2016).

Since the mid-80s, patients are viewed as consumers of care in healthcare settings, therefore, their satisfaction could serve to measure the quality of healthcare services (Scholte etal., 2014). Patient satisfaction is considered one of quality indicatorsas itprovides PT with feedback from patients about their experiences of PT services (Hills and Kitchen, 2007).

Quinn and Gordon (2003) stated that the SOAP documentation format leads to general familiarity with the concept within the healthcare field. It also provides clear and well-organized documentation of findings with a natural progression from collection of relevant information to the assessment to the plan on how to proceed.

Regarding clients` satisfaction, there are some factors that have significant association with patient satisfaction, these factors are patient's age and sex, session duration, number of patients per session, continuity of care with the same therapist, contact time with the

physical therapy provider, and total number of sessions completed (Issa etal., 2013). In a study conducted by Rahmanand colleagues (2002) to assess the quality of care in inpatients and outpatients departments of government hospitals in Bangladesh, the results revealed that the following aspects had significant relationship with patient satisfaction ($p<0.001$); age, waiting time, time spent for patient examination, place of treatment, income, years of schooling and male sex. Less waiting time, younger patients, and patients with less education were more satisfied, whereas time spent for examination, income were positively related with patient's satisfaction. Furthermore, in a study conducted at Northern Europe, North America, the United Kingdom, and Ireland, by Hush and colleagues (2011), they found that patients are highly satisfied with musculoskeletal physical therapy care delivered across outpatient settings, as well as, the determinants of patient satisfactions are interpersonal attributes of the therapist, the process of care, and treatment outcome. Additionally, the physical therapists can promote the quality of care by understanding and optimizing these determinants of patient satisfaction. On the other hand, the findings of Hillis (2008) study revealed that there was no significant association between gender and age groups with patient satisfaction, and regarding the place of treatment, the findings of the qualitative data this study revealed that some patients were dissatisfied with the waiting area especially with the place of its seats. Also, a study conducted by Beattie and colleagues (2002) indicated that environmental factors such as clinic location, parking, waiting time, and type of equipment used were not strongly associated with overall satisfaction with care.

Nowadays, Healthcare quality does not depend only on client`s satisfaction, accordingly Mosadeghrad (2012) and Tabriziand colleagues (2011) determined healthcare quality attributes; whichare availability, accessibility, acceptability, appropriateness, affordability, technical competence, communication skills of healthcare provider and meeting their needs, allocating sufficient time for clients to ask their questions, includingclients in therapeutic decision making and giving right to accept or refuse the therapeutic decisions, sharing informing with clients properly, type of treatment, instructingclients to self-care, , availability of health services, continuity of care, duration of admission time, timeliness in service delivery, timeliness, privacy, confidentiality, responsiveness, accountability, accuracy, reliability, comprehensiveness, continuity, equity, environment, amenities and facilities, efficacy, effectiveness, efficiency, ensuring safety and security, improving quality of life and patient’s health status, and patient satisfaction.

Additionally, Mosadeghrad (2014) conducted a study in Iran to identify factors that affect healthcare quality, the findings of the study revealed that healthcare services arevarious between providers, clients, places, and time, because different professionals deliver the service to clients with different needs, as well as the quality in healthcare is a result of cooperation between the client and the healthcare provider in a supportive environment. Also, he found that the quality of healthcare services can be improved by proper human resources management and leadership and planning, building capacity for employees through education and training, availability of resources, effective management of resources and processes, and collaboration and cooperation among providers.

In healthcare settings, good care does not mean good performance, so performance measurement is an important mean to improve healthcare quality and to increase compliance with practice guidelines (Werner and Asch, 2007). Performance management is a vital component of human resource management that ensures the effective use of limited resources (Baines, 2009), also it is a continuous process of identifying, measuring and developing the performance of workers and aligning it to the strategic goals of the organization (Armstrong, 2009).

Regarding the outcome of PT treatment, it has been proved that appropriate and timely PT treatment of musculoskeletal injuries is the most effective way to prevent complications, restore function, and minimize the chance of recurrence of the same injury. Mode of PT treatment and application of specific PT modalities and therapeutic exercises are based on the stages of healing and aims of treatment; pain control, improve range of motion, improve strength, neuromuscular retraining, and return to full activity. The commonly used modalities, in addition to therapeutic exercises, include heat, cold, ultrasound, electrical stimulation, phonophoresis, and iontophoresis (Chapman etal., 2007). Furthermore, systematic reviews found that therapeutic exercises are effective in treatment of knee osteoarthritic patients as it reduce pain and improve physical function (Iwamoto etal., 2011). Also, for low back pain, PT spinal manipulation is safe intervention that improves clinical outcomes for patients with low back pain (Kuczynski etal., 2012).

Tsai and colleagues (2007) study findings found that patient satisfaction with the physical environment of waiting areas was associated with gender, age, visiting frequency, and visiting time.

2.10 Interaction with client and shared information

One of the requirements for good clinical practice in PT is patient involvement as it improves patient satisfaction, adherence, and health outcomes. Clients` involvement in healthcare decision making or expressing opinions about different methods of treatment includes sharing information and accepting health team instructions. Decision making is influenced by different factors such as service provider-client relationship; allocation of sufficient time for participation in treatment, clients` knowledge, physical and cognitive ability of the client, beliefs, values and clients` experiences in relation to health services (Vahdat etal., 2014). Accordingly, Hofstedeand colleagues (2014) indicated that the most important conditions for better shared decision making perceived by both client and provider are knowledge, information provision and a good relationship. Moreover, Lærum and colleagues (2006) investigated patients` perception of healthcare providers and found that it is crucial to the quality of interaction being seen, heard, and believed. Therefore patients appreciated professionals who expressed interest in what they said and who showed signs of empathy, active listening, and understanding of their problem.

Dierckx and colleagues (2013) found that 36.7% of the patients wanted to share decisions, and 36.2% preferred to give their opinion before delegating the decisions in PT. On the other hand, Matar (2016) indicated that, there was good interaction, communication, and information transmission between the clients and service providers in governmental hospitals at the GS.

Moreover, in a conducted study, Beattie and colleagues (2002) indicated that a high-quality interaction with the therapist such as contact time with the provider and adequate explanations and instructions to patients was strongly associated with overall satisfaction with care.

A systematic review study was conducted by O'keeffe and colleagues (2016) to investigate physical therapists` and patients` perceptions of factors that affect patient- therapist interactions in musculoskeletal settings; the main factors found were physical therapist interpersonal and communication skills, physical therapist practical skills, individualized patient-centered care, and organizational and environmental aspects. These factors`

presence or absence may act to positively or negatively influence interactions, treatment success, and satisfaction.

Treating clients with respect and involving them in decision making could affect the outcomes of care, as Beachand colleagues (2005) study findings revealed that there is association between positive outcomes with respecting clients, treating them with dignity and involved them in decisions; a high level of satisfaction was higher for those treated with dignity (0.70)compared to not treated with dignity (0.38) ($P < 0.001$) and for those involved (0.70) in, versus not involved (0.39) in, decisions ($P < 0.001$).

2.11 Waiting time and contact time

Anderson and colleagues (2007) found that waiting time was negatively associated with clients' satisfaction; as longer waiting time is associated with lower clients' satisfaction. They also suggested increasing the contact time in order to improve clients' satisfaction, as the contact time is a stronger predictor of clients' satisfaction than is the waiting time. Additionally, Bleustein and colleagues (2014) found that not only the clients satisfaction negatively affected by the longer waiting times, but the longer waiting times also affect perceptions of information, instructions, and the overall treatment provided by caregivers.

Another study conducted in Quebec, Canada, by Mazer and colleagues (2006) to examine physical therapists` and occupational therapists'perceptions regarding waiting time and the quality and quantity of their provided services, the findings of the study showed that physical therapists, experienced and knowledgeable therapists perceived higher quality of services. Physical therapy session time is recommended to be reasonable. In a study conducted in Gaza Strip, by Matar (2016) to evaluate physical therapy services at governmental hospitals, the findings revealed that there is high level of satisfaction with the waiting time, and low level of satisfaction with contact time with health providers, also there was association between waiting time and the utilization of services. The results revealed that the mean of waiting time did not exceed 20 minutes to conduct the service on the waiting time was acceptable for 78% of participants, as well as, the mean of contact time with provider was 26.41 minutes. Accordingly, Kumari and colleagues (2009) indicated that the waiting time was more than 30 min for 62.5% of those attending the tertiary level health facility. On the other hand, Hillis (2008) study revealed that patients

who had reasonable physical therapy treatment sessions showed higher satisfaction with the physical therapy services than those who had short physical therapy treatment sessions, also it revealed that there were no significant relationship between waiting time and patients` satisfaction.

2.12 Appointment system

Appointment system has proved beneficial for both clients and providers in PHC setting in developed countries. Itassists in organizing attendance and in providing better care for chronic and other conditions where follow up is important (LaGangaand Lawrence, 2012). Also, it is perceived as an indicator of a good quality services by providers and clients (Engels etal., 2005). In addition, Ahmadi-Javidand colleagues (2017) indicated that an appointment policy is established for a specific outpatient system, with the goal of reducing a combination of patients' expected waiting times and provider`s expected overtime. Another study, Harper and colleagues (2003) stated that alternative appointment schedules drastically reduced patient waiting times.

In a study conducted by Matar (2016), the results showed more than two-third of patients were satisfied with the way booking an appointment, and the majority of patients indicated that appointment time and date were convenient to them.

2.13 Continuity of care

There is association between continuity of care and improving outcomes of care, thusit is indirectly affecting the quality of care (Alazri etal., 2007). Longitudinal continuity, which means that the patient seen by the same PT for the entire course of treatment, is one of patient satisfaction factors, Beattie and colleagues (2005) reported in a study about association of longitudinal continuity of care with patient satisfaction with PT that longitudinal continuity of care is a way of improving patient satisfaction with care, as they found that participantswho received their entire course of PT treatment from only onetherapist were satisfied with care approximately three times more than those who received care from more than one therapist.

Adherence to physical therapy clinical practice guidelines may have an important effect on certain measures of healthcare utilization, outcome and costs. Hanney and colleagues (2016) conducted a systematic review study to evaluate the impact of physical therapy guideline adherence on subsequent healthcare costs and utilization for patients with low back pain, and the results revealed that participation in an adherent physical therapy treatment program results in lower overall healthcare utilization including fewer physical therapy visits, shorter duration of care, fewer prescription medications, fewer visits to the physicians or emergency department and less use of advanced imaging and injection procedures, thus achieve good outcomes. Therefore, physical therapy providers should identify the barriers to treatment adherence and overcome it, Jackand colleagues (2010) study showed that in musculoskeletal populations, there was strong evidence that poor treatment adherence was associated with low levels of physical activity at baseline or in previous weeks, low intreatment adherence with exercise, low self-efficacy, depression, anxiety, helplessness, poor social support or activity, greater perceived number of barriers to exercise and increased pain levels during exercise.

Number of visits of the patient for PT depends on the patient needs, as the patient may receive one or several therapy sessions, and it may be several times weekly for several months. Therefore, there is a need for knowledge of the disease history, and the effective therapy interventions. In addition, complete and accurate documentation from the physical therapists is very important to make accurate determination of treatment necessity (Moorhead and Clifford, 1992).

2.14 Knowledge and skills of providers

Knowledge and skills of providers are very important to achieve best outcomes of clients` management in the clinical settings; therefore, the provider needs to have clinical, educational, and managerial skills and knowledge to identify treatment process, know how to manage the department, staff, time, clinical setting, and client, as well as, educate the clients and give them the needed instructions in treatment course as needed, also the staff when needed. Ennisand colleagues (2012) stated that physical therapists assist patients in overcoming impairments and limitations and enhancing the quality of their health and medical care, through patient education and effective intervention strategies.

In addition, Deutscherand colleagues (2009) indicated that physical therapists need to have educational skills beside clinical skills, to know how to educate patients, thus achieving better outcomes by improving patient compliance with self exercise programs and with attending therapy; as better outcomes were achieved when patients were more compliant with their attendance to the treatment and with their exercise program as it is time-consuming.

Accordingly, Matar (2016) indicated that the physical therapy providers have good knowledge and skills and they are professionals and well-trained., also 99.1% of participants indicated that the providers were respectful and 95.7% of participants indicated that their privacy was maintained and respected. On the other hand, Hillis (2008) reflected that the patients have reported satisfaction level 90% in physical therapy providers' skills, also high level of clients` satisfaction (92.7%) was for privacy and staff respect.

Moreover, Rajashree (2011) indicated that good communication skills areused for information gathering, diagnosis, treatment, and patient education, so it isimportant for high quality, effective, and safe medical practice). In addition, Matar (2016) study revealed that 79.6% of participants indicated that they communicated freely with the providers, also more than two-third (83.2%) of the participants stated that providers were qualified competent staff. In congruence with Al Hindi (2002) study which revealed that 77% of participants satisfied with communication and interaction of providers with them.

In healthcare setting, clinical experience helps in improving the provider`s skills and knowledge. Sakurai and colleagues (2016) study results showed that the clinical experiences influence therapists` specialties and clinical abilities, as the longer the clinical experience, the higher the scores for therapists` basic attitudes, therapeutic skills, and clinical practice-related thoughts. Furthermore, therapists with experience in supervising other staff members need to developappropriate attitudes and other abilities, such as those related to self-management and self-education for continuous improvement, beside knowledge to simply implement therapy-related duties, perspectives on clinical practice, and techniques to conduct therapy evaluation.

Regarding referral to physical therapy setting, and the clinical skills of physical therapist, one study conducted by Liu and Fletcher (2006) to identify the primary reasons for

physicians' referrals to an out-patient physical therapy clinic and to determine whether further diagnosis by the physical therapist is necessary prior to treatment, one-third of the referrals sent to physical therapy included no medical diagnosis, with the most common reason for the referral listed as pain, so it is necessary for physical therapist to make further diagnosis, as no properly physical therapy management could be based on a physician referred diagnosis of pain.

2.15 Workload

Physical therapy workload can be defined as the total time spent on conducting interventions as assessment of patients and individual therapy sessions, and administration issues as documentation and reporting, also, communication issues as team discussionsfor each patient (Roach, 1998).

The workload could be determined by evaluation for the workers. Accordingly, Gesme and Wiseman (2011) stated that a good and effective evaluation system for workers gives practice leaders the information needed for decisions such as staff development, job promotions, workload distribution, and compensation. Moreover, the workload, provider`s education and payment are considered factors that could determine decisions about the interventions and care of patients in physical therapy settings, rather than the severity of the medical condition (Jette and Jette, 1997).

Grill and colleagues (2010) study revealed that the mean values for workload per actual treatment day were 49 minutes for neurological conditions, 46 minutes for musculoskeletal conditions, and 33 minutes for cardiopulmonary conditions. In addition, regardless the conditions, the values for workload per day were 2 minutes for communication items, 6 to 7 minutes for administration items, and 34 minutes for intervention workload per treatment day.Physical therapy workload varied across hospital settings and clinical specialties. Interventions aimed at patient transfer or shifting of body position had the most prominent effect on workload, regardless of the underlying health condition.

Physical therapy workload has determinants, such as physical therapy intervention goals and functional status, but there is little available information about it due to lack of

standardized documentation of physical therapy interventions, their rationale, and their outcomes, despite these determinants are essential for planning interventions, for understanding and justifying resource allocation and, ultimately, for appropriate reimbursement (Jette, 2016).

Workload is considered one of the workplace stressors for physical therapy providers in regional public facilities, as indicated by Lindsay and colleagues (2008) study which revealed that the key workplace stressors were caseload quantity, complexity of patients, constant excessive workload and covering staff on leave and staff shortages, also younger therapists were more likely to identify stressors with greater frequency (F=4.173, n= 0, P=0.009). Furthermore, Blau (2002) study indicated that excessive work demands, a loss of control, frustration with clients, a lack of support,and difficulty with professional relationships are issues in the psychosocial work environment which lead to job stress.

2.16 Availability of protocols and technical instructions

The protocol has the meaning of rules or instructions about how to do a specific process clearly, and without error. Globally, healthcare providers have attempted to produce recommendations to improve and standardize clinical practices; therefore, protocols were constructed and best written by their own interpretations. Protocols include best practice statements for concerns regarding screening, diagnosis, management or monitoring (Kredo etal., 2016).

In healthcare settings, protocols are essential for facilitating the standardization of care and help in decision-making through rationalizing the information with which to make judgments and ultimately decisions (Rycroft-Malone etal., 2009). Additionally, policies, protocols, and regulations are essential to understand and regulate roles and responsibilities in health service provision, as well as, descriptions of procedures, practices, and guidelines are usually created by service provider as tools to help work accomplishment and to facilitate decision making to ensure appropriate consistency and efficient and effective service delivery.

Matar (2016) stated that there were few available protocols in the physical therapy departments at governmental hospitals in the GS.

2.17 Perceived improvement of clients

Physical therapy providers are in a best position to promote health and wellness in their clients. They can minimize risk factors and prevent and treat chronic andnon-communicable diseases by health education; prescribing physical activity and exercise; and performing noninvasive, manual interventions (Dean etal., 2014). Moreover, Effective human resources management strategies are very important to achieve better health care outcomes and better access to health care (Kabene, 2006).

In a study conducted by Deutscherand colleagues (2009) to investigate the association between patient characteristics, treatments and outcomes in outpatient physical therapy practice, it is found that better functional outcomes were associated with high patient compliance with self-exercises, use of active exercises, number of completed functional assessments during therapy, high participation in routine physical activity, and use of manual therapy. Moreover, Fritz and colleagues (2011) conducted a study about utilization and clinical outcomes of outpatient physical therapy for clients with musculoskeletal conditions, the findings revealed that the most common body regions were the lumbar spine, shoulder, and knee, collectively accounting for 71.3% of the duration of care, and 63.9% experienced an improved outcome with the mean of 6.8 visits for clients.

Physical therapy interventions assist the providers to achieve best outcomes. Vincent and colleagues (2014) conducted a study to determine the effects of strengthening exercises on reducing the pain and symptoms experienced by obese and older adults with chronic low back pain, they found that strengthening exercises increase the strength of back extensor by approximately 20%, also it improves walking speed and endurance after four months of completing the strengthening exercise program, and it positively affectsthe functional performances.

2.18 Service providers` commitment to work

Commitment and justice are important elements of interactions and relationships between patient and health care provider (Holmvall etal., 2012).

Human resource management affects satisfaction and commitment of employee in the organization which affects quality of service delivery; satisfied and committed employees deliver better health care, which results in better outcomes and higher patient satisfaction (Mosadeghrad etal., 2008).

Regarding El Shaer (2016) study, healthcare providers at UNRWA have a high level of commitment to the work to serve their community and provide great services to their people to save their life and decrease their suffering, main factors that affect commitment to work are staff interaction, work environment, motivation, performance appraisal, and employee development and growth, therefore, commitment needs to be empowered by administration.

Chapter Three

3. Methodology

3.1 Introduction

This chapter provides a detailed description of the study methodology. It begins by explaining the design of the study, the method of data collection and analysis, sampling technique, study population, and study settings. Then, it describes strategies to ensure the validity and reliability of the study instruments, ethical considerations, and finally the study limitations.

3.2 Study design

The design of this study is a mixed methods one; it involves utilizing both quantitative and qualitative data. This study is a descriptive, analytic and cross-sectional study. This methodology allows collecting richer data than do separated quantitative and qualitative data collection and analysis. Therefore, the mixed method could decrease the weaknesses of each separated form of data, thus, it could provide better understanding of the research problem than either method alone(Creswell and Creswell, 2017). Across sectional design reflects the presented facts at one point of time of data collection (Levin, 2006). In addition, cross sectional studies are relatively quick, cheap, could study many outcomes, and could be done by questionnaire (Mann, 2003). This study utilizes methodological triangulation between quantitative method (administered questionnaire with clients), qualitative method (in depth interviews with physical therapy providers) and records review- check list to enhance understanding the quality of documentation.

3.3 Study settings

The study was conducted at five randomly selected PT units of UNRWA's health centers in the GS which are distributed across the five governorates of the GS; Jabalia health center (North governorate), Rimal health center (Gaza City governorate), Nuseirat health center (Mid-Zone governorate), KhanYounis health center (Khan Younis governorate), and Rafahhealth center (Rafah governorate). It is worth mentioning that the interviews were

also conducted with physical therapy providers at same selected UNRWA health centers where the study conducted.

3.4 Study period

The study was started after having a letter of approval from the university and obtaining the ethical approval from Helsinki committee (Annex 2) to conduct the research in August 2017. The study was performed in the year 2017-2018; it started in September 2017 and finalized in April 2018. Quantitative and qualitative data collection tools were developed, validated, revised and finalized in September 2017. Pilot study was conducted in October 2017 after agreement of the Head of Health Department at UNRWA (Annex 3) to conduct the study, then data collection began in the mid of October 2017. Data entry and cleaning were conducted in December 2017. Coding and analysis of both quantitative and qualitative data were conducted in February 2018. The study final report was completed in June 2018.

3.5 Study population

Concerning quantitative data, study population consisted of clients of physical therapy services of physical therapy units at UNRWA health care centers.Population of study was the clients attended the eleven PT units of UNRWA health centers.According to UNRWA health department- annual report(2017), a total of 13,430clientshad received PT services through PT units of UNRWA health centers in the GS. Therefore, on monthly average, each unit provides services for almost 100 clients.

Regarding the qualitative data, data were collected by conducting thirteen in-depth interviews. Participants of in-depth interviews were: one key informant of physical therapy at UNRWA, six physical therapists; two from Rafah health care center, and one from each other health care centers, and six physical therapist assistants; two from Jabalia health care center, two from Rafah health care center, one from Nuseirat health care center, and one from Khan Younis health care center.

3.6 Sample size

3.6.1 Quantitative study

Using Raosoft website, online sample size calculator **(Annex 1)**, the sample size was estimated to be 374 clients at 95% confidence interval. The researcher increased the

sample size to 400 clients, in order to compensate any possible non-respondent, get a representative sample, and increase the power of the study. The sample was from five PT units at UNRWA health care centers in the GS, and PT units are randomly selected and distributed in the five governorates in the GS. The selected health care centers are Jabalia (North Gaza governorate), Rimal (Gaza governorate), Nuseirat (Deir El-Balah governorate), KhanYounis (KhanYounis governorate), and Rafah (Rafah governorate) health care centers. The proportional representation of the clients of each PT unit is summarized in Table (3.1) and it is as the following; 20% for Jabalia health care center, 22% for KhanYounis health care center, 19% for Nuseirat health care center, 17% for Rimal health care center, and 22% for Rafah health care center. The below calculations were based on number of clients in 2016.

Table (3.1) Proportional representation of clientsat PT units of UNRWA health centers

Health care center	No. of clients	Percentage	Proportionate
Jabalia	1920	20%	80
Khan Younis	2112	22%	88
Nuseirat	1824	19%	76
Rimal	1632	17%	68
Rafah	2112	22%	88
Total	**9600**	**100%**	**400**

For records review-check list, the researcher checked 150 files; thirty files from each physical therapydepartment selected to the study. The selection of 150 was done randomly through Systematic Sampling technique to select files from the file archives. The researcher selected the first file randomly and then every tenth file was selected to be checked.

3.6.2 Qualitative study

The sample for in-depth interview was thirteen participants; one key informant of physical therapy at UNRWA, six physical therapists and six physical therapist assistants. Participants were purposefully selected to reflect geographic locations, years of experience, and academic qualifications.

3.7 Selection of participants

Clients of physical therapy services were selected randomly from physical therapy units at UNRWA health centers that randomly selected to the study. The Researcher used Systematic Sampling technique to select study participants. The Researcher selected the first case randomly and then every fifth case was selected. Participants were interviewed after receiving their treatment.

3.8 Eligibility criteria

3.8.1 Inclusion criteria: Quantitative data

1. Clients who have received PT services, at least three sessions, as the maximum number of sessions the patient could have per week is three sessions.
2. Clients aged 18 years and older.
3. Clients who are conscious.

3.8.2 Inclusion criteria: Qualitative data

1. Physical therapists and physical therapist assistants with more than one year experience and work at PT units of UNRWA in the GS.
2. Records review- check list for files of clients who received at least 3 sessions of treatment in PT units.

3.8.3 Exclusion criteria: Quantitative data

1. Paediatric clients; under age 18 years.

3.8.4 Exclusion criteria: Qualitative data

1. Physical therapists and physical therapist assistants with less than one year experience, work at PT units of UNRWA in the GS.
2. Physical therapists and physical therapist assistants working at other health institutes.
3. Records review- check list for files of clients who received less than 3 sessions of treatment in PT units.

3.9 Study instruments: Quantitative study

A face to face interview questionnaire was used in this study **(Annex 4)**. The questionnaire was developed by the researcher according to the study objectives and then it was reviewed and approved by public health, physical therapists, and research experts (Annex 8) to increase the validity of the content.

The following components were included in the questionnaire:

- General information and demographic variables.
- Privacy at the physical therapy department.
- Suitability of physical environment of the department.
- Accessibility to the physical therapy services.
- Satisfaction with provided services.
- Appropriateness of provided services.
- Participation in treatment program.
- Perceived improvement from delivered services.
- Information and communication.
- Waiting time, contact time, total service delivery time.
- Appointment system.

For records review-check list analysis, the researcher developed the check list **(Annex 6)**. It was reviewed and approved by public health experts and physical therapists to ensure the content validity. The check list was designed to better explore the effectiveness of physical therapy services by determining the following items in the file; Clear, Accurate, Disordered, Complete, Consistent, Concise, Legible, Utilized, Reference time, Confidentiality and privacy protection, Compatibility between files format, Usefulness of data notes, Regularity, and Documentation with SOAP (Subjective, Objective, Assessment, Plan of treatment) notes approach.

3.10 Study instrument: Qualitative study

Guiding questions for interviews were developed by the researcher (**Annex 5)**; the guiding questions asked by the researcher and documented by one assistant. Those questions covered areas of general views about work and management at physical therapy units of UNRWA in the GS, availability of policies and guidelines, availability of protocols and the

extent to utilize it, capacity building, challenges that face providers during services provision, and areas of future improvement.

3.11 Scientific rigor: Quantitative part (Questionnaire)

3.11.1 Validity: Face validity

The degree to which a study instrument appears to measure the construct of interest and its wording is meaningful to client. Assessment of face validity is an essential step in the first stage of developing evaluation tools and determining whether a study instrument is valid (Townsend, 2006). The questionnaire was well-structured by the researcher to ensure its reasonableness and appropriateness, and to allow easy data collection and data entry. During the validation process, the questionnaire lay out was reviewed and formatted several times before the final version was submitted.

3.11.2 Validity: Content validity

The degree that the instrument covers the content that it is supposed to measure. Content validity expresses the representation of current available knowledge in the construct of interest. It is an essential quality indicator of an instrument's validity and provides insight into its feasibility and practicability (Haynes etal., 1995).

Content validity usually depends on the judgment of experts in the area of expertise, so judgment of experts in physical therapy and public health who evaluated components, context, and the content of the instruments and their comments, advices, and feedback were taken in the account, to ensure their relevance in the finalization of the questionnaire and records review-check list. **(Annex8)** has names of experts who validated the questionnaire.

In addition, questionnaire modification was done according to the feedback from the pilot study which had been conducted before the actual data collection started.

3.11.3 Reliability

Reliability is the ability of instrument to measure consistently (Tavakoletal., 2008). For estimating internal consistency reliability, the most widely used method is the Cronbach's alpha (Trizano-Hermosilla and Alvarado, 2016), so, the researcher used Cronbach`s alpha to measure the reliability of the questionnaire items. Data was checked for internal

consistency of the domains to demonstrate the appropriate clustering of items. The domains of the questionnaire were tested twice; the first test was done after collecting 30 questionnaires during the pilot study stage, and the reliability score with Cronbach`s alpha was (0.809) reflecting a good reliability. The second one was done after collecting the study sample, and the Cronbach`s alpha was (0.831) showing a good and higher reliability. Moreover, to ensure instruments reliability, the researcher was the data collector to ensure the standardization of data collection; how to ask questions and how to fill in the questionnaire. Also, the participants` selection was according to the criteria of the research. All collected questionnaires were checked by the researcher. Data entry was by the researcher in the same day of data collection. Finally, to minimize the possible entry errors, re-entry of 5% of the data was done.

For records review-check list, the researcher collected data at the physical therapy unit, and analyzed it at the same day of its collection.

3.12 Scientific rigor: Qualitative partin-depth interviews

To establish trustworthiness of the qualitative data, Lincoln and Guba (1985) suggest that there are ways rather than reliability and validity which are used in quantitativedata. There are four criteria of trustworthiness: credibility, transferability, dependability, and conformability. To ensure trustworthiness of the qualitative data the researcher carried out the following actions; ensured compatibility between the research questions, objectives and methods of data collection, and developed tools of data collection.

Peer check was done to revise the in-depth interview questions to assure that they cover all the required dimensions. Then debriefing sessions between the researcher and supervisor was done to ensure the credibility of the instruments. In addition, random sampling was done according to the eligibility criteria. The researcher informed the participants that the participation in the interview is voluntary, and they have the right to accept or reject to answer any question. The interview was not recorded; however, handwritten notes were taken throughout the interview for what was said and produced transcripts of the data by the researcher and her assistant to ensure accurate information.Also, examination of previous researches to frame findings as recommended. Data coding and analyzing of the qualitative data were done immediately after the completion of every interview. The researcher used independent coding, interpretation of the qualitative data, and used

consensus discussions to ensure the integrity in data analysis. Finally, all the transcripts were kept for tracking the information when needed at any time.

3.13 Pilot study

For quantitative part, a pilot study was carried out through collecting data from 30 participants to explore appropriateness, validity and reliability of the study instrument, and to let the researcher train for data collection and check for the clarity of meaning, scales, time taken to fill the questionnaire, and for expecting response rate. The study pilot was conducted at three UNRWA health centers; Jabalia health center, Rimal health center and Nuseirat health center. As a result of piloting, no major modifications were introduced into the questionnaire; it was only deleting for some items. Thus, the 30 piloting participants were included in the final set of data.

For qualitative part, a pilot interview was done with one interviewee, which allow for further improvement of the study validity and reliability. On the light of the result of this stage; the questions were ordered and the way of asking questions was improved to be more deeply.

3.14 Data collection: Quantitative part

After the piloting was done, the researcher started the field work of data collection. The quantitative data was collected by the researcher through interviews that conducted with participants to answer the questionnaire. After coordination with health center management and physical therapy department management, interviews with the study participants were carried out to avoid disruption of the daily work and to assure suitable environment for the study participants to answer the questionnaire where disruption is minimal. All interviews were carried out with participants after receiving their treatment. Data collection was carried out at different days of the week to assure equal chances for sample selection and also represent various days of the month wheredifferent clients flow were captured and participants selected randomly. Interviews were carried out at the waiting area of the physical therapy department. The Researcher used Systematic Sampling technique to select study participants. The Researcher selected the first case randomly, and then every fifth case was selected. Participants were interviewed after receiving their treatment. The researcher explained to each participant the ethical and administrative considerations in

conducting the study. Then the researcher was reading questions one by one in the same phrasing in Arabic language to all participants, and gave the time to the participants to respond accordingly, and provided clarification of questions when needed. On average, each questionnaire took about ten minutes to be filled. Thereafter, the researcher skimmed through the questionnaires to ensure that all questions have been answered.

For the record review, 150 medical records were randomly selected from the five health centers to be reviewed according to the items determined in the check list; 30 medical records were selected through simple random technique from each physical therapy department at the five health care centers. The researcher had approval, from the Head of Health Department at UNRWA**(Annex 3)**, to fill records-review check list. The researcher filled the check lists of the reviewed records from the five health centers. It is noteworthy to mention that records were reviewed at the physical therapy department by the researcher, and its confidentiality and client privacy were assured by the researcher throughout the process of records review.

3.15 Data collection: Qualitative part

After collecting and analyzing the quantitative data, in-depth interviews were conducted. The in-depth interviews involved thirteen physical therapy providers; one of them is key informant, all of them working at physical therapy units of UNRWA health centers, and with managerial positions.

A well- structured guiding questions was used. The in-depth interviews were conducted at different locations within UNRWA's health care centers. In general each interview lasted 30 minutes.During the interviews, the researcher started with thanking the participant for their time. Then, the researcher introduced the study objectives and explained the ethical and administrative considerations of conducting this study. Interviews were not recorded; however, notes were taken throughout the interviews by the researcher and her assistant to ensure accurate information. To the possible extent, the researcher tried to ensure that all participants expressed their views and opinions. Thereafter, prolonged engagement and probing techniques were used to make sure that all topics were discussed.

3.16 Response rate

None of the clients refused to participate in the study, thus, the response rate was 100%.

3.17 Data entry and analysis

3.17.1 Quantitative part

Data entry and statistical analysis were performed by using Statistical Package of Social Science (SPSS) program. SPSS was used to conduct data entering, data cleaning, frequency and cross tabulation, and data analysis. Descriptive statistics were used to describe the basic characteristics of the study sample, independent sample T test was used to compare two means of independent variables, while Chi square test was used to compare categorical variable.In addition, findings of records review check-list were analyzed and the findings documented.

3.17.2 Qualitative part

Debriefing report for each interview was done immediately at the end of each interview, at the same day. It is worth to mention that participants refused to record the interviews. Open coding thematic analysis was used to analyze the collected data through in-depth interviews. The researcher decoded the main findings from the written transcripts under themes. After that, categorization based on selected themes was done using Microsoft Excel program, and triangulation between the quantitative and qualitative findings was done to enrich results and strengthen and validate discussion.

3.18 Ethical and administration`s considerations

The researcher obtained the approval from Al-Quds University and the approval from the Hilsinki committee in the GS to conduct the study **(Annex 2)**. An approval from the Head of Health Department at UNRWAin the GS was obtained, as well **(Annex 3)**. To guarantee participants` rights of privacy and confidentiality, a consent form was prepared **(Annex 9)**; in the consent form it is clearly stated that the participation in the study is optional, confidentiality is promised and maintained, and data analyses will not reveal any personal information.

3.19 Limitations of the study

1. Personal interview questionnaire was expensive and time consuming.
2. Difficulties in recruitment participants and data collection from the five health care centers.
3. Limited financial resources, as this study is funded by the Researcher
4. The study included only clients visiting the PT units within the study period while the opinions of people who received PT services from the PT units of UNRWA and did not exist at the time of the study could be important or reflect better image for reality.
5. The study excluded children- aged less than 18 years old, while children also receive PT services from the PT units of UNRWA, and the opinion about the services delivered to them could be important or reflect a better image for reality.
6. Limited working hours at UNRWA health care centres, which drive the Researcher to collect all the data during limited working hours
7. Frequent power shortage.

Chapter 4
Results and discussion

This chapter presents the main quantitative and qualitative findings of this study. It starts by outlining the main descriptive results of the study, such as demographic characteristics, health status of the study participants, characteristics of physical therapy services such as accessibility and quality of provided physical therapy services. It also highlights the main inferential analysis of selected variables. The inferential analysis focused on examining the relationship between the selected variables of interest and other selected covariates. The chapter also underlines the main qualitative findings from thirteen in-depth interviews. Participants of in-depth interviews involved one field officer of physical therapy at UNRWA, six physical therapists and six physical therapist assistants; two from Jabalia health care center, two from Rafah health care center, one from Nuseirat health care center, and one from Khan Younis health care center.

The in-depth interviews aimed to address the following main areas:

- Availability of written protocols and technical instructions
- The extent to which physical therapy providers meet the needs of clients
- Available of human resources to provide all the needed services with a good quality and staff committed to clients work plan
- Suitability of physical therapy services
- Quality of provided services and main challenges and barriers face service providers

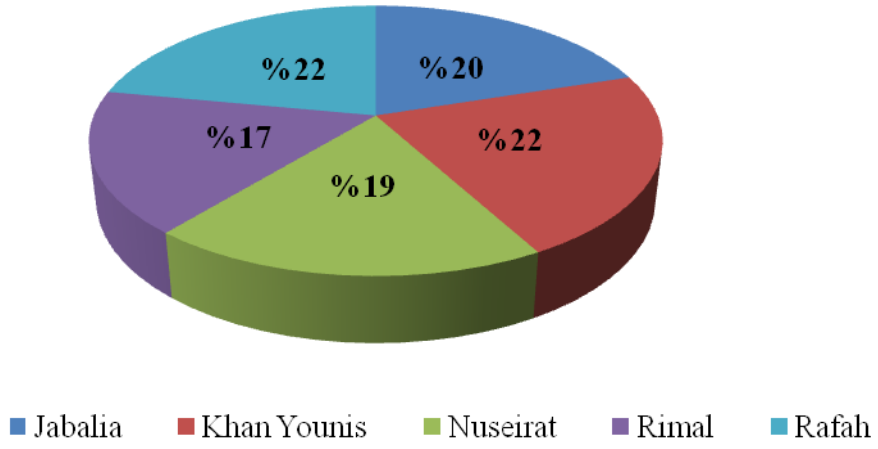
The researcher presented qualitative data in this chapter according to the participants` opinions and perceptions. Quotations from participants are presented throughout this Chapter. As reminder, all participants in the in-depth interviews have been working in their current positions for at least three years.

Finally, this Chapter is also summaries the main findings from records review.

4.1 Descriptive analysis

It is worth mentioning that the researcher collected the quantitative data from the study participants through well-structured questionnaire from PTunits at five UNRWA`s health care centers in the five governorates of the GS; one health care center in each governorate. The total number of study participants is 400 patients. As shown in Figure (4.1), 17% of the study participants were clients from Rimal health care center in Gaza Governorate, 22% were clients from Khan Younis health care center in Khan Younis governorate, also 22% were clients from Rafah health care center in Rafah governorate, 19% clients were from Nuseirat health care center in Deir El-Balah governorate, and 20% were clients from Jabalia health care center in North Gaza governorate.

Figure (4.1): Distribution of study participants by UNRWA Health Care Centers



4.1.1 Characteristics of the study participants

1. Socio-demographic

The results of the study have revealed obvious variations among the study participants. The main variations are in gender, age, educational level, marital status, employment status and income, as shown in Table (4.1).

Participants` gender and age

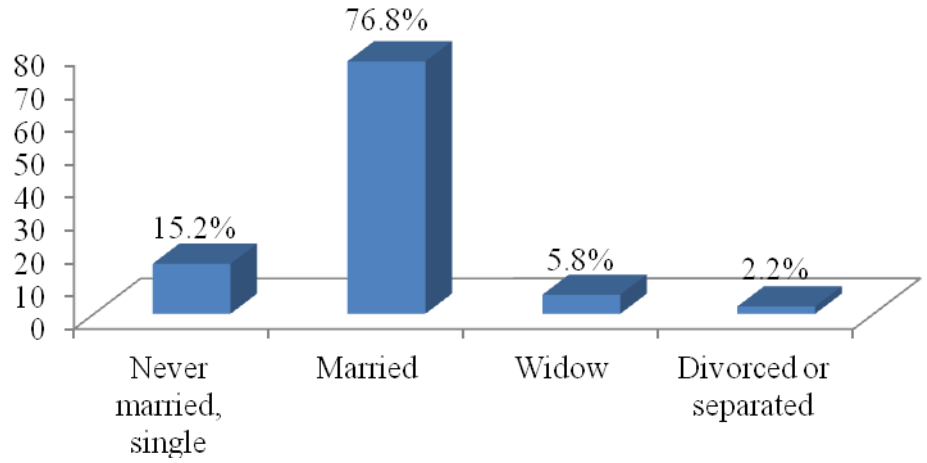
Table (4.1) shows that femaleclientscomprised about more than half of the study participants (58%), while 42% of the study participants were male clients. Regarding study participants' age, the overall mean of participants` age was 42.95 years, with (SD=13.51, range=58). As shown in Table (4.1), 9.8% of the study participants were between 18 and

24 years old, approximately one third of the study participants (31%) were between 25 and 39 years old, less than half of the study participants (46.8%) were between 40 and 59 years old, and 12.4% of the study participants were 60 years and older.

Marital status

At the time of data collection, Figure (4.2) shows that more than two-thirds of the study participants (76.8%) were married, 15.2% of the study participants were single, and about 8% of the study participants were from other groups; widowers, divorced, or separated.

Figure (4.2): Distribution of participations according to marital status



Employment status

Concerning the employment status as shown in Table (4.1), overall, about 65.7% of the study participants were unemployed, and more than one-third of the study participants (34.3%) were employed. The high unemployment rate could be explained by the fact that 58.3% of the study participants were females, in which, as shown in Table (4.1), only 19.7% of them were employed at the time of data collection compared to 45.5% of males who were employed. The study findings shows high unemployment rate among clients, also low participation rate of females in labor market compared with males, and these findings are consistent with the findings of PCBS (2017) and UNSCO (2017) as discussed in Chapter 1.

As shown in Table (4.1), overall, the average monthly income of the study participants was 1387.5 ILS, with (SD=1114.3). Only one quarter of the study participants (25.2%) have had a monthly income above thedeep poverty line (1974 ILS), while 74.8% of participants have had an average monthly income of lower than the deep poverty line. It is worth

mentioning that PCBS (2018b) stated that the deep poverty line in Palestine in 2017 was 1974 ILS. The researcher attributes these findings to the high unemployment rate and the blockade in the GS which plays an important role in the labor market and availability of jobs opportunities.

Table (4.1): Summary of Socio demographic characteristics of study participants

Demographic Data	Number	%
Gender		
▪ Male	167	42
▪ Female	233	58
Total	**400**	**100**
Age		
▪ Between 18 and 24 years old	39	9.8
▪ Between 25 and 39 years old	124	31
▪ Between 40 and 59 years old	187	46.8
▪ 60 years and older	50	12.4
Total	**400**	**100**
(Mean= 42.95, SD= 13.51, Range= 58)		
Educational level		
▪ Less than 12 years of education	101	25.3
▪ 12 years of education	118	28.2
▪ More than 12 years of education	186	46.5
Total	**400**	**100**
(Mean= 12.8, SD= 3.13, Range= 19)		
Employment status		
▪ Unemployed	263	65.7
▪ Employed	137	34.3
Total	**400**	**100**
Employment status, male participants		
▪ Unemployed	76	45.5
▪ Employed	91	54.5
Total	**167**	**100**
Employment status, female participants		
▪ Unemployed	187	80.3
▪ Employed	46	19.7
Total	**233**	**100**
Average monthly income		
▪ Less than 1974 ILS	299	74.8
▪ More than 1974 ILS	101	25.2
Total	**400**	**100**
(Mean= 1387.5, SD= 1114.3)		

2. Medical profile of the study participants and utilization of physical therapy services

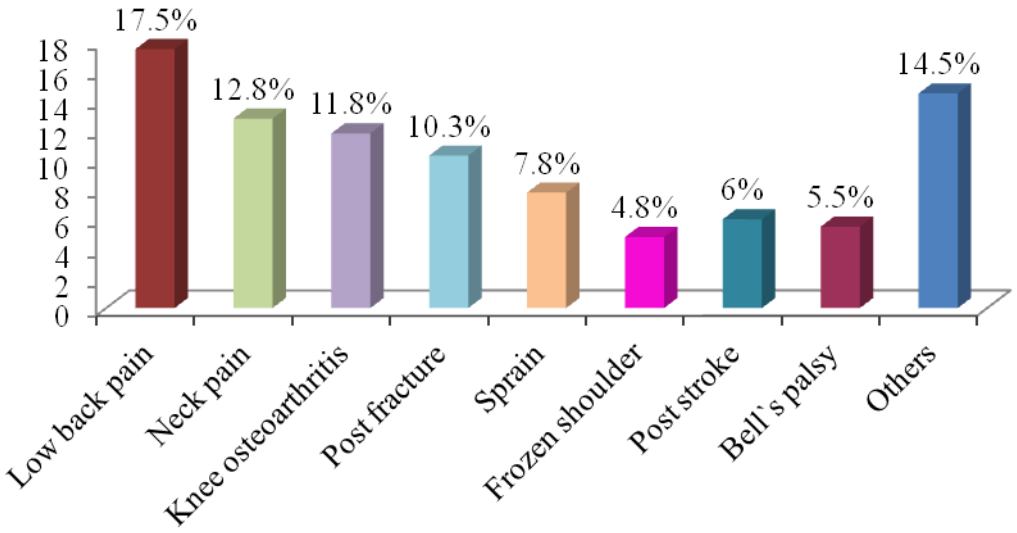
Received sessions

Regarding the distribution of the study participants by number of received physical therapy sessions, the overall mean of received physical therapy sessions was 9.51 with (SD=6.81). As shown in Table (4.2), 80% of the study participants have received less than 12 physical therapy sessions, and 20% of the study participants have received more than 12 physical therapy sessions.

Reasons for receiving physical therapy sessions

Figure (4.3) shows that 17.5% of the study participants were treated for low back pain, 12.8% of the study participants were treated for neck pain, 11.8% of the study participants were treated for knee osteoarthritis, and 10.3% of the study participants were receiving other services as rehabilitative services; namely post fracture. These findings are consistent with the findings of Fritz and Colleagues (2011) study which revealed that the most common cause of utilizing physical services is musculoskeletal conditions affecting the lumbar spine, shoulder, and knee

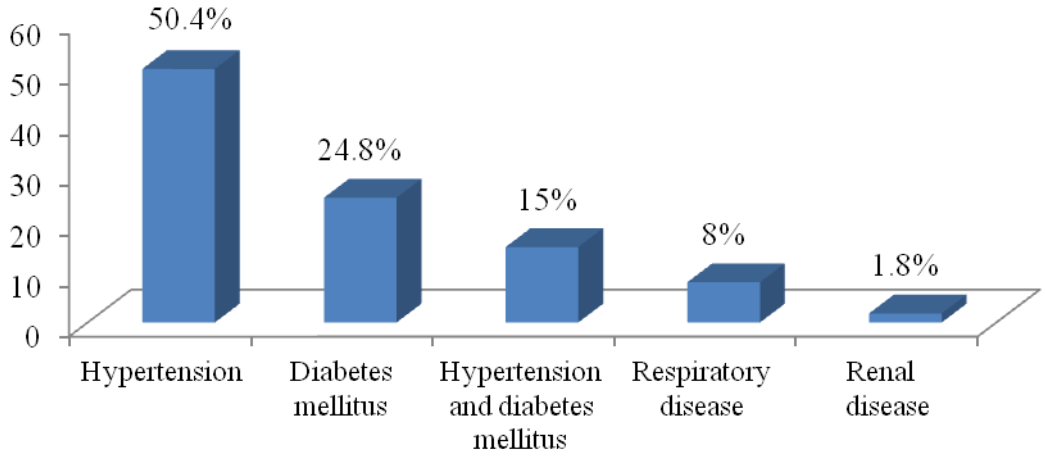
Figure (4.3): Summary of diagnosis for medical conditions



History of chronic diseases

As shown in Table (4.2), about 71.8% of the study participants indicated that they do not have any chronic diseases, while about 28.2% of the study participants indicated that they do have chronic diseases. Among the study participants who indicated that they have chronic diseases, more than half of them (50.4%) have hypertension, 24.8% of them have diabetes mellitus, 15% of them have both hypertension and diabetes mellitus, about 8.8% of them have respiratory disease, and only about (1.8%) of them have renal diseases, as shown in Figure (4.4).

Figure (4.4): Summary of chronic diseases of participants



Current utilization of physical therapy services from other service providers

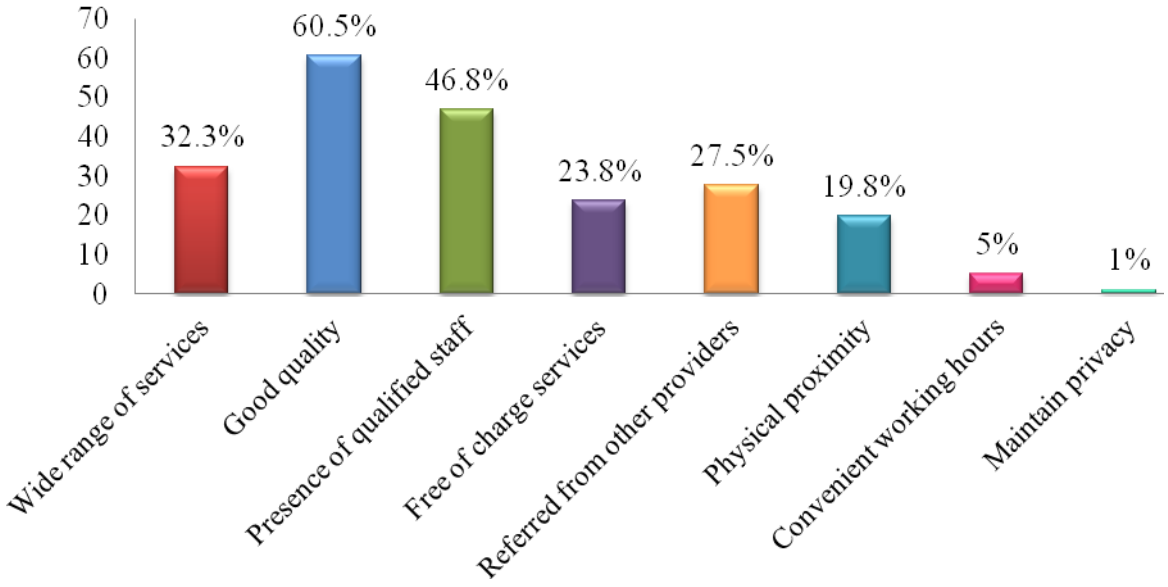
Table (4.2) shows that most of the study participants (98.8%) indicated that they are not currently receiving physical therapy services from other service providers, and the remaining of them (1.3%) are currently receiving physical therapy services from other service providers, mainly from NGOs.

Reasons for seeking physical therapy services from UNRWA health center

Regarding the reasons for seeking physical therapy services from UNRWA health care center, Figure (4.5) shows that about 60.5% of the study participants indicated that they are seeking physical therapy services from UNRWA health care center because the good quality of the provided physical therapy services. Additionally, about half of the study participants (46.8%) indicated that they are seeking physical therapy services from

UNRWA health care centers because its qualified staff, 32.3% indicated that they are seeking physical therapy services from UNRWA health care center because the presence of wide range of services, 27.5% indicated that they are seeking physical therapy services from UNRWA health center because they are referred from other healthcare providers, approximately one quarter of the study participants (23.8%) indicated that they are seeking physical therapy services from UNRWA health care center because the services are free of charge, and about 19.8% of the study participants indicated that they are seeking physical therapy services from UNRWA health care center because the physical proximity to their place of residence.

Figure (4.5): Summary of reasons for seeking physical therapy services from UNRWA clinics



Previousexperience of utilization of physical therapy services from the same UNRWA health centers

Regarding the distribution of the study participants according to the previousexperience of utilizing physical therapy services from UNRWA health care centers, as shown in Table (4.2), less than two-third of participants (64.5%) indicated that they have never utilized physical therapy services from the same UNRWA health care center, while about 35.5% have previous experience of utilizing physical therapy services from the same UNRWA health care center.

Previous diagnosis

Regarding the distribution of the study participants by the previous diagnosis to which physical therapy services were received from UNRWA health care center, Table (4.2) shows that 38.7% of the study participants suffered from low back pain, 28.9% of them suffered from neck pain, and 20.4% of them suffered from knee osteoarthritis.

Table (4.2): Summary of medical conditions and utilization of study participants to physical therapy services

Medical history	Number	%
Number of received physical therapy sessions		
▪ 3 to 6 sessions	157	39.2
▪ 7 to 9 sessions	95	23.8
▪ 10 to 12 sessions	68	17
▪ More than 12 sessions	80	20
Total	**400**	**100**
(Mean= 9.59, SD= 6.76)		
Having chronic diseases		
▪ No	287	71.8
▪ Yes	113	28.2
Total	**400**	**100**
Currently receiving same services from other rehabilitation programs		
▪ No	395	98.8
▪ Yes	5	1.2
Total	**400**	**100**
Previous receiving physical therapy services from UNRWA health care center		
▪ No	258	64.5
▪ Yes	142	35.5
Total	**400**	**100**
Previous medical conditions		
▪ Low back pain	55	38.7
▪ Neck pain	41	28.9
▪ Knee osteoarthritis	29	20.4
▪ Others	17	12
Total	**142**	**100**
Previous received physical therapy services from other rehabilitation programs		
▪ No	339	84.8
▪ Yes	61	15.2
Total	**400**	**100**
Previous physical therapy services providersfrom other rehabilitation programs		
▪ MoH	32	52.5
▪ Private providers	23	37.7
▪ NGOs	6	9.8
Total	**61**	**100**

Previous experience of utilization of physical therapy services from other service providers other than UNRWA program

As shown in Table (4.2), the majority of the study participants (84.8%) did not receive physical therapy services from other service providers in the past, and about 15.3% of the study participants did receive physical therapy services from service providers other than UNRWA program. Moreover, as shown in Table (4.2), among the study participants who did receive physical therapy services in the past, more than half of them (52.5%) received services from MoH health care centers, about 37.7% of them received services from private providers, and 9.8% of them received services from NGOs.

4.2 Accessibility of physical therapy services

Adaptation of health center for people with disabilities

As shown in Table (4.3), the majority of the study participants (84%) indicted that the health center is adapted for people with disabilities, while 16% of the study participants indicated that the health center is not adapted for people with disabilities.

Suitability of working hours of the UNRWA health center for clients

As shown in Table (4.3), the majority of the study participants (96%) indicated that the working hours of the UNRWA health center is suitable for them, while 4% of the study participants indicated that the working hours of the UNRWA health center are not convenient for them. It is worth mentioning that UNRWA provides PT services only in morning shifts. Thus, it is not easy for all clients who have jobs or other responsibilities in the morning time to utilize UNRWA's services regularly. Therefore, the researcher attributes this for the 65.7% of the study participants who were unemployed.

Accessibility to the UNRWA health centers

Table (4.3) shows that the majority of the study participants (83.8%) indicated that it is easy for them to reach the UNRWA health centers, while 16.2% indicated that it is not easy for them to reach the UNRWA health centers.

Ease of access to healthcare is of great importance in any country but particularly in countries such as Palestine where restricted access is one of the main barriers of utilizing health services, particularly in the GS. It promotes clients` utilization to the services. The high accessibility of UNRWA services is due to the good geographical distribution of

clinic across the GS and availability of public transportation, in addition to the transportation means that are provided by the Health Department of UNRWA to clients living in areas where the UNRWA health care center there does not provide PT services.

Table (4.3) shows that about one-quarter of the study participants (25.5%) reaches the UNRWA health centers via pedestrian, about two-third of the study participants (64%) use public transportation to reach the UNRWA health centers, 7% of the study participants reach the UNRWA health centers by private car, 3.5% of the study participants reach the UNRWA health center by either motorcycle or bicycle.
The findings of the study are consistent with the findings of Matar (2016), in which public transportation to reach the healthcare facility was the most common approach to reach the health centers. The high percentage of using public transportation could be attributed to the reasonable distance between the place of residence and the health center and to the affability of public transportation.

Regarding the needed time to reach the health center by pedestrian, the results showed that the overall average of needed time to reach the health center by walking was 10.95minutes with (SD=4.87). As shown in Table (4.3), among the study participants who reach the health center by pedestrian, over two-thirds of them (72.5%) need less than 10 minutes to reach the health center, 22.5% of them need between 11 to 19 minutes to reach the health center, and 4.9% of them need more than 20 minutes to reach the health center.

Regarding the needed cost to reach the health center by public transportation, the overall mean of needed cost to reach the health center was 2.73 ILS with (SD=1.10). As shown in Table (4.3), the majority of the study participants who use public transportations to reach the health center (62.9%) spend up to 2 ILS to reach the health center, while about 37.1% of the study participants who use public transportations to reach the health center spend more than 3 ILS. The incurred cost of transportation reflects the physical approximate of UNRWA centers to clients' place of living.

According to the affordability of cost of public transportation to reach the health center, as shown in Table (4.3), almost two-third of the study participants who use public transportation to reach the health center (66.4%) indicated that the cost of the public transportation was affordable, while about one-third of the study participants who use

public transportation to reach the health centers (33.6%) indicated that the cost of public transportation was high.

Table (4.3): Summary of accessibility characteristics of the study participants

Accessibility characteristics	Number	%
Adaptation of health care center for people with disabilities		
▪ Yes	336	84
▪ No	64	16
Total	**400**	**100**
Suitability of working hours of the UNRWA health care center for clients		
▪ Yes	384	96
▪ No	16	4
Total	**400**	**100**
Easy to reach the UNRWA health care center		
▪ Yes	335	83.8
▪ No	65	16.2
Total	**400**	**100**
Travel mode		
▪ Pedestrian	102	25.5
▪ By public transportation	256	64
▪ By private car	28	7
▪ By motorcycle	12	3
▪ By bicycle	2	0.5
Total	**400**	**100**
Needed time to reach the health care center by walking		
▪ Less than 10 minutes	74	72.5
▪ Between 11 and 19 minutes	23	22.5
▪ More than 20 minutes	5	4.9
Total	**102**	**100**
(Mean= 10.95, SD= 4.87)		
Needed cost to reach the health care center by public transportation		
▪ Up to 2 ILS	161	62.9
▪ 3 ILS and more	95	37.1
Total	**256**	**100**
(Mean= 2.73, SD= 1.10)		
Cost affordability of public transportation to reach the health care center		
▪ Affordable	170	66.4
▪ High	86	33.6
Total	**256**	**100**
The distance between the place of residence and the health care center		
▪ The health center is close to the place of residence	242	60.5
▪ The health center is in midway with the place of residence	69	17.3
▪ The health center is far away from the place of residence	89	22.3
Total	**400**	**100**

Affordability of services enables clients to utilize the health services. Generally speaking, the physical therapy services at UNRWA are affordable, as it is free of charge, as well as, the transportation cost is not high. Additionally, the referral within UNRWA health centers increases the affordable of service. These findings are consistent with the study findings of Girma and colleagues (2011) which revealed that perceived transport cost affect utilization of healthcare. In addition, it is also consistent with the study findings of Rahman and colleagues (2002) which revealed that income had significant relationship with patient utilization of services, and satisfaction about quality of care. As mentioned in this study, the UNRWA provides free of charge PT services with qualified providers and good quality, therefore, the participants were satisfied for the provided services.

Regarding the distance between the place of residence of the study participant and the health care center, Table (4.3) shows that more than two-third of the study participants (77.8%) indicated that the health care center is either close to the place of living or in the midway with the place of residence. Finally, as shown in the Table (4.3), 22.3% of the study participants indicated that the health care center is far away from the place of residence. Girma and colleagues (2011) found that distance to the nearest health care center is one of predictors of utilization of healthcare services. The findings of this study could be attributed to the absent of PT units in some of UNRWA health care centers, as only 11 UNRWA health care centers have PT units among the 22 health care centers of UNRWA in the GS, according to UNRWA (2018).

Regarding barriers that could prevent clients from utilizing physical therapy services, from service providers' perspective, three-quarter of the service providers stated that the main barriers are: (1) distance to clinic, (2) work schedule as clinics work only morning shift, (3) inappropriateness of appointment date and time, and (4) long waiting time. One service provider stated *"Some clients come from an area that is very far, as they do not have physical therapy department in their UNRWA clinic, and also work schedule is a barrier for some clients as they cannot come to the centers during the morning shifts "*, (45 years old, male, PT).

4.3 Input dimension:

4.3.1 Characteristics of physical environment of physical therapy units

Appropriateness of physical therapy units' waiting area

The findings in Table (4.4) shows that 91.6% of the study participants indicated that the physical therapy departments have appropriate waiting area, while 7.8% indicated that the physical therapy units do not have appropriate waiting area. The overall mean percentage of clients' satisfaction with the appropriateness of waiting area ofwas 88.8%.

It is worth to mention that the design of a waiting area differs from physical therapy unit to another, according to the health centers infrastructure that differs from health center to another. The findings of this study show high percentage of satisfaction with the appropriateness of a waiting area at the physical therapy units, which are consistent with the study findings of Matar (2016) which revealed the satisfaction of clients with the quality of the waiting areas (66.06%). On contrary to the findings Hillis (2008) which revealed dissatisfaction from most participants with the waiting area.The differences between those two studies could be contributed to the differences in infrastructure of institutions itself, and this is consistent with study results of Tsai and colleagues (2007).

Maintaining and protecting privacy

Regarding the setting of the physical therapy department and its help in maintaining the participants' privacy, as shown in Table (4.4), about 95.7% of the study participants indicated that the setting of the units helps in protecting and maintaining their privacy, while 3.8% indicated that the settings of the department do not help in protecting their privacy. The overall mean percentage of clients' satisfaction with the department settings in maintaining privacy was 91%. Directly linked with privacy, as shown in Table (4.4), almost all the study participants (97.3%) indicated that there are privacy curtains in the physical therapy department.

The presence of curtains in the department is importantto maintain the clients` privacy during the physical therapy sessions. Study findings demonstrate high percentage of using privacy curtains and it is consistent with the medical ethics in healthcare settings.

Moreover, the study findings revealed high percentage of satisfaction with the department settings in maintaining their privacy. The study findings are consistent with the results of Matar (2016), Hillis (2008) and Beach and colleagues (2005).

Table (4.4): Characteristics of physical environment of physical therapy units of UNRWA health centers from the study participants` perception

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Physical therapy units have appropriate waiting area							
Number	5	26	3	119	247	4.44	88.8
%	1.3	6.5	0.8	29.8	61.8		
Maintaining and protecting privacy							
Number	1	14	2	130	253	4.55	91
%	0.3	3.5	0.5	32.5	63.2		
Presence of privacy curtains in the physical units							
Number	1	9	1	141	248	4.56	91.2
%	0.3	2.3	0.3	35.3	62		
The physical environment in the department is suitable							
Number	0	6	0	110	284	4.68	93.6
%	0	1.5	0	27.5	71		
Availability of clients toilet							
Number	0	9	20	105	266	4.57	91.5
%	0	2.3	5	26.3	66.5		
Cleanliness of toilet							
Number	18	31	29	155	167	4.05	81
%	4.5	7.8	7.2	38.8	41.8		
Cleanliness of clinical beds							
Number	0	7	5	95	293	4.68	93.6
%	0	1.8	1.3	23.8	73.3		
(Mean=90.13, SD=8.10)							

Suitability of physical environment, availability of toilets, andcleanliness of beds

Regarding suitability of the physical environment in the physical therapy units, the overall mean of clients satisfaction with the physical environment of physical therapy unit was 90.13% (SD=8.10). As shown in Table (4.4), the majority of the study participants (98.5%) indicated that the physical environment in the units is suitable.. Additionally, as shown in Table (4.4), the majority of the study participants (92.8%) indicated that toilet is available for clients. Moreover, the overall mean percentage of clients' satisfaction with the cleanliness of toilet was 81%; as shown in Table (4.4), about 80.6% of the study participants indicated that the toilet is clean. On the other hand, about 13% of the study

participants indicated that the toilet is not clean. The study findings are consistent with the Mosadeghrad (2014) study findings, as physical environment affects the quality of care in healthcare settings. The researcher attributes these findings to the concerns of administration at UNRWA health care centers and its actions toward preserving suitable physical environment at thehealth centers.

Regarding clinical bed cleanliness, the overall mean percentage of clients' satisfaction with the cleanliness of clinical bed was 93.6%; as shown in Table (4.4), the majority of the study participants (97.1%) indicated that the clinical beds are clean. It is worth to mention that, preparing the beds at physical therapy department of UNRWA health centers is one of the providers` duties, and the high percentage of clients` satisfaction about bed cleanliness indicates the commitment of the providers and their proper management for the department.

4.3.2 Equipment availability and appropriateness of department to provide physical therapy services

All participants of in-depth interviews indicated that their units are well equipped, and regularly checked up for maintenance. Two-quarter of service providers indicated that the department does not need any additional equipment, but one-quarter of them indicated that the department needs additional equipment. The suggested equipment to supply the department with are laser therapy unit, whirlpool, and cold compression unit.

Regarding appropriateness of physical therapy units to provide physical therapy services, all participants have indicated that department is suitable and appropriate to provide physical therapy services. Additionally, participants have indicated that units have enough space and suitable physical environment, regardless waiting area; as there are contradictory opinions about appropriateness of waiting area. From service providers` perspective, more than half of service providers indicated that the waiting area of the department is appropriate, while less than half of service providers indicated that the waiting area of the department is inappropriate.

One provider stated *"The department is suitable to provide physical therapy services, it has good equipment, and also it has safe environment and enough space. The waiting area is appropriate, all amenities are available and physical environment in the department is suitable; it has good ventilation, lighting and heating"*, (33 years old, female, PT). On the other hand, one provider stated *"The department has suitable environment for work, but*

the waiting area is not comfortable for clients, the benches are not comfortable and the area is noisy due to other clients attend to the clinic", (45 years old, male, PT).

4.3.3 Knowledge and skills of providers and their compliance with current protocols

Regarding communication skills of the physical therapy providers, from clients` perspective, Table (4.5) shows that the overall mean percentage was 94.31% with (SD=7.35). The majority of the study participants (99.3%) strongly agreed or agreed that they were given full explanation in a clear language about the benefits of physical therapy intervention from the physical therapy service providers. Furthermore, 95.1% of the study participants strongly agreed or agreed that they were given full explanation in clear language about self-management for pain and discomfort from the service provider, while only 4% of the study participants reported that they disagreed that they were given full explanation in clear language about self-management for pain and discomfort from the service provider. In addition, the majority of the study participants (98%) indicated that they strongly agreed or agreed that the physical therapy providers were available in their working areas all the time, and about 99.6% of the study participants indicated that they strongly agreed or agreed that the physical therapy providers paid careful attention to patients` safety during the physical therapy treatment sessions.

Physical therapy providers should be competent to provide effective and efficient service, and the study findings are consistent with the study findings ofDeutscher and Colleagues (2009) and Rajashree (2011). The study findings are consistent with Matar (2016) study which indicated that more than two-third (83.2%) of the participants stated that providers were qualified and competent, as well as, high percentage of clients stated that they were provided by instructions for home program. Furthermore, the study findings are consistent with Beattie and Colleagues (2002) and Beach (2005).

Table (4.5): Frequency distribution of reported responses regarding communication skills of the physical therapy providers

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Given full explanation, in clear language about the benefits of physical therapy intervention							
Number	1	2	0	83	314	4.76	95.35
%	0.3	0.5	0	20.8	78.5		
Given full explanation, in clear language about self-management for pain and discomfort							
Number	4	16	0	81	299	4.63	92.75
%	1	4	0	20.3	74.8		
Therapists are available in their working areas all the time							
Number	0	8	0	112	280	4.66	93.20
%	0	2	0	28	70		
Physical therapy providers pay careful attention to your safety							
Number	0	2	0	75	323	4.79	95.95
%	0	0.5	0	18.8	80.8		
Total	**(Mean=94.31, SD=7.35)**						

From viewpoint of service providers, the physical therapy providers are qualified and have the needed knowledge and skills to provide quality of physical therapy services. This view was expressed by all interviewed participants. One service provider stated *"The providers are well qualified and have great knowledge about the profession, and also have the required skills to manage the physical therapy department and provide needed services for patients"* (50 years old, male, PT). Interestingly, the qualitative results of the study are consistent with quantitative results mentioned above, as almost all the study participants in the qualitative study reflected that the physical therapy providers are well qualified and have good knowledge about the profession. On the other hand, as discussed in before, the majority of participants in the quantitative study revealed that the providers are skilful and knowledgeable, as they were given full explanation from physical therapy providers in a clear language about the benefits of physical therapy intervention and self-management for pain and discomfort, as well as, they paid careful attention to patients` safetyduring the physical therapy treatment sessions. The study findings are consistent with Matar (2016), Deutscher and colleagues (2009) and Rajashree (2011).

It is worth mentioning that the available protocols and technical instructions at physical therapy department of UNRWA health centers contain classifications of health conditions,

treatment modalities and its indicators to measure performance. The available protocols also have sections on indications and contraindications of each physical therapy treatment modalities, but it does not contain treatment regimen for health conditions.

4.3.4 Availability and accessibility of protocols and technical instructions at PT units

Protocols and technical instructions are available at most physical therapy units, more than two-third of the interviewed physical therapy providers indicated that they are aware of the written protocols and technical instructions, while approximately one quarter of the participated physical therapy providers indicated that they are not aware of any protocols or technical instructions.

Regarding accessibility to the protocols, participants of physical therapy providers who were aware of availability of protocols and technical instructions have indicated that protocols and technical instructions are accessible, as they have hard copies of protocols and technical instructions; the majority of them indicated that they fully apply the technical instructions, and only small percentage indicated that they do not apply the technical instructions for different reasons. The main reasons were: compliance with technical instructions is optional and the huge daily workload that leave no time to comply with technical instructions. Finally, more than one-quarter of interviewed physical therapy providers indicated that they apply the technical instructions, but occasionally.

On one hand, one service provider stated *"I have access to the protocols whenever I want, and my colleagues do not fully apply the protocols, because its compliance is not obligatory"*, (48 years old, male, PT). On the other hand, one service provider stated *"My colleague and I in the department apply the protocols, and there is supervision for compliance with the protocols"*, (58 years old, female, PT).

Regarding received training on the protocols and technical instructions, more than one-quarter of physical therapy providers indicated that they have received training on protocols and technical instructions, while about less than half of them indicated that they did not receive training on the available protocols and technical instructions. Training on the protocols leads to standardization of care provided to clients. It also helps in best use of available resources and follow up the treatment course. The study results are

inconsistent with Kredo and colleagues (2016) and Rycroft-Malone and colleagues (2009) findings.

Regarding protocols and technical instructions` updates, from service providers` viewpoint, less than one-quarter of the physical therapy providers indicated that the protocols and technical instructions are up-to-date, about three-quarter of physical therapy providers indicated that it is not up-to date and only small percentage of the physical therapy providers indicated that they do not know if it is up to date or not.

From service providers` viewpoint, the current protocol needs updating and reviewing to be comprehensive, and needs to contain protocols for management of different health conditions and therapeutic modalities and exercises.

One service provider stated *"Protocols and technical instructions are not up to date, so they need to be updated and they need to contain more about health disorders` management as it is only about modalities and coding system"*, (40 years old, female PTA), and another service provider stated *"If I have the option to add to the current protocol, I would add protocol for exercises, managementof paediatric disorders and management for low back pain"*, (48 years old, male, PT).

4.3.5Adequacy of physical therapy providers and current daily workload

It is important to mention that the total number of physical therapy providers in the eleven physical therapy units at UNRWA health centers is thirty-four physical therapy providers; so about three physical therapy providers in each health center, almost every unit has at least one physical therapist and two physical therapist assistants.

There are different opinions regarding the adequacy of the physical therapy providers to provide all the needed physical therapy services with a good quality, giving the workload that they have.

Regarding sufficiency of the physical therapy providers to provide all the needed physical therapy services with a good quality, from viewpoint of service providers, less than half of participated physical therapy providers indicated that the available human resources are not sufficientto provide all the needed services with a good quality and the number of physical therapy providers in the department proportionally to the workload is low. Just less than one-quarter of physical therapy providers indicated that the available human resources are sufficientto provide all the needed services with a good quality and the number of physical

therapy providers in the department is appropriate, and more than one-quarter of participated physical therapy providers indicated that the available human resources are sometimes sufficient to provide all the needed services with a good quality and the number of physical therapy providers in the department is sometimes appropriate, as it depends on availability of staff of job creation program and absenteeism of one member of staff.

On one hand, one service provider stated *"The available human resources are sufficient to some extent to provide all the needed services with a good quality, and the number of staff with presence of staff of job creation program is suitable"*,(60 years old, male, Field officer). On the other hand, one service provider stated *"The available human resources are not sufficient to provide all the needed services with a good quality, and the number of providers is not enough to provide services for large number of daily treated patients"*, (49 years old, female, PTA).

Regarding workload from providers perspective, the researcher found that, almost half of the participated physical therapy providers indicated that the workload is sometimes suitable, otherwise there is overload, and this depends on the availability of job creation program`s staff and absenteeism of one member of staff, more than one-third of the participated physical therapy providers indicated that there is overload in the work, and less than one-quarter of the participated physical therapy providers indicated that the workload is suitable. One service provider stated *"We are overloaded in the department due to shortage of manpower and increased number of daily treated clients"*, (33 years old, female, PT). On the other hand, one service provider stated *"the workload is sometimes suitable, and sometimes not, it is related to presence of job creation program`s staff"*, (48 years old, female, PTA).

It is worth mentioning that one of the main challenges that the participated providers keep mentioning during interview is the workload.

According to the annual report of Health Department at UNRWA (2017), the number of sessions received through 34 physical therapy providers in the Gaza Strip was 192,251. Almost every physical therapy department at UNRWA health centers has three physical therapy providers; this number of providers is considered modest comparing to the daily number of clients attending each department. The researcher attributed the good outcome of the provided physical therapy services to contact time of the client with the provider, the

home program which is given to the clients according to their needs and to the high staff commitment, despite the work overload.

4.3.6Commitment of providers with treatment plan

Regarding commitment of physical therapy providers to treatment plan, from viewpoint of service providers, the majority of participated physical therapy providers indicated that they do commit with treatment plan all the time, while small percentage of them indicated that they occasionally committed with work plan. One service provider stated *"we do not commit with the treatment plan all the times, as sometimes due to absenteeism of one of colleagues, and overload, commitment withtreatment plan becomes somehow difficult"*, (33 years old, male, PTA). On the other hand, one service provider stated *"Yes, we are all the time committed with treatment plan, and modify treatment plans, accordingly as needed for every patient"*, (35 years old, female, PT).

4.3.7Administrative Support

Despite all participated service providers indicated that they have good interaction with their direct line manager, but their opinions toward the support of their administration to them were different, about half of participants have indicated that they did not receive the needed support from the administration, while half of participants indicated that they did receive the needed support from administration.

From service providers` perspective, of those who received support from their administration, one-third of the participated service providers indicated that the management supports and motivates them. However, few participants indicated that the administrative support is more focused on giving instructions and advice, along with appreciating their efforts meeting their needs, and solving their work related issues. Furthermore, from service providers` perspective, of those who did not receive support from their administration, one-quarter of them attributed this to limited availability of time and less motivation. Finally, participants have expressed limited opportunities for professional development as a main challenge. The main reasons for limited opportunities for professional development are limited time, workload, and limited financial resources.
One provider stated *"I get the needed support from the administration, by providing me with what I need for the department and provide me the help in condition of any problem*

related to work", (40 years old, female, PTA). On the other hand, one provider stated *"I don't get support from my administration, no motivations, and it is even to takeour annual leave"*, (49 years old, female, PTA).

4.4 Process dimension

4.4.1 Waiting time, contact time, and service delivery time

Regarding the waiting time of the study participants, the overall average of the waiting time of the study participants was 3.74 minutes with (SD=4.44). As shown in Table (4.6), the majority of the study participants (96.8%) waited up to 10 minutes to receive the required service, and the rest of participants (3.3%) waited for more than 10 minutes to receive the required service.

Table (4.6): Summary of process dimension

Waiting time, contact time, and service delivery time	Number	%
Waiting time		
▪ Up to 5 minutes	326	81.5
▪ Between 6 and 10 minutes	61	15.3
▪ 11 Minutes and more	13	3.3
Total	**400**	**100**
(Mean= 3.74, SD= 4.44)		
Contact time with service providers		
▪ Up to 29 minutes	79	19.8
▪ Between 30 to 59 minutes	264	66
▪ 60 minutes and more	57	14.2
Total	**400**	**100**
(Mean= 36.57, SD= 14.29)		
Service delivery time		
▪ Up to 29 minutes	12	3
▪ Between 30 to 59 minutes	302	75.5
▪ 60 minutes and more	86	21.5
Total	**400**	**100**
(Mean= 45.20, SD= 13.48)		

Concerning the contact time of the study participants with physical therapy service providers, as shown in Table (4.6), the overall average of contact time of the study participants with service providers was 36.57 minutes with (SD=14.29). About 19.8% of the study participants indicated that the contact time with the service providers was up to 29 minutes, almost two-thirds of the study participants (66%) indicated that the contact time with the service providers was between 30 to 59 minutes, and about 14.2% of the study participants indicated that the contact time was 60 minutes and more.

Interestingly, these findings are consistent with Matar (2016) findings where the overall average of contact time of the client with the provider was 26.41 minutes. Interestingly Beattie and Colleagues (2002) and Anderson Colleagues (2007) found association between contact time with the physical therapy provider and the clients` satisfaction; increasing the contact time with provider leads to increase the level of clients` satisfaction, and found that the contact time is a stronger predictor of clients' satisfaction than is the waiting time.

Additionally, Figure (4.6) illustrates that the waiting time to receive the required service in Jabalia health center is the shortest waiting time compared to other UNRWA health centers.

The reasonable waiting time could be attributed to the appointment system, as Bosch and Dietz (2000) and Harper and Gamlin (2003) studies indicated that appointment system reduces clients waiting time. Interestingly, the findings of the study are consistent with Matar (2016) as the majority of participants (93%) indicated that the waiting time is acceptable, as the waiting time did not exceed 20 minutes to receive the service.

Figure (4.6): Average of waiting time and contact time for each PT units in UNRWA health care centers

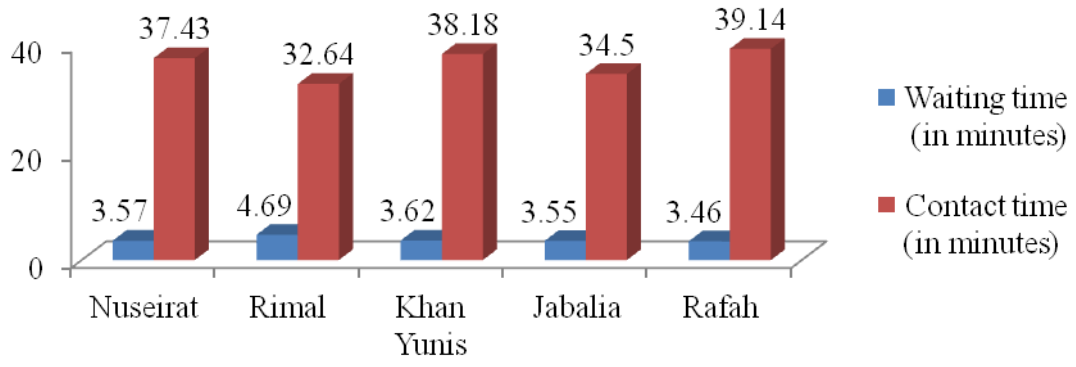


Figure (4.6) also shows the mean of contact time in the five physical therapy units of the study. Furthermore, findings in Table (4.6.1) shows that the longest contact time with service provider was reported at Nuseirat health center where about 19.7% of the study participants indicated that the contact time with service provider was 60 minutes and more, about two-thirds of the study participants (64.5%) indicated the contact time with service provider was between 30 minutes to 59 minutes, and about 15.8% of the study participants indicated that the contact time with service provider was up to 29 minutes.

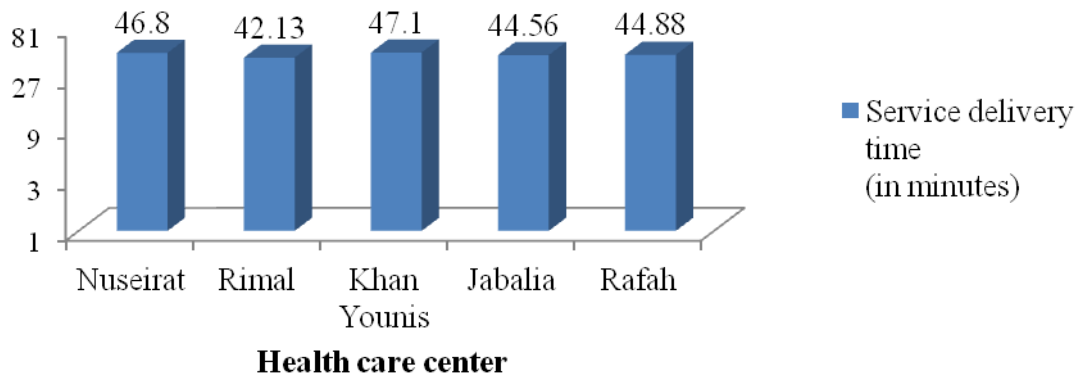
Table (4.6.1): Frequency distribution of reported responses regarding contact time with physical therapy providers in UNRWA health care centers

Health care center	Contact time							
	Up to 29 minutes		Between 30 to 59 minutes		60 minutes and more		Total	
	Number	%	Number	%	Number	%	Number	%
Nuseirat	12	15.8	49	64.5	15	19.7	76	100
Rimal	28	41.2	32	47.1	8	11.8	68	100
Khan Younis	13	14.8	60	68.2	15	17	88	100
Jabalia	21	26.3	50	62.5	9	11.3	80	100
Rafah	5	5.7	73	83	10	11.4	88	100
Total	79	19.8	264	66	57	14.2	400	100
(Mean= 36.57, SD= 14.29)								

Regarding the total service delivery time of the study participants, as shown in Table (4.6), the overall average of total service delivery time of the study participants was 45.20 minutes with (SD=13.48). The majority of the study participants (75.5%) indicated that the total service delivery time was between 30 to 59 minutes, about 21.5% of the study participants indicated that the total service delivery time was 60 minutes and more, and only 3% of the study participants indicated that the total service delivery time was up to 29 minutes.

Figure (4.7) shows the total service delivery time of the clients in the five physical therapy units of the study. Service delivery time depends on the needed time to reach the health center, the waiting time to receive the service, and contact time with the provider.

Figure (4.7): Average of service delivery time at each PT unit in UNRWA health care centers



4.4.2 Interaction with client

Regarding interaction of the physical therapy providers with clients, from clients` perspective, Table (4.7) shows that the overall mean percentage of clients satisfaction with the interaction with service providers was 95% with (SD=6.33). About 95.6% of the study participants strongly agreed or agreed that the physical therapy providers introduced themselves at the first meeting, on contrary, only 4.3% of the study participants reported that they disagreed that the physical therapy providers introduced themselves in the first meeting. Also, all the study participants (100%) strongly agreed or agreed that the physical therapy provider was respectful to clients. Moreover, the vast majority of participants (99.3%) indicated that they strongly agreed or agreed that the physical therapy providers respected their preferences, and also all the study participants (100%) strongly agreed or agreed that the physical therapy providers respond immediately to their needs. In addition, 99.2% of the study participants indicated that they strongly agreed or agreed that the physical therapy provider listened to their complaints.

Table (4.7): Frequency distribution of reported responses regarding interaction of physical therapy providers with clients

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Therapist introduce himself in the first meeting							
Number	1	17	0	83	299	4.65	93.10
%	0.3	4.3	0	20.8	74.8		
Therapist was respectful							
Number	0	0	0	71	329	4.82	96.45
%	0	0	0	17.8	82.2		
Therapist respected clients' preferences							
Number	0	3	0	46	351	4.86	97.25
%	0	0.8	0	11.5	87.8		
Physical therapist immediately responds to your needs							
Number	0	0	0	55	345	4.86	97.25
%	0	0	0	13.8	86.2		
Therapist listen to clients' complaints							
Number	0	2	1	29	368	4.90	98.15
%	0	0.5	0.3	7.2	92		
A complaints system is in place							
Number	17	20	13	88	262	4.39	87.90
%	4.3	5	3.3	22	65.5		
Total	**(Mean=95=, SD=6.33)**						

Regarding availability of complaints system in place where clients can express dissatisfaction of maltreatment, from client`s perspective, as shown in Table (4.7), the overall mean percentage was 87.90%. Most the study participants (87.5%) reported that they strongly agreed or agreed that there was a complaints system in place where they could complain against maltreatment, while about 10% of the study participants disagreed about the presence of a complaints system in the physical therapy department.

4.4.3 Shared information

With regard to sharing information, from clients` point of view, Table (4.8) showed that the overall mean percentage of sharing information was 88.9% with (SD=10.25). The majority of the study participants (97.5%) indicated that they strongly agreed or agreed that providers provided them with clear information about their diagnosis.

This is also true about providing information about prognosis, as shown by the overall mean of 84.35%, as shown in Table (4.8). More than-third of study (87.6%) of the study participants' indicated that they strongly agreed or agreed that they were provided with clear information on their prognosis, on contrary, 5.5% of the study participants disagreed that they were provided with clear information on their prognosis. Furthermore, most of the study participants (91.1%) reported that they strongly agreed or agreed that they were involved in preparing the treatment plan. In addition, the majority of the study participants (95.1%) strongly agreed or agreed that the rational of using equipment were well explained to them, while about 4.3% of the study participants disagreed that rationale of using equipment was well explained to them, as shown in Table (4.8).

Sharing information with client such as diagnosis, prognosis, and the course of treatment is important to gain the clients` trust and encourage them to continue the treatment, the high percentage of participants who indicated that the providers shared information with them about diagnosis and prognosis and involved them with planning the treatment course is attributed to the skills of the providers and their professional way of dealing with clients. These findings are consistent with the findings of Dierckx and Colleagues (2013) and Beattie (2002).

Table (4.8): Frequency distribution of reported responses regarding shared information with clients

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Provided with clear information on your diagnosis.							
Number	1	8	1	58	332	4.78	95.60
%	0.3	2	0.3	14.5	83		
Provided with clear information on your prognosis							
Number	2	22	26	187	163	4.21	84.35
%	0.5	5.5	6.5	46.8	40.8		
Involved in preparing treatment plan							
Number	9	26	1	183	181	4.25	85.05
%	2.3	6.5	0.3	45.8	45.3		
Rationale of using equipment are well explained to client							
Number	3	17	0	123	257	4.53	90.70
%	0.8	4.3	0	30.8	64.3		
Total	**(Mean=88.92=, SD=10.25)**						

4.4.4 Continuity of care

According to clients` perception about continuity of care, as shown in Table (4.9), the overall mean percentage was 93.27% with (SD=10.90). The majority of the study participants (97%) strongly agreed or agreed that the physical therapy providers always evaluate their treatment plan and modify it as needed, and also about 97.3% of the study participants strongly agreed or agreed that the physical therapy providers often explain the progress in their treatment clearly.

It is worth mentioning that no one of the study participants stated that they turned back home without receiving services they came to receive; this could be attributed to the well-functioning appointment system and to the competent staff. The continuity of care is a direct measurement of adherence to treatment as indicated by Jack and Colleagues (2010), Hanney and Colleagues (2016), Alazri and Colleagues (2007), and Beattie (2005).

Table (4.9): Frequency distribution of reported responses regarding continuity of care

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Your therapist always evaluates your treatment plan and modifies it as needed							
Number	2	9	1	104	284	4.64	92.95
%	0.5	2.3	0.3	26	71		
Therapist often explains the progress in your treatment clearly							
Number	1	7	3	97	292	4.68	93.60
%	0.3	1.8	0.8	24.3	73		
Total	**(Mean=93.27=, SD=10.90)**						

4.4.5 Waiting time and contact time and appointment system to receive management by the provider

With regard to waiting time and contact time with the physical therapy provider, from clients` perceptive, as shown in Table (4.10), the overall mean percentage was 80.39% (SD=6.70). The majority of the study participants (99.8%) stated that they strongly agreed or agreed that the physical therapy providers managed time perfectly during the physical therapy sessions.

Additionally, about 92.3% of the study participants reported that they strongly agreed or agreed that the waiting time to receive the physical therapy service was acceptable, while 6.5% of the study participants reported that they disagreed that the waiting time to receive the physical therapy service was acceptable. Also, about 91% of the study participants stated that they strongly disagreed or disagreed that the waiting time was not long; while about 8.9% stated that they strongly agreed or agreed that the waiting time was long. On the other hand, the vast majority of the study participants (97.8%) showed that they strongly agreed or agreed that the time they spent with the physical therapy provider was enough.

The findings revealed high percentages of satisfaction of participants about the waiting time, time management and appointment system. These findings are consistent with the study findings of Matar (2016) and Hillis (2008) regarding the clients` perception about waiting time. Also, it is consistent with Harper and Colleagues (2003) study which revealed the association between appointment schedules and waiting time.

Regarding the appointment system, from clients` point of view, Table (4.10) showed that most the study participants (80.5%) indicated that they strongly agreed or agreed that the appointed dates are generally convenient to them, while about 18.3% of the study participants indicated that they strongly disagreed or disagreed that the appointed dates were not generally convenient to them.

Table (4.10): Frequency distribution of reported responses regarding waiting time and contact time

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
From your point of view, therapist manages time perfectly during the session							
Number	0	0	1	147	252	4.62	92.55
%	0	0	0.3	36.8	63		
The waiting time to receive the physical therapy service was acceptable							
Number	3	26	2	53	316	4.63	92.65
%	0.8	6.5	0.5	13.3	79		
The waiting time was long							
Number	328	36	2	25	9	1.37	27.55
%	82	9	0.5	6.3	2.3		
The time you spent with the therapist was enough							
Number	0	5	4	77	314	4.75	95
%	0	1.3	1	19.3	78.5		
The appointed date is generally convenient							
Number	32	41	5	112	210	4.06	81.2
%	8	10.3	1.3	28	52.5		
You are committed with the scheduled session							
Number	1	15	0	86	298	4.66	93.2
%	0.3	3.8	0	21.5	74.5		
Total	**(Mean=80.39=, SD=6.70)**						

Regarding commitment of the clients` with the scheduled session, from clients` perspective, as shown in Table (4.10), the mean percentage was 93.2%. Most study participants (96%) reported that they strongly agreed or agreed that they were committed to and respected the scheduled sessions, while 3.8% of the study participants reported that they disagreed that they were committed to and respected the scheduled sessions.

4.5Outcome dimension

4.5.1 Perceived Quality of care: appropriateness and satisfaction with the provided services

Regarding outcome of the provided services from client`s perspective, as shown in Table (4.11), the overall mean percentage of perceived quality of care was 94.23% with (SD=6.72).

Satisfaction of clients with the provided services was reflected by responses of the study participants to seven questions. As shown in Table (4.11), the majority of the study participants (98.6%) reported that they strongly agreed or agreed that they have received sufficient information regarding treatment and choices made available to them. Regarding meeting of received physical therapy services to the expectations of clients, 95% of the study participants stated that they strongly agreed and agreed that the physical therapy services that they received met their expectations, while about 3.5% of the study participants stated that they disagreed that the physical therapy services that they received met their expectations.

Regarding meeting the physical therapy services to clients` needs, the overall mean percentage was 95%. The vast majority of the study participants (97.3%) indicated that they strongly agreed or agreed that the physical therapy services met their needs, while about 2.8% of the study participants indicated that they strongly disagreed or disagreed that the physical therapy services met their needs.

Regarding meeting the needs of clients, from service providers' viewpoint, the majority of the participated service providers indicated that they meet the needs of clients to large extent, while less percentage of them indicated that they do not meet the needs of clients due to work overload and limited working hours.

One service provider stated *"We meet the needs of clients to large extent, by making good assessment and planning for proper treatment and full application for it, with ensuring continuous follow up, so by these procedures we could determine the needs of the patients and then we find the possible and available methods to meet these needs"*, (50 years old, male, PT). Also, one service provider stated *"The providers are well qualified and the department is well equipped, thus we provide the effective and efficient services, achieve high outcome, and meet the needs of clients"*, (48 years old, male, PT).

Table (4.11): Frequency distribution of reported responses regarding outcome; Satisfaction of clients, appropriateness, and perceived improvement

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Mean/ Mean%
Easy to receive physical therapy services from this health center							
Number	0	0	1	16	383	4.95	99.10
%	0	0	0.3	4	95		
Providers provide physical therapy services in an appropriate manner							
Number	0	1	1	29	369	4.91	98.30
%	0	0.3	0.3	7.2	92.3		
Providers provide an appropriate follow up of care							
Number	0	6	1	106	287	4.68	93.70
%	0	1.5	0.3	26.5	71.8		
You have received sufficient information regarding treatment and choices made available to you							
Number	0	5	1	121	273	4.65	93.10
%	0	1.3	0.3	30.3	68.3		
The physical therapy services that you received met your expectations							
Number	3	14	3	114	266	4.56	91.30
%	0.8	3.5	0.8	28.5	66.5		
Treatment by physical therapy alleviated your symptoms							
Number	3	16	1	228	152	4.27	85.50
%	0.8	4	0.3	57	38		
Physical therapy services improved your activity of daily living							
Number	1	16	3	191	189	4.37	87.55
%	0.3	4	0.8	47.8	47.3		
You would return to this department if you required physical therapy care in the future							
Number	1	1	4	33	361	4.88	97.60
%	0.3	0.3	1	8.3	90.3		
You are satisfied with time that the therapist spent with you							
Number	0	4	0	47	349	4.85	97.05
%	0	1	0	11.8	87.3		
The physical therapy services meet your needs							
Number	5	6	0	62	327	4.75	95
%	1.3	1.5	0	15.5	81.8		
You are satisfied with the way the therapist dealt with you							
Number	0	0	0	33	367	4.91	98.35
%	0	0	0	8.3	91.8		
Total	**(Mean=94.23=, SD=6.72)**						

There are different opinions among service providers about how they meet the needs of clients; less than half of them indicated that they meet the needs of clients by implementing proper management, more than one-third of them indicated that they meet the needs of clients through achieving good outcomes, just less than one-quarter of them stated that they meet the needs of clients by having qualified manpower capable of provided good quality

services and by providing their clients with health education to improve their physical wellbeing. Finally, less percentage of interviewed physical therapists have stated that they meet the needs of clients by improving activity of daily living and improve quality of life of the clients, or by providing effective and efficient services.

Furthermore, the majority of the study participants (99.1%) indicated that they strongly agreed or agreed that they were satisfied with time that the physical therapy provider spent with them, also the same percentage of the study participants (99.1%) indicated that they strongly agreed or agreed that they were satisfied with the way the physical therapy providers dealt with them.

In addition, the vast majority of the study participants (98.6%) strongly agreed or agreed that they would return to the same physical therapy department if they required physical therapy care in the future, with overall mean percentage was 97.60%, as shown in Table (4.11). Table (4.12) shows that the vast majority of the study participants (99%) reported that they will recommend receiving physical therapy services from the same physical therapy units to their relatives and friends.

With regard to satisfaction with the provided physical therapy services, as shown in Table (4.12), the majority of the study participants (93.5%) reported that they were satisfied with the provided physical therapy services, while 6.5% of the study participants reported that they were partially satisfied with the provided physical therapy services.

Satisfaction of the client could reflect the future utilization of services as client could return back to the same facility to receive the service and would recommend others who are in need for similar care to have the service from the same facility. The above findings reflect high level of satisfaction with the provided physical therapy services, and it is good indicator for the quality of services and the respect and high level of staff competencies. These results are consistent with Mosadeghrad (2012), Scholte and Colleagues (2014), Hills and Kitchen (2007), and Hush and Colleagues (2011) study findings.

Appropriateness of physical therapy services was reflected by responses of the study participants to three questions, as shown in Table (4.11), the vast majority of the study of participants (99%) reported that they strongly agreed or agreed that it was easy to receive

physical therapy services from the health center of UNRWA, about 99.5% of the study participants reported that they strongly agreed or agreed that the physical therapy provider provided physical therapy services in an appropriate manner, and about 98.3% of the study participants reported that they strongly agreed or agreed that the physical therapy provider provided an appropriate follow up of care.

4.5.2 Perceived improvement

Perceived improvement was reflected by responses of the study participants to three questions; regarding alleviated symptoms and improved activity of daily living of clients, Table (4.11) shows that the majority of the study participants (95%) indicated that they strongly agreed or agreed that the treatment by physical therapy alleviated their symptoms, while 4% of the study participants indicated that they disagreed that the treatment by physical therapy provider alleviated their symptoms; the mean percentage was 85.5%.

In addition, as shown in Table (4.11), the majority of the study participants (95.1%) indicated that they strongly agreed or agreed that physical therapy services improved their activity of daily living, while about 4% of the study participants indicated that they disagreed that physical therapy services improved their activity of daily living; the mean percentage was 87.55%. These findings reflect good outcome and the effectiveness of physical therapy services and it is consistent with Matar (2016) study findings which revealed that 80.6% of participants indicated that treatment by physical therapy decreased their pain and alleviated their symptoms.

Additionally, as shown in Table (4.12), the majority of the study participants (91.8%) indicated that their health status after receiving the sessions was better, and about 8.3% of the study participants indicated that their health status after receiving the session was the same. With competent physical therapy providers, commitment of physical therapy provider and client, and proper utilization for services, the client would perceive improvement in functional activities and independency. The finding of this study is consistent with the findings of Dean and Colleagues (2014) who indicated that physical therapy providers are in the best position to promote health and wellness of their clients. The findings are also consistent with the findings of Matar (2016).

Table (4.12): Frequency distribution of reported responses regarding outcome; selected variables

	Number	%
Will you recommend getting physical therapy services from this department to any of your relatives and friends?		
Yes	396	99
No	4	1
Total	**400**	**100**
(Mean=0.99, SD= 0.09)		
What is your overall satisfaction about the provided physical therapy services?		
Satisfied	374	93.5
Partially satisfied	26	6.5
Total	**400**	**100**
(Mean= 1.06, SD= 0.24)		
How do you describe your health status after received today`s session?		
Better	367	91.8
Same	33	8.3
Total	**400**	**100**
(Mean= 1.91, SD= 0.27)		

Regarding the quality of provided physical therapy services, all interviewed service providers are satisfied with the quality of provided services, the majority of service providers indicated that the quality of provided services is good; the majority of them also indicated that the provided services are effective and their clients are satisfied with the provided services. Inconsistent with above view, less percentage of service providers indicated that the provided services are of a reasonable quality.

One service provider stated *"The quality of provided services is good, as the full recovery rate is 85%, and clients are satisfied with services they receive, and there is effective management for patients' conditions, and yes, I am satisfied with the quality of services we provide"*, (58 years old, female, PT). On the other hand, one service provider stated *"I think the quality of provided services is of reasonable quality, because the insufficient number of staff and large number of clients, and this affect the quality, but in general, I am satisfied with the quality of provided physical therapy services"*, (33 years old, male, PTA). The results of qualitative study are consistent with results of quantitative study, as the participated clients and providers in the study were satisfied with the quality of provided services. The results of this study is consistent with the results of Matar (2016), Mosadeghrad and Colleagues (2008), El Shaer (2016), Kabene (2006) and Deutscher and Colleagues (2009).

Regarding suggestions of the participated service providers to improve the quality of provided services, less than two-third of providers suggested improving technical skills of services providers by offering training opportunities; more than half of participated providers suggested increasing the administrational support and motivation for service providers, less than half of the participated providers suggested to recruit more manpower, less than one-quarter suggested improving the follow up system for providers, and less percentage of providers suggested supplying units with more equipment, and developing complaint system for the physical therapy department.

One service provider stated *"I think the quality could be improved with improving the satisfaction level of the staff which could be achieved by administrational support and motivation to the staff, respect their needs and increase the number of staff in the department"*, (33 years old, female, PT), and another service provider stated *"I think to improve the quality, the administration needs to support the staff and provide training courses to update the staff knowledge"*, (45 years old, female, PTA). Regarding improvement the quality of life of Palestinian in Gaza by the provided services, from participated service providers` perspective, the majority of the participated service providers indicated that the provided services have improvedthe quality of life of Palestinian in Gaza in general; more than three-quarter of them indicated that it is could be improved by focusing on primary prevention through preventing disabilities,more than half of them indicated that it is could be improved by improving health condition of people, less than one-quarter of them indicated that it is could be improved by improving the activity of daily living for most clients, while less percentage of the participated service providers indicated that the provided services have not improvedthe quality of life of Palestinian in Gaza.

One service provider stated*"Our services have helped in minimizingthe suffering of our clients from different impairments, and have helped in maintaining health and prevent illness and long term disabilities"*, (48 years old, female, PTA),and another service provider stated*"A lot of our clients` activity of daily living improved by our physical therapy services, and their pain has been alleviated"*, (48 years old, male, PT); while one service providers stated *"I do not think that the provided service have improved quality of life of Palestinians in Gaza, as I think we still need efforts to improve the services like*

increase the number of staff,and skills, also improve the coordination and communication between physical therapy staff and other staff of other medical professions, and work together like multidisciplinary team", (33 years old, male, PTA).

Teamwork in health care setting is very important to achieve the patient centeredness. It improves the outcome of clients` management, thus improves the provided physical therapy services. The strategy of UNRWA isto emphasise on improving the quality of healthcaredelivered through a Family Health Team approach. Currently, physical therapy services are not included in Family Health Team approach. Thus, adding the phsycail therapy services to the package of services provided through Family Health Team approach might improve the overall quality of physical therapy services.

4.6 Inferential analysis

In this part, different statistical analysis is represented to examine the relationship between different variables. The tests used to analyze data were independent T-Test, One-way Anova and Chi- square.

Table (4.13): Overall clients' satisfaction with the provided services and health status and its relationship with contact time and waiting time

Variables		N	Mean	SD	T	Sig.
Overall satisfaction*	**Contact time (in minutes)**					
	Satisfied	374	37.12	14.436	4.418	0.000
	Partially satisfied	26	28.65	9.006		
Overall satisfaction	**Waiting time (in minutes)**					
	Satisfied	374	3.620	4.381	2.182	0.030
	Partially satisfied	26	5.576	4.965		
Overall satisfaction	**Number of received treatment sessions**					
	Satisfied	374	**9.807**	**6.919**	**5.948**	**0.000**
	Partially satisfied	26	**6.461**	**2.213**		
Health status	**Contact time (in minutes)**					
	Same	33	28.63	6.646	6.248	0.000
	Better	367	37.28	14.582		
Health status	**Waiting time (in minutes)**					
	Same	33	4.848	4.416	1.489	0.137
	Better	367	3.648	4.436		

* None of the participants were dissatisfied

As demonstrated in Table (4.13), an independent sample t-test was conducted to examine whether there was a statistically significant difference between health status of the clients in relation to their contact time with physical therapy providers. The test results revealed a statistically significant difference between clients who reported no improvement in their health status and clients who have reported improvement in their health status (better), with (t=6.248, p=<0.001). As shown in Table (4.13), clients with better health status have a higher mean of contact time (M= 37.28, SD=14.582), compared with clients who did not report any improvement in their health status, with (M= 28.63, SD=6.646).

As shown in Table (4.13), an independent sample t-test was conducted to examine whether there was a statistically significant relationship between health status of the clients in relation to their waiting time. The test results revealed no statistically significant

relationship between health status of the clients in relation to the waiting time of the clients to receive the physical therapy services (t=1.489, p=0.137).

As shown in Table (4.13), an independent sample t-test was conducted to examine whether there was a statistically significant difference between overall satisfaction of the clients about the provided physical therapy services and contact time. The test results revealed a statistically significant difference between clients who were satisfied with services and clients who were partially satisfied with the provided services, with (t=4.418, p=<0.001). As shown in Table (4.13), satisfied clients have a higher mean of contact time (M= 37.12, SD=14.436), compared with partially satisfied clients, with (M= 28.65, SD=9.006).

As demonstrated in Table (4.13), there is a statistically significant differences between overall clients' satisfaction in relation to their waiting time to receive the physical therapy services, with (t=2.182, p=0.030). As shown in Table (4.13), satisfied clients have less mean of waiting time (M=3.620, SD=4.381), compared with partially satisfied clients, with (M= 5.576, SD=4.965).

As demonstrated in Table (4.13), there is a statistically significant differences between overall clients' satisfaction in relation to number of received treatment sessions, with (t=5.948, p=<0.001). As shown in Table (4.13), satisfied clients have more mean of received treatment sessions (M=9.807, SD=6.919), compared with partially satisfied clients, with (M= 6.461, SD=2.213).

Table (4.14): Overall clients' satisfaction and its relationship with the place of receiving the service and the distance of the health center

Independent variables		No.	Mean	SD	Factor	Value	Sig.
Health centers	Nuseirat	76	1.06	0.249	F	1.879	0.113
	Rimal	68	1.13	0.341			
	Khan Younis	88	1.06	0.253			
	Jabalia	80	1.03	0.191			
	Rafah	88	1.03	0.182			
The distance of the clinic from the place of residence	Close	242	1.05	0.233	F	0.268	0.765
	In the midway	69	1.07	0.261			
	Far	89	1.07	0.270			

With regard to satisfaction with the provided physical therapy services, as shown in Table (4.14), the test results revealed that there is no statistically significant differences between overall satisfaction level and place of receiving the services, with (F=1.879, p=0.113).
As shown in Table (4.14), the test results revealed that there is no statistically significant differences between overall satisfaction level and the distance of the health center, with (F= 0.268, P= 0.765).

It is worth mentioning that, there was no statistically significant differences between years of schooling and overall satisfaction level, statistics are not shown.

Table (4.15): Overall clients' satisfaction with the provided services and its relationship with gender, health status, and number of received sessions

Variables		Overall satisfaction%				X^2	P
		Satisfied		Partially satisfied			
		No.	%	No.	%		
Gender	Male	161	96.4	6	3.6	3.987	0.046
	Female	213	91.4	20	8.6		
Total		374	93.5	26	6.5		
Health status	Better	361	98.4	6	1.6	173.251	0.000
	Same	13	39.4	20	60.6		
Total		374	93.5	26	6.5		

As shown in Table (4.15), a Chi-square test was conducted to examine whether there was a statistically significantassociation between gender and overall satisfaction of the clients with the provided physical therapy services. The test results revealed that there was a statistically significant association between gender and overall satisfaction of the clients (x^2= 3.987, p=0.046,). Moreover, as shown in Table (4.15), male clients were more satisfied than females clients, as 96.4% of male clients expressed satisfaction with the provided services compared to 91.4% of females clients, where 3.6% of males and 8.6% of females were partially satisfied with the provided services. It is worth mentioning that none of clients expressed dissatisfaction with the provided services.

As shown in Table (4.15), a Chi-square test was conducted to examine whether there was a statistically significant association between overall satisfaction of the clients about the provided physical therapy services and health status after receiving physical therapy

sessions. The test results revealed very strong evidence of a strong relationship between health status and overall satisfaction of the clients (x^2=173.25, p=<0.001,).

To examine whether there was a statistically significant association between overall satisfaction of clients with the provided physical therapy services and other selected variables; namely employment status, the physical accessibility to the health center, and the cost of public transportation for clients reach the health center, a Chi-square test was conducted. The test results revealed that there is no statistically significant relationship between overall satisfaction and those variables, statistics are not shown.

Table (4.16): Physical accessibility of the health center and its relationship with the cost of transportation

Variables		Cost of transportation				X^2	P
		Affordable		High			
		No.	%	No.	%		
Physical accessibility of health center	Easily accessible	160	81.6	36	18.4	86.91	0.000
	Not easily accessible	10	16.7	50	83.3		
Total		374	93.5	26	6.5		

As shown in Table (4.16), a Chi-square test was conducted to examine whether there was a statistically significant association between the cost of transportation to reach the health center and physical accessibility of the health center, the test results revealed significant relationship between transportation`s cost and physical accessibility of the health center (x^2(1)= 86.91, p=<0.001).

4.7 Results from medical records review- check list

As shown in Table (4.13), the majority of medical records (97.3%) had clear documented data, while only 2.7% of medical records did not have clear documented data. Additionally, most medical records did include accurate data

Regarding ordering the records, 98.7% of the medical records were ordered, while only 1.3% of medical records were disordered. In addition, regarding completeness of documentation at medical records, 80% of medical records had complete information, while 15.3% of medical records did not have complete information. Also, according to consistency of documented data at medical records, 94% of medical records had consistent documented data, while only 2.7% of medical records did not have consistent documented data. Furthermore, the researcher found that all medical records (100%) had concise data and medical records privacy and confidentiality were protected, 99.3% of medical records had legible hand-writing that is easy to read and understand, and also 99.3% of medical records contained follow up with reference time. Regarding utilization of documented data, the majority of medical records (85.3%) contained relevant information that could be utilized by the service providers, while 10% of medical records did not contain relevant information.

According to compatibility between medical records format, the researcher found that the majority of medical records (96%) were compatible with the format, while only 2.7% of medical records were not compatible to records format.

Furthermore, regarding usefulness of data, the Researcher found that more than two-thirds of medical records (76%) had useful information, while 16% of medical records did not include useful information. According to regularity of documentation at medical records, the researcher found that the documentation was done regularly in the majority of medical records (96%).

Quinn and Gordon (2003) stated that the SOAP documentation format leads to general familiarity with the concept within the healthcare field. It also provides clear and well-

organized documentation of findings with a natural progression from collection of relevant information to the assessment to the plan on how to proceed.

In this study regarding documentation of SOAP notes approach by the provider, the researcher found that the majority of medical records (91%) had documented in SOAP note approach.

Table (4.17): Distribution of responses regarding the knowledge of quality characteristics of medical records

Item	Yes		No		Sometimes			
	N	%	N	%	N	%	N	%
Clear	146	97.3	4	2.7	0	0	150	100
Accurate	134	89.3	13	8.7	3	2	150	100
Disordered	2	1.3	148	98.7	0	0	150	100
Complete	120	80	23	15.3	7	4.7	150	100
Consistent	141	94	4	2.7	5	3.3	150	100
Concise	150	100	0	0	0	0	150	100
Legible	149	99.3	0	0	1	0.7	150	100
Utilized	128	85.3	15	10	7	4.7	150	100
Reference time	194	99.3	0	0	1	0.7	150	100
Confidentiality and privacy protection	150	100	0	0	0	0	150	100
Compatibility between records format	144	96	4	2.7	2	1.3	150	100
Usefulness of data notes	114	76	24	16	12	8	150	100
Regularity	144	96	2	1.3	4	2.7	150	100
Documented SOAP notes	137	91.3	4	2.7	9	6	150	100

Chapter 5
Conclusion and Recommendations

5.1 Conclusion

This study aimed to evaluate the physical therapy services provided to patients at physical therapy units of UNRWA health care centers in the GS, in order to enhance efficiency and effectiveness of these services. The study findings have shown that the mean age of the study participants was 42.95 years. The overall mean of the received physical therapy sessions was 9.51 sessions among the study participants, and the most common conditions, for participantswho attended the physical therapy units of UNRWA, were musculoskeletal conditions, while the most common body regions for them were the back, neck, and knee.

Findings of the study revealed a statistically significant difference between health status of the clients in relation to their contact time with physical therapy providers, also between overall satisfaction of the clients about the provided physical therapy services and contact time, waiting time, and number of received treatment sessions.

Additionally, the study findings revealed a statistically significantassociation between both, gender and health status after receiving physical therapy sessions, with overall satisfaction of the clientswith the provided physical therapy services.

The findings also have revealed a statistically significant association between the cost of transportation to reach the health center and physical accessibility of the health center.

The study findings revealed that there were no statistically significant differences between the selected socio-demographic variables (gender, age groups, schooling years, and employment status, place of receiving the service, distance of the health center) and satisfaction with the provided services. Also, the study findings revealed no statistically significant relationship between health status of the clientsand the waiting time of the clients to receive the physical therapy services. In addition, the study findings revealed that there is no statistically significant relationship between overall satisfaction level and place of receiving the services, as well as, the distance of the health center, the physical accessibility to the health center and the cost of public transportation for clients to reach the health center.

With regard to the utilization of physical therapy services, the majority of the study participants indicated that they are not currently receiving physical therapy services from

other service providers. In addition, regarding reasons for seeking physical therapy services from UNRWA health centers, there are different reasons, either because the good quality of the provided physical therapy services, qualified staff, the presence of wide range of services, referral from other healthcare providers, free of charge services, or the physical proximity of the center to the place of residence of client.

Regarding accessibility of physical therapy services, the majority of the study participants expressed that health centers are adapted for people with disabilities, the working hours are suitable for them, and also, it is easy for them to reach the UNRWA health centers.

Regarding appropriateness of physical environment of physical therapy units that provide the services, the findings of this study have shown high percentage of satisfaction with the appropriateness of a waiting area at the physical therapy units, suitability of physical environment, availability of toilets, and cleanliness of beds, also, the majority of the study participants expressed that the setting of the departments maintains their privacy.

With concern to knowledge and skills of service providers, the study findings have shown that the providers deal appropriately with clients, it was reflected by shared information, continuity of care, good interaction and communication between service providers and clients, additionally; the study findings have shown that the providers have dealt with clients in a respectful manners, and provide the clients with the required care.It is worth to mention that some participants expressed that the appointed date is inconvenient to them. On the other hand, the majority of the study participants indicated their satisfaction with the contact time, waiting time and time management of the providers during the session.

Regarding protocols, from service providers` viewpoint; the current protocol needs updating and reviewing to be comprehensiveand needs to contain protocols for management of different health conditions and therapeutic modalities and exercises.. Furthermore, the most barriers that face the service providers were overload, shortage of staff and lack of training courses. Additionally, regarding equipment availability and appropriateness of unit to provide physical therapy services, most the study participants indicated that the units well-equipped and suitable to provide the services.

The medical records review findings revealed that the majority of medical records were ordered, complete, consistent and compatible. In addition, the confidentiality of the majority of medical records was protected. Moreover, the majority of medical records had legible hand-writing, contained follow up with reference time, contained relevant information that could be utilized by the service providers, as well as, the documentation

was done regularly in SOAP note format. Furthermore, more than two-thirds of medical records (76%) had useful information.

5.2 Recommendations

5.2.1 General recommendations

1. There is a need to update the physical therapy treatment protocols and technical guidelines.
2. Conducting refresher training on the currently available protocols and technical instructions is also highly needed.
3. There is a need to increase the awareness of healthcare professionals about the importance of multidisciplinary team and the role of physical therapy.
4. UNRWA needs to provide physical therapists with systematic monitoring and supervision.
5. It is important to ensure training programs for physical therapy staff to be familiar with protocols and technical instructions.
6. UNRWA needs to develop tools for regular monitoring to enhance and promote good practices, including provision of quality of services.
7. More efforts are needed to improve the staff skills and knowledge, such asdeveloping on the job training program.
8. Currently, physical therapy services are not included in e-health system. Thus, it is highly recommended to include physical therapy services in order to improve the overall provision of services, avoid duplication, and enhance good documentation.
9. Giving the fact that UNRWA has adopted the Family Health Team Approach to provide services, it is also highly recommended to have physical therapy providers as part of the family health teams to enhance continuity, comprehensiveness, and quality of the provided services.

5.2.2 Recommendations for further research

1. Conducting mixedmethod research studies, using quantitative and qualitative methods, to explore the impact of the provided physical therapy services on improving the overall quality of life in the Gaza Strip is highly needed.
2. Conducting comparative studies for the quality of the provided physical therapy services in Palestine is needed.
3. There is a need to conduct research studies to deeply assess the physical therapy providers' satisfaction at UNRWA health care centers.
4. There is a need also to conduct research studies to evaluate the competencies of physical therapy providers in the Gaza Strip.

References

Ahmadi-Javid, A., Jalali, Z.,and Klassen, K. (2017). Outpatient appointment systems in healthcare: A review of optimization studies. *European Journal of Operational Research*, *258*(1), 3-34.

Al-Abbad, H., and Al-Haidary, H. (2016). The perception of physical therapy leaders in Saudi Arabia regarding physical therapy scope of practice in primary health care. *Journal of Physical Therapy Science*, *28*(1), 112–117.

Alazri, M., Heywood, P., Neal, R., and Leese, B. (2007). Continuity of Care: Literature review and implications. *Sultan Qaboos University Medical Journal*, *7*(3), 197–206.

Alghadir, A., Zafar, H., Iqbal, Z., and Anwer, S. (2015). Physical therapy education in Saudi Arabia. *Journal of physical therapy science*, *27*(5), 1621-1623.

Al-Hindi, F. (2002). *Client`s satisfaction with radiology services in Gaza*. Unpublished Master Thesis. Al-Quds University, Palestine.

Alrashdi, I. (2012). Evaluation of Quality of Healthcare: To What Extent Can We Rely on Patient Expectations and Preferences. *Oman Medical Journal*, *27*(6), 448–449.

American Physical Therapy Association. (2011). *Today's Physical Therapist: A Comprehensive Review of a 21st-Century Health Care Profession*. Retrieved June 14, 2017 from:https://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/PR_and_Marketing/Market_to_Professionals/TodaysPhysicalTherapist.pdf

Anan, H. (2011). *Clients` centeredness of the governmental PHC services, Gaza-Palestine*. Unpublished Master Thesis. Al-Quds University, Palestine.

Anderson, R., Camacho, F., and Balkrishnan, R. (2007). Willing to wait?: the influence of patient wait time on satisfaction with primary care. *BMC health services research*, *7*(1), 31.

Arah, O., Klazinga, N., Delnoij, D., Ten Asbroek, A., and Custers, T. (2003). Conceptual frameworks for health systems performance: a quest for effectiveness, quality, and improvement. *International Journal for Quality in Health Care*, *15*(5), 377-398.

Armstrong, M. (2009). *Armstrong's handbook of performance management: an evidence-based guide to delivering high performance*. Kogan Page Publishers.

Baines M. (2009). *Public Sector performance management: a discussion report 2009. Association of Public Service Excellence.*

Beach, M., Sugarman, J., Johnson, R., Arbelaez, J., Duggan, P., and Cooper, L. (2005). Do patients treated with dignity report higher satisfaction, adherence, and receipt of preventive care?. *The Annals of Family Medicine*, *3*(4), 331-338.

Beattie, P., Dowda, M., Turner, C., Michener, L., and Nelson, R. (2005). Longitudinal continuity of care is associated with high patient satisfaction with physical therapy. *Physical therapy*, *85*(10), 1046.

Beattie, P., Pinto, M., Nelson, M., and Nelson, R. (2002). Patient satisfaction with outpatient physical therapy: instrument validation. *Physical therapy*, *82*(6), 557-565.

Black, B., Ingman, M., and Janes, J. (2016). Physical Therapists' Role in Health Promotion as Perceived by the Patient: Descriptive Survey. *Physical therapy*, *96*(10), 1588.

Blau, R., Bolus, S., Carolan, T., Kramer, D., Mahoney, E., Jette, D., and Beal, J. (2002). The experience of providing physical therapy in a changing health care environment. *Physical Therapy*, *82*(7), 648-657.

Bleustein, C., Rothschild, D., Valen, A., Valatis, E., Schweitzer, L., and Jones, R. (2014). Wait times, patient satisfaction scores, and the perception of care. *The American journal of managed care*, *20*(5), 393-400.

Carter, S., and Rizzo, J. (2007). Use of outpatient physical therapy services by people with musculoskeletal conditions. *Physical therapy*, *87*(5), 497-512.

Chapman, B., Liebert, R., Lininger, M., and Groth, J. (2007). An introduction to physical therapy modalities. *Adolescent medicine: state of the art reviews*, *18*(1), 11-23.

Cott, C., Mandoda, S., and Landry, M. (2011). Models of integrating physical therapists into family health teams in Ontario, Canada: challenges and opportunities. *Physiotherapy Canada*, *63*(3), 265-275.

Creswell, J., and Creswell, J. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Daoudi, M. (2009). Conceptualization and debate on environmental and human security in Palestine. In *Facing Global Environmental Change* (pp. 873-883). Springer, Berlin, Heidelberg.

Dean, E. (2009). Physical therapy in the 21st century (Part I): toward practice informed by epidemiology and the crisis of lifestyle conditions. *Physiotherapy Theory and Practice*, *25*(5-6), 330-353.

Dean, E. (2009). Physical therapy in the 21st century (Part II): Evidence-based practice within the context of evidence-informed practice. *Physiotherapy Theory and Practice*, *25*(5-6), 354-368.

Dean, E., Moffat, M., Skinner, M., de Andrade, A., Myezwa, H., and Söderlund, A. (2014). Toward core inter-professional health promotion competencies to address the non-communicable diseases and their risk factors through knowledge translation: Curriculum content assessment. *BMC public health*, *14*(1), 717.

Deutscher, D., Horn, S., Dickstein, R., Hart, D., Smout, R., Gutvirtz, M., and Ariel, I. (2009). Associations between treatment processes, patient characteristics, and outcomes in outpatient physical therapy practice. *Archives of physical medicine and rehabilitation*, *90*(8), 1349-1363.

Dierckx, K., Deveugele, M., Roosen, P., and Devisch, I. (2013). Implementation of shared decision making in physical therapy: observed level of involvement and patient preference. *Physical therapy*, *93*(10), 1321.

Donabedian, A. (1980). Basic approaches to assessment: structure, process and outcome. *The definition of quality and approaches to its assessment: explorations in quality assessment and monitoring*, *1*, 77-128.

El Baba, M., Kayastha, P., and De Smedt, F. (2015). Landfill site selection using multi-criteria evaluation in the GIS interface: a case study from the Gaza Strip, Palestine. *Arabian Journal of Geosciences*, *8*(9), 7499-7513.

El Shaer, T. (2016). *Evaluation the quality of healthcare documentation at UNRWA health centers in the Gaza Strip.*Unpublished Master Thesis. Al-Quds University, Palestine.

Engels, Y., Campbell, S., Dautzenberg, M., van den Hombergh, P., Brinkmann, H., Szécsényi, J., and Grol, R. (2005). Developing a framework of, and quality indicators for, general practice management in Europe. *Family Practice*, *22*(2), 215-222.

Ennis, K., Hawthorne, K., and Frownfelter, D. (2012). How physical therapists can strategically effect health outcomes for older adults with limited health literacy. *Journal of Geriatric Physical Therapy*, *35*(3), 148-154.

Feldman, I. (2012). The humanitarian condition: Palestinian refugees and the politics of living. *Humanity: An International Journal of Human Rights, Humanitarianism, and Development*, *3*(2), 155-172.

Fritz, J., Hunter, S., Tracy, D., & Brennan, G. (2011). Utilization and clinical outcomes of outpatient physical therapy for Medicare beneficiaries with musculoskeletal conditions. *Physical therapy*, *91*(3), 330-345.

Gesme, D., and Wiseman, M. (2011). Performance Appraisal: A Tool for Practice Improvement. *Journal of Oncology Practice*, *7*(2), 131–134.

Gharibi, F., Tabrizi, J., Oskouei, M., and AsghariJafarabadi, M. (2014). Effective interventions on service quality improvement in a physiotherapy clinic. *Health promotion perspectives*, *4*(1), 61.

Girma, F., Jira, C., and Girma, B. (2011). Health services utilization and associated factors in jimma zone, South west ethiopia. *Ethiopian journal of health sciences*, *21*(3).

Grill, E., Huber, E. O., Gloor-Juzi, T., and Stucki, G. (2010). Intervention goals determine physical therapists' workload in the acute care setting. *Physical therapy*, *90*(10), 1468-1478.

Groenewegen, P., Kerssens, J., Sixma, H., van der Eijk, I., and Boerma, W. (2005). What is important in evaluating health care quality? An international comparison of user views. *BMC health services research*, *5*(1), 16.

Hanney, W., Masaracchio, M., Liu, X., and Kolber, M. J. (2016). The influence of physical therapy guideline adherence on healthcare utilization and costs among patients with low back pain: a systematic review of the literature. *PloS one*, *11*(6), e0156799.

Harper, P., and Gamlin, H. (2003). Reduced outpatient waiting times with improved appointment scheduling: a simulation modelling approach. *Or Spectrum*, *25*(2), 207-222.

Haynes, S., Richard, D., and Kubany, E. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological assessment*, *7*(3), 238.

Healey, W., Broers, K., Nelson, J., and Huber, G. (2012). Physical therapists' health promotion activities for older adults. *Journal of Geriatric Physical Therapy*, *35*(1), 35-48.

Hillis, J. (2008). *Outpatients' Satisfaction with Physiotherapy Services at Al-Shifa Hospital and Al-Wafa Medical Rehabilitation Hospital in Gaza.* Unpublished Master Thesis. Islamic University, Gaza, Palestine.

Hills, R., and Kitchen, S. (2007). Satisfaction with outpatient physiotherapy: a survey comparing the views of patients with acute and chronic musculoskeletal conditions. *Physiotherapy theory and practice*, *23*(1), 21-36.

Hofstede, S., van Bodegom-Vos, L., Wentink, M., Vleggeert-Lankamp, C., Vlieland, T., Marang-van de Mheen, P., and DISC study group. (2014). Most important factors for the implementation of shared decision making in sciatica care: ranking among professionals and patients. *PloS one*, *9*(4), e94176.

Holmvall, C., Twohig, P., Francis, L., and Kelloway, E. (2012). Applying justice and commitment constructs to patient–health care provider relationships. *Canadian Family Physician*, *58*(3), e159-e165.

Hudon, A., Gervais, M., and Hunt, M. (2015). The contribution of conceptual frameworks to knowledge translation interventions in physical therapy. *Physical therapy*, *95*(4), 630.

Huijbregts, P. (2007). Chiropractic Legal Challenges to the Physical Therapy Scope of Practice: Anybody Else Taking the Ethical High Ground?. *The Journal of Manual and Manipulative Therapy*, *15*(2), 69–80.

Human Rights Council (2015). Key figures on the 2014 hostilities. Geneva. Retrieved August 7, 2018 from: http://www.ohchr.org/Documents/HRBodies/HRCouncil/CoIGaza/A_HRC_CRP_4.docx

Hush, J., Cameron, K., and Mackey, M. (2011). Patient satisfaction with musculoskeletal physical therapy care: a systematic review. *Physical therapy*, *91*(1), 25-36.

Issa, K., Naziri, Q., Johnson, A., Memon, T., Dattilo, J., Harwin, S., and Mont, M. (2013). Evaluation of patient satisfaction with physical therapy following primary THA. *Orthopedics*, *36*(5), e538-e542.

Iwamoto, J., Sato, Y., Takeda, T., and Matsumoto, H. (2011). Effectiveness of exercise for osteoarthritis of the knee: A review of the literature. *World J Orthop*, *2*(5), 37-42.

Jack, K., McLean, S., Moffett, J., and Gardiner, E. (2010). Barriers to treatment adherence in physiotherapy outpatient clinics: a systematic review. *Manual therapy*, *15*(3), 220-228.

Jette, D., and Jette, A. (1997). Professional uncertainty and treatment choices by physical therapists. *Archives of physical medicine and rehabilitation*, *78*(12), 1346-1351.

Jette, D., Halbert, J., Iverson, C., Miceli, E., and Shah, P. (2016). Use of standardized outcome measures in physical therapist practice: perceptions and applications. *Physical therapy*, *89*(2), 125-135.

Jumaa R. (2018, August 6). Personal interview.

Kabene, S., Orchard, C., Howard, J., Soriano, M., and Leduc, R. (2006). The importance of human resources management in health care: a global context. *Human resources for health*, *4*(1), 20.

Keelan, E. (2016). Medical Care in Palestine: Working in a Conflict Zone. *The Ulster Medical Journal*, *85*(1), 3–7.

Kredo, T., Bernhardsson, S., Machingaidze, S., Young, T., Louw, Q., Ochodo, E., and Grimmer, K. (2016). Guide to clinical practice guidelines: the current state of play. *International Journal for Quality in Health Care*, *28*(1), 122-128.

Kuczynski, J., Schwieterman, B., Columber, K., Knupp, D., Shaub, L., and Cook, C. (2012). Effectiveness of physical therapist administered spinal manipulation for the treatment of low back pain: a systematic review of the literature. *International Journal of Sports Physical Therapy*, *7*(6), 647.

Kumari, R., Idris, M., Bhushan, V., Khanna, A., Agarwal, M., & Singh, S. (2009). Study on patient satisfaction in the government allopathic health facilities of Lucknow district, India. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *34*(1), 35.

Lærum, E., Indahl, A., and Sture Skouen, J. (2006). What Is "The Good Back-Consultation"? A Combined Qualitative And Quantitative Study Of Chronic Low Back Pain Patients' interaction With And Perceptions Of Consultations With Specialists. *Journal of rehabilitation medicine*, *38*(4), 255-262.

LaGanga, L. R., & Lawrence, S. R. (2012). Appointment overbooking in health care clinics to improve patient service and clinic performance. *Production and Operations Management*, *21*(5), 874-888.

Landry, M., Deber, R., Jaglal, S., Laporte, A., Holyoke, P., Devitt, R., and Cott, C. (2006). Assessing the consequences of delisting publicly funded community-based physical therapy on self-reported health in Ontario, Canada: a prospective cohort study. *International Journal of Rehabilitation Research*, *29*(4), 303-307.

Levin, K. (2006). Study design III: Cross-sectional studies. *Evidence-based dentistry*, *7*(1), 24-25.

Lindsay, R., Hanson, L., Taylor, M., and McBurney, H. (2008). Workplace stressors experienced by physiotherapists working in regional public hospitals. *Australian Journal of Rural Health*, *16*(4), 194-200.

Liu, H., and Fletcher, J. P. (2006). Analysis of physicians' referrals: is further diagnosis needed?. *North American journal of sports physical therapy: NAJSPT*, *1*(1), 10.

Manenti, A., Ville de Goyet, C. de, Reinicke, C., Macdonald, J., and Donald, J. (2016). *Report of a Field Assessment of Health Conditions in the Occupied Palestinian Territory*. Switzerland: World Health Organization. Retrieved October 10, 2017, from:

http://apps.who.int/gb/Statements/Report_Palestinian_territory/Report_Palestinian_territory-sp.pdf

Mann, C. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency medicine journal*, *20*(1), 54-60.

Matar, H. (2016). *Evaluation of Physical Therapy Services at the Governmental Hospitals-Gaza Governorates.* Unpublished Master Thesis. Al-Quds University, Palestine.

Mazer, B., Feldman, D., Majnemer, A., Gosselin, J., and Kehayia, E. (2006). Rehabilitation services for children: Therapists' perceptions. *Pediatric Rehabilitation*, *9*(4), 340-350.

Ministry of Health (2018). Heath Annual Report, Ministry of Health. *Annual Report 2017,* Palestinian National Authority: Palestinian Health Information Center.

Montagnini, M., Javier, N., and Ritchie, C. (2017). Physical Therapy and Other Rehabilitation Issues in The Palliative Care Setting. *UpToDate May*, *16*.

Moorhead, J., and Clifford, J. (1992). Determining medical necessity of outpatient physical therapy services. *Quality Assurance and Utilization Review*, *7*(3), 81-84.

Mosadeghrad, A. (2012). A conceptual framework for quality of care. *Materia socio-medica*, *24*(4), 251.

Mosadeghrad, A. (2014). Factors influencing healthcare service quality. *International Journal of Health Policy and Management*, *3*(2), 77–89.

Mosadeghrad, A., Ferlie, E., and Rosenberg, D. (2008). A study of the relationship between job satisfaction, organizational commitment and turnover intention among hospital employees. *Health services management research*, *21*(4), 211-227.

Murphy, B., Greathouse, D., and Matsui, I. (2005). Primary care physical therapy practice models. *Journal of Orthopaedic and Sports Physical Therapy*, *35*(11), 699-707.

O'keeffe, M., Cullinane, P., Hurley, J., Leahy, I., Bunzli, S., O'sullivan, P., and O'sullivan, K. (2016). What influences patient-therapist interactions in musculoskeletal physical therapy? Qualitative systematic review and meta-synthesis. *Physical therapy*, *96*(5), 609-622.

Palestinian Central Bureau of Statisticsand Ministry of Health. (2015). *World Health Day 2015*. Ramallah. Palestine. Retrieved October 12, 2017, from: http://pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_IntHDy2015E.pdf

Palestinian Central Bureau of Statistics. (2014). *Press Release, on the Occasion of International Disables Day*. Retrieved August 6, 2017, from: http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=1271

Palestinian Central Bureau of Statistics. (2015). *On the Eve of World Elderly Day*.Retrieved August 6, 2017, from:http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=1507

Palestinian Central Bureau of Statistics. (2016). *Palestinians at the End of 2016*. Retrieved August 15, 2017, from:http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=1823

Palestinian Central Bureau of Statistics. (2017). *Poverty Profile in Palestine, 2017*. Retrieved June 17, 2018, from: http://www.pcbs.gov.ps/Document/pdf/txte_poverty2017.pdf?date=16_4_2018_2

Palestinian Central Bureau of Statistics. (2018a). *Palestine in Figures 2017*. Ramallah. Palestine. Retrieved May 27, 2018, from: http://www.pcbs.gov.ps/Downloads/book2362.pdf

Palestinian Central Bureau of Statistics. (2018b). The Palestinian Expenditure and ConsumptionSurvey -October 2016 – September 2017. PCBS. Retrieved August 9, 2018 from: http://www.pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_15-4-2018-liv-en.pdf

Palestinian General Syndicate for Physical Therapy (2012), About Palestinian General Syndicate for Physical Therapy. PSPT. Retrieved August 8, 2018 from: http://www.pptass.ps/index.php?choose=topic&id=1

Palestinian Health Information Center. (2017). A*nnual Health Report, Palestine 2016*. Ministry of Health. Retrieved June 17, 2018, from: https://www.site.moh.ps/Content/Books/ZxRcynmiUofNqt66u4CrHRgmJR6Uv7z77srjjIEAho6xnz5V3rgLTu_RhO7xf2j2VusNiIvWkjwp84yXHLdGleB97gKrHHI5iZ9oPJ25owGEN.pdf

Patton, M. (1987). *Qualitative Research Evaluation Methods*. Thousand Oaks, CA: Sage Publishers.

Quinn, L. and Gordon, J. (2003). *Functional outcomes - Documentation for rehabilitation*. Saunders (Elsevier Science), St. Louis, Missouri.

Rahman, M., Shahidullah, M., Shahiduzzaman, M., and Rashid, H. (2002). Quality of health care from patient perspectives. *Bangladesh Medical Research Council Bulletin, 28*(3), 87-96.

Rajashree, K. (2011). Training Programs in Communication Skills for Health Care Professionals and Volunteers. *Indian Journal of Palliative Care, 17*(Suppl), S12–S13.

Reeve, C., Humphreys, J., and Wakerman, J. (2015). A comprehensive health service evaluation and monitoring framework. *Evaluation and program planning*, *53*, 91-98.

Ribeiro, C., and Soares, M. (2014). Opportunities for physical therapy contributions to primary health care in the South of Brazil. *Revista Panamericana de Salud Pública*, *36*(2), 117-123.

Roach, K., Ally, D., Finnerty, B., Watkins, D., Litwin, B., Janz-Hoover, B., and Curtis, K. (1998). The relationship between duration of physical therapy services in the acute care setting and change in functional status in patients with lower-extremity orthopedic problems. *Physical therapy*, *78*(1), 19-24.

Rothstein, J. (2001). Guide to physical therapist practice 2nd. *Physical Therapy*, *81*, 9-744.

Rycroft-Malone, J., Fontenla, M., Seers, K., and Bick, D. (2009). Protocol-based care: the standardisation of decision-making?. *Journal of Clinical Nursing*, *18*(10), 1490-1500.

Sakurai, H., Kanada, Y., Sugiura, Y., Koyama, S., and Tanabe, S. (2016). Contents of supervision needed by physical and occupational therapists for ability development: focusing on their clinical experience. *Journal of Physical Therapy Science*, *28*(1), 134–141.

Scholte, M., Calsbeek, H., Nijhuis-van der Sanden, M., and Braspenning, J. (2014). Quality of physical therapy from a patient's perspective; factor analysis on web-based survey data revealed three dimensions on patient experiences with physical therapy. *BMC health services research*, *14*(1), 266.

Smith, P. (2009). *Performance measurement for health system improvement: experiences, challenges and prospects*: Cambridge University Press.

Snow, B., Shamus, E., and Hill, C. (2001). Physical therapy as primary health care: public perceptions. *Journal of Allied Health*, *30*(1), 35-38.

Stellenberg, E. (2015). Accessibility, affordability and use of health services in an urban area in South Africa. *Curationis*, *38*(1), 1-7.

Tabrizi, J., Wilson, A., and O'Rourke, P. (2011). Customer quality and type 2 diabetes from the patients' perspective: A cross-sectional study. *Journal of research in health sciences*, *10*(2), 69-76.

Tavakol, M., Mohagheghi, M., and Dennick, R. (2008). Assessing the skills of surgical residents using simulation. *Journal of surgical education*, *65*(2), 77-83.

Terlouw, T. (2007). Roots of Physical Medicine, Physical Therapy, and Mechanotherapy in the Netherlands in the 19th Century: A Disputed Area within the Healthcare Domain. *The Journal of Manual and Manipulative Therapy*, *15*(2), E23–E41.

Townsend, M. (2006). Evaluating food stamp nutrition education: process for development and validation of evaluation measures. *Journal of nutrition education and behavior, 38*(1), 18-24.

Trizano-Hermosilla, I., and Alvarado, J. (2016). Best Alternatives to Cronbach's Alpha Reliability in Realistic Conditions: Congeneric and Asymmetrical Measurements. *Frontiers in Psychology, 7*, 769.

Tsai, C. Y., Wang, M. C., Liao, W. T., Lu, J. H., Sun, P. H., Lin, B. Y. J., & Breen, G. M. (2007). Hospital outpatient perceptions of the physical environment of waiting areas: the role of patient characteristics on atmospherics in one academic medical center. *BMC health services research, 7*(1), 198.

United Nations Relief and Works Agency for Refugees of Palestine in the Near East. (2012). *Services. What We Do*. Retrieved June 10, 2017, from:https://www.unrwa.org/what-we-do/services

United Nations Relief and Works Agency for Refugees of Palestine in the Near East. (2015). *Gaza Situation* (Report No. 94). Updated in May 30 2015. Retrieved August 10, 2017 from:https://www.unrwa.org/newsroom/emergency-reports/gaza-situation-report-94

United Nations Relief and Works Agency for Refugees of Palestine in the Near East. (2016). *Gaza Situation* (Report No. 165). Last updated on October 12, 2016. Retrieved August 10, 2017, from: https://www.unrwa.org/newsroom/emergency-reports/gaza-situation-report-165

United Nations Relief and Works Agency for Refugees of Palestine in the Near East. (2018). *Health Department. Annual report 2017*. UNRWA. Retrieved June 15, 2018 from: https://www.unrwa.org/sites/default/files/content/resources/health_programme_annual_report_2017.pdf

United Nations Special Coordinator for the Middle East Peace Process. (2017). *UNSCO Socio-Economic Report: Overview of The Palestinian Economy in Q3/2016*. Retrieved February 25, 2018, from:http://unispal.un.org/pdfs/UNSCO_SocEcoRpt-3rdQ16.pdf

Vahdat, S., Hamzehgardeshi, L., Hessam, S., and Hamzehgardeshi, Z. (2014). Patient Involvement in Health Care Decision Making: A Review. *Iranian Red Crescent Medical Journal, 16*(1), e12454.

Verhagen, E., and Engbers, L. (2009). The physical therapist's role in physical activity promotion. *British journal of sports medicine*, *43*(2), 99-101.

Vincent, H., Vincent, K., Seay, A., Conrad, B., Hurley, R., & George, S. (2014). Back strength predicts walking improvement in obese, older adults with chronic low back pain. *PM&R*, *6*(5), 418-426.

Werner, R., and Asch, D. (2007). Clinical Concerns About Clinical Performance Measurement. *Annals of Family Medicine, 5*(2), 159–163.

Westby, M., Klemm, A., Li, L., and Jones, C. (2016). Emerging Role of Quality Indicators in Physical Therapist Practice and Health Service Delivery. *Physical Therapy, 96*(1), 90–100.

World Bank (2004). Caring for the Disabled in the West Bank and Gaza. World Bank. Retrieved August 8, 2018 from: http://siteresources.worldbank.org/DISABILITY/Resources/Regions/MENA/Caring Disab.pdf

World Confederation for Physical Therapy. (2011). *Policy Statement. : Description of Physical Therapy*. London, UK. Retrieved June 12, 2017, from:http://www.wcpt.org/sites/wcpt.org/files/files/WCPT_Description_of_Physical_Therapy-Sep07-Rev_2.pdf

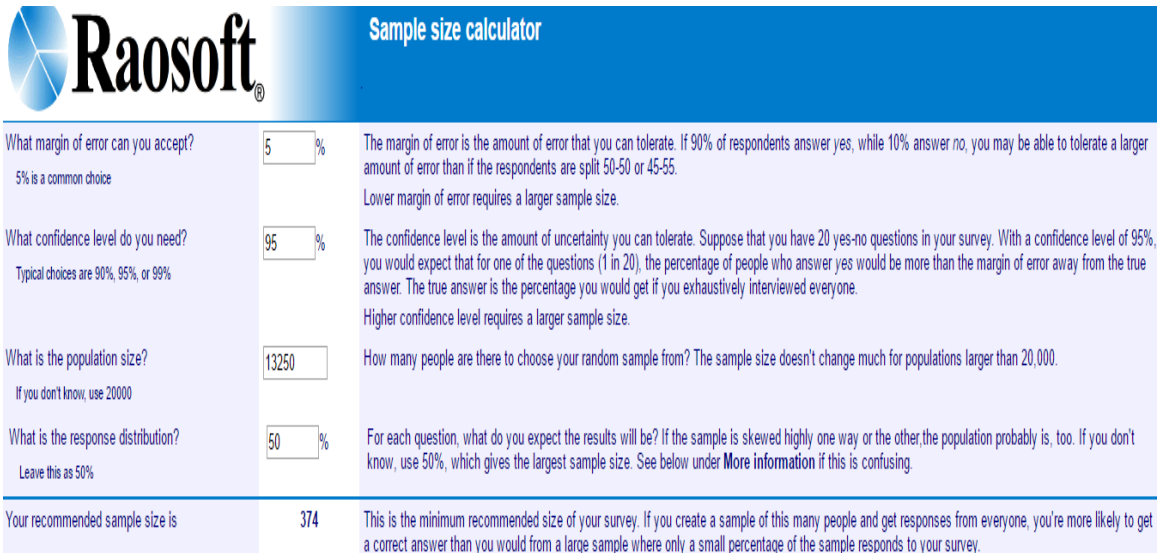
World Health Organization (2010), Classification of health workforce statistics. WHO, Geneva. Retrieved August 6, 2018, from: http://www.who.int/hrh/statistics/Health_workers_classification.pdf

World Health Organization (2016). Health conditions in the occupied Palestinian territory, including east Jerusalem, and in the occupied Syrian Golan. WHO, Geneva. Retrieved August 7, 2018, from: http://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_INF6-en.pdf

World Health Organization (2017), The need to scale up rehabilitation. WHO, Geneva. Retrieved August 6, 2018, from: http://www.who.int/disabilities/care/Need-to-scale-up-rehab-July2018.pdf?ua=1

Annexes

Annex (1): Online sample size calculator



Raosoft®

Sample size calculator

What margin of error can you accept? 5% is a common choice	5 %	The margin of error is the amount of error that you can tolerate. If 90% of respondents answer yes, while 10% answer no, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55. Lower margin of error requires a larger sample size.
What confidence level do you need? Typical choices are 90%, 95%, or 99%	95 %	The confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer yes would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone. Higher confidence level requires a larger sample size.
What is the population size? If you don't know, use 20000	13250	How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.
What is the response distribution? Leave this as 50%	50 %	For each question, what do you expect the results will be? If the sample is skewed highly one way or the other,the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under **More information** if this is confusing.
Your recommended sample size is	374	This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.

Annex (2): Official letter of approval for the Helsinki committee in the Gaza Strip

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: 2017/08/07 **Number:** PHRC/HC/249/17

Name: ABEER F. JADALLA الاسم:

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:

Evaluation of physical Therapy Services at UNRWA Health Centers - Gaza Governorates

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/249/17 in its meeting on 2017/08/07

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

Signature

Member **Member**

Chairman

7/8/2017

Genral Conditions:-

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

Specific Conditions:-

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

Annex (3): Official letter of approval from UNRWA health department administration

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ 2017/9/18

حضرة / د. غادة أبو نحلة المحترم
مدير برامج الصحة بوكالة الغوث الدولية
تحيو طيبة وبعد،،،

الموضوع:مساعدة الطالبة عبير جاد الله

نشكر لكم دعمكم الدائم لمسيرة العلم والتعليم وخصوصاً دعم كلية الصحة العامة وطلابها، ونود أعلامكم بأن الطالبة المذكورة أعلاه تقوم بعمل بحث كمتطلب للحصول على درجة الماجستير في الصحة العامة-مسار الإدارة الصحية عنوان:

Evaluation of Physical Therapy Services at UNRWA Health Centers- Gaza Governorates

وعليه نرجو من سيادتكم التكرم بالموافقة على تسهيل مهمة الطالبة في إنجاز هذا البحث حيث تشمل عينة الدراسة مقدمي خدمة العلاج الطبيعي والمرضى المتابعين في أقسام العلاج الطبيعي وملفاتهم المسجلة في عيادات الوكالة التابعة لإدارتكم الموقرة.

شاكرين لكم حسن تعاونكم ودعمكم للمسيرة التعليمية،،،
و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حميد
منسق عام برامج الصحة العامة
جامعة القدس-فرع غزة

Approved
18 10 2017

نسخة: الملف

AHO : please facilitate

Jerusalem Branch/Telefax 02-2799234
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P.O. box 51000 Jerusalem

فرع القدس / تلفاكس 02-2799234
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ص.ب. 51000 القدس

Annex (4): Client questionnaire

Client`s questionnaire

Client factors

Factor 1: Demographic data	
Serial number:.....	Date:...../...../.....
Health center`s name:	
1. Age: ..... years	2. Gender: 1. ☐Male 0. ☐Female
3. Governorate: 1. ☐North Gaza2. ☐Gaza City 3. ☐Deir Al balah 4. ☐Khan Younis 5. ☐Rafah	4. Marital status: 1. ☐Single2. ☐Married 3. ☐Divorced4. ☐Widow 5. ☐Separated
5. Years of schooling: ..... years.	
6. What is the average monthly income of your family (from all sources).....(ILS)	
7. Employment status: 1. ☐Employed 0. ☐Unemployed 8. (If employed, what is your job?	
Medical History	
9. Number of sessions you have received, so far:	
10. The reason for receiving those sessions is/are: (unprompted, may select more than one option) 1. ☐Low Back Pain 2. ☐Neck pain 3. ☐Osteoarthritis 4. ☐ Post fracture 5. ☐ Sprain/ Strain 6. ☐ Post Stroke 7. ☐ Frozen shoulder 8. ☐ Bell`s palsy 9. ☐ Cerebral palsy 10. ☐ Nerve injury 11. ☐ Others, please Specify:	
11. Do you have chronic health condition/s? 1. ☐Yes 0. ☐No	
12. If yes, please specify: 1. ☐Hypertension (HT) 2. ☐ Diabetes Mellitus (DM) 3. ☐ HT and DM 4. ☐ Respiratory disease 5. ☐ Renal disease 6. ☐ Trauma 7. ☐ Cerebral Palsy 8. ☐ Others, please specify	
13. Do you currently take any medicine? 1. ☐Yes 0. ☐No 14. If yes, Please specify	
15. In addition to this center, are you currently receiving same services from other rehabilitation programs? (If no, skip to question 17) 1. ☐Yes 0. ☐No	

16. From whom do you receive such services?
1.☐MOH 2.☐Private Providers 3.☐ NGOs 4.☐ Traditional healer
17. Why you are seeking services from this department? (You could choose more than one option):
1.☐Have more services 2.☐Better quality of services 3.☐ Have staff that is very qualified
4.☐More convenient working hours 5. ☐To maintain my privacy 6. ☐ Closer to home
7.☐ Other reasons, specify: .....

18. In the past, did you receive any physical therapy treatment from this health center?
1. ☐Yes 0. ☐No

19. If yes, why (Diagnosis)? (unprompted, may select more than one option)
1. ☐Low Back Pain 2. ☐Neck pain 3. ☐Osteoarthritis
4. ☐ Post fracture 5. ☐ Sprain/ Strain 6. ☐ Post stroke
7. ☐ Frozen shoulder 8. ☐ Bell`s palsy 9. ☐ Cerebral Palsy.
10. ☐ Others, please Specify: .....

20. In the past, did you receive services from other rehabilitation programs?
1. ☐Yes 0. ☐No

21. From whom did you receive the services?
1.☐MOH 2.☐Private Providers 3.☐ NGOs 4.☐ Traditional healer

Accessibility of the center

22. Is the health center adapted for people with disabilities?
1. ☐Yes 0. ☐No

23. Is the working hours for the department are suitable for you?
1. ☐Yes 0. ☐No

24. Was it easy to reach the health center?
1. ☐Yes 0. ☐No

25. How do you usually reach the health center?
1.☐ On foot, if yes, go to question (26)
2.☐ Public transportation, if yes, go to question (27)
3.☐ Private car, if yes, go to question (29)
4.☐ Bicycle, if yes, go to question (29)
5.☐ Motorcycle, if yes, go to question (29)
6.☐ Others, specify……

26. If by foot, to access the health center, how much time (per minute) you need to get to the center? ..... minutes.

27. If by public transportation, how much does it cost to arrive to this health center? ..... NIS.

28. What do you think of this cost? 1.☐ Affordable 2.☐ High

29. What is your opinion about the distance between the place of residence and the place to the health center?
1.☐ The health center close to where I live.
2.☐The distance is suitable, midway between my residence and the center.
3.☐ The health center is far from my residence.

Dimension I: Input

(For each of the below statement, please select one of the five options:
1=Strongly disagree 2= Disagree 3-Natural 4=Agree 5=Strongly agree)

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
30. The department has appropriate waiting area (with enough space).					
31. The setting of the department helps in protecting your privacy.					
32. There are curtains around the treatment beds to maintain your privacy.					
33. The physical environment in the department is suitable					
34. Toilet is available for clients.					
35. Toilet is clean.					
36. Clinical bed linen is clean.					
Dimension II: Process					
Factor 1: Waiting time, contact time and appointment system					
37. How much time usually you wait to receive the service? ..... minutes (from your point of view).					
38. How long did you spend with the therapist to be provided with the required service? ..... minutes.					
39. How many minutes it generally takes you to receive the services? (From the moment you enter the center until you received all the services you want) ..... minutes.					

(For each of the below statement, please select one of the five options: 1=Strongly disagree
2= Disagree 3-Natural 4=Agree 5=Strongly agree)

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
40. The therapist introduce himself in the first meeting					
41. From your point of view, therapist manages time perfectly during the session.					
42. The therapist was respectful.					
43. The appointed date is generally convenient.					
44. You are committed with the scheduled session.					
45. The time you spent with the therapist was enough.					
46. The waiting time to receive the physical therapy service was acceptable.					
47. The waiting time was long.					
48. You were provided with clear information on your					

diagnosis.					
49. You were provided with clear information on your prognosis.					
50. You were involved in preparing the treatment plan.					
51. Rationale of used equipment are well explained to you (client)					
52. The therapist listen to your all complains.					
53. You were given full explanation, in clear language about the benefits of physical therapy intervention.					
54. Your therapist always evaluates your treatment plan and modifies it as needed.					
55. Therapist respected your preferences.					
56. You were given full explanation, in clear language about self-management for pain and discomfort.					
57. The physical therapist immediately responds to your needs.					
58. Therapists are available in their working areas all the time.					
59. Therapist often explains the progress in your treatment clearly.					
60. There is a complaints system in place where I can complain against maltreatment					
61. Physical therapy providers pay careful attention to your safety					
62. Have you ever turned back home without receiving services you came to receive? 1. ☐Yes 0. ☐No 63. If yes, why?					

Dimension III: Outcomes

Quality of care
64. How do you describe your health status after received today`s session? 1. ☐Same 2. ☐Better 3. ☐Worse

(For each of the below statement, please select one of the five options: 1=Strongly disagree 2= Disagree 3-Natural 4=Agree 5=Strongly agree)

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
65. It was easy to receive physical therapy services from this health center.					
66. Provider provides physical therapy services in an appropriate manner.					
67. Provider provides an appropriate follow up of care.					

68. You have received sufficient information regarding treatment and choices made available to you.					
69. The physical therapy services that you received met your expectations.					
70. Treatment by physical therapy alleviated your symptoms.					
71. Physical therapy services improved your activity of daily living.					
72. You would return to this department if you required physical therapy care in the future					
73. You are satisfied with time that the therapist spent with you.					
74. The physical therapy services meet your needs.					
75. You are satisfied with the way the therapist dealt with you.					
76. Will you recommend getting physical therapy services from this department to any of your relatives and friends? 1. ☐Yes 0. ☐No					
77. What is your overall satisfaction about the provided physical therapy services? 1. ☐ Satisfied 2. ☐ Partially satisfied 3. ☐ Not satisfied					

Annex (5): Physical therapy providers interview questions

Questions to Physical therapy providers

1. Compared with other physical therapy service providers? What makes you special? (Key informant and staff)

Probing questions

- Cost of services
- Quality of care
- Qualified staff
- Accessibility of services

2. Do you have written protocols and technical instructions? (Key informantand staff)

Probing questions

- Do you have access to such protocols, if available?
- Do you think your colleagues fully applying the written protocols, full compliance?
  - If no, why
  - If sometimes, why not all the time
- Have you received training on those protocols?
- Are these protocols up-to-date?
- If you have the option, what could you add to the current protocol?

3. From your perspective, to what extent the physical therapy providers meet the needs of clients? (Key informantand staff)

Probing questions

- To large extend, how?
- Not at all, why?

4. From your perspectives, do you think providers are committed to clients work plan? (Staff only)

Probing questions

- Yes, all the time
- No, explain why

5. From your perspectives, does the department suitable to provide physical therapy services? (Staff only)

Probing questions

- Safe environment
- Enough space
- appropriateness of waiting area
- Availability of all amenities (safe drinking water, toilet...etc)
- Physical environment in the department is suitable (Good ventilation and suitable heating)

6. From your perspectives, do you think the available human resources are sufficient to provide all the needed services with a good quality? (Key informantand staff)

Probing questions

- The workload is suitable
- The number of providers is appropriate
- Providers are qualified and knowledgeable
- Providers have all the required skills

7. Do you get the needed support from your administration? (Staff only)

Probing questions

- If yes, how?
- If no, why?

- How do you evaluate the interaction with your direct line manager?

8. Do you have in-service training programme? (Staff only)

Probing questions

- If yes, how often do they offer trainings
- What topics they generally cover?
- What trainings you wish to have?

9. Do you have monitoring system in place? (Staff only)

Probing questions

- What are the available monitoring tools?
- Do you receive regular feedback on your performance?

10. How do you evaluate the quality of provided services?

(Key informantand staff)

Probing questions

- Of good quality, why?
- Of reasonable quality, why?
- Are you satisfied with the quality of provided physical therapy services?

11. What could be done to improve the quality of services?

(Key informantand staff)

- To what extent the administrative meets the needs of physical therapy department?

12. What are the main challenges you face in doing your daily job? (Staff only)

Probing questions

- Workload
- Limited support from administration

13. From your view, what are the main barriers that prevent clients from utilizing your services? (Staff only)

Probing questions

- Distance to clinic
- Work schedule
- Waiting time
- Limited availability of services

14. Do you think the provided services have improved the quality of life of Palestinians in Gaza? (Key informantand staff)

Probing questions

- If yes, how?
- If no, why?

15. Do you have other questions or additions? (Key informantand staff)

Thanks a lot for your time and efforts

Annex (6): Medical records review-check list

Records review -Check list

1.	Clear	easy to perceive, understand, or interpret			
2.	Accurate	correct documented information in details			
3.	Disordered	Not ordered in good manner			
4.	Complete	All needed information is available and written			
5.	Consistent	Documentation in the same file done in the same way over time			
6.	Concise	documented information is brief and comprehensive			
7.	Legible	handwriting is clear enough to read			
8.	Utilized	Information could be used by providers to make informed decisions.			
9.	Reference time	Written date for every provided session.			
10.	Confidentiality and privacy protection	File is kept in a good way that maintains privacy and confidentiality of the patient (such as coding)			
11.	Compatibility between file formats	All files are formatted in the same way, all information are ordered in same way.			
12.	Usefulness of data- notes	Follow up notes are written in a way that permits to make comparison and track the improvement or deterioration in the health status of the patient with the time.			
13.	Regularity	Documentation is carried out in a regular and periodic manner for every provided session.			
14.	As follow up- the team use SOAP notes approach	The team write SOAP notes, fully after each treatment sessions.			

Annex (7): Consent form

I. For clients

نموذج موافقة

عزيزي/تي المشارك/ة

أنا الطالبة/ عبير فايز جادالله، ملتحقة ببرنامج ماجستير الصحة العامة - تخصص إدارة صحية بجامعة القدس.

إنه لمن دواعي سروري أن تكون أحد المشاركين في هذه الدراسة التي تم اختيارك فيها بشكل عشوائي والتي تهدف إلى **تقييم خدمات العلاج الطبيعي في مراكز الصحة التابعة لوكالة الغوث الدولية- محافظات غزة**، مما يساهم في تحسين خدمات العلاج الطبيعي المقدمة

هذه الدراسة جزء من متطلبات برنامج الماجستير- كلية الصحة العامة.

أخي/ أختي المشارك/ة: سيقوم الباحث بإجراء مقابلات لتعبئة الاستبانة و في حال أبديت الموافقة للمشاركة في هذه الدراسة عليك الإجابة على أسئلة الاستبانة، مع العلم بما يلي:

- مشاركتك في هذه الدراسة طوعية، ويحق لك القبول أو الرفض أو حتى الانسحاب في أي وقت
- سيحتاج هذا الاستبيان لتعبئته حوالي 20-25 دقيقة.
- لا يوجد إجابات صحيحة و أخرى خاطئة.
- السرية مكفولة و لن يتم سؤالك عن اسمك.
- إجابتك لن تؤثر على الخدمات التي تتلقاها.

شكرا لتعاونك

مع فائق الاحترام والتقدير

الباحثة: عبير جادالله
كلية الصحة العامة
جامعة القدس

II. For physical therapy providers

نموذج موافقة

عزيزي/تي المشارك/ة

أنا الطالبة/ عبير فايز جادالله، ملتحقة ببرنامج ماجستير الصحة العامة - تخصص إدارة صحية بجامعة القدس.

إنه لمن دواعي سروري أن تكون أحد المشاركين في هذه الدراسة والتي تهدف إلى **تقييم خدمات العلاج الطبيعي في مراكز الصحة التابعة لوكالة الغوث الدولية- محافظات غزة**، مما يساهم في تحسين خدمات العلاج الطبيعي المقدمة.

هذه الدراسة جزء من متطلبات برنامج الماجستير- كلية الصحة العامة.

أخي/ أختي المشارك/ة: سيقوم الباحث بإجراء مقابلة مع مقدمي خدمة العلاج الطبيعي و في حال أبديت الموافقة للمشاركة في هذه الدراسة عليك المشاركة في المناقشة و الاجابة على الاسئلة المطروحة، مع العلم بما يلي:

- مشاركتك في هذه الدراسة طوعية، ويحق لك القبول أو الرفض أو حتى الانسحاب في أي وقت
- ستحتاج المقابلة حوالي 30 دقيقة.
- لا يوجد إجابات صحيحة و أخرى خاطئة.
- سيتم تدوين ما يقال في المقابلة.
- السرية مكفولة و لن يتم ذكر أي اسم من أسماء المشاركين.

شكرا لتعاونك

مع فائق الاحترام والتقدير

الباحثة: عبير جادالله

كلية الصحة العامة

جامعة القدس

Annex (8): List of arbitrators

Series	Name	Position
1.	Dr. Bassam Abu Hamad	Al-Quds university
2.	Dr. Yehia Abed	Al-Quds university
3.	Dr. Ghada Al-Jadba	UNRWA
4.	Mr. Faraj Abu Rayya	UNRWA
5.	Dr. Adel Hamdan	Gaza Training Community College - UNRWA
6.	Mr. Iyad Abu Selmeiyah	Al-Aqsa university
7.	Dr. Mohammed El Sultan	Al-Azhar university
8.	Ms. Suad Gaben	Al- Azhar university
9.	Dr. Mohammed Kraizem	The Islamic university
10.	Dr. Wael Mekki	Al- Amal hospital
11.	Mr. Jamal El Farra	Al- Amal hospital
12.	Dr. Sami Oweimer	MoH
13.	Mrs. Amani Mezhir	The Islamic university
14.	Mr. Jehad Okasha	MoH