جامعة القدس

Deanship of Graduated Studies

Al-Quds University

Workload in Nursing Stations at Primary Health Care Governmental Centers in Gaza Governorates

Ibraheim Al Hour

MPH Thesis

Jerusalem – Palestine

1431 \ 2010هـ

Deanship of Graduated Studies

Al-Quds University

جامعة القدس

Workload in Nursing Stations at Primary Health Care Governmental Centers in Gaza Governorates

Submitted by

Ibraheim Al Hour

BSc. of nursing – Islamic University, Gaza

Supervisor

Dr.Ashraf Al Jedi, Ph.D

Dean of College of nursing – Islamic University

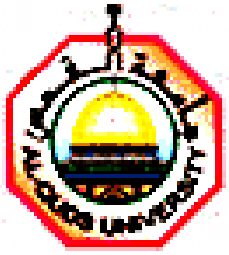
A thesis Submitted in Partial Fulfillment of the Requirement for the Degree of Master in Health Management

1431 \ 2010هـ

Deanship of Graduated Studies

Al Quds University

School of Public Health



جامعة القدس

Thesis Approval

Workload in Nursing Stations at Primary Health Care Governmental Centers in Gaza Governorates

Prepared by: Ibraheim Hussein Al Hour

Registration No :20714200

Supervisor: Dr. Ashraf Al Jedi

Master thesis was submitted and accepted, Date: 01 /08/2010

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

1. Head of Committee: Dr. Ashraf Al Jedi Signature…….

2. Internal Examiner: Dr. Bassam abu Hamad Signature……..

3. External Examiner: Dr. Yusif Al Jesh Signature…….

Jerusalem – Palestine

1431 \ 2010هـ

Dedication

TO MY FAMILY, PARENTS, WIFE, SONS, AND DAUGHTERS

FOR THEIR HELPS, ENCOURAGEMENT AND PATIENCE....

Declaration

I certify that this entire thesis submitted for the degree of master is my own work and has not written to me in whole or in part, by any other person(s), and that this thesis (or any part of the same) has not been submitted for a higher degree or qualification to any other university or institution.

Signed

Ibraheim Hussein Al Hour

Date: March 2010

Acknowledgement

I would like to first and foremost thank my GOD for giving me the strength and will power to complete this study.

I would like to express my depth thanks to my academic supervisor Dr. Ashraf Al Jedi for his keen supervision, great help, encouragement, and scientific guidance.

I also owe a world of thanks and appreciation to Dr. Bassam Abu Hamad, associated professor, for his encouragements and valuable comments.

I would like to thank all the academic and administrative staff of the School of Public Health for their guidance and support.

I would like to express my appreciation to Dr. Fuad El Aisawi, Director General of PHC. in the Ministry of Health, and Mr. Jihd Mater Director of Nursing in PHC.

My sincere thanks, respect appreciation go to my colleagues Nursing Supervisors for their invaluable help and support in data collection process.

Special thanks to Mr. Jihad Okasha for his help in data analysis process.

I would like to deeply thank my colleagues in Gaza Health Directorate especially Dr. Moein Abu Ramadan, Mr. Nadi Naser, Mr. Hussam Al Madhoun, and Mr. Ismaeil Al Zain.

Great thanks for the team of experts who control, review, and discuss the instrument of the study especially on their head professor Dr. Yehia Abed, and Dr. Bassam Abu Hamad, Dr, Yusif Al Jeish, Dr. Fuad El Aisawi, Dr. Hamza Abed Al Jawwad Mr.Khalil Abu Shuaib, Mr. Yusif Awad, Mr. Ali Al Khatib, Mr.Muhamed Auda, Mr. Jehad Mater, Mr. Jehad Al Hattab, and I cant forget Mr. Saied Oleian from thanks for his support and help.

Finally yet importantly, special thanks to the nice group whom I spent the most beautiful days of my educational life, at the school of Public Health.

Abstract

Nursing is considered as the backbone in providing health services to meet needs of clients and communities. This study aims to understand the workload status in nursing stations at Governmental Primary Health Care (PHC) centers in Gaza Governorates.

A quantitative descriptive cross-sectional study was carried out in order to develop workload measurement, which could serve as a management tool for decisions pertaining to staffing level. The instruments used were self-administered questionnaire and an observational checklist. All the nurses (117) who were working at the selected 9 PHC centers were included in the study sample, out of them, 91 responded, with a response rate of 78%. In total, 91 checklists were administered at the service delivery points at nursing stations in the selected PHC centers. The researcher and a trained assistant collected the data. Cronbach's Alpha reliability test was 0.73.

The research findings show that there were no workload standards for nurses at PHC centers. Nurses reported having positive perceptions about their workload, as 71.2% of them believed that staffing level is based on the job requirements and the activities needed to perform the required tasks. Additionally, around half of nurses believed that there is fairness and transparency in distributing nursing resources. Knowledge of nurses about the term workload found to be high (76.9%)**.** In addition, the majority of nurses reported that it is essential to develop workload measurements (82%). The study revealed that 61.4 % of nurses believed that there is work overload. Reasons for work overload included; increasing intensity of work, inadequate staff, increasing paperwork, absence of clear job descriptions, improper appointment system, lack of resources and lack of suitable working environment. In contrary, negative perceptions were reported by nurses about their working environment (30%), suitability of working area (39%) and 50% reported having unhygienic working environment in relation to work climate.

The study results show that the majority of nurses were working in the Mother and Child Health (MCH) stations (Mean number of nurses 3.1) followed by daily care and Antenatal Care (ANC) (mean 1.9), Dental Care (mean 1.5), Non Communicable Diseases (NCD) (1.4) and Family Planning (FP) (1.2). The highest mean of observed clients cases per hour were in dental units (9.33 cases), followed by MCH (6.52), NCD (5.96), daily care (5.18), ANC (4.78), and FP (3.39). The time consumption distribution per procedure in minute was as follows; dental (14), FP (13.3), NCD (9.6), ANC (9.4), Daily care (8.1) and MCH (7.4).

The study revealed that there were no statistically significant differences between workload values and sex, age and years of experience. Perceptions about workload showed statistically significant relationships with job title and qualification. Workload is heavier in the north of Gaza than other place. The differences across the governorates were statistically significance (p value=0.045). The distribution of daily work volume by region shows that the Mid Zone center has elicited the highest in terms of working hours while Rafah elicited the lowest in this regard. The observed average time for each case ranged between 6.6-11.9 minutes.

The study recommends considering workload measurement in staffing nursing station in a systematic manner. Paying attention to work load status, ensuring fair distribution of work responsibilities and improving working conditions is essential.

Table of Contents

List of Tables

List of Figures

List of ANNEXES

List of Abbreviation

AAACN	American Academy of Ambulatory Care Nursing
ANC	Ante Natal Care.
ANA	American Nurses Association
ANF	Australian Nursing Federation
AUVB	Algemene Unie van Verpleegkundigen van Belgien
CAP	College of American Pathologist
CIHI	Canadian Institute of Health Information
CNSS	Computerized Nursing Support System
DC	Daily Care
DM	Diabetes Mellitus
DRG	Diagnostic Related Group
EROS	Equipe De recherché Operational en sante
ERS	Employment Relationship Scale
FP	Family Planning
HER	Healthy Employment Relationship
HIS	Hospital Information System
HSAA	Health Sciences Association of Alberta
HT	Hypertension
JQS	Job Quality Scale
KAP	Knowledge, Attitude and Practice
LEP	Leistungserfassung In Der Pflege
MCH	Mother and Child Health
MIS	Management Information System

MOH	Ministry of Health
NCD	Non-Communicable Disease
NGOs	Non Governmental Organizations
NHPPD	Nursing Hours per Patient Day
NHS	National Health Service
NMDS	Nursing Minimum Data Set
PCBS	Palestinian Central Bureau for Statistics
PNA	Palestinian National Authority
PHC	Primary Health Care
PRN	Project De Research In Nursing
S.I.I.P.	Soins Infirmiers Individuals A LA Personnee
SPSS	Statistical Package for Social Sciences
SSWES	Safe Supportive Work Environment Scale
UK	United Kingdome
UNEP	United Nation Environment Program
UNICEF	United Nation International Children Emergency Fund
Unit prep	Unit preparation
UNRWA	United Nation Relief and Work Agency for Palestinians refugees
WA	Western Australia
WB	World Bank
WEPS	Work Environment processes scale
WHO	World Health Organization
WISN	Workload Indicator of Staffing Need
WLMS	Workload measurement systems

Chapter 1

Introduction

Chapter 1

Introduction

1.1Research Background:

Access to health services is a basic human right, and every one should have an adequate access to health care. Primary Health Care (PHC) was anew approach to health care that came into existence following the international conference, held in Alma Ata in 1978 organized by the World Health Organization (WHO) and the United Nation International Children's Emergency Fund (UNICEF). It was defined as essential health care based on practical, scientifically sound, and socially acceptable method and technology, universally accessible to all in the community through their full participation at an affordable cost and geared toward self-reliance and self-determination (Declaration of Almata, 1978).

Primary health care shifts the emphasis of health care to the people themselves and their needs, reinforcing and strengthening their own capacity to shape their lives. Hospitals and primary health centers then become only one aspect of the system in which health care is provided. As a philosophy, primary health care is based on the overlap of mutuality, social justice and equality. As a strategy, primary health care focuses on individual and community strengths (assets) and opportunities for change (needs), maximizes the involvement of the community, includes all relevant sectors but avoids duplication of services, and uses only health technologies that are accessible, acceptable, affordable and appropriate. Primary health care needs to be delivered close to the people, thus, should rely on maximum use of both lay and professional health care practitioners (WHO & Unicef, 1978).

Healthcare systems are recognizing "human factor" flaws that result in adverse outcomes. Nurses work around system failures, although increasing healthcare complexity makes this harder to do without risk of error. Aviation and military organizations achieve ultra safe outcomes through high-reliability practice. We describe how reliability principles were used to teach nurses to improve patient safety at the front line of care. Outcomes include safety-oriented, teamwork communication competency, reflections on safety culture and clinical leadership are discussed (McKeon etal, 2009).

The cognitive workload of nurses needs to be protected from interruptions as much as possible to prevent untoward patient outcomes. In this study, the type and frequency of work interruptions for nurses in the centers were identified. In addition, nurses' travel patterns were observed and recorded as they provided care. The intent was to identify methods for reducing interruptions and improving nurses' cognitive work efficiency (McKeon etal, 2009).

Work load as defined by Houang and El-Nehgeh (1993) is the sum of the work achieved or to be achieved, obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes) (Houang and El-Nehgeh,1993).

This study focuses on the workload issues among nurses in Gaza Governorates governmental primary health care centers. The workloads they face at work reflect how they will perform their duties. Such issues have not been studied before in Palestine and this has motivated the researcher to explore it.

1.2Research Problem:

Nursing is a synergistic, intuitive process and may not be capable of being translated into minimum patient-to-nurse ratios that work across an entire region or state. A fundamental step in evaluating the appropriateness of prescribed ratios lies in assessing how registered nurses spend their time while caring for patients. Once workload intensity is assessed, additional factors can be identified to design mandated staffing levels for health care settings (Upenieks etal, 2007).

While there is a lack of empirical evidence to support the identification of issues affecting the capture and use of workload measurement data, there is a plethora of anecdotal evidence, which point to issues. Therefore, the concern in this study is to illustrate workload among nurses in PHC centers, to know its nature, and which factors affecting it. This study could help in providing credible information about the real status of the workload to provide recommendations that help in having a suitable workload.

1.3Justification of the study:

To provide adequate and quality health services, health systems in both developed and the developing countries have to confront the challenges of an ever-increasing population with limited or diminishing resources *(Mugisha & Namaganda,* 2008).

According to Palestenian MOH Annual reports (2006), PHC activities performed by nurses are expressed by the total number of services, which does not take into account complexity and appear workload status. As reported in annual report 2008 of Gaza PHC in Palestinian MOH, the average annual workload was Immunization doses (206.975), Antenatal care (73.541), Family planning (51.055), Injection (183.574), Dressing (171.171), Care with Diabetic patient (80.002), Hypertensive patient (80.936). For some years there has been existing method for assessing nurses workload as the Nursing Directorate in the MOH try to implement the key of Al Jalil (International Key) which see every 10.000 people must have 4 nurses at least in PHC services to make workload distribution among nurses and centers (Director of Nursing in PHC, October 2009, interview). However, Al Jalil Key or standard is not accurate as the MOH is not the only care provider (General Administration of Human Resources Development, 2010). See annex 19

The UNRWA ratio in distributing nurses in PHC clinics is 33.9 for every 100.000 persons in Gaza Strip (UNRWA, 2008).

Like in many developing countries, this research will identify and address some of these issues in WLMS. Discussion and debate is critical in order for nurses to explain the work that they do, the contribution of this work to outcomes, and impact of workload on nurses. In this way, nurses can begin to exercise control of their practice and advocate for a work environment that support quality care and the critical role of the professional nurse in successful health delivery systems. Although, workload has been studied in other professions such as lab services, and pharmacy. It has never been scientifically studied in nursing sector in Gaza Governorates. Therefore, this study will try to highlight on the nurses workload in order to know their problems, and their needs, to recommend to the decision makers and so they can set proper solutions for the sake of health system.

1.4 Objectives

1.4.1 Overall objectives:

To understand the workload status in nursing stations at Governmental Primary Health Care (PHC) centers in Gaza Governorates.

1.4.2 Specific Objectives:

1- To assess the status of the workload that nurses experience at their workstations.

2- To recognize the factors affecting nurses workload.

3- To determine workload unit values for nursing care services at their field.

4-To explore the perceptions of nurses in the PHC nursing stations about their workload.

5- To provide the decisions makers with helpful recommendations.

1.5 Research questions:

1- How do nurses perceive their workload?

2 -What are the factors affecting nurses workloads?

3- What are the workload unit values for nursing care services in PHC centers?

4- What are the indicators of over workload in nursing stations in PHC centers?

5- How could we adopt a measurement tool for each nursing procedure?

6- What are the perceptions of nurses in the PHC nursing stations about their workload?

7-Why are their a need for nursing workload measurement system in PHC centers?

8- What are the recommendations that may help in improving workload in nursing stations in PHC?

1.6 Researchability:

The problem of study is applicable to be researched and its value is originates from its important and practicality also any questions of this problem can be ensured or any information can be collected from the field.

1.7 Feasibility:

This study is feasible, the time adequate, the subject is available, cooperation of others is expected, facilities and any equipment are available, there is assistance of others for research to be advised, and directed, and ethical considerations will be taken. The researcher is very interested in the subject that is related to the field of his supervision and work.

1.8 Context of the study:

It is known that the health care system is an open, this means that the external environment surrounding it affects it. The demographic, socioeconomic, and political situation has its impact on the quality and utilization of the health services.

1.8.1 Demographic context:

The Gaza strip comprises a narrow zone of land, located south –West of Palestine. It is stretches along the Medeterian Sea 50 Km. long to 12Km. wide with a surface area about 365 squares Km, and latitude of 0-40 meters above the sea level (PCBS, & UNEP, 2003). See (Annex 1).

As mentioned in Palestinian MOH annual report (2006) Gaza Strip consists 6.1%of the total area of the Palestinian Territories with a population density of 3.808 inhabitants per square Km.

According to PCBS (2007), the population of the Palestinian territory is estimated to about 3, 76,646 therefore 2,345,107 (62.3%) in West Bank (41.6%) are refugees, and 1,416,539 (37.7%) in Gaza strip (58.4%) of them are refugees (MOH, 2009).

Gaza Strip comprises the following five governorates, North Governorate constituting about 17%of the total area of Gaza Strip, Gaza Governorate constitute about 20.3% of the total area of Gaza Strip, Mid-Zone Governorate constitute about 15% of the total area of Gaza Strip, Khanyounis Governorate constitute about 30.5% of the total area of Gaza Strip, Rafah Governorate constitute about 16.2% of the total area of Gaza Strip (PCBS, 2007).

According to the distribution of population by Governorates Gaza Governorate has the largest population size in Gaza Strip (13% of the total population of Palestinian Territory (PCBS, 2006).

Its population natural increase rate is 2.6% in 2008 (Palestinian MOH, 2009).

According to the most recent estimates, 45.7 % of the people in Gaza Strip are under 15 years old, and 5% are above 65 years old. Gender distribution is estimated to be 50.6%males, and 49.4% females. Life expectancy is 74.1years for females and 71.1 for males. The crude birth rate is 28.5/1000 and crude death rate is 27/1000 (Palestinian MOH, 2009).

1.8.2 Political and socioeconomic context:

The political system is considered a democratic system; it is based upon a multi-party system, which has an elected legislative council. The Palestinian national authority (PNA) is still not a state, it assumes its responsibilities under conditions seems to be complex and of particular diversity (Hamdan and Defever, 2002).

The political situation is not stable in Palestine because of the Israeli occupation and people suffer in the Gaza Strip & the west Bank especially after the uprising of the second "Intifada" before nine years. Since the start of the Intifada in 2000, the social and economic turmoil has translated into poverty among PNA territories population. Then, after the winning of Hammas in the election of 2006 the political environment has deteriorated even further, resulting in a significant hardening of Israeli and wider international policy in relation to the PNA and in a general withdrawal of the limited international support (UNRWA, 2006).

The economic situation is so bad and continues to deteriorate because of the closure policies and the restrictions on the movement of people and goods within the Palestinian localities in the west Bank, the west Bank /Gaza Strip and Israel. Heavy dependence of the Palestinian economy on Israel in the areas of trade and labor and labor has led to the destruction of the economy, thus Palestine is facing a rise in the unemployment rate. The World Bank reported that the unemployment rate in Palestine was 32% and the poverty rate was 44% in 2005 (MOH, 2006).

1.8.3 Palestinian Health Care System:

Over the past years, the Palestinian heath care system had been developing in dynamic way to face the instability of the Palestinian situation .The four major providers of health care services in Palestine are: the Palestinian health authority represented by MOH, UNRWA, NGOs, and the private sector. The PHC is considered as the backbone of the health system. It provides health care to all Palestinian people especially for children and other vulnerable groups through primary and secondary health care services as well as tertiary services. PHC centers try to offer accessible health services for all Palestinians regardless of the geographical locations. At the end of 2008, there were 731 PHC centers in Palestine. Out of those 125 centers in Gaza. MOH is considered the main provider with 54.5% from the total PHC centers, 56 of these centers are in the Gaza Strip that cover 41.6% of total population (Palestine, MOH, 2009). PHC system in Gaza strip is well established and functioning despite the high population density and the over crowdness. Classification if PHC according to levels illustrated that 30-center level II, 19-center level III, and 7 center level IV. (MOH 2006), but now a day level IV center are 9 center (MOH 2009). The highest ratio of population per center was recorded in Rafah 41.310 person per center, and the lowest ratio in Middle Zone with 12.570. The number of MOH- PHC centers per 10.000 persons 0.40.(MOH 2006).The total number of UNRWA centers are 18 by ratio 22.2% from the total PHC centers, that provide services for refugees by (58.4%) of total population in Gaza Strip especially in MCH services (MOH, 2009 & 2006).

The other services provided are integrated between MOH and UNRWA for all peoples, and the MOH considered the main provider, The remained ratio of centers are for NGOs, but has very little role in providing PHC services and has not accurate statistics. See annex 16.

1.8.4 Health Human Resources in Palestine, Gaza Strip:

As stated in the Palestinian MOH annual report, the total number of health manpower who is working in the MOH about 13000 distributed as 59% in the Hospitals, and 27%in the PHC, 14%Other directorates, and they are distributed according to the nature of work as 39% Administrators, 26% Nurses, 18% Physicians, and 17% others. But in the non-MOH health organizations is not clearly documented and has no accurate statistics and many of

them are working in the MOH mainly, comparison with static's in 2005 that was 20,796, out of them 12,444 work in MOH 7.693 in Gaza Strip (Palestine MOH, 2006 & 2009).

1.8.5 Nursing in Palestine:

Now a day nurses who are offered services in the MOH departments in Gaza Governorates about 2180, (17.5%) of them working at PHC centers in Gaza Strip (Nursing Unit in The MOH 2009).

The nurses who were working in the MOH –PHC were 819 nurses with a ratio 2.2 for 10.000 persons, and all nurses who were working in PHC were 1659 by ratio of 4.4 for 10.000 persons (MOH 2006). In addition, the PHC nurses in the MOH in Gaza Strip are 330 nurses (Director of Nursing in PHC 2009). Moreover, the UNRWA nurses in Gaza Strip are 295 with distribution ratio for population 33.9 for 100.000 populations (UNRWA, 2008).

1.8.6 Environmental Status:

Palestinian environment is facing serious threats, such as the alarming population growth, limited land resources, long-term isolation because of the regional political circumstance and the underdeveloped environmental protection system. This had caused serious deterioration fast depletion and contamination of our environmental resources, which in turn lead to health risks among citizens (Lubbad, 2006).

Handling of both hazardous waste and infectious waste mixed up with municipal solid waste is a critical problem that causes environmental and health risks in the Palestinian territories (UNEP, 2O06).

1.9 Operational Definitions:

Workload: Is the sum of the work achieved or to be achieved, obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes) (Houang and El-Nehgeh, 1993).

Workload measurement systems (WLMS): Are the only mechanism whereby nursing interventions are captured to reflect the work involved in professional nursing (Registered Nurses Association, 2005).

Workload measurement system (WMS): Is a tool for measuring the volume of activity provided by a specific functional centre in terms of a standard unit of time (Canada CIHI, 2006).

Work hours: Those hours are spent in carrying out the service mandate of the functional centre. Having to work excessive hours, not having enough time to accomplish your activities and having little breaks could affect perception towards workload negatively (Kreling etal, 2006).

Management system: This dimension includes many concepts such as supervision, training, job description motivation and job satisfaction. Supervision as Grasha reported has its impact on the employees' towards their workload and thus affect their performance (Grasha, A, 2001).

Management: The art of getting things done through people (Holt, 1987).

Communication: Is the transference and understanding of meaning (Robbins, 1998).

Perception: It is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment (Robbins, 1998).

Supervision: Is the activity carried out by supervisors the productivity and progress of employees who report directly to the supervisors (Mc Namra 2008).

Training: Is defined as an activities assigned to facilitate the learning and development of new and existing skills. Moreover, to improve the performance of specific tasks or roles (BNET, 2008b).

Primary Health Care: Essential health care based on practical, scientifically sound, and socially acceptable method and technology, universally accessible to all in the community through their full participation at an affordable cost and geared toward self-reliance and self-determination (Declaration of Almata, 1978).

Unit value per procedure: is the mean number of units involved in performing all activities required to complete the defined procedure once (Houang and El-Nehgeh, 1993).

Workload Unit: Minute of productive technical, clerical and aid time (Houang and El-Nehgeh, 1993).

Chapter 2
Literature Review

Chapter 2

Literature Review

This chapter discusses the Conceptual Framework and the main concepts and variables related to the study. In addition, this chapter presents some previous studies which discuses workload definitions, concepts that include workload dimensions and its subjective and objective sides. Additionally, management system in general, and the impact of the personal and organizational factors on workload perceptions.

2.1 Conceptual Framework:

Framework is the conceptual underpinning of study and is used to guide and direct the research process to make research findings more meaningful and generalizable (Bums and Grove, 1997).

In this chapter, the factors that affect and affected by workload will be illustrated using a brief summary and a diagram. Moreover, a conceptual framework of nursing activities adopted and modified from the Canadian conceptual framework to be considered while conducting time for each nursing procedures will be presented.

2.1.1 Factors affecting and affected by workload:

According to this diagram (figure 2.1) the factors related to working environment that affect and affected by workload include the adequacy of space, availability of good instruments, and weather work place is safe, clean, healthy, and comfortable .In other hand internal factor include employees perception and communication with management, staffing decisions, existing staffing level, and staff distribution. According to report Smith, employees burn out simply because they are asked to work too hard for too long (Smith, 2007).

Conceptual Framework

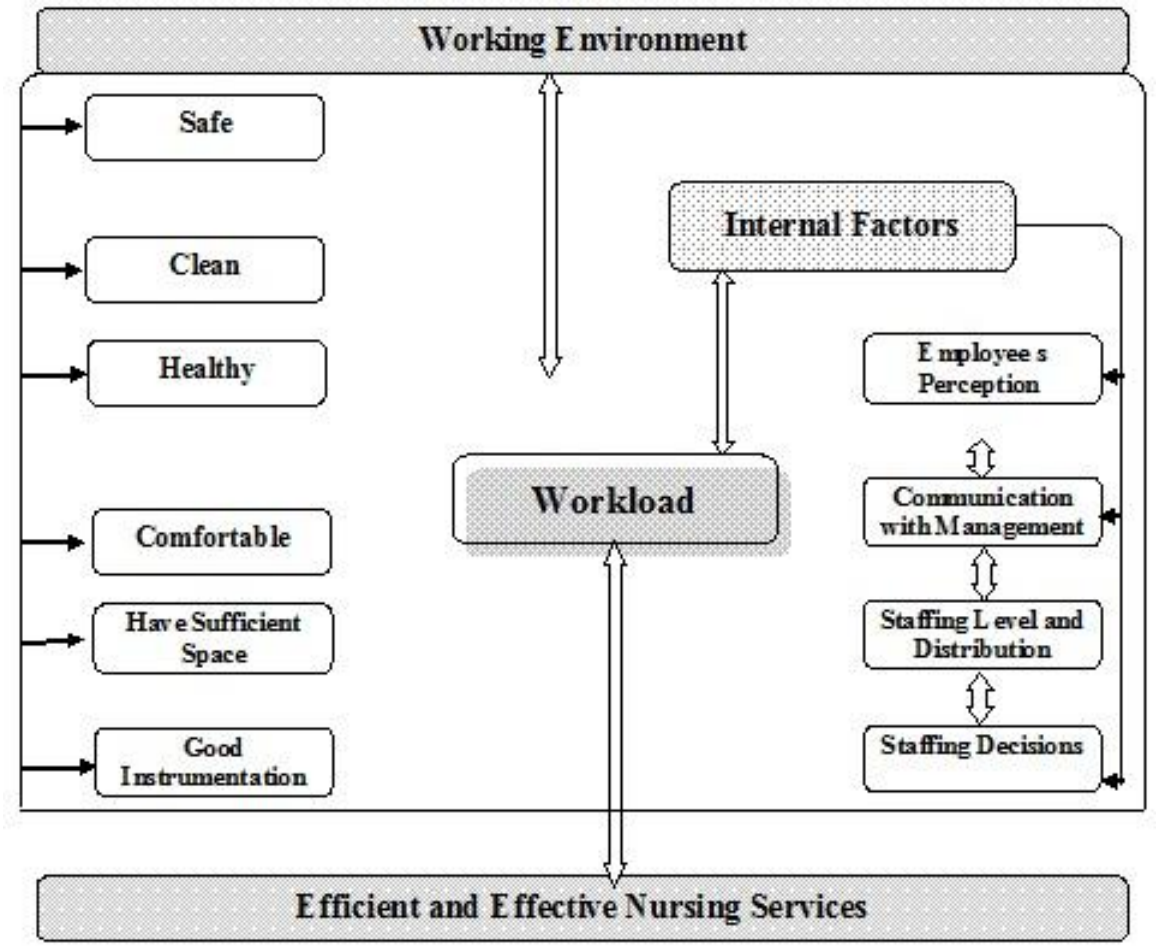


Figure 2.1 Factors affecting and affected by workload

In a study conducted by Isik etal (2007) the researcher recommend managers and policymakers to pay attention to the impact of deteriorated external work environment and heavy workload when developing strategies for employees' job satisfaction (Isik etal, 2007).

Poorly designed or uncomfortable work place can contribute to employees' dissatisfaction and fatigue. Dissatisfied and tired employees cannot tolerate their workload, thus having difficulty in achieving both quantity and quality nursing services. For this reason, management should pay attention to improve working environment in nursing stations for example, through providing it with sufficient area and comfortable.

The researcher suggests that all above that all above-mentioned factors are interrelated. For example, simple logic suggests that workload is one of the factors if not the sole factor that should be considered when determining staffing level. Workload also affects

employees' perception and may affect their communication with management, also good communication with management may allow for more involvement in decision-making, thus increasing employees' satisfaction about their workload. Improper working environment such as lack of space and instruments may contribute to increasing workload, thus affecting employee's perception about their workload, environment, and management. At the end, all these factors affect the provision of high quality nursing services.

2.1.2 Nursing Services Conceptual Framework

Following (figure2.2) presents the conceptual framework of nursing activities to be considered while conducting time study for each nursing procedure, the conceptual model illustrates the major categories of work and component activities for nursing.

Workload Categories	Nursing Stations				
	MCH	**A.N.C**	**F.P**	**N.C.D**	**D.C**
Activities	Unit prep.	Unit prep.	Unit prep.	Unit prep.	Unit prep.
	Reception	Reception	Reception	Reception	Reception
	File gain	File gain	File gain	File gain	Recording
	File Opening	File Opening	File Opening	File Opening	Sterilization
	Assessment	Assessment	Assessment	Assessment	Injection
	Tests	Tests	Tests	Tests	Dressing
	Recording	Recording	Recording	Recording	Inhalation
	H.education	H.education	H.education	H.education	H.education
	Vaccination	Vaccination	Injection	Injection	
	Reporting	Reporting	Reporting	Reporting	Reporting

Figure 2.2 conceptual frameworks of nursing activities

A workload measurement system (WMS) is defined as a tool for measuring the volume of activity provided by nurses in term of standardized unit time. Workload measurement system serves two main purposes. First, is management tool providing systematic quantification of workload in nursing stations to asset staffing, planning, budgeting, and performance monitoring .Second, as standard methods for recording workload. Workload measurement system yields uniform data for external reporting, permitting national and per group comparisons.

Also this framework present to be considered while conducting time study for each nursing procedure, so it illustrates the major categories of work and component activities for each nursing station .All the entire activities for each nursing procedure step will be timed using stop watch that started at the beginning of each step and continue throughout the entire activities. These activities include the time required for each activity in each nursing station, as MCH, ANC, FP, NCD, DC, from the arrival of the client to the competition of the services, recording and reporting filling, and sending out the final report, technical support activities include unit preparation, preventive maintenance and sterilization activities, Preventive maintenance of instruments includes all normal and preventive maintenance procedures performed by nurses. It also includes Washing, drying, sterilization activities, and cleaning of working area not considered in time measurement. Also, in this study the time study involved in service recipient activities that consist of the delivery of the services to or on behalf of specific service recipient, and the non service recipient that are integral to the functional operations, but not involve the delivery of services as management, education, and research activities.

According to the Canadian Management Information System, the external reporting at the provincial level may- only require reporting of service recipient workload, however it is recommended that managers implement the internal reporting of both service recipient care non-service recipient workload in order to have a comprehensive picture of staff activities.

2.2 Concepts and definitions of workload:

2.2.1 History of Nursing WLMS:

In February 1994, the Canadian Institute for Health Information (CIHI) assumed the responsibility for the ongoing development and maintenance of national workload measurement systems and reporting frameworks.

Due to the effect of changes taking place in health service organizations, such as program management and implementation of multidisciplinary teams, the need was identified for a standardized recording and reporting framework that could be used by a variety of disciplines reporting to a single manager. A new framework was developed and implemented as part of the 1996 revisions to the Management Information System (MIS) Guidelines. This framework is intended to be used by the majority of therapeutic disciplines and nursing. This WLMS replaces any previous editions of the WLMS for Nursing published by the CIHI (MIS, 2006).

Nursing workload is growing because of increasing demand, and also due to demographic, technological and medical treatment changes. Shorter hospitalization periods per patient, and older patient populations needing more care intensity taking into account social problems, have resulted in changes to care practices, often resulting in a higher workload for nurses. One consequence is that working conditions are deteriorating with the risk of a decrease in the quality of care and safety of patients (Parmantier etal, 1999).

2.2.2 Workload definitions:

A crucial question is what is understood as the workload of nurses. It can be summarized in its different components, summing up to the total of nursing services. According to O'Brien etal (2002), the broadest definition describes workload as the volume and level of nursing work. In most of the reviewed publications, the term workload is described generally as the activities of nurses in the process of care. These are differentiated mainly by two subcategories: direct and indirect care. Direct care is mostly explained as care activities carried out in the presence of the patient. The definitions for indirect care differ, however generally they include activities of nurses, which are not carried out in the presence of o patient but are related to the care task. This is commonly detailed as

communication on a patient with staff or family, documentation, unit management issues, and other. To what degree activities such as cleaning or maintenance of the physical environment are included differs between the various instruments as well as the context, and is most probably dependent on the local job descriptions (O'Brien etal, 2002).

The nurses association of New Brunswick (1996) defines nursing workload measurement as determination of the total amount of nursing time, which includes direct and indirect nursing services, requites for clients and the number of nurses required to provide these service. They add that workload measurement systems are designed to aid in allocating nursing resources by assisting in staff allocation and budget planning decisions (The Nurses Association of New Brunswick, 1996).

In the United Kingdome (UK), two definitions of workload have been in use one describing workload as an aggregation of the time spent on individual activities for each patient, and another relating the number of nurses working on the ward to aggregate measures of activity on the ward (Jenkins, 1992).

In the French literature, workload is differentiated along the two dimensions of charge (nursing or care load) which is similar to direct care and charge in workload, which adds the indirect care work to the direct nursing activities. In the majority of publications that analyze workload measurement methods, nursing workload includes both indirect and direct care activities. It is important to remember this factor against the background that some methods use patient dependency scoring to determine nursing needs and then transfer to staffing requirements (Jenkins, 1992).

Workload is defined simply by cirrin, Biehl, Estomin and Schraeder in (2003) as "all activities required and performed related to the provision of client services". O'Brien and Giovannetti in (1993) describe workload as "the daily amount and type of human resources required for caring for an individual patient" (Human Capital Alliance, 2006).

Thus, Grasha, (2001) concluded that there are two sides for workload, the "objective side" which is known and the other side "subjective one" which is experienced as task tension or stress and is influenced by a number of factors, including specific task demands, broader job stress and tension of a variety of psychosocial variables (Grasha, 2001).

Many studies have been conducted to study the nature of the workload and some of them were concerned with the objective side including the prescription volume, the hours worked and days worked, the adequate number of staff and how breaks they have and so on, how it will affect the performance. In contrary, others were interested in studying the subjective side. This is because they value employee's perceptions and its importance especially in the fields of resource allocation, setting staffing requirements, and in workforce planning (Human Capital Alliance, 2006).

Most of the publications describe workload, as activities of nurses numerous critical comments are made to this in general it is difficult to capture the complexity of using work. Additionally nurses appear to have a different concept of workload that reflected in the measurement systems which in general neglect the multi - functioning of a nursing act as well as qualitative aspects of nursing work, so Workload is of concern within the nursing workforce and is often cited as a reason for leaving the profession of putting the health of nurses at risk. The cost constraints in health systems are a major reason why evidence and justification are requested from all actors in health care. Different methods have emerged in the past to evaluate nursing work in terms of quality and costs including patient classification and workload measurement systems (Hyeoun, 1990).

Gaudin, (2000) concludes that the construct of workload as perceived by nurses is different compared to that of administrators and researchers. Nurses include in their definition of workload the dimensions of non-work roles and exhaustion, whereas researchers measure these categories with role overload and stress scales. As an underlying theme of the four categories of work overload, the author identifies the lack of control over workload. This corresponds to the work stress model of karasek who defined four areas of different work stress levels on the basis of the two variables demand and control. According to this model, stress increase when control declines in combination with an increase of demand, while stress levels decrease with increase of control combined with a decrease of demand. High demand combined with a high level of control encourages active coping strategies. Another contributing variable is social support, operating as a facilitator for stress reduction. This correspond to the findings of the Canadian study on nurses perceptions of workload where teamwork was described as a factor reducing workload. However, it has to be considered that these reflections on subjective perceptions of workload and stress are

descriptions based on the cultural background of western and industrialized countries, whether they are valid for other socio cultural contexts (Gaudin, 2000).

According to the Canadian management information system, workload measurement system (WMS) is a tool for measuring the volume of activity provided by a specific functional centre in terms of a standard unit of time (Canada CIHI, 2006).

As an organization, the American Academy of Ambulatory Care Nursing (AAACN) is striving to develop a policy statement and standards for workload indicators. Due to the fluctuating nature of ambulatory care, the multiple types and levels of providers, and multiple settings in which care is provided, identifying one valid and reliable indicator/method for acceptable registered nurse (RN) staffing levels continues to be a challenge (Swan & Griffin, 2005).

In response to a growing need for ambulatory care workload indicators for RN staffing, AAACN published an annotated bibliography on research-based models for ambulatory care nurse staffing. This publication includes definitions of the scope and dimensions of ambulatory care nursing practice, methods to collect data on nursing workload, how to develop your own patient intensity index or patient classification system for your clinical area, and various staffing plans (Swan & Griffin, 2005).

As general definition workload is the amount of work assigned to or expected from worker in a specified time period (Wiktionary, 2007).

In this study, although the researcher has focused on the subjective side, many objective sides related variables were included in assessing workload status.

2.2.3 Categories of Workload:

The workload measurement system classifies workload data (i.e. workload units) into two categories:

Service Recipient Activities: are unit-producing personnel activities that involve the delivery of services to or on behalf of a specific service recipient. These activities directly contribute to the fulfillment of the primary service mandate of the functional centre.

Non-Service Recipient Activities: are unit-producing personnel activities that are integral to the functional centre's operations, but do not involve the delivery of services to service recipients and/or their significant others (MIS, 2006).

2.3 Importance of studying workload:

The work performed by nurses is essential to the well being of patients and clients accessing the healthcare system. Registered nurses provide the greatest hours of care and coordinate the care provided by other healthcare providers. They are the primary interface between the patient and the health care system. It is therefore essential that the work that nurses perform is understood. This requires the development of a means for identifying the specific contribution of nurses to patient outcomes as well as the resources required to affect this outcome (Registered Nurses Association, 2005).

Health and Safety committee in the United States of America in (2005) reported that work overload could occur when a person is allocated a great deal of work, but insufficient resources (in terms of ability. Staff, Time or Equipment) to cope with it. It stated that there are two different types of work overload. Quantitative overload is simply having too much work to do in the time available. Qualitative overload is work that is too difficult for the employee to do, possibly because they have not received appropriate training, or because they do not have the intellectual or physical capacity to do the work, or because they have been set an impossible task (regardless resource or ability) (Health and Safety committees, 2005).

When employees faced with work overload, they may try to cope by working excessive hours, which may lead to health problems and problems outside of work. Working excessive hours can lead to fatigue, which in turn can impact upon performance (Health and safety committee, 2005).

Workload has its impact also on the employees themselves. It is equated with job demand in the domain of occupational stress, which is simply one of a heterogeneous set of "psychosocial hazards" which may contribute to the development of stress, related illness or injury. In a recent empirical study, workload in the psychology sense was demonstrated to be a key determinant of stress and fatigue levels among employees performing repetitive, manufacturing work tasks (MacDonald, 2003).

The impact of environmental factors on the ability of personnel to carry nursing work in any facilities it can be as: the lack of available supplies and, more recently, an inadequate number, of nurses to provide the care. Writers have stressed that a healthy and productive work environment is fostered by: improved working conditions professional development, absence of violence, investment in continuing education sufficient nurses to ensure a reasonable workload, adequate financial remuneration, team building, interdisciplinary collaboration, and clinical laddering. These factors have traditionally not been included in workload measurement. However, in the current climate of nursing shortage, it would be prudent for employers to reevaluate the practices of their organization (Baumann & Blythe, 2003b).

The engineering and maintenance department in PHC has many obstacles that may has effect on the quality of work, and these problems like shortage of man power as a result of some employee disrupted due to political situation, lack of essential material for maintenance and new supplies and instruments from siege on Gaza, integrated management system between hospitals and PHC, that gives the properties for hospitals, conflicts between general directorate of engineering and maintenance and its departments in PHC, and improper response from MOH with the needs of PHC requests (Director of engineering and maintenance department of PHC in Gaza Governorate interview, January 2010).

The value and measurement of work is very complex. Productivity in the workplace includes the measurement of both tangible and intangible variables, such as decision making. The intangible elements of nursing work are critical to the job. Consequently, one has to look beyond a nurse's tasks and study aspects such as the quality of the decision, the motivation and commitment for work, and the environment in which the person works (Baumann & Blythe, 2003b).

A study of Hyeoun (1990) On development of a computerized patient classification and nurse staffing system based on a dependency based workload measure appear that, In order to estimate nursing staff requirements, total nursing care need is assessed first, which is the sum of total direct and indirect- care hours as computed by multiplying the number of patients in each class by the average time used in caring for a typical patient in that class, total nursing care need is then translated into the number of nurses needed to provide

care for the patients by dividing it by the average working hours per day. The nursing staff requirement in each shift is determined based on the workload of each shift (Hyeoun, 1990).

Managing staffing levels in health services is a task of balancing diverse interests and objectives, often creating a field of tension. The determination of staffing levels has to balance patient safety and quality care, good working conditions and the resources available. Nursing staff as one of the biggest cost items within health workforce is most vulnerable variable for rationalization in times of budget restrictions. On the other hand, evidence suggests that the numbers and patterns of nursing staff are crucial for quality of care even for the safety of patients (Hyeoun, 1990).

Bowman reported in (2008) that the causes of burnout and organizational stress are numerous and reasonably well documented. Some people suffer from burn out because they are not adapt to handle stress, some people burn out because their job is stressful due to unclear job descriptions and others suffer from burn out because of poor working conditions or lack of communication (Bowman, 2008).

There are many ways the work environment can cause burnout. However, quite often burnout is the result of the persons own ability to cope with stress. This explains why two people, working under the same conditions, will disagree abut about how stressful their jobs are (Bowman, 2008).

The relationship of workload to leaving or staying with an employer is less clear. Personal Factors such as number of children, race, age, gender, position, practice setting, education, and experiencing a major life event can also increase intention to leave and actual job turnover (Gaither etal, 2007).

Awases and others in (2004) conducted a study to assess the magnitude of migration of health professionals in six African countries, they reported that among the most frequently mentioned pull factors of countries abroad are: stable sociopolitical environments, professional work environments that are more conductive to training and skill development, proper equipments, tools and facilities that are more conductive to advanced practice and procedure, more attractive salaries, social and retirement benefits And sensitive employment policies that recognize good performance. However, some skilled

health personnel choose to stay and continue to work in the public health sector despite the push and pull factors that influence their colleagues to leave. Job security, career advancement, and opportunities for further training are all good in PHC centers, and particularly for older workers, these factors motivate them to stay. Their may also be social and cultural factors which are influential, but no specific research has been conducted in this area (Awases, Gbary, Nyoni and Chatora, 2004).

As nurses and nurse leaders, intuition and experience often guide our beliefs that certain RN staffing levels are required to provide the quality of care expected by patients; however, administrators demand hard data and evidence. Here they provide a method to visually show the effect of RN staffing by comparing workload indicators with performance indicators that are nurse sensitive. By measuring patient outcomes and linking them to administrative staffing standards, one can better articulate RN staffing needs and the positive impact nurses has on quality of care delivered to patients in ambulatory care (Karen etal, 2006).

A computerized nursing support system (CNSS) linked to the hospital information system (HIS) was developed and has been in use for one year, in order to reduce the workload of nurses. CNSS consists of (1) a hand held computer for each nurse (2) desk-top computers in the nurses' station and doctors' rooms (3) a data server (4) an interface with the main hospital information system. Nurses enter vital signs, food intake and other information about the patients into the hand held computer at the bed-side. The information is then sent automatically to the CNSS data server, which also receives patients' details (prescribed medicines etc.) from the HIS. Nurses and doctors can see all the information on the desktop and hand held computers (Ito etal, 1995).

2. 4 The Need of Workload Measurement:

The reasons and objectives for measuring nursing work are multiple and can be linked to the interests of the stakeholder in care work:

To assess the patient's status and determine nursing needs in interest of clients and patients and, on another level, the professional interest of nurses.

To determine and manage staffing levels a major interest of nursing staff with regard to working conditions, and indirectly of interest for clients in terms of quality of care.

To determine and manage costs a major interest of the health service

To measure the outcome of nursing intervention (O'Brien, 1993).

According to a recent survey of the American Nurses Association (ANA) 76% of 7251 responding nurses reported increased patient load, 75% said that this resulted in declining quality of care, and 69% of respondents named inadequate staffing levels as one reason for this situation (ANA, 2001) .

A further consequence of reduced staffing levels can be observed in terms of work stress and alarming rates of burnout, a growing concern in health care sector. Regular surveys United Kingdom (UK) for example have shown an increasing percentage of National Health Service (NHS) nurses feeling under too much pressure at work, from 35% in 1992 to 52% IN 1998 with a peak of 56% in 1996 (Seccomb & Smith, 1996 and 1998).

According to O'Brien (1993), the management of staffing levels in health services demands a balance between competing interests, often creating a field of tension between diverse objectives managers and politicians experience double pressure both to make financial ends meet and respond to changing demands for better health services, achieving maximum coverage, equity provision, cost-effective operation and to ensure good working condition for staff. In other words, the determination of staffing levels has to balance patient safety and quality care, good working conditions and the resources available (O'Brien, 1993).

A study of Parish (2002) in Victoria Australia minimum nurse to patient ratios were introduced by low in August 2000 requiring for example, a minimum of one nurse per four patients in surgical and medical words in major metropolitan hospitals . Because of the legislation and subsequent government initiative more than 3000 additional nurses have been employed. The use of agency staff was banned in April 2002 and is only allowed for unplanned vacancies. These measures encouraged numerous registered nurses to return to their profession, the application rate for nursing courses rose, and a decrease in sickness leave and turnover was observed, as well as better morale of staff so enough to take into account local situations. The biggest problem with minimum staffing ratios is the adviser

argues that they become a norm of standard and according to Buchan (1999) the practice they even may become the maximum number of staff required (Parish, 2002).

To measure workload of nurses is only one par within several aspects of measuring nursing work and nursing needs primarily aiming to determine costs or to allocate nursing resources according to patients needs. These major categories of nursing workload measurement systems are commonly differentiated according to their functions: activity – based, dependency - based, and cars plan driven methods (Hyeoun, 1990).

Buchan and Dal poz (2002) state that the determination of skill mix varies between countries and health system, being influenced by regulatory environments, culture, professional practice and available resources. According to the authors, evidence suggests that increased use of less qualified personnel for cost containment reasons is not effective in all situations but in some organizations has helped to improve efficiency. The overlap of roles between doctors and nurses suggests that there are possibilities to extend the role of nurses within the given regulatory constraints. Especially the use of nurse practitioners, clinical nurse specialists, and clinical nurse midwives, all who improve care outcomes while maintaining costs (Buchan & Dal, 2002).

2.5 Measurement Methods:

Activities measured with most methods are reflecting the observable behavior of a nurse. This can be seen as the tip of the iceberg of the multi functioning of a nursing act. The nurses underlying knowledge experience beliefs and values are aspects that determine cognitive performance in assessing a patient. The difficulties involved when measuring and valuing this professional background of activities and judgments is an important issue for discussion of skill-mix determinations .Knowledge and activity are integral to nursing and the knowledge aspect is often disregarded activity are integral to nursing and the knowledge aspect is often disregarded as Hughes (1999) argues. Each nursing activity is based on an assessment of circumstances involving much professional information processing. In addition to learnt knowledge, every nurse has unique professional and personal experiences, influencing their way of carrying out activities and leading to individual variations in procedures (Hughes, 1999).

The Audit commission, UK (2001) describes for the NHS different methods to review the appropriateness of staffing levels:

2.5.1 Outcome measures:

To provide quality care and ensure patients' safety. Analyzing outcome data rather than workload estimates is recommended as a basic framework. Unlike most workload indicators, outcome measures are objective. Among the basic outcome indicators that may be used are the numbers of complaints about care on a ward, number of staff accident and sickness absence rates among staff (The Audit commission, UK 2001).

2.5.2 Benchmarking:

To provide information that assists the review of staffing levels and its adequacy. Benchmarking uses mean data on levels of quality of care and staffing levels and compares them between comparable institutional settings. Benchmarking does not take into account local factors that may affect workload (The Audit commission, UK 2001).

2.5.3 Consultative methods:

To consult staff and involve their direct knowledge of patients is the most direct way to estimate staffing levels on every ward and for the different shifts. A disadvantage that it does not produce consistency between wares or trusts due to several influencing factors (The Audit commission, UK 2001).

2.5.4 Workload measurement tools:

The value of workload measurement tools is that they involve the staff in setting staffing levels, enable them to plan care and to allocate resources more effectively. Workload measurement is the most complex method for determining staffing levels. They are time consuming to establish and in daily use (The Audit commission UK, 2001).

O'Brien etal, (2002) describe the measurement of nursing workload in brooder terms as 'a complex process aimed at providing a range of data which will enable rational decision making in allocating resources to consumers. The authors list several factors influencing workload measures such as the number and turnover of consumers demographic, characteristics, personal attributes, and circumstances co morbidities and disability self-

care, motivation, and ability, family support case mix factors treatment regimes and types of admission. They highlight an essential requirement for nursing workload measurement the distinction between nursing and no nursing work in order to link the findings to an adequate skill mix. The inclusion skill mix components though recognized the literature as an important factor is only rarely reflected in the measurement methods (O'Brien etal, 2002).

2.6 Classification of workload measurement methods:

Different approaches to systemize the nursing work measurement methods are described in the literature. O'Brien etal, (1993) identifies three measurement approaches to the analysis of nursing workload along the history of method development:

2.6.1 Descriptive methodology:

This approach determines the number of staff required by experience and judgment based on subjective data, which are used to form ratios, or formulae Giovanneti (1984) has claimed that this kind of staffing determination was based on arbitrary methods culminating in global standards.

2.6.2 Industrial and management engineering approach:

Developed in the 1950 this approach is still popular today. It identifies the nursing time required by patients by determining an average time with various tasks and procedures.

A major critique of this task-oriented approach is that it conceptualizes nursing work as a series of tasks not considering individual patients needs, but instead being focused on the response to a need (O'Brien, 1993).

2.6.3 Operations Research Approach:

Being a more comprehensive approach considers that patients requirements are more than the sum of nurses tasks and activities. Methods using this approach based on mathematical modeling take into account the complexity of dynamic system in which staffing takes place (O'Brien, 1993).

O'Brien, etal (2002) summaries the development of different methods by grouping them into generations:

2.6.3.1 First generation:

The most common and oldest method of workload measurement has been professional judgment and intuition, comparable to the descriptive method of O'Brien (1993) systems were based on patient classification and patient per nurse ratios providing minimum staffing levels with reference to very gross data.

2.6.3.2 Second generation:

Patient classification systems were improved to provide more flexible responses to workload variations, the employment of agency staff was a response to this information. In the 1980, care started to be related to diagnostic related groups (DRG).

2.6.3.4 Third generation:

In the 1990, patient classification was further developed to be more sensitive. Trials have been made to calculate nursing workload in a practical way on shift basis, with limited success. The classification of nursing skill level, a pre requisite for a fully responsive patient classification system remains a challenge.

2.6.3.5 Fourth generation:

At this present stage, the objective is to predict nursing care needs in real hours combined with skill mix and the production of extensive statistical information for management (O'Brien etal, 2002).

Jenkins Clarke (1992) proved in her review of various workload measurement systems that there are substantial problems with consistency stability and reliability. The jatter, she highlights is dependent mainly on the staff using the systems, and therefore training and explanations are care factors for achieving more reliability in the data collected (Jenkins, 1992).

Hughes (1999) speculates that no workload assessment method provides reliable information. The question that arises is whether it is the methods that are suspect or the

users. One problem according to Edwardson and Giovannetti (1994) is that most methods select indicators or variables without regard to any theoretical base (Hughes, 1999).

A position statement of the nurses association of New Brunswick from 1996 states that existing workload measurement systems are incomplete as most classification instruments quantify only one portion of the nursing process- nursing intervention (Nurses Association of New Brunswick, 1996).

Despite further developments, this is confirmed in more recent publications workload measurement systems describe areas of nursing work focusing on the amount of time required for carrying out tasks. They do not consider the degree of difficulty or ambiguity of the work. The functional categories of workload measurement systems focus on procedures that represent the visible work of nurses (Gaudin, 2000).

2.6.4 Workload Indicator of Staffing Need:

A study of Dr Hussain & Alam, (2003) demonstrates how workload indicators of staffing need (WISN) can be used as a human resources planning and management tool for improving decisions at all levels of health services about the provision, allocation and deployment of staff. WISN has been estimated for doctors, nurses, and medical assistants working in different levels in public health facilities in Bangladesh. The estimate of WISN turn out to be with significant variations within facilities of the same levels as well as a different levels indicates that health managers have a role to increase efficiency and quality by making optimal deployment of workforce among facilities (Hussain & Alam, 2003).

Shipp J. peter in collaboration with WHO has developed guidelines to determine workload indicators of staffing needs that can be used as guideline for human resources management and planning in the country. The WISN method determines staffing requirements for each category are compared with the actual levels (Shipp, 1998).

According to Lalonde, article (1993): Statistics and indicators, managers can develop indicators that may provide insights into their operations, an example of these indicators are workload indicators learning to interpret and use these indicators will allow for better evaluation, monitoring and controlling departmental activities. The ongoing monitoring of statistics and indicators may also make it possible for managers to infer trends as they as they relate to future planning or budgeting (lalonde, 1993).

Barros (1986) tends to agree with lalonde in that managers should become adroit user of the workload measurement in order to interpret it to administration.

Workload is a major factor that should be considered when decisions a bout staffing are to be made. Staffing decisions are made to guarantee that appropriate staffing patterns exist to ensure patient safety and quality patient care (AACN, 2005).

Shipp, (1998) in workload indicators of staffing need (WISN): a manual for implementation prepared for the WHO, expounded on the importance of having a rational method for setting the correct staffing levels in health facilities since population ratios used in earlier decades did not take account of the wide local variations in workload pattern of each facility. According to his manual, WISN depends on setting an activity standard, an activity time for ach test that can be converted into the equivalent annual workload which the standard workload. Applying standard workloads to the reported workload in annual statistical reports will show how many staff in each category is required. Furthermore he stated that WISN method is simple to operate and use, technically acceptable, realistic and comprehensible (ship, 1998).

(WISN) is a method developed by the world Health Organization (WHO) especially for use in developing and transition countries. Its development resulted from the lack of a rational method for determining correct staffing levels in health services in developing countries.

There was a need for a method which would be able to determine in accordance with actual demands appropriate staffing levels adapted to the local context and types of hath facilities as well as to determine optimal staff patterns (Ship, 1998).

The process of WISN method includes different steps of definition and calculation:

Define the type of workload.

Determine the activity standards or a standard work rate.

Determine standard workload.

Identify the annual workload in a health facility.

The annual quantity per type of workload is derived from the annual service statistics which provide information on the different activities accomplished in the health in one year.
Calculate the current staff requirements.

The annual workload of a health service is divided by the standard workload for one person thus providing the staffing level which is required for carrying out the annual work (workload in the facility) to acceptable professional standards (standard workload).

The formula used is as follows:

Workload in the facility (service statistics) / standard workload (one staff) = staffing requirement.
Based on the calculated staffing requirement and the actual staffing levels in a health facility two figures can be obtained:
The difference between actual staff and calculated requirement (actual calculated) identifying shortages or surpluses for each staff category.
The ratio (actual – calculated), measuring the degree of work pressure on the staff in a facility (Ship, 1998).

2.6.5 Nursing Hours per Patient Day (NHPPD):

A common method to calculate staffing levels is the nursing hours per patient day the method described here is as it is applied in Western Australia (WA) the Australian Nursing Federation (ANF) - WA branch states that nurses workload in public health services had been regulated by a legally enforceable order in 2002.

The NHPPD aim to determine adequate staffing levels to ensure safe quality health care. NHPPD is based on standard nursing times per patient per day related to the ward type. The nursing hours required per ward and per week are calculated with the standard NHPPD per ward category, which is multiplied by the bed occupancy and the operating days of the unit (Australian Nursing Federation (ANF) - WA branch 2002).

2.6.6 Nursing Minimum Data Set (NMDS):

This system has been developed in Belgium on initiative of the government since 1983 the background was political plans for hospital reform, focusing on the finance system, which

was to be changed to a performance based system. As a prerequisite, the need for a comprehensive nursing information system was identified. Two research institutes in close co-operation with the nurses association A.U.V.B, (algemene unie van verpleegkundigen van belgien), developed the NMDS method.

NMDS quantifies care activities carried out, visualizing retrospectively the nursing workload. It is primarily used for cost-analysis purposes.

NMDS includes codified data about the hospital and the patient, nursing staff related data (number of nurses per ward qualifications, working time and number of beds) and data on nursing activities. The collection of data on nursing needs in terms of functional dependency assessments of patients is optional, and is only carried out by one third of the hospital (Isfort etal, 2001).

2.7 Unit Value Determination Time Study:

Several techniques exist to perform time studies: one of them is the observation-using stopwatch (Lalonde, 1991).

According to recommendations of the Canadian institute for health information management system, this task should be the responsibility of a staff, knowledgeable in the activity (CIHI, 2007).

Kosinski and KIevinski (1990) said, "For any organization which does not use published standard time frames, they will have to conduct time studies to arrive at the value of each activity".

Reviewing literature regarding others' experience in developing unit value reveals that there are many appreciated efforts as that Canadian management information system and the experience of college of American Pathologist (CAP) Also, it is the experience of some countries in the eastern Mediterranean region had been published by World Health organization (Houang &EL-Nageh, 1993). And locally, it is the experience of UNRWA laboratories in Gaza Strip in development of workload measurement system. Their estimated unit values (UNRWA, 2006).

One workload unit is one minute of productive, clerical and aid time (Houang &EL-Nageh, 1993).

Researcher used in this study Work load definition as defined by Houang and El-Nehgeh (1993) is the sum of the work achieved or to be achieved, obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes).

2.7.1 Earned Hours:

2.7.1.1 Worked hours:

Those hours are spent in carrying out the service mandate of the functional centre.

Work hours:

Having to work excessive hours, not having enough time to accomplish your activities and having little breaks could affect perception towards workload negatively. Kreling and others (2006), in their study that aimed to describe characteristics of community pharmacists' current practice environments and pharmacists perceptions' about aspects of their work environment (Kreling etal, 2006).

2.7.1.2 Purchased hours:

Are those hours that personnel, who are considered to be purchased third party providers, spend carrying out the mandate of service as a member of a functional centre team, and who work under the supervision/direction of the functional centre manager/health service organization's administration (Kreling etal, 2006).

2.7.2 Time Recording Methodologies:

The workload measurement system conceptual model has been designed for use by functional centers using an actual and/or standard time recording methodology. The Nursing WMS supports the use of both the Actual Time Recording and Standard Time-Recording methodologies to record service recipient and non-service recipient activities .

The unit of measure for both recording methodologies is the workload unit, where one workload unit is equal to one minute of unit-producing personnel time spent performing service recipient and non-service recipient activities of the functional centre (CIHI, 2007).

2.7.2.1 Actual Time Recording:

The actual time spent providing service recipient and non-service recipient activities is recorded by unit-producing personnel retrospectively, preferably by calendar day. To facilitate recording, some functional centers may choose to use time blocks. Time blocks should be no longer than 10 minutes in order to minimize variances due to rounding. Although some error may be introduced, this is generally insignificant since the variances due to overestimating and underestimating the actual time spent tends to be offset when summed. Time should be captured as precisely as possible to ensure accurate data. All time blocks should be converted to minutes at the end of the reporting period.

The Nursing WMS should be used by all unit-producing personnel of the functional centre. Unit-producing personnel include professional staff and nursing support staff (e.g. orderlies, aides, and technicians) directly involved in the delivery of services (interventions) to specific service recipients.The Nursing WMS is not intended to be used by Management and Operational Support or Medical Personnel unless they perform activities typically associated with the unit-producing personnel of the functional centre and are not considered a component of earned hours (CIHI, 2007).

2.8 Management system:

This dimension includes many concepts such as supervision, training, job description motivation and job satisfaction. Supervision as Grasha reported has its impact on the employees' towards their workload and thus affect their performance (Grasha, A, 2001).

2.8.1 Management:

The tem management is used in several ways according to the situation and background of the person using the term there are many definitions of management, a frequently used one is the art of getting things done through people (Holt, 1987).

2.8.2 Perception:

It is defined by Robbins (1998), as a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment. He believed that managers should be interested in their employees' perceptions because they give warnings of potential problems and because they influence behavior. He commented that perception

is important because people's behavior is based on their perception of what reality is, not on reality, it self and that satisfied and committed employees have lower rates of turnover and absenteeism. Thus, managers want to do those things that will generate positive job attitudes (Robbins, 1998).

Akers, pointed out the importance of obtaining feedback from the employees perspective which are pertinent to the overall work performance. He suggested that, it could be used as a management tool to improve work processes, the work environment and morale (Akers, 2002).

According to Robbins, job satisfaction is dependent of the individuals' perspective of their job and life and how the organization provides a climate in which the individual, or group of individuals, are flourishing attitudes (Robbins, 1998).

Leadership, management, communication, incentives, working conditions, workload, team or individual work, job and education opportunities play their part in an individual's job satisfaction (WHO, 2003) Inadequate staffing leads also to employees' dissatisfaction, burnout, and turnover (AACN,2005).

According the study of Shomar (2007), about workload measurement in medical laboratories of PHC in Gaza Governorates it shows that PHC Laboratories do not have workload measurement standard and staff distribution is not based according work needs, and it appear the negative perception and dissatisfaction of the majority of employee, so the researcher recommends utilization of workload unit values and more involvement of staff in decision making and improvement of both working environment and management of instruments (Shomar, 2007).

In addition, Barros (1988) recommends that employees should be assigned duties commensurate with their education, training and experience accordingly; a highly educated, qualified staff member should not be assigned duties that someone less qualified can perform.

WHO and world Bank (WB) in 2003 reported that the effectiveness of the workforce, depends mostly on the productivity, quality and deployment of an adequate number of health workers, Additionally, the previous report indicated that the inappropriate health worker behaviors resulting from low motivation too much work and inadequate training

can cause significant service inefficiencies, for example absenteeism rates in public facilities are reported at 29% in Peru, 35% in Bangladesh and 43% in India, studies from Tanzania and Chad indicate that staff in pubic facilities spends only 55 to 60% of their time on tasks they are trained to perform (WHO and WB,2003).

Also, the interpersonal skills covering effective communication, effective working with others and managing your work problems play an important role in determining the performance (WHO and WB, 2003). Supervision and accountability can enhance the health workers motivation and performance (WHO and WB, 2003).

Health workers in India value knowing what they are expected to do and to achieve. In Bolivia Vietnam, community monitoring of health services has been shown to help ensuring that health workers meet the needs of the community, thus improving the availability and quality and of services (WHO) and WB, 2003).

A study of El-Afefi, (2008) about workload status in PHC Pharmacies in Gaza Governorates it revealed that the overall perception about the workload, work hours domain staffing and relations domain were dissatisfied followed by facilities and management system also negatively and improper, therefore paying attention to employees perceptions about their workload, providing essential resources and equipment, encouraging effective supervision, conducting training, working on improving motivation and redeployment are important issues to be consider to insure the availability of appropriate, reasonable and fair workload (EL –Afifi, 2008).

Regarding the job design at work place, kotila (2001) reports that job enrichment which makes jobs more satisfying by increasing the skill variety, task identity and significance of the task is an important motivating job design. Additionally, job rotation which means moving employees from jobs to another and, therefore, giving them opportunities to perform a greater variety of tasks is of one of the motivating job designs at work place (kotila, 2001).

Yardley (2004) discussed the term known as Healthy Employment Relationship (HER) which reflected in his point of view the work culture, climate, and practices this term consists of the manner with which employees perceive their hospital, their management, their coworkers and the manner in which they perceive they is designed, managed,

recognized and rewarded. Four different, but related constructs of HER were discussed and they are: firstly, Employment Relationships Scale (ERS) which is composed of 7 items capturing the employees' perceptions of trust, respect, fairness, personal commitment, communication and influence in work decisions. Secondly, job quality scales (JQS) which is composed of 3 items capturing job clarity, workload, and job control. Thirdly Work Environment processes Scale (WEPS) which is composed of 7 items capturing the physical work environment, job training, career development, individual and team recognition and reward, supplies and resources, and quality improvement practices Lastly Safe Supportive Work Environment Scale (SSWES,) which is composed of 5 items capturing the impact of work on personal life protection from harassment, safety at work, co- worker cohesion and cooperation among work units. The four HER constructs had its impact on the employees perceptions of their workload were related to a number of important hospital and employee outcomes (Yardley, 2004).

Regarding the relationships in the workplace, Erickson (2008) reported that it is frequently misunderstood and under evaluated. Most people possess basic interpersonal needs to fit in, to experience a sense of belonging and to feel cared about these needs can be effectively addressed in the workplace in two primary ways: through participation in a supportive team of associates and/or by working for a manager who cares about and invests in workers, organizations can increase employee engagement by eliciting and supporting management that facilitate teamwork, develop mutually supportive relationships with peers, and build healthy, positive and influential relationships (Erickson, 2008).

Another concept that is related to workload is the job satisfaction. It is defined as a pleasurable emotional state resulting from the appraisals of one's job ;an affective reaction to one's job and attitude towards one's job (Wikipedia, 2007b) .

There are variety of factors that can influence a person level of job satisfaction .Some of these factors include level of pay and benefits, perceived fairness of the promotion system within accompany, quality of working conditions, leadership and social relationship, the job itself (the variety of task involved), the interest and challenges the job generates and clarity of the job description and requirements. The happier people are within their job, the more satisfied they are said to be, Job design aim to enhance job satisfaction and

performance ; methods includes job rotation, job enlargement, and job enrichment. Other influences on satisfaction include the management style and culture, employee involvement, empowerment and autonomous work groups (Wikipedia, 2007b).

2.8.3 Motivation:

Is defined as the creation of stimuli, incentives, and working environments, which enable people to perform to the best of their ability in pursuit of organizational success. It is commonly viewed as the magic driver that enables managers to get others to achieve their targets (BNET, 2008a). Motivation has its impact on employees, perceptions toward their workload. Those work in systems and with managers that try to motivate them often perceive the world in different way and thus their perception should be considered . If the employee is motivated he / she would feel committed to the organization but if not he could prefer not being a member of it (Croft, 1996).

2.8.4 Supervision:

Is a working alliance between the supervisor and supervisee that enables supervisees individually and collectively to achieve their role and ensure standards of practice. The aim is to enable the supervisees to maximize competence in service delivery. The process is facilitated through the creation of learning environment and regular arranged meeting where the supervisee is an active participant. Supervision can perform many functions including quality assurance, maintaining the ethical and professional boundaries of the defined work Additionally, the supervisors should enable the professional development of the employees and providing support for the employees overload and manage the often intense nature of the work and replenish the emotional resources needed to maintain professionalism . In addition, they should communicate good practice within and across organizations and finally developing the nature and performance of an organization (The connexions service National Unit, 2008).

Mc Namra (2008) reported that supervision is the activity carried out by supervisors the productivity and progress of employees who report directly to the supervisors.

Regarding the supervision role in training and development of the employees, the supervisors ensure that new employees are oriented to the organization, its policies facilities etc. (Mc Namra, 2008). They develop training plans with employees to ensure

that employees have the necessary expertise out their jobs; they provide ongoing guidance to employees, often in the forms of ongoing coaching and counseling. Supervisors often provide career counseling as well, to help employees develop and advance in their careers (Mc Namra, 2008).

Also supervision has an important role in managing the performance of the employees Supervisors ensure the job descriptions accurately record the primary responsibilities, qualifications and terms for each job role in their group (Mc Namra, 2008) .They set performance for tasks, jobs and roles of their employees standards ensure performance standards for tasks, and roles of their employees, moreover they ensure that employees have appropriate and realistic goals. Additionally, provide ongoing feedback about the employees' performance and conduct performance appraisals on a Regular basis, including assessing employees' performance and what can be done to improve in their jobs (Mc Namra, 2008). They develop performance improvement plans, if an employee's performance is not adequate. In addition, supervisors provide rewards for employee accomplishments, the thing we shouldn't ignore is the role of the supervisor in ensuring that the employees has the adequate facilities, e.g. desk computer, office supplies, etc. (Mc Namra, 2008).

Managers are important counselors because they are the ones in the day- to – day interaction with employees, and if they close their eyes to the emotional problems of employees and refuse to discuss them, it seems they are they are saying to employees, " I don't care about you, just your work" or when emotional upset arises say, this is not part of my job. Go to see a counselor" All managers from the lowest to the highest levels need training to help them understand problems of employees and counsel them effectively. Since almost all problems brought to a manager have a combination of factual and emotional content. A manager should not spend all day looking for emotional content when a rational answer will solve the problem (New storm and Davis, 1993).

In a study conducted by Isik etal (2007) the researcher recommend managers and policymakers to pay attention to the impact of deteriorated external work environment and heavy workload when developing strategies for employees job satisfaction (Isik etal, 2007).

Lowe (2006) reported because of his survey on the quality of the environment of Health Sciences Association of Alberta (HSAA) that the main causes of workload problems are inadequate staffing levels, increased job performance expectations, and increased complexity of work. Regarding the relationships with coworkers and supervisors, they were rated positively by 79% and 71% respectively just over 60% provided a positive assessment of team communication, about half were positive about the level of interdisciplinary collaboration and opportunities to discuss professional practice issues in their work area. In contrast, considerably fewer respondents viewed the procedures, rules, and policies governing work in their area or team in positive terms .Less than half agreed that work is a assigned fairly and equitably, hiring is fairly conducted, and rules and policies are fairly and consistently applied and make sense, over 80% of survey respondents felt that their co- workers and patients or clients treat them with respect, and almost three. Quarters repotted their supervisors treat them with respect, and the majority of respondents lack the feedback they need to them do a better job (Lowe, 2006).

The Croatian survey in (2007) reported that the Croatian males and females did not perceive significantly differential job stress (vokic and bogdanic, 2007) regarding the marital status, it is found to be significantly related to the occupational stress level perceived, Married people probably because of their work/home conflict, experience higher levels of stress while the number of hours respondent works (less, equivalent, or more then he/she should according to the law) is not found to be significant variable that relates significantly to the level of occupational stress perceived, although common sense implies that employees working longer hours experience greater stress, the greatest level of stress is perceived employees who have three of more children, who are more than 50 year old, while the lowest levels of stress is perceived by employees younger than 30 years of age, findings suggest that there is a connection between age, marital status, parenthood, number of children and the way stress is perceived, while department and working hours are not connected to it (vokic and Bogdanic, 2007).

Job description and training have a great importance and therefore can impact on the workload perceptions as the literature reviews reveals job description is a description of the nature of a particular its relation to other jobs, the working conditions the duties and responsibilities the degree of responsibility and the skills and qualifications required for the job. To do an excellent job, you need to fully understand what is expected from you. By

understanding the priorities in your job and what constitutes success within it, you can focus on these activities and minimize work on their task as much as possible. this help you get the greatest return from the work you do and keep your workload under control. Job Analysis is a useful technique for getting a firm grip on what really is important in your job so that you are able to perform excellently it helps you to cut through clutter and distraction to get to the heart of what you need to do (Mind Tools, 2007).

2.8.5 Training:

Is defined as a activities assigned to facilitate the learning and development of new and existing skills. Moreover, to improve the performance of specific tasks or roles (BNET, 2008b). Training may involve structured programs or more informal and interactive activities such as group discussion or role-playing, which promote experiential learning, a wide variety of activities including on the job training, and business or simulation games, are used for training audio visual and multimedia aids such as videos may also be employed. An internal training officer or department may provide training, or by external training organizations, the effectiveness of training can be maximized by conducting a training needs analysis beforehand and following up with evaluation of training. Training should result in individual learning and enhanced organizational performance (BNET, 2008b).

Dwyer and fox (2008) indicated in their report on the relationship between work stressors and key performance to the findings of a survey done in 2000, which revealed that 88% experienced stress because of their work and that one of the most frequent factors contributing to this stress lack of training, and management support. Thus, training would seem to have the potential to provide a direct means of coping with stressful aspects of one's job much the same way control do (Dwyer and fox, 2008).

Fairness at work place seems to have its impact on how the employees perceive their work. Fairness provided by the system in terms of equal pay for equal work, fairness in rewards, in treating everyone the same way seems to be fair and in having equal opportunities in training, otherwise, they will tend to be more negatively affected by their workload, have lower productivity, are more likely to quit have higher levels of conflict and are more likely to resort to collective bargaining to solve their problems (National Business Research Institute, 2008).

A dispensary services Quality scheme been developed in the United Kingdom. This scheme provides a guidance primary care trust in determining the minimum levels of staff hours by considering reference to the number of dispensed prescriptions that dispensed on the average each month, it is recommended that the level of staff hours relate to those hours that staff are engaged in dispensing activities and not to other activities they may undertake in the practice and on the centers that are operated by it this study (British medical association, 2007).

To sum up, workload is a construct that has many dimensions and it has subjective and objective sides. The literature review discussed the workload definitions, development, domains, categories importance, needs, classifications, measurement methods, indicators, unit value, work hours, staff and relations, facilities and work conditions, also it express the differentiations between previous studies and the more applicability for our study and finally the management system in general. In addition to the impact of the personal and organizational factors on workload perceptions. So through these literatures I can adopted and modified my calculated formula in measuring workload and support the result of my study to be agreed and strengthening by other studies.

CHAPTER 3

Methodology

CHAPTER 3

Methodology

The research methodology addressed issues relating to methodologies used to answer the research questions, and was commenced with study design, study population, study setting, period of the study, sample size, sampling method and method of the study. Then, it presented the construction of the questionnaire, piloting, ethical consideration and procedures, data collection and data analysis. Further, it illustrated the validity and reliability of the study instrument, eligibility criteria and limitation of the study.

3.1 Study design:

The design of this study is descriptive analytical cross sectional. This design was a useful for descriptive analysis of study construct. It is less expensive than other designs and enables the researcher to meet the study objectives in a short time (Coggen etal, 1993). It is suitable in term of time, people, money, and resources and it is relatively practical and easily managed (Holmand, 1986). It carries the advantages of being useful for public health planning, and generation of hypothesis and no loss to follow up (Levin, 2006). In addition, it provides detailed information and stimulates further research or studies.

3.2 Study Population:

The target population consists of all nurses who are working in Gaza governorates primary health care centers. The total number of nurses working in primary care centers is 330 nurses distributed over 56 primary health care centers in Gaza governorates, this number was obtained from Nursing Directorate in PHC at October 2009.

3.3 Sample and sampling:

In this study, the study population consists of 117 nurses distributed across the nine big centers (level four) primary health care centers in Gaza governorates will be included (census study), 1 in the North governorate, 5 in Gaza governorate, 1 in the Middle governorate, 1 in Khanyounis governorate, 1 in Rafah governorate .

These centers are the big centers, level four, that provide all the services in PHC such as immunization (MCH), antenatal care (ANC), family planning (FP), daily care (dressing,

injection, nebulizer). non communicable disease (NCD) (Diabetes mellitus (DM), hypertension (HT)), dental units, so that it represent about 35%of the target population, not only, but these centers provide more than 60% of the total services of the Governmental primary health care centers in Gaza governorates, other wise other PHC centers are small, level two and three, provides some services, and in a small amount (Nursing Director of PHC interview, Oct 2009).

3.4 Inclusion and Exclusion Criteria:

3.4.1 Inclusion criteria*:*

All nurses in chosen PHC centers at MOH who have responsibilities at the time of the study, regardless their qualification years of experience or date of employment will be included.

3.4.2 Exclusion criteria:

1- Any nurses who work out side the PHC centers.

2-Any nurses who did not has direct responsibilities in nursing work such as secretaries and cleaners.

3.5 Setting of the study:

The study was carried out on MOH primary health care centers at Gaza Strip .At the time of the study there were 56 centers distributed over the five geographical districts of Gaza Strip.

3.6 Period of the Study:

The study was conducted between the periods from August 2009 to march 2010.

3.7 Instruments:

The author developed a structured, close ended self-administered questionnaire. The questionnaire has been designed to be clear with no complex terms, leading; duplication and double parallel questions were avoided. The questionnaire was translated into Arabic Language where it was distributed as one copy with the original English questionnaire to

the study subjects to facilitate understanding and to ensure validity of data collection and credibility of answers.

The questionnaire consists of three parts, the first part includes: First group of nine questions 1- 9 that cover the information related to personal, demographical and social data such as (Age, gender, address, marital status, family size, income and so on). The second group includes 24 questions 10-33 that cover the information related to staffing level. The third group includes 3 questions 34-36 that cover Environmental factors.

The second part includes 22 Likert scale questions with 5 options (strongly disagree= 1, disagree = 2, neither agree nor dis agree = 3 agree = 4, strongly agree = 5). This part covers information about Managerial essentiality, Existing workload, Staffing decisions, Communication with management, Nursing station environment, and Maintenance of environment.

The third part of the questionnaire includes 3 open-ended questions that reflect the nurse's perceptions, strength and week points, and how the performance can be improved.

An observational checklist to get information about staff, working environment, and observed time for each nursing procedure at least one procedure for every nurse in every nursing station, one observational checklist was filled for every nurse in every center.

3.7.1 Validity:

Validity is defined as "the extent to which a measuring instrument measures what is supposed to measure" (Mark 1996, 106). When the instruments measure what are designed for, this is considered of great importance for their reliability. The researcher will administer different types of validity as follow:

3.7.1.1 Content validity:

Content validity is defined as "the extent to which a test reflects the variable it seeks to measure" (Holm and Liewehyn 1986, 118). It will be conducted before data collection by the help of experts to ensure relevancy, clarity and completeness. Content validity is a subjective estimate of measurement based on judgment rather than statistical analysis. In order to validate the instrument used, the designed questionnaire with covering letter, title

and objectives of the study were sent to 10 experts from different backgrounds including researchers, managers, experts in management field and experts in nursing.

The experts were asked to estimate the relevance, clarity and completeness of each item; some questions were modified with the help of the supervisor.

3.7.2 Reliability:

Reliability is the degree of consistency, which measures the attribute it is supposed to measure (Cronbach 1951, 299). Reliability refers to the consistency or stability of measurement (Holm and Liewellyn 1986, 96). In this study, the statistical test were used for the internal consistency is Cronbachs Alpha coefficient, that assesses the internal consistency of the questionnaire results, that is do the items to be measured look at much the same thing? Also used for item deleted function to look for "rogue" questions that answered in a quite different and consistency way. Garson, 1999, considers an alpha of 0.7 or above satisfactory. It was performed for each category of logically related items. See table (3.1).

Table 3.1: Reliability of Categorized Questions

Domains	No of items	Reliability (Cronbachs Alpha)
Managerial Essentiality	3	0.544
Existing workload	3	0.737
Staffing decisions	4	0.837
Communication with management	3	0.832
Nursing station environment	6	0.7214
Maintenance of instrument	3	0.855
Total	**22**	**0.7307**

More ever training was conducted to the team or key persons who were responsible of conduction time studies on how to conduct a time study to ensure standardization while

collection data, and the process of time studies was supervised by the researcher to ensure that time studies were conducted by the same method, to minimize intra observer variations.

3.8 Pilot Study:

A pilot of ten questionnaires were conducted before starting data collection as a pretest to point out weaknesses in wording, predict response rate, determine the real time needed to fill the questionnaire and identify areas of ambiguity and to test the validity and suitability of questionnaire. All of them were received clear explanation about the study purpose. Individual meeting was conducted for each one who participates in the pilot study to hear to their comments. Therefore, some minor changes and modifications were considered and introduced but not affect the content of the questionair. Nurses who were participated in pilot study were included in the study sample because of the small size.

3.9 Ethical Considerations:

An official letter of approval to conduct the study was obtained from Helsinki Committee which is the only ethical committee in Gaza Strip. An official letter of request was obtained from the PHC –Director General at the MOH to conduct the study. Every participant was provided with an explanatory form about the study including the purpose of the study.

Confidentiality of information was assured. Consent form was obtained from each participant in the study. All the ethical concepts were considered, respect for all people and respect for truth, anonymity and confidentiality was given. Statement about people's right to participate or to refuse to participate in the study was addressed.

3.10 Data Collection:

1- The researcher distributed the questionnaires and explained to each subject as previously mentioned. He asked him, or her to complete the questionnaire and return it to the researcher without writing the name or number. The researcher and his key persons distributed the questionnaire to the study sample and ask them to complete that questionnaire. Brief explanations were given about the purpose, objectives and how to collect the questionnaire with respect to confidentiality and anonymity of the subjects

2- Also the observational checklist was developed to get information about staff and work environment.

The observed time for each nursing procedures was obtained by using stopwatch, and recorded for every nurse and services by the author and the key persons who are qualified and expert, and in apposition of nursing supervisors.

Questionnaires were collected and the author look over the completed questionnaires to ensure completion of all information needed. The processes of data collection take about 4weeks.

3.11 Response rate:

The response rate reached to 78% of the study population equals 91 respondent from 117 nurse as the un respondent refuse participation or were in long vacation as sickness or delivery. This reflects employees concern about subject.

3.12 Data analysis:

After over viewing the questionnaire and checklist each one was coded. Moreover, the usable numbers were determined. This step was followed by designing an entry model using the Statistical Package for Social Sciences (SPSS) version 11.5 program. The author using the computer software entered the coded questionnaires. Cleaning of data was done, checking out random numbers of questionnaires and frequency tables for all variables. Then, the data was analyzed, frequency tables was conducted for the study variables. Means and standard deviation were computed for the continuous numeric variables, reliability and validity of the instrument were tested. An independent t-test and one way ANOVA statistical test were used to investigate the relationship between the independent and dependent variables. For the open-ended question, the answers were categorized manually.

Negatively –Keyed item were "reverse scored" before performing reliability test, it also done before reliability test, it was also done before computing individuals total scores, so that high scores on the questionnaire reflect relatively high levels of the attribute being measured by the questionnaires (Yaffee,1999).Reverse –scoring the negatively –keyed items ensure that all of the items –those that are originally negatively –keyed and those that

are positively –keyed are consistent with each other, in term of what an "agree " or disagree" implies.

3.13 Limitations of the study:

- Limited resources such as educational materials, journals and books.
- Unstable political situation.
- Non technical work will not include when conducting time study.
- The study cross sectional design.
- Hawthorn effect, that may lead the nurse to change from his or her behavior during observation, that made some difficulties during observation, but we try to observe the procedure and measuring the time with out notify the nurse that he or she is under observation, but her we may fall in un ethical behavior without informing them, also we had consent form the nurse, so me and the assistants made observation during daily or routine supervision for nursing stations to minimize or prevent hawthorn effect.

CHAPTER 4

RESULTS and DISCUSSION

Chapter 4

Results and Discussion

Within this chapter the researcher addresses the obtained results of this study as the end of data collection and analysis, the data which was collected from the study subjects (91 nurse who working in Governmental PHC),which distributed over the five geographical area of Gaza strip with the highest quota for Gaza Governorate (five) centers as it represent the highest population of peoples whom mainly depend on Governmental services, and provide more than 60% of Governmental PHC services and has more than 40% of employee of PHC, this results as descriptive assessment in nursing stations that have been chosen through the data collection session, the study appears the results about nursing work load in the specified stations, through that nursing perceptions and work load unit value for nursing procedures performed at PHC which given through hard work of researcher using questionnaire and observational checklist with conducting time study, as data collections tools for this study. Data analysis, which labeled, the results was quantitative analysis using SPSS version 11.5 using (frequencies, Chi Square, T test, and ANOVA test), P value for results significance was P equal 0.05.

4.1 Socio-demographical distribution:

4.1.1 Type and Distribution :

Distribution of study population by Governorates, Figure (4.3) shows; (North 11%, Gaza 50.5%, Mid Zone 17.6, Khanyounes 9.9o% and Rafah 11%) that represents the only main 9 centers (level 4 centers) which distributed as (North one center, Gaza 5 centers, Mid Zone one center, Khanyounes one center and Rafah one center). In this result the reason of highest percent of the study population in Gaza centers related to dependency on governmental PHC services for the most of Gaza province population which agree with the fact that Gaza PHC centers provide not less than 60% of Governmental PHC services as reported in PHC general directorate reports.

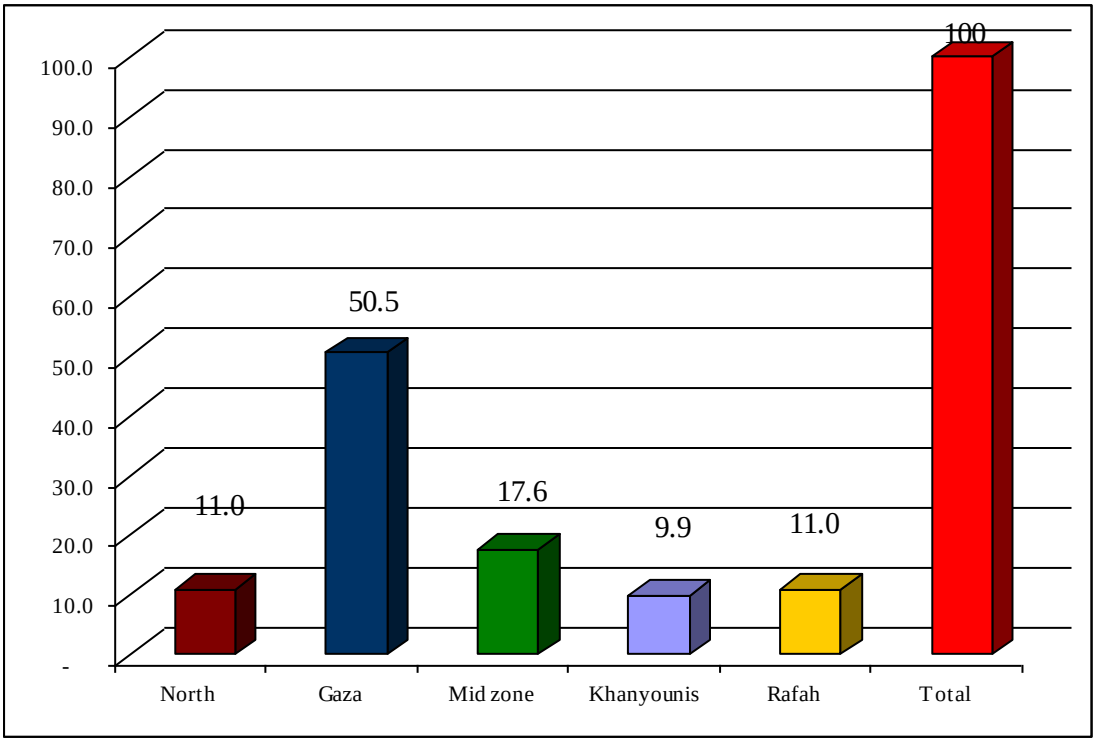


Figure (4.3) Distribution of study population by Governorates

4.1.2 Gender distribution :

As shown by Figure (4.4); the subjects was 59.3% female and 40.7% males in the all nursing stations, this indicate that employment of female sex in Primary health care centers is preferable more than male and reflect the vision of nursing administration to depend on female sex as most of health services provided by the nurses need female as: MCH, ANC, FP, and other services they can provide and shares male in any nursing procedures.

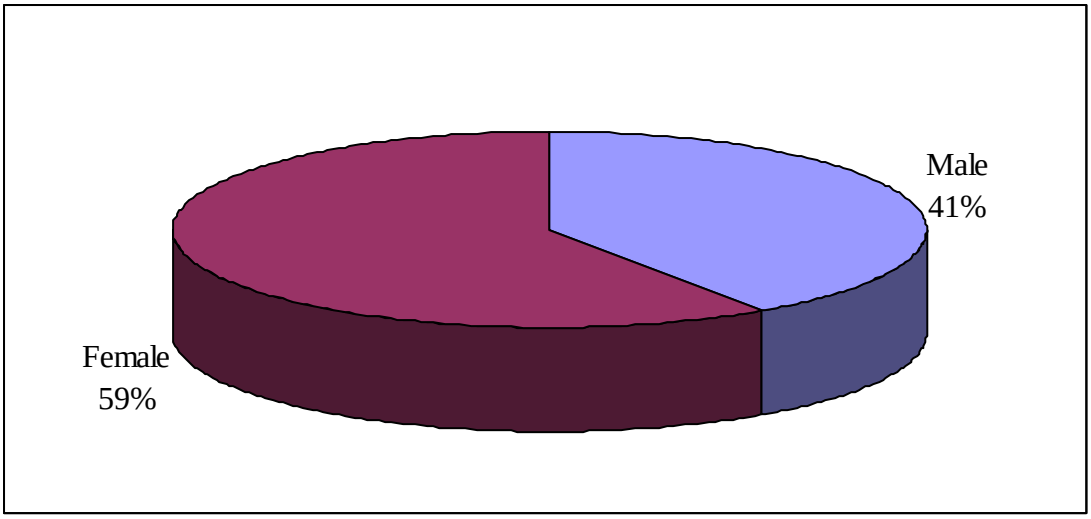


Figure (4.4) Gender Distribution

4.1.3 Age distribution :

Throughout Figure (4.5), the subjects were illustrated age groups as (30 Yrs and less was represents 27.6%, From 31 to 45 Yrs represents 44.8% and group age More than 45 Yrs was 27.6% while the mean age of this subjects was = 38.4. that means the MOH looking for experienced personnel for working in PHC in 72 % have ages more than 31 years old.

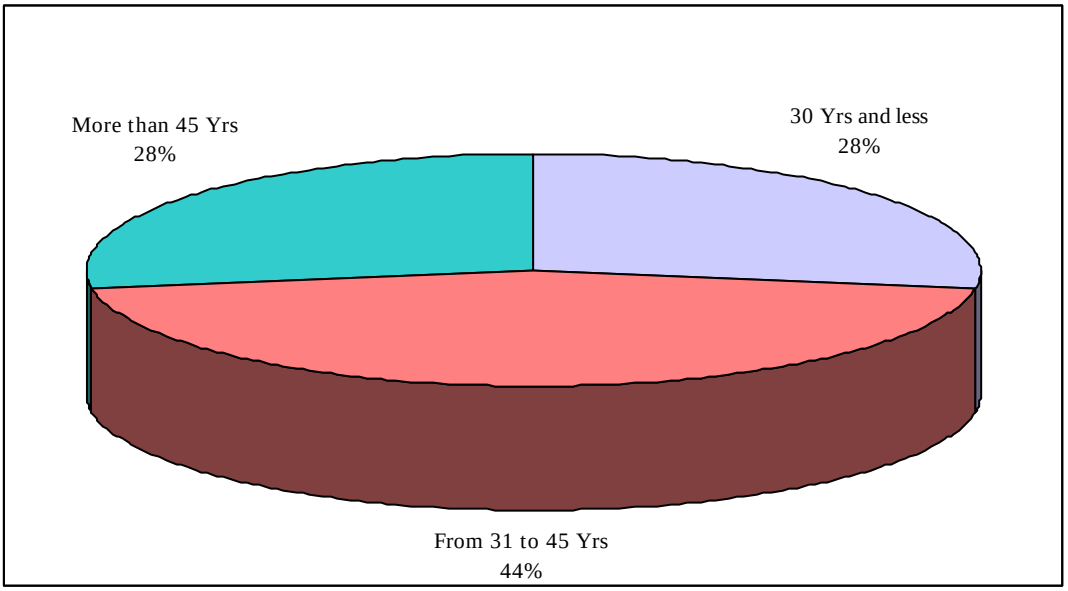


Figure (4.5) Age distribution throughout the subjects

4.1.4 Socio economic characteristics:

Married subjects 91.2% represents the marital status of all subjects and other 8.8% include singles and divorced. Family members identified as groups (4 Members and less was 25%, From 5 to 8 Members was 52.3% and More than 8 Members was 22.7% family members mean was 6.0, so this number is nearly consistent with the result of PCBS, 2007 mean of family member 6.5. Monthly income for nurses in the study subjects were 2500 NIC and less represents 28.4%, from 2501 to 3000 NIC represents 51.1% and income More than 3000 NIC represents 20.5% and the income salary Mean was = 2736 NIS. Here we found monthly income 2736 NIS is suitable for family consists of 6 members which, accommodate with the mean of family members 6.5 members according to PCBS 2007 especially in current economical situation, which give motivational aspects for health providers that will represent positive effect on the productivity of the nurse against low income with high size of family member that increase the stress of the nurse and decrease productivity and increase over workload. Table (4.2).

Table (4.2) Socio economic characteristics

Item	Frequency	Percentage (%)
Marital Status		
Married	83	91.2
Not married	8	8.8
Total	**91**	**100.0**
Family Members		
4 Members and less	22	25.0
From 5 to 8 Members	46	52.3
More than 8 Members	20	22.7
Total	**88**	**100.0**
(Mean = 6)	**SD = 2.7**	
Salary		
2500 NIC and less	25	28.4
From 2501 to 3000 NIC	45	51.1
More than 3000 NIC	18	20.5
Total	**88**	**100.0**
(Mean = 2736)	**SD = 576**	

4.2 Employment Status :

Qualification, Job title & Experience:

Table (4.3) represent Subjects by qualifications as (Two Years Diploma 38.5%, Three years Diploma 22%, Bachelor 37.4%, High Diploma 1.1% and Master Degree 1.1%). General experience in nursing were found as less than 10 yrs 30%, From 10 to 20 Yrs 40%, and more than 20 Yrs 30% and the Mean was 15 years. Experience in place of work (PHC) was represented as 5 Yrs and less 48.4%, From 6 to 10 Yrs 20.9%, and More than 10 Yrs 30.8% while the Mean was 7.4 this indicates the vision of MOH toward hiring newly nurses in hospitals then transfer of experienced nurses to PHC centers at the time that more than 70% has more than 10 years experience in other work place.

The above results revealed that 60 % of the nurses in PHC were have diploma, this give clear tendency for minimizing expenditures of hiring human power, for job title 55.5 % considered as Staff Nurse (Three years Diploma and Bachelor) and experience was clear that about 70 % of the employee have more 10 years experience in the work place with mean 15 years, in relation to 72 % of the employee were above 31 one years old.

Table (4.3) Distribution of Study population by Qualification, Job title & Experience

Item	Frequency	Percentage (%)
Qualification		
Two Year Diploma	35	38.5
Three year Diploma	20	22.0
Bachelor	34	37.4
High Diploma	1	1.1
Master Degree	1	1.1
Total	**91**	**100.0**
Job title		
Practical Nurse	25	27.8
Staff Nurse	46	51.1
Head Nurse	4	4.4
Midwife	10	11.1
Dental Nurse	5	5.6
Total	**90**	**100.0**
General experience		
Less than 10 yrs	27	30.0
From 10 to 20 Yrs	36	40.0
More than 20 Yrs	27	30.0
Total	**90**	**100.0**
(Mean 15.0)		
Experience in place of work		
5 Yrs and less	44	48.4
From 6 to 10 Yrs	19	20.9
More than 10 Yrs	28	30.8
Total	**91**	**100.0**
(Mean 7.4)		

4.3 Knowledge about the workload and its measurements:

By assessing the knowledge about the workload and its measurements, the researcher fined that; 76.9% of the participants oriented about the term workload, the two definitions**.**

(Workload is defined as: The sum of the work achieved or to be achieved, obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes). Or the amount of work assigned to or expected from a worker in a specified time period.)**,** which were addressed in the questionnaire have high agreement by 90% of all participants, while workload could be measured as represented by 72.5% and the 13 of 17 previous participants stated that they knew the measurements standards as shown in the table (4.4).

Table (4.4) Knowledge about the workload and its measurements

Items	Yes		No		Total	
	No.	%	No.	%	No.	%
Heard about the term workload	70	76.9	21	23.1	91	100.0
Definition agreement by subjects	81	90.0	9	10.0	90	100.0
workload measurement capability	66	72.5	25	27.5	91	100.0
Knowing the standard	13	76.5	4	23.5	17	100.0

In assessing the presence of measurements standards there were high response by 81.3% of all participants that sees un presence of measurements standards, while 17 participants stated that there are workload measurement standards representing 18.7% of all participants as shown by Figure (4.6).

Above results indicates that, there is highly need for standards proposition, adoption and orientation by booklets and workshops for all health care providers.

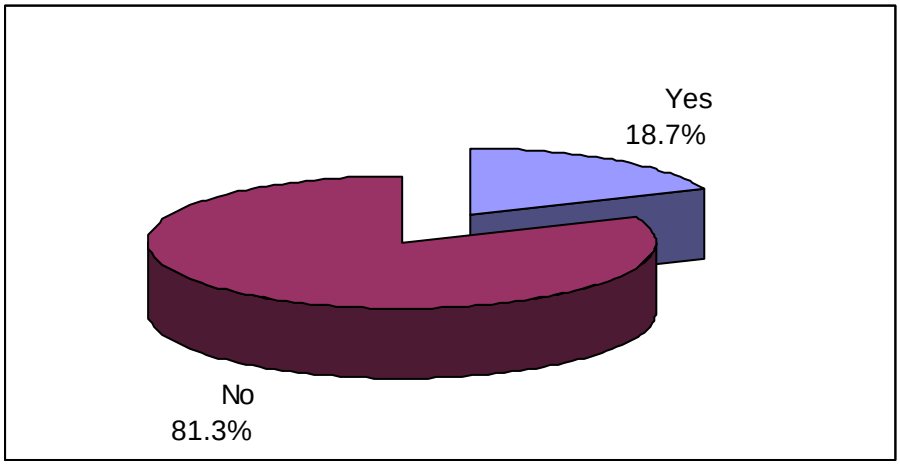


Figure (4.6) Presence of workload measurement standards

4.4 Training:

The findings about training courses in management and PHC or PH nursing as shown in table (4.5), revealed that; courses through basic study which consist in the curriculum with subject of leadership and management by 69.2% of the participants were had while 30.8% were not, while 89% of the subjects had courses in the field of PHC by number of courses represented by the Mean 5.1, and training courses in PH Nursing after graduation representing by the Mean 3.5.Findings here indicates that there is special consideration in MOH towards training courses (in-service education) for it's important, which accommodate with over workload by giving KAP (knowledge, Attitudes and Practice) that agree with BNET 2008b who sees that Training should result in individual learning and enhanced organizational performance, Dwyer and fox (2008) whom indicated in their report on the relationship between work stressors and key performance to the findings of a survey done in 2008 which revealed that 88% experienced stress because of their work and that one of the most frequent factors contributing to this stress lack of training, and management support. Thus, training would seem to have the potential to provide a direct means of coping with stressful aspects of one's job much the same way control does, in addition to experiences role which mentioned before.

Table (4.5) Distribution of training courses among nurses in the study

Item	Yes	%	No	%	Total	%	Mean
Receiving courses about nursing management through basic study	63	69.0	28	31.0	91	100	
Receiving courses in the Field of PHC	81	89.0	10	11.0	91	100	5.1
Receive any training courses about PH Nursing after graduation	56	61.0	35	39.0	91	100	3.5

4.5 Over work load:

4.5.1 Over work load existence:

The major perceptions of the participants**,** which represented by 78% is high and give an indication toward the presence of problem in suffering from over workload in the nursing stations, but this perception unmet the reality of the all results we have in this study which indicates that there is no over work load according to the results of daily service recipient

working hours which obtained from observational working hours in nursing stations, and mean of time consuming for each nursing procedures that appears the un overload in daily work at the time measurement which appear that daily working hours in the stations did not indicate towards over workload, but give perception of over workload of the nurses which come from many factors related to even managerial system or personal characteristics in specific period of work as the accumulation of cases reach the peak figure (4.7.)

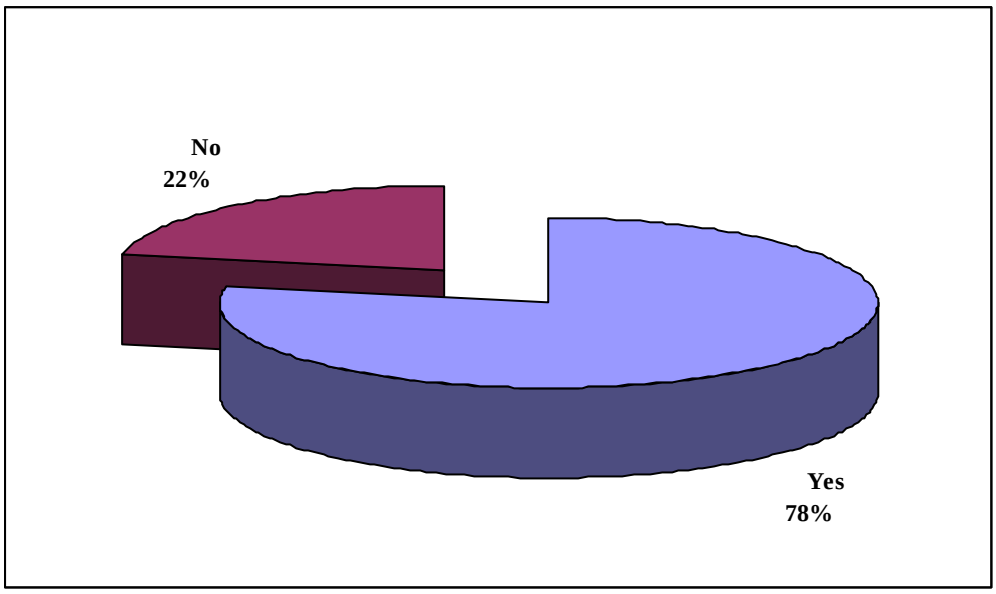


Figure (4.7) over workload

4.5.2 Factors attributed to over work load :

As shown in table (4.6) by ranking the results of factors perceptions that affecting over work load from the major factor attributed they were; Increasing intensity of work which may come from accumulation of referrals in beginning of the working day, Inadequate staff this may reflect incorporation between all staff members or political conflicts, Increasing paperwork due lack of management information system, Improper promotion system with lack of motivations and rewards, Absence of clear job description which is the major problem we faced which go with Mind Tools, 2007 that Job description have a great importance and therefore can impact on the workload perceptions, to do an excellent job, you need to fully understand what is expected from you . By understanding the priorities in your job and what constitutes success within it, you can focus on these activities and minimize work on their task as much as possible, this help you get the greatest return from

the work you do and keep your workload under control Improper appointment system it's the responsibility of the mangers who not mange the daily work time represented in referrals time sheet, also are going with the study of Lowe (2006) that reported as a result of his survey on the quality of the environment of Health Sciences Association of Alberta (HSAA) that the main causes of workload problems are inadequate staffing levels, increased job performance expectations, and increased complexity of work, Lack of resources situational according to political and economical instability, Improper working environment in the presence of improper air conditioning nor enough working place, Implementing QA program in the implementation some new protocols and guidelines or strategies which take more time that lead to over work load, Frequent equipments failure as may be due to oldness or improper maintenance, while Work neglected by colleges and Lack of skills has no great effects.

Table (4.6) Factors attributed to over workload

Sn.	Items	Yes/No	%	No/No.	%	Total/No.	%
1	Increasing intensity of work	63	88.7	8	11.3	71	100
2	Inadequate staff	57	80.3	14	19.7	71	100
3	Increasing paperwork	56	78.9	15	21.1	71	100
4	Improper promotion system	54	76.1	17	23.9	71	100
5	Absence of clear job description	51	71.8	20	28.2	71	100
6	Improper appointment system	48	67.6	23	32.4	71	100
7	Lack of resources	46	64.8	25	35.2	71	100
8	Improper working environment	44	62	27	38	71	100
9	Implementing QA program	38	53.5	33	46.5	71	100
10	Frequent equipment failure	36	50.7	35	49.3	71	100
11	Work neglected by my colleges	28	39.4	43	60.6	71	100
12	Lack of skills	17	23.9	54	76.1	71	100

4.6 Instrumental availability:

Instrumental availability in our study appears the sufficiency, availability, applicability, and the condition of the instrument if it was in a good condition. When studying the responses and the perception of nurses about instruments in the nursing stations; Instrumental sufficiency has positive response as 82.4 %, the availability of the instrument was assessed by 89.%, instrumental applicability was 87.9 %, and if the instrument in a good condition was 70.3 %, her about 30% of the instrument were not in a good condition which mean that there is a concentration toward providing some types of instruments or bad maintenance or un availability of the material necessary to maintenance due to siege on Gaza or support of some centers by providing them instruments by the MOH or according desire of donors projects to support and maintain some clinics like MDM France project (2009), without direct coordination with the MOH due to political situation which reject direct contact with the government in Gaza, so that it may reflect the over load of work in specific stations or even specific services in which some instruments needed their, which is clarified by (Health and safety committee, 2005) when employees faced with work overload, they may try to cope by working excessive hours, which may lead to health problems and problems outside of work. Working excessive hours can lead to fatigue, which in turn can affect upon performance all shown in the table (4.7).

Table (4.7) Instrumental availability

Sn.	Items	Yes		No		Total	
		No.	%	No.	%	No.	%
1.	Instrumental sufficiency	75	82.4	16	17.6	91	100.0
2.	Instrumental availability	81	89.0	10	11.0	91	100.0
3.	Instrumental applicability	80	87.9	11	12.1	91	100.0
4.	Instrumental in a good condition	64	70.3	27	29.7	91	100.0

4.7 Employees' perceptions:

Employees' perceptions about workload in this study measured through questions categorized, using likert scale, concerning main categories containing there items:

4.7.1 Work load existence :

As shown in table (4.8), that the mean of the subjects' perceptions was 3.5, which represents; 60.4 % of the subjects were fall under overloaded work and 72.5 % of the subjects shows that there colleagues were over loaded, this indicate that the majority complain of over workload against the result of this study which reflect that over workload is not present by the mean of cases for every station which is less than 7 cases per hour except in dental units within consideration the services provided at least by 2 nurses in every station, also they accommodation with Al Jalil standard which is used in PHC 4 nurses for 10.000 person but if we calculate the total number of nurses in Governmental and UNRWA PHC, as the up date statistics show them as 360 MOH and 320 UNRWA, they will be 680 nurse for 600 nurse at minimum for Al Jalil standard taking into consideration the integration of providing PHC services (Director of PHC nursing in MOH, and Director of PHC nursing in UNRWA Gaza 2010).see annex 19.

Table (4.8) Employees' Perceptions toward Work load existence

Items	Strongly Agree%	Agree %	Neither Agree nor Disagree%	Disagree %	Strongly Disagree %
Existing workload	**Mean 3.50**		**MD 3.67**	**SD0.64**	
Suffering from over workload	8.8	51.6	18.7	15.4	5.5
Suffering of staff nursing from over work load	6.6	65.9	17.6	8.8	1.1
Suffering of staff nursing from over work load in other PHC centers	8.8	42.9	26.4	22.0	0.0

4.7.2 Management:

4.7.2.1 Managerial measurement essentiality :

Table (4.9) shows that the mean of the subjects' perceptions was 3.92 which indicate that the majority about 82.4 % see that workload measurement is essential for nursing management and 85.7 % see that workload measurement is essential for making decisions about staffing level and distribution while 79.1 % of the subjects see there is need to have workload measurement standard. From these results we see the importance of work load measurement in nursing managerial level, for its importance and highly need as obtained from (O'Brien-pallas 1993) who identify the reasons and objectives for measuring nursing work that are multiple and can be linked to the interests of the stakeholder in work:

To assess the patients' status and determine nursing needs in interest of clients and patients and on another level, the professional interest of nurses.

To determine and manage staffing levels a major interest of nursing staff with regard to working conditions, and indirectly of interest for clients in terms of quality of care.

To determine and manage costs a major interest of the health service.

To measure the outcome of nursing intervention.

4.7.2.2 Staffing decisions :

As shows in table (4.9) that the mean of the subjects' perceptions was 3.41 representing in 69.2 % feels that decisions about staffing level and distribution are made objectively in our nursing station and 70.3 % sees that staffing level and distribution based on the activities and services required, while staffing level and distribution in our nursing station fair and transparent represents about 50 %, that meet the importance need of fairness at work place which seems to have it's impact on how the employees perceive their work as National Business Research Institute, 2008, that clarify and assure that fairness provided by the system in terms of equal pay for equal work, fairness in rewards, in treating everyone the same way seems to be fair and in having equal opportunities in training, otherwise, they will tend to be more negatively affected by their workload, have lower productivity, are more likely to quit have higher levels of conflict and are more likely to resort to collective bargaining to solve their problems.

Table (4.9) Employees' Perceptions toward Management

Items	Strongly Agree%	Agree%	Neither Agree nor Disagree%	Disagree%	Strongly Disagree%
Managerial Essentiality	**Mean 3.92**		**MD 4**	**SD 0.71**	
Essentiality of Workload measurement in nursing management	19.8	62.6	8.8	3.3	5.5
Essentiality of Workload measurement in staffing level and distribution	23.1	62.6	7.7	0.0	6.6
No need to have workload measurement standard	0.0	8.8	12.1	57.1	22.0
Staffing decisions	**Mean 3.41**		**MD 3.50**	**SD 0.63**	
Staffing level and distribution are made objectively in nursing station.	1.1	68.1	19.8	8.8	2.2
Fairness of staffing level and distribution.	0.0	50.5	28.6	12.1	8.8
Transparency of staffing level and distribution.	0.0	48.4	34.1	12.1	5.5
Staffing level and distribution based on the activities and services required.	3.3	67.0	19.8	7.7	2.2

4.7.3 working environment:

4.7.3.1 Nursing station environment:

The perceptions of the employee with respect to their working environment and instruments were summarized and discussed in table (4.10), as the mean of subjects perceptions regarding the nursing station environment was 3.1 suggesting that 70.3 % see their work place is clean and about 55 % of all employees hold positive perception about their environment in respect of being safe and healthy, while about 50 % have negative impact toward working at a temperature-controlled workplace and sufficient working area,

so the perception about the environmental factor may be go with the study of (Baumann & Blythe. 2003, b), the impact of environment factors on the ability of personnel to carry nursing work in any facilities. Writers have stressed that a healthy and productive work environment is fostered by improved working conditions and professional development, so the researcher see that these issues is not under control of the worker alone but its disadvantages of the organizations and bad planning and distribution of the top managers for the working areas while the role of the workers appear in how they keep the area clean and maintain the services environment.

4.7.3.2 Maintenance department services :

The mean of subjects perceptions regarding the service of maintenance department as shown in table (4.10) was 2.81 suggesting that clearly negative impact was seen by employees toward services maintenance, which indicate the lack of services maintenance, here there is a problem faced the worker were no response to their requisition for instrument maintenance regularly by more than 45 %, that go with the impact of Director of maintenance department in Gaza PHC centers 2010 which may reflect the instability of the working by he lack of the maintenance department employee due to disruption from the work, lack of essential material for maintenance and new supplies and Instruments from siege on Gaza, integrated management system between hospitals and PHC, that gives the properties for hospitals, conflicts between general directorate of engineering and maintenance and its departments in PHC, and improper response from MOH with the needs of PHC requests (Director of engineering and maintenance department of PHC in Gaza provenance interview 2010), but the condition of the instrument may be equal by good or bad condition that may reflect the distribution of new instruments to some clinics rather than others according donor desire not up on the \need of MOH planning to make fair distribution due to political situation which prevent the direct contact with ministry in Gaza and inability of the ministry to save many instruments due to siege on Gaza.

Table (4.10) Employees' perceptions about their working environment

Items	Strongly Agree%	Agree%	Neither Agree nor Disagree%	Disagree %	Strongly Disagree%
Nursing station environment	**Mean 3.10**		**MD 3.17**		**SD 0.58**
Safety workplace.	3.3	59.3	15.4	17.6	4.4
Healthy workplace	2.2	54.9	19.8	17.6	5.5
Comfortable workplace.	2.2	38.5	15.4	39.6	4.4
clean workplace	4.4	65.9	20.9	4.4	4.4
Temperature-controlled workplace.	0.0	25.3	20.9	36.3	17.6
Sufficient working area	2.2	33.0	14.3	40.7	9.9
Maintenance of instrument	**Mean 2.81**		**MD 3.00**		**SD 0.76**
rapidly response of Engineers in the maintenance department.	2.2	15.4	36.3	39.6	6.6
Regularly maintenance of equipments and instruments	2.2	28.6	24.2	38.5	6.6
Good condition of equipments and instruments.	2.2	30.8	33.0	27.5	6.6

4.8 Environmental availability:

4.8.1 Availability of area for working:

By observation of the environments in the nursing station for recording and instruments indicates that there was an enough working, recording area for nurses and enough area for instruments in every nursing station even MCH, ANC, DC, FP, NCD, or DENTAL UNITS as seen in order by 57.1%, 68.1% and 67% in table (4.11). In spite of positive impact of the observed working, recording, and instrumental areas, the negative impact was high more than one third of the subjects that may increase the work load and may obstacles the currency of work.

Table (4.11) Availability of area for working, Recording and Instruments

Sn.	Items	Yes		No		Total	
		No.	%	No.	%	No.	%
1.	Working station	52	57.1	39	42.9	91	100.0
2.	Recording area	62	68.1	29	31.9	91	100.0
3.	Area for instruments	61	67.0	30	33.0	91	100.0

4.9 Daily working hours:

To identify the daily working hours and to arrive to the value of each activity or nursing procedure to determine the workload status at the time of absence of any previous study or standers for the nursing procedures in PHC centers try to conduct time studies to arrive at the value of each activity as mentioned by Kosinski and KIevinski (1990).

4.10 Workload Unit value :

To calculate the mean of observed cases per hour or the mean of working hour per day the formula below is adopted and developed by the researcher to be used manually.

*(Observed cases per one hour = Mean of Clients in a year/ working year days * Mean of Observed Time per minutes / 60minutes).*

Mean of calculated cases/hour for one nurse = mean of observed cases per hours / mean of the employee number.

Mean of observed time per minutes= time observed by minutes for each individual procedure by its unit value expressed in units (minutes).

The formula above were accommodate and developed with the Researcher, uses in this study Work load definition as defined by Houang and El-Nehgeh (1993) as the sum of the work achieved or to be achieved obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes).

4.10.1 Workload Unit value in minutes for cases by regions :

The resulted observed working hours per day in the daily work by regions shows that the Mid Zone was the highest load of working hours (10.22 hours per day) for each station was calculated by using the formula: *(Mean of observed working hour/day = Mean of Clients in a year/ working year days * Mean of Observed Time per minutes / 60minutes),* then these hours will be divided on the number of nurses in each station to calculate daily working hour for each nurse, while other regions ranged between (8.47 and 3.99 hours per day). In addition, this table appears the mean of employee nurses in each station and the mean of observed time by minutes or unit value for each case in each station according to different regions or governorates as seen in the table (4.12), and figure (4.8) below.

Taking in consideration that the mean of employee ranged between 1.6 to 2.9 in each station in the region and the mean of observed time for each cases ranged between 6.6 and 11.9 which is the highest in the mid zone which related to qualification distribution as all the regions has two years diploma nurses represents about third of the total team while in the mid zone two years diploma represents the opposite, about two thirds of the total team, and high clients mean per year, and low mean of employee number which indicate the need of more focusing toward Mid Zone and promote the qualification level, and employee number not only, but the North and Khanyounis also face the high observed working hours per day, but in relation to decline mean of Employee number if comprised by Gaza and Rafah. See annex (13).

Table (4.12) Workload Unit value in minutes for each case by regions

Region	Mean of employee No./station	Mean of Observed Time/M	Mean of Clients/year	Mean of observed working hours/day
Mid zone	2	**11.9**	12876.9	10.22
North	2.9	**6.6**	19250	8.47
Khanyounis	2.6	**9.7**	10905.6	7.05
Rafah	1.6	**8.3**	6500	3.6
Gaza	2	**8.1**	7393.9	3.99

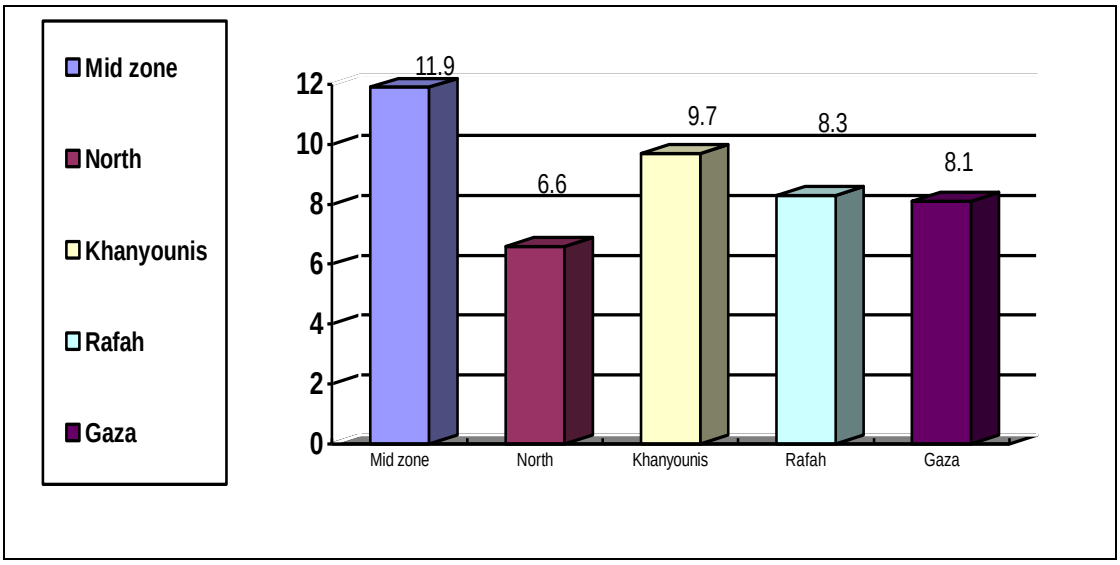


Figure (4.8) mean of observed time in minutes for each case by regions

4.10.2 Workload Unit value for nursing procedures:

A well trained 5 skillful nursing supervisors were responsible for conducted time study at their health centers dealing with the specified nursing procedures by the unit value by the observing time of nursing procedure that each case need to be performed according to stations subject was the highest in Dental by mean (14 minutes), FP (13.3 Minutes) followed by NCD (9.6 minutes), ANC (9.4 minutes), Daily care (8.1 minutes) and MCH (7.4 minutes)., mean of employee in MCH stations was the highest (3.1) followed by daily care and ANC by mean

(1.9), Dental (1.5), NCD (1.4) and FP (1.2). The mean of clients per year was the highest in the MCH (13,212), Dental (10,000), Daily care (9591), NCD (9320), ANC (7620) and FP (3320), in respect the mean of observed cases per hour were 6.52 in MCH, 5.18 in daily care, 4.78 in ANC, 9.33 in dental, 5.96 in NCD and 3.39 in FP as seen in the table (4.13), figure (4.9) below. The shown results above we calculated the mean of observed cases per hour in every station by using the formula: *(Mean of observed cases per one hour = Mean of Clients in a year/ working year days * Mean of Observed Time per minutes / 60minutes)*, it indicates that the highest load was in the dental unit in relation to the employee no. then NCD 5.96, FP 3.39, daily care 5.18, ANC 4.78 and the lowest load in MCH 6.52 this give and clear indicator that MOH focus on preventive services more than curative see annex (14).

Table (4.13) Workload Unit value for nursing procedures

Station	Mean of the f employee No.	Mean of observed Time/case/minute	Mean of Clients/year	Mean of observed Cases/Hour
MCH	3.1	7.4	13212.5	6.52
Daily Care	1.9	8.1	9591.3	5.18
ANC	1.9	9.4	7620.5	4.78
Dental	1.5	14	10000	9.33
NCD	1.4	9.6	9320	5.96
FP	1.2	13.3	3820	3.39

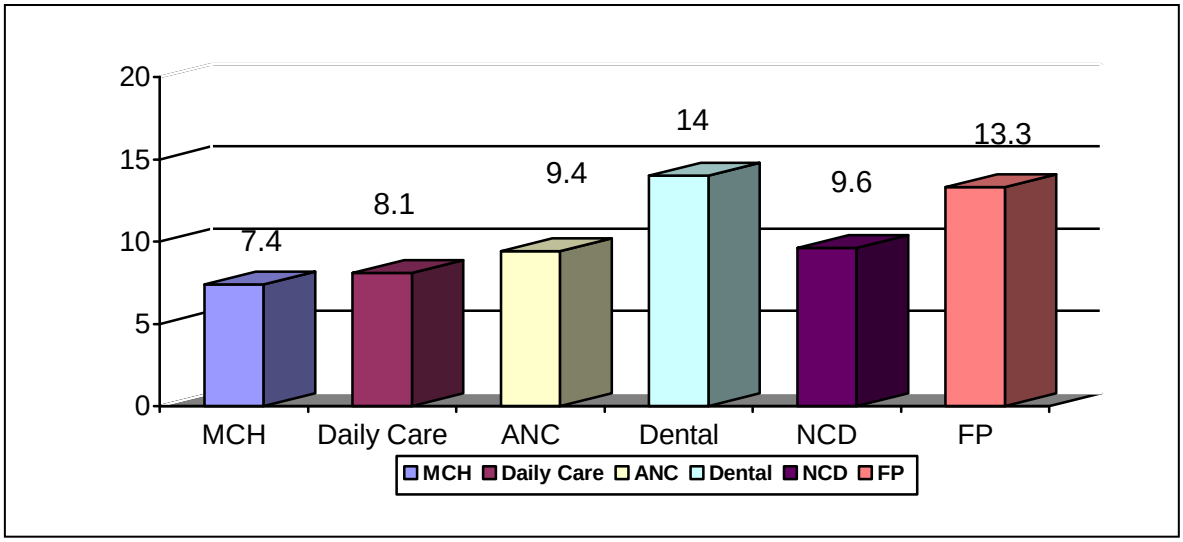


Figure (4.9) mean of observed time for each nursing procedures/minutes

4.11 Factors of Workload with Demographic data:

The relations appear according to the table (4.14) below using ANOVA test:

4.11.1 Factors of Workload with governorates :

There are statistical differences between governorate and factors of work load at (f= 2.546 and p-value = 0.045) the differences was for north with mean (6.2) followed by Khanyounis, Gaza, Rafah and Mid Zone by means in order (5.22, 4.67, 4.3 and 2.75) which reflect that the effect of the factor of workload may different by governorates, as low distribution of large PHC centers, and the mid Zone which was affected by the highest daily working hour and less qualification, and low number of employee not affected by workload factor perception against the accommodation of other governorates by workload factor and the relation with daily working hours and means of employees, that support and may accommodate with the statistics of PCBS,2007,and Health Information Center2009, with population density that reflect the problem in Khanyounis as it is the largest area which compromise 30% of total area of Gaza strip with population density 275.134/ square km and North as high density population especially by citizens rather than refugees which compromise 17% of total area of Gaza strip with population density 275.688/ square km in the Middle Zone which depend on UNRWA services, but in Gaza the highly distribution of Governmental centers that provide PHC services for all citizens and refugees may hidden the problem in spite of highest with population density 504.047/ square km and 20.3% of total area of Gaza strip, her we must take into consideration the distribution of nurses according to Al Jalil standard or Key that distribute nurses in PHC by 4 nurses for 10.000 persons, but for all sectors providing PHC services, not only MOH, but also UNRWA, and NGOs see table (4.14), and for more details see post hoc test annex 22.

4.11.2 Factors of Workload with Stations, Qualifications, Job title and Experience :

There are no statistical differences between work load factors and, stations at (f= 1.45 and p-value = 0.206), qualifications at (f= 2.567 and p-value = 0.082), job title at (f= 0.855 and p-value = 0.495) and Experience in place at (f= 0.472 and p-value = 0.625), this may come back to fairly distribution of the followers and time management, also for qualification

there were no differences as all of the employees deals with his role in the stations, job title, and Experience in place also there were no differences as shown in table (4.14.).

Table (4.14) Relation between Factors of Workload with Demographic

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Governorates**					
	North	10	6.20	1.32	2.546	0.045
	Khanyounis	9	5.22	3.15		
	Gaza	46	4.67	3.16		
	Rafah	10	4.3	3.06		
	Mid Zone	16	2.75	2.38		
	Total	91	4.52	2.98		
2.	**Station**					
	ANC	15	6.00	1.96	1.450	0.206
	MCH	28	5.00	3.24		
	FP	6	2.67	2.80		
	NCD	8	3.88	3.87		
	Daily care	23	3.83	2.72		
	Dental	5	4.40	2.51		
	Total	89	4.56	2.97		
3.	**Qualification**					
	Two Years Diploma	35	4.09	2.94	2.567	0.082
	Three years Diploma	20	3.75	3.08		
	Bachelor and above	36	5.36	2.82		
	Total	91	4.52	2.98		
4.	**Job Title**					
	Practical Nurse	25	3.96	3.01	0.855	0.495
	Staff Nurse	46	5.00	3.01		
	Head Nurse	4	3.00	3.56		
	Midwife	10	4.00	2.79		
	Dental Nurse	5	4.80	2.77		
	Total	90	4.50	2.99		
5.	**Experience in place**					
	5 Yrs and less	44	4.66	2.83	0.472	0.625
	From 6 to 10 Yrs	19	4.84	3.30		
	More than 10 Yrs	28	4.07	3.03		
	Total	**91**	**4.52**	**2.98**		

4.11.3 Factors of Workload with gender :

The relation appears by using (T Test); there is no statistical differences between work load factors and gender at (t=- 0.940 and p-value = 0.450), that accommodate with the Croatian vokic and bogdanic survey in 2007, which reported that the Croatian males and females did not perceive significantly differential job stress as shown in table(4.15).

Table (4.15) Relation between Factors of Workload with Gender

Sn.	Gender	No.	Mean	Std	t	Sig.
	Male	37	4.16	3.11	-0.940	0.350
	Female	54	4.76	2.88		

4.12 Environmental Factor with governorates and stations :

Table (4.16), by using (Chi Square test); shows the relations of environmental factors with governorates, there were negative response clearly found in all provinces; Khanyounis 88.9 %, North 80 %, Mid Zone 68 %, Gaza 56.5 % and Rafah 50 %, also seen insignificant relation by (p = 0.116 and X2 = 12.89).

While the relations of environmental factors with stations is negative responses as Dental 80 % Daily care 78.3, MCH 64.3 % NCD and FP 50 % ANC 46.7 %, her the significance is clearly defined by (sig.=0.050 and X^2 = 21.043) that accommodate with the study of Baumann & Blythe. 2003b where the impact of environment factors on the ability of personnel to carry nursing work in any facilities can be as: the lack of available supplies and, more recently, an inadequate number, of nurses to provide the care. Writers have stressed that a healthy and productive work environment is fostered by: improved working conditions and professional development.

Table (4.16) Relation of Environmental Factors with governorates and stations

Gov.	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
North	1	10.0	8	80.0	1	10.0	10	100.0
Gaza	11	23.9	26	56.5	9	19.6	46	100.0
Mid Zone	3	18.8	11	68.8	2	12.5	16	100.0
Khanyounis	0	0.0	8	88.9	1	11.1	9	100.0
Rafah	0	0.0	5	50.0	5	50.0	10	100.0
Total	**15**	**16.5**	**58**	**63.7**	**18**	**19.8**	**91**	**100.0**
	(X^2 = 12.89, Df= 8. sig.=0.116)							
Station								
ANC	5	33.3	7	46.7	3	20.0	15	100.0
MCH	8	28.6	18	64.3	2	7.1	28	100.0
FP	0	0.0	3	50.0	3	50.0	6	100.0
NCD	0	0.0	4	50.0	4	50.0	8	100.0
Daily Care	1	4.3	18	78.3	4	17.4	23	100.0
Dental	0	0.0	4	80.0	1	20.0	5	100.0
Total	**15**	**16.9**	**56**	**62.9**	**18**	**20.2**	**89**	**100.0**
	(X^2 = 21.043, Df= 12. sig.=0.050)							

4.13 Responses of domains with sociodemogrophic data:

The assessed domains in this study were managerial essentially, existing workload, staffing decisions, communication with management, nursing station, maintenance of instrument which tested (by ANOVA) in relation with governorates, stations, job title, and qualifications as seen in the following table (4.17):

4.13.1 Responses of domains with governorates:

Clearly seen in the table (4.17) below that there is no statistical significance in the relation between domains and governorates by using ANOVA test (F = 0.405 and p = 0.804). For more details, see post hoc test annex 20.

4.13.2 Responses of domains with qualifications:

Also the mean of responses were ranged between 3.27 for 2years diploma and 3.39 for Bachelor where there is no statistical significance in the relation between domains and qualifications by using ANOVA test (F = 0.902 and p = 0.409), so qualification has no effect on responses on the importance of these domains table (4.17). For more details, see post hoc test annex 21.

4.13.3Responses of domains with job title:

In addition there is no statistical significance in the relation between domains and job title by using ANOVA test (F = 2.077 and p = 0.091), by the lowest mean was 3.03 for Dental Nurse and the highest mean was 3.40 for Staff Nurse so that the job title has no effect on the responses table (4.17), see annex (16) for more detailed results.

4.13.4 Responses of total domains with stations:

But there is statistical significance relation between domains and stations by using ANOVA test (F = 2.503 and p = 0.028), and this significance clearly for MCH by mean (3.53), then DC by mean (3.27), ANC by mean (3.26), NCD by mean (3.23), and FP by mean (3.16), table (4.17) so these domains shows how it affect on the work on these stations. For more details, see post hoc test annex 23.

Table (4.17) Response of domains with sociodemographic data

Item	No.	Mean	Std	F	Sig.
Governorates					
North	10	3.38	0.21	**0.405**	**0.804**
Gaza	46	3.31	0.47		
Mid Zone	16	3.39	0.24		
Khan-younis	9	3.34	0.29		
Rafah	10	3.21	0.27		
Total	**91**	**3.32**	**0.38**		
Stations					
ANC	15	3.26	0.47	**2.503**	**0.028**
MCH	28	3.53	0.22		
FP	6	3.16	0.43		
NCD	8	3.23	0.34		
DC	23	3.27	0.39		
Dental	5	3.07	0.37		
Total	**89**	**3.33**	**0.37**		
Qualifications					
Two Years Diploma	35	3.27	0.35	**0.902**	**0.409**
Three years Diploma	20	3.30	0.40		
Bachelor	36	3.39	0.40		
Total	**91**	**3.32**	**0.38**		
Job title					
Practical Nurse	25	3.33	0.36	**2.077**	**0.091**
Staff Nurse	46	3.41	0.38		
Head Nurse	4	3.20	0.45		
Midwife	10	3.15	0.36		
Dental Nurse	5	3.03	0.29		
Total	**90**	**3.33**	**0.38**		

4.13.4 Responses of domains with gender:

Clearly seen when tested by (T.Test) in the table (4.18) bellow that there is no statistical significance in the relation between total of domains and sex (T = 1.176 and p = 0.243), regardless presence of significant relation between the domain of Staffing decisions and sex seen by (T = 2.432 and p = 0.017) which mostly affect the decision taking, in spite of this we found that between both sexes there is no deference of the effect of responses.

Table (4.18) Response of domains with gender

Items	No.	Mean	Std	t	Sig.
Managerial Essentially					
Male	37	3.93	0.78	0.094	0.926
Female	54	3.91	0.67		
Existing workload					
Male	37	3.59	0.69	1.191	0.237
Female	54	3.43	0.61		
Staffing decisions					
Male	37	3.22	0.69	-2.432	0.017
Female	54	3.54	0.56		
Communication with management					
Male	37	3.37	0.80	-0.416	0.679
Female	54	3.44	0.76		
Nursing station					
Male	37	3.06	0.59	-0.499	0.619
Female	54	3.12	0.58		
Maintenance of instrument					
Male	37	2.66	0.68	-1.590	0.115
Female	54	2.91	0.80		
Total of domains					
Male	37	3.27	0.32	-1.176	0.243
Female	54	3.36	0.42		

4.14 Workload unit value in relation with sociodemographic data:

4.14.1Work load unit value in relation with gender:

Table (4.19) (T Test); there is no statistical differences between workload value (observed time for cases) and sex at (t= 1.315 and p-value = 0.109), which refer to no deference's between both sexes in time measured for workload.

Table (4.19) Workload unit value in relation with gender

Gender	No.	Mean	Std	t	Sig.
Male	34	10.60	6.51	1.315	0.109
Female	52	8.95	5.13		

4.14.2Work load unit value in relation with age:

Also there is no statistical significance between work load value (observed time for cases) and age (ANOVA); at (f= 0.991 and p-value = 0.376), table (4.20) which refer that there is no effect of the age on work load unit value especially when we see that about of 72% of the nursing staff in PHC centers above 31 years old as seen before in graph (4).

Table (4.20) Workload unit value in relation with age:

Sn.	Age	No.	Mean	Std	F	Sig.
	30 Yrs and less	23	9.50	5.63	**0.991**	**0.376**
	From 31 to 45 Yrs	38	10.43	6.58		
	More than 45 Yrs	21	8.19	4.50		
	Total	**82**	**9.59**	**5.85**		

Workload unit value in relation with governorates, qualifications, job title, stations, and experience appears according to the table (4.21) below using ANOVA test:

4.14.3Work load unit value in relation with governorates:

There is statistical significance between work load value (observed time for cases) and governorates (ANOVA); at (f= 2.933 and p-value = 0.026) the clearly founded relation

with north by mean (12.5), as shown in table (4.21) which assure the result in table (4.12) as the north has the highest mean of clients per year in relation to mean number of employees. For more details, see post hoc test annex 24.

4.14.4 Work load unit value in relation with qualifications:

Also there is statistical significance between work load value (observed time for cases) and qualifications at (f= 4.747 and p-value = 0.011) the clearly founded relation with bachelor by mean (11.8), then three years diploma by mean (9.16) and two years diploma (7.67) as shown in table (4.21),which accommodates with Buchan and Dal poz 2002, evidence suggests that increased use of less qualified personnel for cost containment reasons is not effective in all situations but in some organizations has helped to improve efficiency. The overlap of roles between doctors and nurses suggests that there are possibilities to extend the role of nurses within the given regulatory constraints, especially the use of nurse practitioners, clinical nurse specialists, and clinical nurse midwives, all who improve care outcomes while maintaining costs. For more details, see post hoc test annex 25.

4.14.5 Work load unit value in relation with job title:

On looking to table (4.21), (ANOVA) test there is statistical significance between work load value (observed time for cases) and job title at (f= 3.677 and p-value = 0.008) the clearly founded relation with head nurses by mean (12.00), then staff nurse (11.30), LPN (8.42), dental nurse (6.67) and midwife (4.80) that go with Robbins,1998, job satisfaction is dependent of the individuals' perspective of their job and life and how the organization provides a climate in which the individual, or group of individuals, are flourishing attitudes. For more details, see post hoc test annex 26.

4.14.6 Work load unit value in relation with stations:

There is no statistical significance between workload value (observed time for cases) and stations (ANOVA); at (f= 1.505 and p-value = 0.187), which refer to the same weak effect of the stations on workload unit value as shown in table (4.21). For more details, see post hoc test annex 23.

4.14.7 Work load unit value in relation with experience:

In addition there is no statistical significance between work load value (observed time for cases) and experience in this place at (f= 0.070 and p-value = 0.932), as shown in table (4.21), taking in consideration that 72% of the nurses in PHC centers above 31 years old, and 45% has more than 10 years experience at the same place.

Table (4.21) Workload by unit value in relation with sociodemographic data

Item	No.	Mean	Std	F	Sig.
Governorates					
North	10	12.50	6.02	**2.933**	**0.026**
Gaza	44	10.35	5.86		
Mid Zone	13	5.62	2.22		
Khan-younis	9	7.67	3.20		
Rafah	10	10.32	7.47		
Total	**86**	**9.60**	**5.74**		
Qualifications					
Two Years Diploma	33	7.67	4.53	**4.747**	**0.011**
Three years Diploma	20	9.16	4.62		
Bachelor	33	11.80	6.74		
Total	**86**	**9.60**	**5.74**		
Job title					
Practical Nurse	24	8.42	4.77	**3.677**	**0.008**
Staff Nurse	46	11.30	6.30		
Head Nurse	2	12.00	0.00		
Midwife	10	4.80	1.75		
Dental Nurse	3	6.67	3.21		
Total	**85**	**9.57**	**5.77**		
Stations					
ANC	15	8.60	5.53	**1.505**	**0.187**
MCH	28	11.16	5.05		
FP	6	5.53	2.07		
NCD	8	7.13	3.09		
Daily Care	23	10.57	7.53		
Dental	2	5.50	3.54		
Total	**86**	**9.60**	**5.74**		
Experience					
Less than 10 yrs	41	9.58	5.68	**0.070**	**0.932**
From 10 to 20 Yrs	19	10.00	7.39		
More than 20 Yrs	26	9.35	4.57		
Total	**86**	**9.60**	**5.74**		

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Chapter V

Conclusion and Recommendation

This chapter provides the main conclusions of this study as will as some recommendations for decision makers that may help in adopting better nursing management system in PHC centers.

5.1 Conclusion

Nursing in primary health care play a vital role in providing high quality service to meet needs of clients, community, and health staff, and to ensure quality services it should be managed well. A realistic and accurate assessment of workload status in nursing stations is necessary for effective distribution of resources between stations, and for good management. The primary objective of this study is to understand the workload status in nursing stations at Governmental Primary Health Care (PHC) centers in Gaza Governorates. After a comprehensive review of relevant literature, this objective was accomplished through the determination of workload status and unit values for each nursing procedure in different nursing stations through the conduction of time study.

The literature supports the notion that it is possible to develop a flexible, affordable template for measuring workload. It also reflects the importance of managing nursing stations environment, and instrument, and for good chance there is many research on assessing nurses perception about workload, but unfortunately not in PHC mainly.

Several factors affect and are affected by workload such as staffing level, qualifications, experiences, and distribution. Comprehensive analysis of staff distribution in Governmental PHC nursing stations indicates there were remarkable variations in nursing procedures per employee ratio among each stations, which reveals that staff distribution is not based on the number of cases, or qualifications, but according to the nature of services that focus on the preventive services mainly, also regionally according to Al Jalil Standard by density population.

In addition, there is statistical significance between workload value and governorates at (f= 2.933 and p-value = 0.026) the clearly founded relation with north by mean (12.5). And the daily work by regions shows that the Mid Zone was the highest load of working hours (10.22 hours per day), observed time for each cases ranged between 6.6 and 11.9 which is the highest in the mid zone which related to qualification distribution as all the regions has two years diploma nurses represents about one third of the total team while in the mid zone two years diploma represents the opposite, about two thirds of the total team.

Employees knowledge about workload measurement tend to be high since 76.9% of the participants oriented about the term workload, While workload could be measured as represented by 72.5%.The high positive responses could be attributed to the fact that educational level and training coerces provide good knowledge about workload. The researcher expects a strong support from the employees if a workload measurement about 82.4 % of nurses were aware of managerial essentiality of workload measurement, and 85.7% for decisions related to staffing level.

The study revealed that 61.4 % of the employee believe that over workload exist in the nursing stations in PHC and they attributed their feeling to factors such as Increasing intensity of work, Inadequate staff, Increasing paperwork, Improper promotion system with lack of motivations and rewards, Absence of clear job description which is the major problem, the absence of formal standard on which rational staffing decision could be made, lies behind the positive perception expressed by 69.2 % feels that decisions about staffing level and distribution are made objectively, and 70.3 % sees that staffing level and distribution based on the activities and services required, while staffing level and distribution fair and transparent represents about 50 %.

The study results shows that the mean of employee in MCH stations was the highest (3.1) followed by daily care and ANC by mean (1.9), Dental (1.5), NCD (1.4) and FP (1.2)., in respect the mean of observed cases per hour were 6.52 in MCH, 5.18 in daily care, 4.78 in ANC, 9.33 in dental, 5.96 in NCD and 3.39 in FP., which indicates that the highest load was in the dental unit in relation to the employee no. this give and clear indicator that MOH focus on preventive services more than curative in PHC as MCH and ANC services are heart of the PHC especially in Gaza governorate, but if we adding the nurses of UNRWA-PHC to MOH PHC nurses with out the NGOs nurses as there is not accurate

statistics, 320+360=680,which in ratio accommodate with Al Jalil standard 4 nurses for 10.000 persons in PHC in Gaza Strip, we need at least 600 nurse for minimum standard.

About 30 % of the employee held negative perception about their working environment, and 45% of employees were dissatisfied of the services provided by maintenance department.

The study results shows that average unit value for each nursing procedures were the highest in Dental by mean (14 minutes), FP (13.3 Minutes) followed by NCD (9.6 minutes), ANC (9.4 minutes), Daily care (8.1 minutes) and MCH (7.4 minutes).

The study revealed that there is no statistical differences between work load value and sex at (t= 1.315 and p-value = 0.109), age at (f= 0.991 and p-value = 0.376), especially when there is about 72% of the nursing staff in PHC centers above 31 years old, stations at (f= 1.505 and p-value = 0.187), and experience at (f= 0.070 and p-value = 0.932), but there is statistical significance between work load value and governorates at (f= 2.933 and p-value = 0.026) the clearly founded relation with north by mean (12.5), job title at (f= 3.677 and p-value = 0.008, , also there is statistical significance between work load value and qualifications at (f= 4.747 and p-value = 0.011) the clearly founded relation with bachelor by mean (11.8), then three years diploma by mean (9.16) and two years diploma (7.67).

Also the study results shows that the assessed domains in this study were managerial essentially, existing workload, staffing decisions, communication with management, nursing station, maintenance of instrument, so in responses with stations, it was clearly seen that there is statistical significance relation (F = 2.503 and p = 0.028), and this significance clearly for MCH by mean (3.53), then DC by mean (3.27),ANC by mean (3.26), NCD by mean (3.23), and FP by mean (3.16), but there is no statistical significance relation between domains and governorates, sex, job title, and qualifications.

5.2 Recommendations:

After analyzing the data and reviewing the findings, the researcher made the following recommendations:

1. Establishment of a workload measurement unit under direct supervision and management of nursing directorate to carry the responsibility of analyzing workload

statistics, and submitting workload reports which could be used in planning and management, and also to be responsible for the continuous revision of unit values.

2. Developing workload measurement in PHC Nursing station since total number of procedures performed by each station could be a misleading workload measurement.
3. Establishment of nursing procedures standards to maintain quality services.
4. Utilizing the workload unit values determined by the researcher through the conduction of time study to develop workload measurement system in nursing stations.
5. Faire distribution of work responsibilities.
6. Developing safety handbook, which is complete absent from the stations.
7. Coordinate periodic maintenance of instruments with maintenance department.
8. Developing nursing management information system to reduce intensity of paper work.
9. Ensuring that the workload term is used properly in the ministry of health annual report since it could be used to express procedures per employee ratio.

5.2.1 Recommendations for Future Research:

Researchers are advised to make further studies a bout:

- Workload measurement in other health professions
- Staffing and workload benchmarking.

REFERENCES

References:

Akers (2002): Workload measurement system: Court executive development program, Phase 3 project. St. Louis County Circuit Clerk, Missouri.

American nurses association (2001): Analysis of American nurses association-staffing survey. www.nursingworld.org/staffing /ana pdf.pdf

Audit Commission portfolio project team (2001): Ward staffing Management fools: practical tips for Budget setting. Working Document, http:/ww2.audit commission .gov uk/doc/wstaffmantooll.doc, visited Dec.2002 .

Australian Nursing Federation WA. Branch (2002): Workloads management system now underway in public sector. The Western Nurse 18.23.

Awases, M., Gbary, A., Nyoni,, J. and Chatora, R. (2004): Migration of health professionals in six countries-A synthesis report. WHO Regional Office for Africa.

Barros, A. (1986): "Making CAP workload recording work for you - College of American Pathologists' workload recoding method - column" Medical Laboratory Observer. http://findarticles.com/p/articles/mi m3230/is vl8/ai 4571234 24 Oct. 2007.

Barros, A., (1988): "Identifying the causes of low productivity". Medical Laboratory Observer. http://findarticles.com/p/articles/mi m3230/is n4 v20/ai 659213 1 (24 Oct. 2007)

BNET, (2008b): A superb site for business and management reading. Dictionary of the English Language, Fourth Edition copyright 2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company, USA.

(http://dictionary. bnet.com/definition/Training.html, 15.01.2010)

Bowman, C. (2008): Organizational Stress Infection. Melbourne, Australia.

British Medical Association, (2007): Dispensary Services Scheme-Guidance. UK. http://registration.bma.org .uk/ap .nsf/Content/dispenses scheme O 10806-dis ensaryguid, 01.12.2007.

Buchan, J; (Dal poz, M (2002): Skill mix in the health care workforce: Reviewing the evidence Bulletin of the World Health organization 80; pp 575-580.

CIHI, (2007): Canada, Canadian Institute of Health Information (CIHI) CD-ROM., (2006): on line20 July 2009.

CIHI, (2007): Canadian Institute of Health Information how do you conduct a time' study to. / determine a standard time for use within the workload measurement system of your organization. <, http://www.cihi .ca/cihiweb/dispPagejsp?cw page mis fag e#wms (26.10.2007).

Canadian' Pharmacist Association, (2004): "Pharmacists and primary health care" .Canada. http://www.pharmacists .ca/content/about cpha/whats happening/cpha in action/pdf/primaryhealth2a.html,01.05.2007.

Coggen, D., Rose, G. and Parker, D. (1993): Epidemiology for the Uninitiated.

Croft, L. (1996): Management and Organization. The Chartered Institute of Bankers, London. U.K.

Cronbach, L. (1951): Coefficient alpha and the internal structure of tests. Psychometric, 16(2), pp. 297-334.

Curry, J., wakefild, D., price, J. and mueller,C. (1986): on the causal ordering of job satisfaction and organizational commitment. The Academy of Management Journal, 29, 4,847-858.

Director of Nursing in PHC, (October2009): assessing nurse's workload, interview.

Director of Nursing in MOH- PHC, (February 2010): assessing nurse's workload, interview.

Director of Nursing in UNRWA- PHC, (February 2010): assessing nurse's workload, interview.

Director of engineering and maintenance department in PHC, (January 2010): availability of instruments interview.

Directorate General of Human Resources Development 2010, workshop report Gaza Palestine.

Declaration of Almata, (1978): University of Saskatchewan, College of Medicine.

http://www.medicine.usask.ca/research/health-research-groups/primary-health-care-research-group-1/definition-of-primary-health-care

Dubois Fresney C (oct. 1993). pourquoi mesurer l activite des soins infirmiers ? Ministere des Affaires Socials, de la sante et de la ville informtions Hosoitalieres No 40.

Dwyer and fox, M. (2008): The relationship among work stressors and key performance indicators-A test of the moderating effects of control and customer service training in Call Centers . Mid west academy, USA. http://www, Midwest academy org/ proceedings/ 2004/papers/Dwyer OBPROC 106, doc. 01.01.2008.

El –Afifi M., (2008): Workload status in PHC Pharmacies in Gaza Governorates.

Erickson, B. (2008): Employee engagement creating a workplace to retain top talent. Contact Professional magazine.
htlp://www.contactprofessional.com/issues/article,asp?ID=226.0,I.O 01.10.2008.

Garson.(1999):,Reliabilityanalysis.Statisticssolutions. Inc.http://www.statisticssolutions.com/reliability-analysis.htm (28.10.2007).

Gaither, C., Nadkarni, A., Mott, D., Schommer, .J. • Doucette, W., Kreling, D. and Pedersen, C. (2007): "Should I stay or should I go? The influence of individual and organizational factors on pharmacists' future work plans ". Journal of the American Pharmacists Association, 47, 2,165.173.

Gaser, A. (2007): "Study protocol on measurement of workload and productivity of the assistant pharmacist". UNRWA. Gaza Strip.

Gaudine, AP (2000): What do Nurses Mean by workload and Work Overload? Canadian Journal of Nursing leadership, vol 13 no 2 www, acencjonl, org/13-2/overwork/html.

Grasha, A. (2001): "The causes and confusion behind dispensing errors". Canadian journal of medical technology, 55,117-118.

Hamdan, M. and Defever, M (2002): "A transitional context for health policy: development-the Palestinian case". Health policy, 59, 3,193-207.

Health and Safety Committee, (2005): Stress at work policy .U.K. http://ww.erypct.nhs.uk/upload/HERHIS/East%20Riding%20PCTs/Document%20Swtore/Polices/Stress%20at%20Policy%20Nov%2005.html,.01.12.2007.

Holm K., Liewellyn J. (1986): Nursing Research for Nursing Practice. W.B.

Holt, D. H (1987): Management, principles and practices, Englewood Cliffs, N, J Prentice–-Hall, USA.

Houang &El –Nageh, M., (1993): Principles of Management of Health Laboratories WHO, Alexandria.

Houang, L., & EL-Nageh, M., (1993): Principles of Management t of Health Laboratories WHO, Alexandria.

Hughes, M (1999): Nursing workload: on unquantifiable entity, journal of Nursing Management, 7, 317, 322.

Human Capital Alliance, (2006): Workload capacity measures for use in allied health workforce planning .Australia.

http://www.health.vic.gov.av/workforce/downloads/hcaworkmeasurers.html,01.05.07.

Hussain B., and Alam S.(2003): .Survey of Existing Health Workforce of MOH,Bangladesh, Resources for Health Development Journal (HRDJ);2 :109-116 on Line 20 July, 2009.

ICN (2004): On Line Report [Internet] 8 December, pp. 1-36, Available from: <http://www.icn.org.> on line February 2, 2004.

Institution for Safe Medication Practices (ISMP), (2004):"Educating the health care community about safe medication practices". Medication Safety Alert, 3, 4, April2004.

Isfort, M, Weidner, f (2001): Nursing Minimum Date NMD pp 105,112. www.dip.de.

Isik,U.etal.(2007):Deteriorated External Work Environment, Heavy workload and Nurses, Job Satisfaction and Turnover Intention". Canadian Public Policy.

Ito C., etal (1995): Reducing nurses'. Workload using a computerized nursing support system linked to the hospital information system available from http://www.ncbi.nlm.nih.gov/pubmed/10175454, on line 20 July 2009.

Jakson,M.and Reines,W.(2003):A Systematic approach to preventing medication errors. USA .

Jenkins - Clark, S (1992): Measuring Nursing Workload: a cautionary Tale. University of York: Centre for Health Economics.

Karen F. Griffin,(2006): "Linking nursing workload and performance indicators in ambulatory care". Nursing Economics... available from http://findarticles.com on line 20 July 2009.

Karen F. Griffin,(2008): "Linking nursing workload and performance indicators in ambulatory care". Nursing Economics. FindArticles.com. 20 July 2009. http://findarticles.com/p/articles/mi_m0FSW/is_1_24/ai_n17211982 .

Kerling, D., etal, (2006): "Community pharmacists, work environment ", journal of America Pharmacists Association, 46,3,331,-339 .

Kotila, O. (2001): Job enrichment .Vanta, Finland.

Lalonde, A, (1991-b): "The laboratory workload measurement system", Canadian Journal Of medical technology, 53, 204-106, .

Lalonde, A, (1993): "Statistics and-indicators-A manager's best friends". Canadian journal of . medical technology, 55,117-118,.London: British Medical Journal Publishing Group.

Lowe,G .(206): "Creating a quality work environment-results from the HSAA 2006work environment survey" .Graham Lowe Group INC .Canada . http://www.grahamlowe.ca/redirect.fm?file=149,1.1.2008 .

Lubbad, S, *(2006):* The effect of waste water treatment plant effluent (chemical quality) on underground water in Gaza City, Al-Quds University, Palestine.

MacDonald,M.(2003):The impact of job demands and workload on stress and fatigue ".Australian psychologist, 38,2.7.2003 .

McKeon, etal (2009): Interruptions_and_Geographic_Challenges_to_Nurses_.6. aspx

Lippincott Williams & Wilkins, Inc (2009): on line 20 July 2009, available from http://journals.lww.com/.../.

McNamra,C.(2008): Basic overview of supervision .Authenticity Consulting, LLC. Minneapolis &Toronto .(http://management help.org /supervise/.htm, 1.1.2008).

Mind Tools, (2007): Job analysis –The first step in managing job overload .Ontario, Canada. http://www.mindtools .com /pages /article/new TCS 02.html, 1.5.2007.

MOH, (2006): Health status in palestime2005, Annual Report Ministry of Health- PHC. October2006 Palestine.

MOH, (2009): Health status in Palestine, 2008 Gaza, Palestine.

Mugisha, John F. & Namaganda, Grace,(2008) Using The Workload Indicator Of Staffing Needs (WISN) Methodology To Assess Work Pressure Among The Nursing Staff Of Lacor Hospital on line 20 July 2009, available from http://www.fiuc.org/umu/faculties/hsm/healthpolicy/index.html .

n.n. Savior infirmir .Qui fait quoi ?Karnkenpflege /Soins Infirmirs 2/2000, p69 .

National Business Research Institute,(2008): " Employer of choice, Fairness". USA . http://www.nbrii.com/Employee/fairness.html 01.01.2008.

Newstorm, J. and Davis, K. (1993): Organizational Behavior. New York.

Nunnally, J., C., (1978) *Psychometric Theory*. New York Mac Graw-Hill.

Nurses Association of New Brunswick (1996): position statement on nursing workload measurement http://www.nanb.nb,ca/en/pdf publication position statements / POSITION STATEMENTS pdf /NURSING WORKLOAD MEASUREMENT E pdf.

O' Brien AJ; Abas, M, Christensen, J, Nicholis, p, Le prou, T; Hekau, A; vanderpy!,J (2002): Nursing Workload Measurement in Acute Mental Health inpatient Units. A report

for the Mental Health Research and Development strategy, Auckland: Health Research Council of New Zealand, www.hrc.govt.nz/MHR&D htm.

O, Brien- pallas, LL (1993): Review of Methodologies for Nursing Workforce planning Background paper for the Consultation on Methodologies for multi- professional policy and planning Development of Health Resources, Jakarta 1993, WHO .

Palestine, Ministry of Health (1999-2003): National Strategic Health Plan. MOH, Palestine.

Palestine, Ministry of Health (2006): Health status in Palestine: annual report 2005. "MOH, Gaza.

Palestine, Ministry of Health (2009): Annual report of PHC.2008. General Administration of PHC, Gaza.

Palestine, Ministry of Health (2009): Palestinian Health Information Center: Map of Gaza Strip MOH Palestine.

Palestinian Central Bureau of Statistics (PCBS) (2006): Demographic and Socioeconomic Status of the Palestinian People at the end of 2006. Ramallah - Palestine.

Parish, c (July 2002): Minimum effort. Nursing standard vol 16, no 42, pp 12-13.

Parmantier, c etal (Mars 1999): Levaluation de la charge de travail en soins infirmlers une demarche au service des soignants et des soignes. Le Cahier du managemet. Objectif Soins, no 73,1 ppx- xll .Pharmaceutical Journal, 134,3.

Registered Nurses Association (2005) Nursing Workload Measurement Systems - A report of Discussion of the Issues, Ontario. http://www.rnao.org/Page.asp?PageID=122&ContentID=1579&SiteNodeID=467, on line20 July 2009.

R.PSGB, (2007): Identifying and remedying pharmacist's poor performance in England and Wales-Practice and Quality improvement directorate. U.K.

Robbins, S., (1998): Organizational Behavior, 8th ed. Prentice-Hal International, Inc., USA.

Seccombe, l, Smith G (1996): In the Balance: Registered Nurse Supply and demand. Brighton: institute for Employment studies, Report 315.

Sercombe, l, Smith G (1998): Changing Times: a survey of registered nurses in 1998. Brighton: institute for Employment Studies, Report 315.

Ship, pj (1998): Workload Indicators of Staffing Need (WISN); a manual for implementation Geneva: World Health Organization.

Shipp J. peter (1998): Workload Indicators of Staffing Needs a manual for implementation. WHO Geneva.

Shomar R., (2007): Workload measurement in Governmental of PHC medical laboratories in Gaza Strip .thesis for master degree in Public Heleah Alqudes University

Smith R., (2007): Early Warning Signs –Are Your Employees Loosing Focus and Enthusiasm http: \\www.californiachronicle.com, on line oct.2007 Sounders Company: Philadelphia.

Swan, B.A., & Griffin, K.F. (2005): Measuring nursing workload in ambulatory care. Nursing Economic, 23(5), 253-260.

Swan, B.A., & Griffin, K.F. (Eds). (2005). Ambulatory care nurse staffing: An annotated bibliography. Pitman, NJ: American Academy of Ambulatory Care Nurses.

The American Association of Critical-Care Nurses AACN (2005): "AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence". American Journal of Critical Care. 14. 187-197 .

The Connexions Service National Unit, (2008): A consultation of supervision provision and training requirements across Connexions. U.K.http ://www.connexions. gov.uk/ partnership/ publications/up loads/c p/Supervisory percentage20SAkills 20%Exec%%, 01.10.2008.

UNEP (2003): Desk study on the environment in the occupied Palestinian territories Copyright c. UNEP, Geneva, Switzerland.

Unite de soins de longue Duree d'Aussillon (1997. Updated 2002): Site papidoc "Gerontologie en tnsttitution " PRN – Programme de recherché en nursing http://membres lycos fr /papidoc /36pmsiprn.html.

UNRW A, (2006): Annual Report of the Department of Health 2006. Gaza Strip.

UNRWA (2006-a) Laboratory Productivity Sheet, (2006). UNRW, Gaza.

UNRWA (2006-b): Laboratory Workload Units Sheet, (2006). UNRWA, Gaza.

Upenieks, etal (2007) Added Care Anew Way of assessing nursing availablefrom\http://journals.lww.com/jonajournal/Abstract/2007/05000/Value, on line 20 July 2009.

Vokic, N. and Bogdanic, A. (2007): Individual differences and occupational stress perceived a Croatian survey. Croatia. http://web.efzg.hr/repec/pdf/Clanac%2007-05html:01.21.2007

WHO &UNICEF, (1978). Definition-of-primary-health –care available from http://www.medicine.usask.ca/research/health-research-groups/primary-health-care-research-group-1/, on line 20 July 2009.

WHO (2003): Nursing and Midwifery workforce management .WHO, India.

WHO, WB (2003): Human resources for health. http://www.eldis.org//health system/dossiers/hr/documents/IssuePa er4.doc, OI.06.2007.

Wikipcdia. (2007b): A free content, multilingual encyclopedia written collaboratively by contributors around the world. Wikipedia foundation, Inc., USA. http://en. wikipedia.org/wiki/Job satisfaction, 01.04.2007.

Wikipedia The Free Encyclopedia (2007): Management .http:\\en.wikipedia.org\wiki\Management, (24 oct.2007).

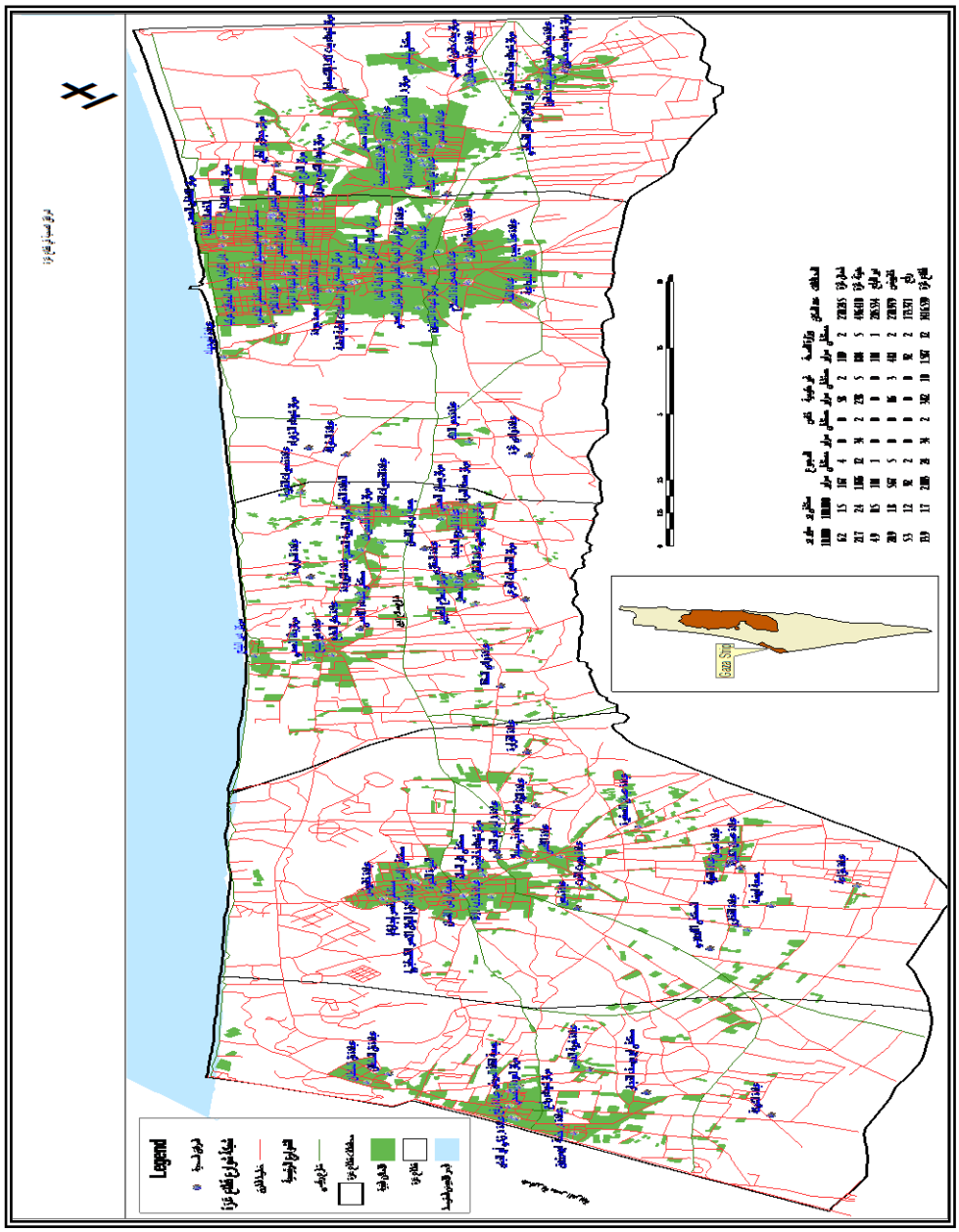
Workload Measurement System for Clinical Laboratories, Canada. http://www.thefreedictionary.com/workload On Line, 20 July 2009.

Yardly, J. (2004); Healthy employment relationships-The heart of hospitals. Faculty of Applied Health Sciences, Brock University, Ontario, Canada.

ANNEXES

ANNEX 1

Map of Gaza strip



source : Palestinian Health Information Center

ANNEX 2

An Official Letter of Request

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2009/10/28

الأخ/د. ناصر أبو شعبان المحترم
مدير عام تنمية القوى البشرية–وزارة الصحة
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالبة إبراهيم الهور

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"Workload in Nursing Station at Primary Health Care Governmental Centers in Gaza Governorates

كمتطلب للحصول على درجة الماجستير في الصحة العامة–مسار إدارة صحية و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات اللازمة من عيادات الرعاية الأولية التابعة لوزارة الصحة.
علماً بأن المعلومات ستكون متوفرة لدى الباحثة و الجامعة فقط.

و اقبلوا فائق التحية و الاحترام،،،

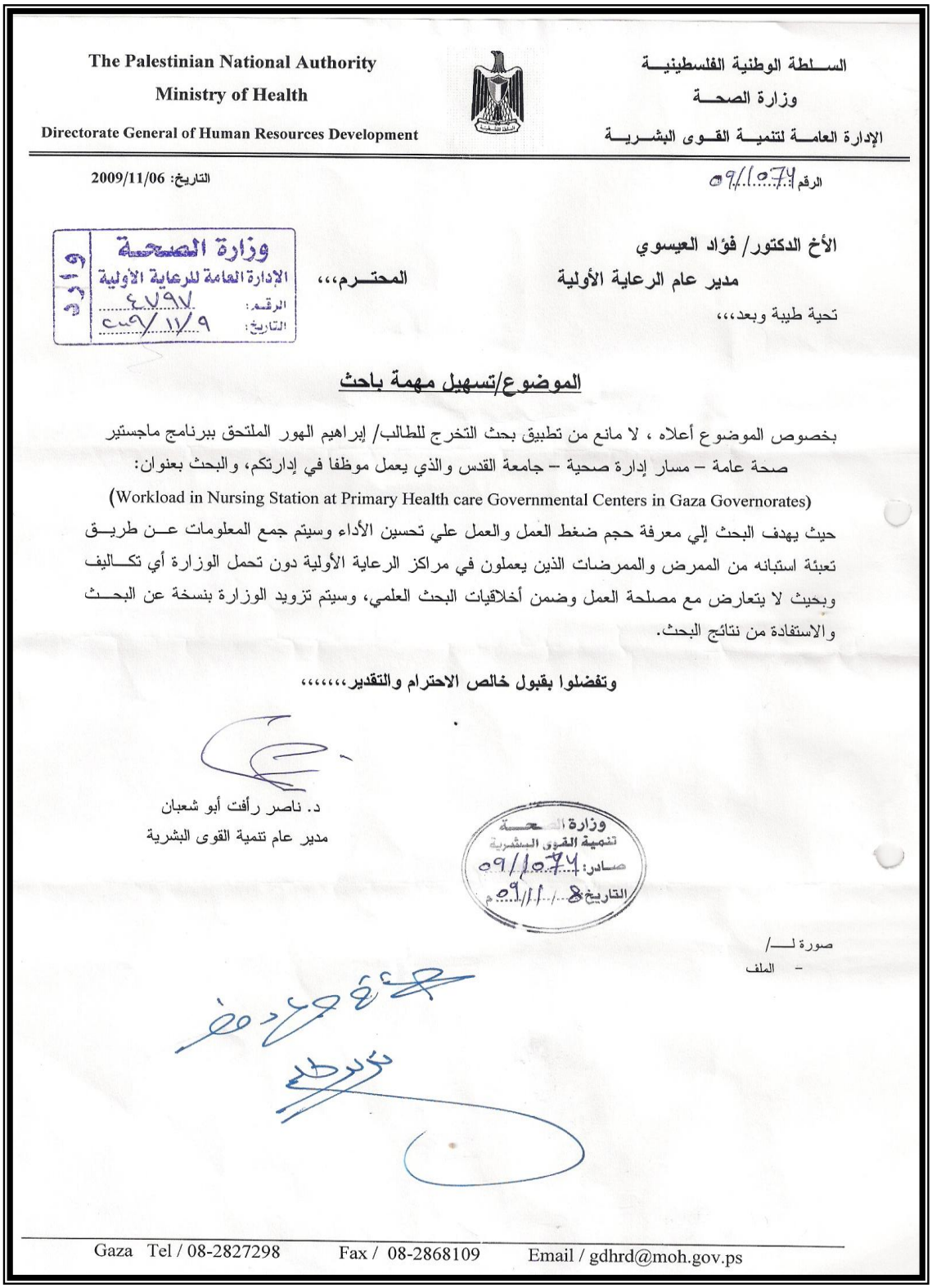
د. بسام أبو حمد
منسق عام برامج الصحة العامة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-24799234
Gaza Branch/telefax 08-2884422-2884411
Sphealth@admin.alquds.edu
فرع القدس/تلفاكس 02-2799234
فرع غزة/تلفاكس 08-2884422-2884411
ص.ب/51000-القدس

ANNEX 3

Agreement Letter from the Ministry of Health



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

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة لتنمية القوى البشرية

الرقم: 09/1074
التاريخ: 2009/11/06

وزارة الصحة
الإدارة العامة للرعاية الأولية
الرقم: ٤٧٩٧
التاريخ: ٢٠٠٩/١١/٩

الأخ الدكتور/ فؤاد العيسوي
مدير عام الرعاية الأولية
المحترم،،،

تحية طيبة وبعد،،،

الموضوع/تسهيل مهمة باحث

بخصوص الموضوع أعلاه ، لا مانع من تطبيق بحث التخرج للطالب/ إبراهيم الهور الملتحق ببرنامج ماجستير صحة عامة – مسار إدارة صحية – جامعة القدس والذي يعمل موظفا في إدارتكم، والبحث بعنوان:

(Workload in Nursing Station at Primary Health care Governmental Centers in Gaza Governorates)

حيث يهدف البحث إلي معرفة حجم ضغط العمل والعمل علي تحسين الأداء وسيتم جمع المعلومات عن طريق تعبئة استبانه من الممرض والممرضات الذين يعملون في مراكز الرعاية الأولية دون تحمل الوزارة أي تكاليف وبحيث لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، وسيتم تزويد الوزارة بنسخة عن البحث والاستفادة من نتائج البحث.

وتفضلوا بقبول خالص الاحترام والتقدير،،،،،،،

د. ناصر رأفت أبو شعبان
مدير عام تنمية القوى البشرية

وزارة الصحة
تنمية القوى البشرية
صادر: 09/1074
التاريخ: 8/11/2009

صورة لـــ/
- الملف

Gaza Tel / 08-2827298 Fax / 08-2868109 Email / gdhrd@moh.gov.ps

ANNEX 4

Helsinki Committee Approval

Palestinian National Authority
Ministry of Health
Helsinki Committee

السلطة الوطنية الفلسطينية
وزارة الصحة
لجنة هلسنكي

التاريخ2010/3/23

Name:

الاسم: ابراهيم الهور

I would like to inform you that the committee has discussed your application about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

Workload in Nursing Stations at primary Health Care Governmental Centers in Gaza Governorates.

In its meeting on March 2010

و ذلك في جلستها المنعقدة لشهر 3 2010

and decided the Following:-

و قد قررت ما يلي:-

To approve the above mention research study.

الموافقة على البحث المذكور عاليه.

Signature
توقيع

Member
عضو

Member
عضو

Chairperson

Conditions:-

- Valid for 2 years from the date of approval to start.
- It is necessary to notify the committee in any change in the admitted study protocol.
- The committee appreciate receiving one copy of your final research when it is completed.

ANNEX 5

Arabic Consent Form

وزارة الصحة

كليــة الصحــة العامــة
School of Public Health
القدس – فلسطين

جامعة القدس

نموذج موافقة على المشاركة في الدراسة

عزيزي الموظف/ة

نشكر مشاركتك بوقتك الثمين في تعبئة هذه الاستبانة ، فهذه المشاركة ستساعد في إتمام دراستي حول دراسة حجم العمل في أقسام التمريض في مراكز الرعاية الصحية الأولية الحكومية في محافظات غزة.

سيقدم هذا البحث كأطروحة لنيل درجة الماجستير في الصحة العامة – الإدارة الصحية من جامعة القدس أبو ديس.

تهدف هذه الدراسة للتعرف على حجم العمل والعوامل التي تؤثر عليه وقياساته ومحاولة تحسين انطباع التمريض تجاه حجم العمل لذلك ستساعد نتائج هذه الدراسة على تحسين العمل

مع العلم أن جميع هذه البيانات ستكون في غاية السرية وسوف يكون هناك ترميز للاستبيانات ولن تستخدم إلا لغرض الدراسة والبحث العلمي.

لمزيد من الاستفسار يمكن الاتصال على جوال رقم 0599663187

الباحث
إبراهيم الهور

توقيع المشارك

ANNEX 6

Arabic Employee's Questionnaire and Observational Checklist

استبانه

رقم الاستبانه : _____	التاريخ : _____
المركز الصحي : _____	مدينة/قرية/مخيم : _____
مستوى المركز : _____	المحافظة : _____

أ - معلومات شخصية :

1. **الجنس**

ذكر ☐ أنثى ☐

2. **العمر/السنوات:** _____

3. **الحالة الاجتماعية :**

متزوج ☐ اعزب ☐ مطلق/ة ☐ أرمل/ة ☐

4. **عدد أفراد العائلة :** _____

5. **المؤهل العلمي :**

بكالوريوس ☐ دبلوم سنتان ☐ دبلوم ثلاث سنوات ☐

دبلوم عالي ☐ ماجستير ☐ غير ذلك ☐

6. **المسمى الوظيفي :**

ممرض عملي ☐ ممرض مؤهل ☐

رئيس تمريض ☐ قابلة ☐ ممرض أسنان ☐

7. **الراتب بالشيكل :** _____

8. **سنوات الخبرة في مجال التمريض :** _____

9. **سنوات الخبرة في هذا المكان :** _____

ب. اجب عن هذه الأسئلة الخاصة بحجم العمل وعدد الموظفين

10. هل سبق أن سمعت بالتعبير (حجم العمل)

نعم ☐ لا ☐

11. مجموع العمل المنجز أو المطلوب انجازه من خلال حاصل ضرب عدد العمليات أو الإجراءات التمريضية لكل ممرض في وحدة العمل بالدقيقة أو :
العمل الموكل أو المتوقع انجازه للمرض في زمن محدد
هل توافق على هذه التعريفات :

نعم ☐ لا ☐

12. هل يمكن قياس حجم العمل :

نعم ☐ لا ☐

13. هل هناك معيار لقياس حجم العمل في المركز عندك ؟

نعم ☐ لا ☐

إذا كانت الإجابة لا انتقل إلى سؤال 15

14. هل تعرف هذا المعيار

نعم ☐ لا ☐

15. هل تلقيت أثناء دراستك منهاجا دراسيا بخصوص إدارة التمريض

نعم ☐ لا ☐

16. هل تلقيت أثناء عملك أي دورات تدريبية في مجال الرعاية الأولية ؟

نعم ☐ لا ☐

إذا كانت الإجابة لا انتقل إلى سؤال 20

17. كم عدد هذه الدورات ومدتها ؟ _____

18. هل تلقيت دورات تدريبية في مجال تمريض الرعاية الأولية بعد التخرج ؟

نعم ☐ لا ☐

إذا كانت الإجابة لا انتقل إلى سؤال 20

19. كم عدد هذه الدورات ومدتها ؟ _____

20. هل تعاني من ضغط العمل

نعم ☐ لا ☐

إذا كانت الإجابة لا انتقل إلى سؤال 34 وذا كانت نعم ضع علامة × امام السبب من سؤال 21 الي 33 (يمكن الاشارة الي اكثر من سبب)

العوامل:

21. نقص الموظفين

نعم ☐ لا ☐

22. عدم ملائمة نظام الترقيات

نعم ☐ لا ☐

23. عدم ملائمة نظام المواعيد

نعم ☐ لا ☐

24. نقص في الموارد

نعم ☐ لا ☐

25. زيادة الأعمال المكتبية

نعم ☐ لا ☐

26. زيادة كثافة العمل

نعم ☐ لا ☐

27. عطل متكرر في الأجهزة

نعم ☐ لا ☐

28. عدم ملائمة بيئة العمل

نعم ☐ لا ☐

29. تطبيق برامج تطوير الجودة

نعم ☐ لا ☐

30. عدم تقدير العمل من الزملاء

نعم ☐ لا ☐

31. عدم وجود وصف وظيفي واضح

نعم ☐ لا ☐

32. نقص المهارات

نعم ☐ لا ☐

33. إذا كان يوجد عوامل أخرى تعود إلى حجم العمل الرجاء ذكرها

ج . العوامل البيئية :

34. هل هناك كتيب للسلامة في المركز

نعم ☐ لا ☐ لا اعرف ☐

35. هل تلقيت أي دورات تدريبية بخصوص السلامة

نعم ☐ لا ☐

إذا كانت الإجابة لا انتقل إلى سؤال 37

36. كم عدد هذه الدورات ومدتها _____

رجاء أشر بعلامة × إلى ردك على البيانات التالية

		موافق بشدة	موافق	لا ادري	غير موافق	غير موافق بشدة
	أهمية قياس حجم العمل					
37.	يعتبر قياس حجم العمل ضروري لإدارة التمريض					
38.	يعتبر قياس حجم العمل ضروري عند اتخاذ قرارات بشأن عدد الموظفين وتوزيعهم					
39.	ليست هناك حاجة لوجود معيار خاص لقياس العمل					
	حجم العمل الحالي					
40.	هل تعتقد انك تعاني من زيادة حجم العمل					
41.	هل تعتقد أن زملائك في المركز يعانون من زيادة حجم العمل					
42.	هل تعتقد أن زملائك في المراكز الأخرى يعانون من زيادة حجم العمل					
	القرارات المتخذة بشأن عدد وتوزيع التمريض					
43.	القرارات المتخذة بشأن عدد وتوزيع التمريض في القسم موضوعية					
44.	عدد الموظفين وتوزيعهم عادل					
45.	القرارات المتخذة بشأن عدد وتوزيع التمريض في القسم شفافة					
46.	يعتمد اتخاذ القرارات بشأن عدد وتوزيع التمريض على الخدمات والأنشطة المطلوبة					
	التواصل مع الإدارة					
47.	يقوم مديري بإعلامي بخططه قبل أن يتخذ أي قرار بشأن عدد وتوزيع الموظفين					
48.	يقوم المدير بإعطاء تفسير واضح للطريقة المستخدمة عند تحديد عدد وتوزيع الموظفين					
49.	يسمح لي مديري بمناقشة المواضيع الخاصة بتوزيع الموظفين					
	بيئة العمل					

.50	مكان عملي آمن					
.51	مكان عملي صحي					
.52	مكان عملي مريح					
.53	مكان عملي نظيف					
.54	مكان عملي مكيف					
.55	مساحة مكان عملي مناسبة					
	صيـانـــة الأجـهـــزة					
.56	عند استدعاء مهندسين الصيانة لإصلاح أي عطل تكون الاستجابة سريعة					
.57	هناك صيانة دورية للأجهزة والمعدات من قبل قسم الصيانة					
.58	الأجهزة والمعدات المستخدمة في القسم بحالة جيدة					

59. اذكر أكثر ما يعجبك في القسم :

_____

_____

60. اذكر أكثر ما لا يعجبك في القسم :

_____

_____

12. لو كنت المسئول ما هي القرارات ذات الأولوية التي ستتخذها ؟

_____

_____

_____

شكرا لتعاونكم

استمارة الملاحظات

رقم الاستبانه : _____	التاريخ : _____
المركز الصحي : _____	القسم : _____
مستوى المركز : _____	المحافظة : _____

1. الموظفون :

رقم مسلسل	الاســـــــــــــم	الجنس	المؤهل العلمي	التـخـــصـــص	المسمى الوظيفي

2. العمليات التمريضية :

الرقم	العملية	عدد الممرضين العاملين	الوقت الملاحظ لإجراء كل عملية لكل ممرض	عدد الحالات في السنة
1.	قسم التطعيمات			
2.	رعاية الحوامل			
3.	تنظيم الأسرة			
4.	الأمراض غير المعدية			
4.1	السكري			
4.2	الضغط			
5	الغيار			
6	التبخيرة			
7	الحقن			

الادوات

هل الادوات كافية ؟

نعم ☐ لا ☐

هل الادوات مناسبة؟

نعم ☐ لا ☐

هل الادوات متوفرة؟

نعم ☐ لا ☐

هل الادوات بحالة جيدة؟

نعم ☐ لا ☐

4. قسم التمريض :

هل هناك مساحة كافية لكل من :

مكان العمل : نعم ☐ لا ☐

مكان التسجيل نعم ☐ لا ☐

مكان الادوات والاجهز نعم ☐ لا ☐

هل القسم مكيف

نعم ☐ لا ☐

هل هناك كتيب للسلامة

نعم ☐ لا ☐

هل يتم فصل النفايات الطبية عن العادية

نعم ☐ لا ☐

هل توجد صناديق للنفايات الطبية الحادة

نعم ☐ لا ☐

5. نظام التسجيل

التسجيل اليدوي ☐

باستخدام الحاسوب ☐

الطريقتين معا ☐

6. التواصل مع الإدارة

مباشرة ☐

باستخدام الهاتف ☐

باستخدام الفاكس ☐

باستخدام المحمول ☐

باستخدام الشبكة الالكترونية ☐

7. الملخص

أدرج أهم المشاكل الملاحظة أثناء زيارتك

_____

_____

اسم الشخص الذي أتم تعبئة الاستبانة

_____

التوقيع : _____ **التاريخ:**_____

ANNEX 7

INFORMED CONSENT FORM

جامعة القدس

وزارة الصحة

كليــة الصحــة العامــة

School of Public Health

القدس – فلسطين

INFORMED CONSENT FORM

Dear Participant: **Date:** ----------

Thank you for taking a few minutes to complete this form .Your help will assist me in the accomplishment of my study about workload in nursing stations at primary health Care governmental centers in Gaza governorates.

This study is for the partial fulfillment of the master degree in public health management requirement from AL-Quds University, school of public health-Palestine

The purpose of this study is to identify workload status, its main dimensions factors affecting it, measurement, and how the perceptions about workload can be improved, so the information from this study could help to improve work process.

Participation in research is voluntary; you have the right to refuse to be in this study.

I would like to assure you that the information will be confidential and the questionnaire will be coded. The information will be used for scientific purpose.

In case you want to know, more about this study call me at Mob .No.0599663187.

Thank you for your cooperation

Subject Signature **Investigator**

---------- **Ibraheim Al Hour**

ANNEX 8

Employee's Questionnaire and Observational Checklist

Staff questionnaire

Serial No._____	**Date:_____**
Health Center :_____	**City / Village / Camp:** _____
Center level :_____	**Governorate:_____**

A. Identification:-

1. Gender

☐ Male ☐ Female

2. Age /Years: _____

3. Marital Status

☐ Married ☐ Single ☐ Divorced ☐ Widow

4. Number of Family Members: _____

5. Qualification:

☐ Two years Diploma ☐ Three years Diploma ☐ Bachelor

☐ High Diploma ☐ Master Degree ☐ Other

6. Job Title:

☐ Practical Nurse ☐ Staff Nurse

☐ Head Nurse ☐ Midwife ☐ Dental Nurse

7. Salary / NIS :_____

8. Experience Years in Field of Nursing: _____

9.Years of experience in this Place :_____

B. Staffing Level

10. Have you ever heard about the term workload?

☐ Yes ☐ No

11. Workload is defined as: The sum of the work achieved or to be achieved, obtained by multiplying the raw count of each individual procedure by its unit value expressed in units (minutes),

or the amount of work assigned to or expected from a worker in a specified time period. Do you agree for these statements?

☐ Yes ☐ No

12. Could workload be measured? ☐Yes ☐No

13. Is there a workload measurement standard in your field?

☐ Yes ☐ No

If no go to question No.15

14. Do you know this standard ☐ Yes ☐ No

15. Did you receive any courses about nursing management during your studies?

☐ Yes ☐ No

16. Did you receive any training courses in the field of primary health care?

☐ Yes ☐ No

If no go to question No.20.

17. Number of these courses and duration _____

18. Did you receive any training courses about PH nursing after graduation?

☐ Yes ☐ No

If no go to question No.20.

19. Number of these courses and duration _____

20. Are you work loaded.

☐ Yes ☐ No

If no go to question No .34. If yes indicate the factors that attribute to workload From question 21 to question 33

Factors:-

21. Inadequate staff
☐ Yes ☐ No

22. Improper promotion system
☐ Yes ☐ No

23. Improper appointment system
☐ Yes ☐ No

24. Lack of resources
☐ Yes ☐ No

25. Increasing paperwork
☐ Yes ☐ No

26. Increasing intensity of work
☐ Yes ☐ No

27. Frequent equipments failure
☐ Yes ☐ No

28. Improper working environment
☐ Yes ☐ No

29. Implementing QA program
☐ Yes ☐ No

30. Work neglected by my colleges
☐ Yes ☐ No

31. Absence of clear job description
☐ Yes ☐ No

32. Lack of skills
☐ Yes ☐ No

33. If other things contributed to your over workload please specify

---

C. Environmental Factors:

34. Is there a safety handbook in your nursing field?
☐ Yes ☐ No ☐ Don t Know

35. Do you receive any training course about safety?
☐ Yes ☐ No

If no go to question No.37

36. Number of courses you received and duration _____

Please indicate your response to the following statements

		Strongly disagree	disagree	Neither Agree nor disagree	Agree	Strongly Agree
	Managerial Essentiality					
37.	Workload measurement is essential for nursing management					
38.	Workload measurement is essential for making decisions about staffing level and distribution					
39.	There is no need to have workload measurement standard					
	Existing workload					
40.	Do you believe that you are work loaded?					
41.	Do you believe that other staff in your nursing field are work loaded ?					
42.	Do you believe that other nursing staff in other PHC centers are work loaded?					
	Staffing decisions					
43.	Decisions about staffing level and distribution are made objectively in our nursing station.					
44.	Staffing level and distribution in our nursing station fair .					
45.	Staffing level and distribution decisions are transparent.					
46.	Staffing level and distribution based on the activities and services required.					
	Communication with management					
47.	Before staffing decision, my manager informs us about his\her plans.					
48.	When my manager makes a decision about staffing level or distribution, he\she gives an explanations about the					

	selection method used.					
49.	I'm able to discuss staffing related issues with my manager.					
	Nursing station environment					
50.	My workplace is safe.					
51.	My workplace is healthy.					
52.	My workplace is comfortable.					
53.	My workplace is clean					
54.	I'm working at a temperature-controlled workplace.					
55.	My nursing station has sufficient working area					
	Maintenance of instrument					
56.	Engineers in the maintenance department respond rapidly upon their notification					
57.	Equipments and instruments are regularly maintained by maintenance department.					
58.	Equipments and instruments in my department are in good condition.					

Things you like in your nursing station:-

_____
_____
_____

Things you dislike in your nursing station:-

_____
_____
_____

If you were in charge what is your first priority decisions?

_____
_____
_____
_____

Thanks for your cooperation

Observational Checklist

Serial No._____ Date:_____

Health Center :_____ **Station :**_____

Center level :_____ Governorate:_____

1. Personnel:

S.No.	Name	sex	Qualification	Specification	Job title

2. Procedures performed by nurses:

S.No.	Procedures	Number of nurses performed	Observed time for each Procedure by every nurse	Number of cases/ year
1.	Immunization(MCH)			
2.	Antenatal care (ANC)			
3.	Family planning (FP)			
4.	Non Communicable disease (NCD)			
4.1	Diabetes mellitus (D.M)			
4.2	Hyper tension			
5	Dressing			
6	Injection			
7	nubulizer			

3. Instruments:

1. Is the instrument sufficient?

☐ Yes ☐ No

2. Is the instrument available?

☐ Yes ☐ No

3. Is the instrument applicable?

☐ Yes ☐ No

4 .Is the instrument in a good condition?

☐ Yes ☐ No

4. Nursing station:

Does the nursing station have sufficient?

Working area	☐ Yes	☐ No
Recording area	☐ Yes	☐ No
Area for instruments	☐ Yes	☐ No

Is their an air condition?

☐ Yes ☐ No

Is there a safety handbook?

☐ Yes ☐ No

Is Medical waste separated from domestic waste?

☐Yes ☐ No

Is there sharp boxes?

☐Yes ☐ No

5. Recording system:

☐ Manual
☐ Computerized
☐ Mixed

6. Communication:

☐ Direct
☐ Phone
☐ Fax
☐ Mob
☐ Net

7. On – Site Evaluation Summary

List any major problems identified during the on – site visit:

Name of person completing on – site evaluation:

_____

Signature: _____ Date: _____

ANNEX 9

Request for Evaluation and controlling Questioner

السيد / د ________________________________ المحترم

الموضوع / لجنة تحكيم للتحقق من صحة الاستبيان

أرجو من سيادتكم التكرم وإبداء حكمكم الكريم حول أسئلة الاستبانة، لإضافة أو تعديل أو حذف أي سؤال وحسب ما ترونه مناسباً مع العلم أنني طالب دراسات عليا في كلية الصحة العامة – جامعة القدس (أبو ديس).

وإلى حضرتكم :

1- Title of the study:

Workload in Nursing Stations at primary Health Care Governmental Centers in Gaza Governorates

2- Overall objectives:

The purpose of this study is to identify workload status, its main dimensions factors affecting it, measurement, and how the perceptions about workload can be improved,

3- Objectives of the study:

1. To assess the status of the workload that nurses experience at their workstations.
2. To recognize the factors affecting nurses workload.
3. To determine workload unit values for nursing care services at their field
4. To explore the perceptions of nurses in the PHC nursing stations about their workload
5. To provide the decisions makers with helpful recommendations

Thanks for your cooperation

Student:-
Ibraheim Al Hour

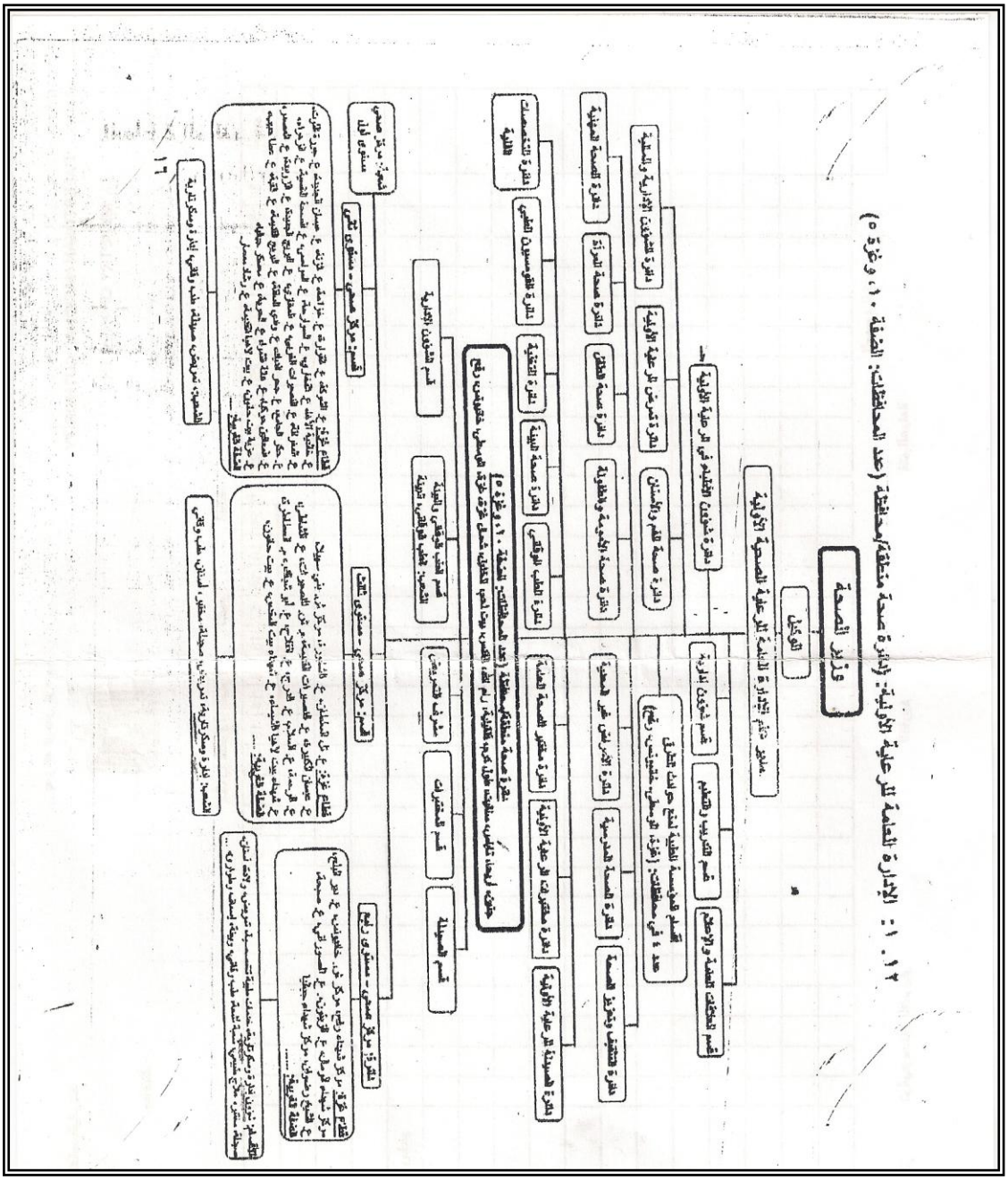
ANNEX 10

Names of Experts

Dr. Yehia Abed	Al-Quds University
Dr. Bassam Abu Hamad	Al-Quds University
Dr, Yusif Al Jeish	Islamic University
Dr. Fuad El Aisawi	MOH General Director of PHC
Dr. Hamza Abed Al Jawwad	Palestinian College of Nursing
Mr.Khalil Abu Shuaib	Palestinian College of Nursing
Mr. Yusif Awad	Palestinian College of Nursing
Mr. Jehad Al Hattab	Palestinian College of Nursing
Mr. Ali Al Khatib	University College of Applied Science
Mr.Muhamed Abu Jaber	University College of Applied Science
Mr. Jehad Mater	MOH Director of nursing in PHC

ANNEX 11

Organizational Chart in PHC



Source: General Administration of PHC –MOH

ANNEX 12

Key of Al Jalil (International standard)

دولـــة فلسطيـــن
وزارة الصحـــة
الإدارة العامة للرعاية الأولية

التقرير السنوي الشامل للعام2002
لأعمال الإدارة العامة للرعاية الأولية

المطلوب من القوى العاملة حسب المفتاح العالمي للسكان

المنطقة الشمالية

عدد السكان 222344 نسمة المفتاح لكل 5000 نسمة

	المفتاح	المطلوب حسب المفتاح	الموجود	عجز	زيادة	نسبة التغطية
أطباء بشريين	1.25	56	32	24		58%
أطباء أسنان	0.25	11	11	0		99%
فنيين وصيدلة	1.5	67	36	31		54%
تمريض	2	89	46	43		52%
إداريين وعمال	2	89	40	49		45%
		311	**165**	**146**	**-146**	**53%**

Source: General Administration of Human Resource Development

ANNEX 13 (a)

Response of domains with Governorates

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Managerial Essentially**					
	North	10	3.77	0.57	1.058	0.382
	Gaza	46	3.93	0.89		
	Mid Zone	16	3.98	0.33		
	Khanyounis	9	4.26	0.40		
	Rafah	10	3.63	0.53		
	Total	**91**	**3.92**	**0.71**		
2.	**Existing workload**					
	North	10	3.97	0.19	3.985	0.005
	Gaza	46	3.38	0.69		
	Mid Zone	16	3.25	0.41		
	Khanyounis	9	3.56	0.47		
	Rafah	10	3.93	0.73		
	Total	**91**	**3.50**	**0.64**		
3.	**Staffing decisions**					
	North	10	3.88	0.27	4.070	0.005
	Gaza	46	3.32	0.70		
	Mid Zone	16	3.58	0.27		
	Khanyounis	9	3.61	0.45		
	Rafah	10	2.93	0.72		
	Total	**91**	**3.41**	**0.63**		
4.	**Communication with management**					
	North	10	3.73	0.38	2.619	0.040
	Gaza	46	3.30	0.89		
	Mid Zone	16	3.83	0.37		
	Khanyounis	9	3.19	0.56		
	Rafah	10	3.10	0.85		
	Total	**91**	**3.41**	**0.77**		
5.	**Nursing station**					
	North	10	2.67	0.74	2.800	0.031
	Gaza	46	3.24	0.58		

ANNEX 13 (b)

Response of domains with governorates

Sn.	Items	No.	Mean	Std	F	Sig.
5.	**Nursing station**					
	Mid Zone	16	2.91	0.56		
	Khanyounis	9	3.07	0.41		
	Rafah	10	3.17	0.16		
	Total	**91**	**3.10**	**0.58**		
6.	**Maintenance of instrument**					
	North	10	2.80	0.45	1.572	0.189
	Gaza	46	2.76	0.89		
	Mid Zone	16	3.21	0.40		
	Khanyounis	9	2.56	0.88		
	Rafah	10	2.63	0.48		
	Total	**91**	**2.81**	**0.76**		
	Total of domains					
	North	10	3.38	0.21	0.405	**0.804**
	Gaza	46	3.31	0.47		
	Mid Zone	16	3.39	0.24		
	Khanyounis	9	3.34	0.29		
	Rafah	10	3.21	0.27		
	Total	**91**	**3.32**	**0.38**		

ANNEX 14 (a)

Response of domains with stations

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Managerial Essentially**					
	ANC	15	3.82	0.72	1.563	0.168
	MCH	28	4.13	0.58		
	FP	6	3.28	1.12		
	NCD	8	4.08	0.66		
	DM	4	4.08	0.69		
	Dressing	**23**	**3.93**	**0.66**		
	Dental	5	3.73	0.55		
	Total	**89**	**3.94**	**0.69**		
2.	**Existing workload**					
	ANC	15	3.42	0.67	0.521	0.791
	MCH	28	3.58	0.60		
	FP	6	3.33	0.60		
	NCD	**8**	**3.33**	**0.69**		
	DM	4	3.58	0.50		
	Dressing	23	3.59	0.77		
	Dental	5	3.20	0.38		
	Total	**89**	**3.50**	**0.65**		
3.	**Staffing decisions**					
	ANC	15	3.33	0.74	1.507	0.186
	MCH	**28**	**3.69**	**0.33**		
	FP	6	3.46	0.84		
	NCD	8	3.22	0.60		
	DM	4	3.31	1.03		
	Dressing	23	3.22	0.71		
	Dental	5	3.50	0.40		
	Total	**89**	**3.42**	**0.63**		
4.	**Communication with management**					
	ANC	15	3.20	0.85	1.611	0.155
	MCH	28	3.75	0.49		
	FP	6	3.11	0.81		
	NCD	8	3.33	1.13		
	DM	4	3.25	0.88		
	Dressing	**23**	**3.39**	**0.76**		
	Dental	5	3.00	0.78		
	Total	**89**	**3.42**	**0.76**		
5.	**Nursing station**					
	ANC	15	3.13	0.66	0.657	0.684
	MCH	28	3.23	0.56		

ANNEX 14 (b)

Response of domains with stations

Sn.	Items	No.	Mean	Std	F	Sig.
5.	**Nursing station**					
	FP	6	3.25	0.57		
	NCD	8	3.06	0.31		
	DM	4	3.08	0.67		
	Dressing	23	2.99	0.61		
	Dental	5	2.80	0.69		
	Total	**89**	**3.10**	**0.58**		
6.	**Maintenance of instrument**					
	ANC	15	2.73	0.81	1.584	0.162
	MCH	28	3.08	0.66		
	FP	6	2.33	0.87		
	NCD	8	2.54	0.71		
	DM	4	3.00	0.47		
	Dressing	23	2.81	0.85		
	Dental	5	2.33	0.62		
	Total	**89**	**2.81**	**0.77**		
	Total of domains					
	ANC	15	3.26	0.47	2.503	0.028
	MCH	28	3.53	0.22		
	FP	6	3.16	0.43		
	NCD	8	3.23	0.34		
	DM	4	3.34	0.36		
	Dressing	23	3.27	0.39		
	Dental	5	3.07	0.37		
	Total	**89**	**3.33**	**0.37**		

ANNEX 15

Response of domains with Qualifications

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Managerial Essentially**					
	Two Years Diploma	35	3.71	0.61	3.159	0.047
	Three years Diploma	20	3.90	0.74		
	Bachelor	36	4.13	0.75		
	Total	**91**	**3.92**	**0.71**		
2.	**Existing workload**					
	Two Years Diploma	35	3.40	0.70	0.664	0.517
	Three years Diploma	20	3.57	0.54		
	Bachelor	36	3.56	0.64		
	Total	**91**	**3.50**	**0.64**		
3.	**Staffing decisions**					
	Two Years Diploma	35	3.53	0.48	2.074	0.132
	Three years Diploma	20	3.18	0.83		
	Bachelor	36	3.43	0.61		
	Total	**91**	**3.41**	**0.63**		
4.	**Communication with management**					
	Two Years Diploma	35	3.54	0.69	0.847	0.432
	Three years Diploma	20	3.35	0.78		
	Bachelor	36	3.31	0.84		
	Total	**91**	**3.41**	**0.77**		
5.	**Nursing station**					
	Two Years Diploma	35	2.93	0.56	2.304	0.106
	Three years Diploma	20	3.18	0.52		
	Bachelor	36	3.20	0.61		
	Total	**91**	**3.10**	**0.58**		
6.	**Maintenance of instrument**					
	Two Years Diploma	35	2.76	0.76	0.192	0.825
	Three years Diploma	20	2.78	0.80		
	Bachelor	36	2.87	0.75		
	Total	**91**	**2.81**	**0.76**		
	Total of domains					
	Two Years Diploma	35	3.27	0.35	0.902	0.409
	Three years Diploma	20	3.30	0.40		
	Bachelor	36	3.39	0.40		
	Total	**91**	**3.32**	**0.38**		

ANNEX 16 (a)

Response of Domains with Job Title

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Managerial Essentially**					
	Practical Nurse	25	3.71	0.63	2.226	0.073
	Staff Nurse	46	4.13	0.61		
	Head Nurse	4	3.83	1.26		
	Midwife	10	3.63	1.02		
	Dental Nurse	5	3.67	0.47		
	Total	**90**	**3.92**	**0.72**		
2.	**Existing workload**					
	Practical Nurse	25	3.52	0.74	0.521	0.720
	Staff Nurse	46	3.55	0.64		
	Head Nurse	4	3.42	0.32		
	Midwife	10	3.33	0.61		
	Dental Nurse	5	3.20	0.38		
	Total	**90**	**3.49**	**0.64**		
3.	**Staffing decisions**					
	Practical Nurse	25	3.50	0.55	0.358	0.838
	Staff Nurse	46	3.39	0.64		
	Head Nurse	4	3.19	0.55		
	Midwife	10	3.30	0.93		
	Dental Nurse	5	3.50	0.40		
	Total	**90**	**3.41**	**0.63**		
4.	**Communication with management**					
	Practical Nurse	25	3.61	0.69	1.146	0.341
	Staff Nurse	46	3.41	0.81		
	Head Nurse	4	3.00	0.86		
	Midwife	10	3.20	0.69		
	Dental Nurse	5	3.07	0.86		
	Total	**90**	**3.40**	**0.77**		
5.	**Nursing station**					
	Practical Nurse	25	3.08	0.60	2.080	0.091
	Staff Nurse	46	3.22	0.50		
	Head Nurse	4	3.08	0.52		
	Midwife	10	3.05	0.50		
	Dental Nurse	5	2.53	0.38		
	Total	**90**	**3.12**	**0.54**		
6.	**Maintenance of instrument**					
	Practical Nurse	25	2.77	0.83	1.297	0.278
	Staff Nurse	46	2.95	0.74		

ANNEX 16 (b)

Response of Domains with Job Title

Sn.	Items	No.	Mean	Std	F	Sig.
6.	**Maintenance of instrument**					
	Head Nurse	4	2.83	0.69		
	Midwife	10	2.40	0.77		
	Dental Nurse	5	2.53	0.51		
	Total	**90**	**2.81**	**0.76**		
	Total of domains					
	Practical Nurse	25	3.33	0.36	2.077	0.091
	Staff Nurse	46	3.41	0.38		
	Head Nurse	4	3.20	0.45		
	Midwife	10	3.15	0.36		
	Dental Nurse	5	3.03	0.29		
	Total	**90**	**3.33**	**0.38**		

ANNEX 17

Workload Unit value by Governorates

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Observed time**					
	North	10	12.50	6.02	2.933	0.026
	Gaza	44	10.35	5.86		
	Mid Zone	13	5.62	2.22		
	Khanyounis	9	7.67	3.20		
	Rafah	10	10.32	7.47		
	Total	86	9.60	5.74		
2.	**Calculated clients per hours**					
	North	5.94	8.84	2.79	1.652	0.169
	Gaza	3.14	1.81	0.27		
	Mid Zone	5.08	1.84	0.51		
	Khanyounis	3.83	1.74	0.58		
	Rafah	3.75	3.88	1.23		
	Total	**3.90**	**3.65**	**0.39**		

ANNEX 18

Workload Unit value by Station

Sn.	Items	No.	Mean	Std	F	Sig.
1.	**Observed time**					
	ANC	15	8.60	5.53	1.505	0.187
	MCH	28	11.16	5.05		
	FP	6	5.53	2.07		
	NCD	8	7.13	3.09		
	DM	4	10.00	4.00		
	Dressing	23	10.57	7.53		
	Dental	2	5.50	3.54		
	Total	86	9.60	5.74		
2.	**Calculated clients per hours**					
	ANC	15.00	3.62	2.60	1.301	0.266
	MCH	28.00	3.73	5.41		
	FP	6.00	2.72	2.19		
	NCD	8.00	6.23	2.56		
	DM	4.00	5.98	2.17		
	Dressing	23.00	3.78	1.66		
	Dental	2.00	0.00	0.00		
	Total	**86.00**	**3.90**	**3.65**		

ANNEX 19

Perception of Employees towards Workload Domains

Domains	Mean	MD	SD
Existing workload	3.50	3.67	0.64
Managerial Essentiality	3.92	4	0.71
Staffing decisions	3.41	3.50	0.63
Communication with management	3.41	3.67	0.77
Nursing station environment	3.10	3.17	0.58
Maintenance of instrument	2.81	3.00	0.76

ANNEX 20 (a)

Post HOC Test: Responses of Domains with Governorates

Dependent Variable	(I) GOV	(J) GOV	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
EXISTING	North	Gaza	.5899	.21013	.062	-.0156	1.1953
		Mid Zone	.7167(*)	.24277	.041	.0172	1.4161
		Khanyounis	.4111	.27671	1.000	-.3862	1.2084
		Rafah	.0333	.26933	1.000	-.7427	.8093
	Gaza	North	-.5899	.21013	.062	-1.1953	.0156
		Mid Zone	.1268	.17479	1.000	-.3768	.6304
		Khanyounis	-.1787	.21951	1.000	-.8112	.4537
		Rafah	-.5565	.21013	.096	-1.1619	.0489
	Mid Zone	North	-.7167(*)	.24277	.041	-1.4161	-.0172
		Gaza	-.1268	.17479	1.000	-.6304	.3768
		Khanyounis	-.3056	.25093	1.000	-1.0286	.4174
		Rafah	-.6833	.24277	.061	-1.3828	.0161
	Khanyounis	North	-.4111	.27671	1.000	-1.2084	.3862
		Gaza	.1787	.21951	1.000	-.4537	.8112
		Mid Zone	.3056	.25093	1.000	-.4174	1.0286
		Rafah	-.3778	.27671	1.000	-1.1750	.4195
	Rafah	North	-.0333	.26933	1.000	-.8093	.7427
		Gaza	.5565	.21013	.096	-.0489	1.1619
		Mid Zone	.6833	.24277	.061	-.0161	1.3828
		Khanyounis	.3778	.27671	1.000	-.4195	1.1750
STAFFING	North	Gaza	.5543	.20642	.087	-.0404	1.1491
		Mid Zone	.2969	.23848	1.000	-.3903	.9840
		Khanyounis	.2639	.27182	1.000	-.5193	1.0471
		Rafah	.9500(*)	.26457	.005	.1877	1.7123
	Gaza	North	-.5543	.20642	.087	-1.1491	.0404
		Mid Zone	-.2575	.17171	1.000	-.7522	.2373
		Khanyounis	-.2905	.21563	1.000	-.9117	.3308
		Rafah	.3957	.20642	.586	-.1991	.9904
	Mid Zone	North	-.2969	.23848	1.000	-.9840	.3903
		Gaza	.2575	.17171	1.000	-.2373	.7522
		Khanyounis	-.0330	.24650	1.000	-.7432	.6772
		Rafah	.6531	.23848	.075	-.0340	1.3403
	Khanyounis	North	-.2639	.27182	1.000	-1.0471	.5193
		Gaza	.2905	.21563	1.000	-.3308	.9117
		Mid Zone	.0330	.24650	1.000	-.6772	.7432
		Rafah	.6861	.27182	.134	-.0971	1.4693
	Rafah	North	-.9500(*)	.26457	.005	-1.7123	-.1877
		Gaza	-.3957	.20642	.586	-.9904	.1991
		Mid Zone	-.6531	.23848	.075	-1.3403	.0340
		Khanyounis	-.6861	.27182	.134	-1.4693	.0971

ANNEX 20 (b)

Post HOC Test: Responses of Domains with Governorates

Dependent Variable	(I) GOV	(J) GOV	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
NURSING	North	Gaza	-.5761(*)	.19404	.039	-1.1352	-.0170
		Mid Zone	-.2396	.22419	1.000	-.8855	.4064
		Khanyounis	-.4074	.25553	1.000	-1.1437	.3288
		Rafah	-.5000	.24871	.475	-1.2166	.2166
	Gaza	North	.5761(*)	.19404	.039	.0170	1.1352
		Mid Zone	.3365	.16141	.401	-.1286	.8016
		Khanyounis	.1687	.20271	1.000	-.4154	.7527
		Rafah	.0761	.19404	1.000	-.4830	.6352
	Mid Zone	North	.2396	.22419	1.000	-.4064	.8855
		Gaza	-.3365	.16141	.401	-.8016	.1286
		Khanyounis	-.1678	.23173	1.000	-.8355	.4998
		Rafah	-.2604	.22419	1.000	-.9064	.3855
	Khanyounis	North	.4074	.25553	1.000	-.3288	1.1437
		Gaza	-.1687	.20271	1.000	-.7527	.4154
		Mid Zone	.1678	.23173	1.000	-.4998	.8355
		Rafah	-.0926	.25553	1.000	-.8288	.6437
	Rafah	North	.5000	.24871	.475	-.2166	1.2166
		Gaza	-.0761	.19404	1.000	-.6352	.4830
		Mid Zone	.2604	.22419	1.000	-.3855	.9064
		Khanyounis	.0926	.25553	1.000	-.6437	.8288

ANNEX 21

Post HOC Test: Responses of Domains with Qualifications

Dependent Variable	(I) Q05	(J) Q05	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
MANAGE	Two Years Diploma	Three years Diploma	-.1857	.19544	1.000	-.6627	.2913
		Bachelor	-.4153(*)	.16551	.042	-.8193	-.0114
	Three years Diploma	Two Years Diploma	.1857	.19544	1.000	-.2913	.6627
		Bachelor	-.2296	.19445	.722	-.7042	.2450
	Bachelor	Two Years Diploma	.4153(*)	.16551	.042	.0114	.8193
		Three years Diploma	.2296	.19445	.722	-.2450	.7042

ANNEX 22

Post Hoc Tests Factors of workload with Governorates

Multiple Comparisons

Dependent Variable: WORKLOAD

Bonferroni

(I) GOV	(J) GOV	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
North	Gaza	1.5261	1.00419	1.000	-1.3673	4.4194
	Mid Zone	3.4500*	1.16019	.038	.1072	6.7928
	Khanyounis	.9778	1.32238	1.000	-2.8324	4.7879
	Rafah	1.9000	1.28711	1.000	-1.8085	5.6085
Gaza	North	-1.5261	1.00419	1.000	-4.4194	1.3673
	Mid Zone	1.9239	.83533	.237	-.4829	4.3307
	Khanyounis	-.5483	1.04902	1.000	-3.5708	2.4742
	Rafah	.3739	1.00419	1.000	-2.5194	3.2673
Mid Zone	North	-3.4500*	1.16019	.038	-6.7928	-.1072
	Gaza	-1.9239	.83533	.237	-4.3307	.4829
	Khanyounis	-2.4722	1.19920	.423	-5.9274	.9830
	Rafah	-1.5500	1.16019	1.000	-4.8928	1.7928
Khanyounis	North	-.9778	1.32238	1.000	-4.7879	2.8324
	Gaza	.5483	1.04902	1.000	-2.4742	3.5708
	Mid Zone	2.4722	1.19920	.423	-.9830	5.9274
	Rafah	.9222	1.32238	1.000	-2.8879	4.7324
Rafah	North	-1.9000	1.28711	1.000	-5.6085	1.8085
	Gaza	-.3739	1.00419	1.000	-3.2673	2.5194
	Mid Zone	1.5500	1.16019	1.000	-1.7928	4.8928
	Khanyounis	-.9222	1.32238	1.000	-4.7324	2.8879

*. The mean difference is significant at the .05 level.

```
ONEWAY
  total BY station
  /STATISTICS DESCRIPTIVES
  /MISSING ANALYSIS
  /POSTHOC = BONFERRONI ALPHA(.05).
```

ANNEX 23

Post Hoc Tests Response of Total Domain with Stations

Multiple Comparisons

Dependent Variable: TOTAL

Bonferroni

(I) STATION	(J) STATION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
ANC	MCH	-.2765	.11403	.368	-.6341	.0810
	FP	.0985	.17214	1.000	-.4413	.6382
	NCD	.0246	.15601	1.000	-.4646	.5138
	DM	-.0833	.20054	1.000	-.7121	.5455
	Dressing	-.0132	.11827	1.000	-.3840	.3577
	Dental	.1848	.18402	1.000	-.3922	.7619
MCH	ANC	.2765	.11403	.368	-.0810	.6341
	FP	.3750	.16032	.457	-.1277	.8777
	NCD	.3011	.14286	.800	-.1468	.7491
	DM	.1932	.19048	1.000	-.4041	.7905
	Dressing	.2633	.10028	.216	-.0511	.5778
	Dental	.4614	.17301	.194	-.0811	1.0039
FP	ANC	-.0985	.17214	1.000	-.6382	.4413
	MCH	-.3750	.16032	.457	-.8777	.1277
	NCD	-.0739	.19246	1.000	-.6773	.5296
	DM	-.1818	.23003	1.000	-.9031	.5395
	Dressing	-.1117	.16336	1.000	-.6239	.4006
	Dental	.0864	.21579	1.000	-.5903	.7630
NCD	ANC	-.0246	.15601	1.000	-.5138	.4646
	MCH	-.3011	.14286	.800	-.7491	.1468
	FP	.0739	.19246	1.000	-.5296	.6773
	DM	-.1080	.21823	1.000	-.7922	.5763
	Dressing	-.0378	.14627	1.000	-.4964	.4209
	Dental	.1602	.20316	1.000	-.4768	.7972
DM	ANC	.0833	.20054	1.000	-.5455	.7121
	MCH	-.1932	.19048	1.000	-.7905	.4041
	FP	.1818	.23003	1.000	-.5395	.9031
	NCD	.1080	.21823	1.000	-.5763	.7922
	Dressing	.0702	.19305	1.000	-.5352	.6755
	Dental	.2682	.23905	1.000	-.4814	1.0178
Dressing	ANC	.0132	.11827	1.000	-.3577	.3840
	MCH	-.2633	.10028	.216	-.5778	.0511
	FP	.1117	.16336	1.000	-.4006	.6239
	NCD	.0378	.14627	1.000	-.4209	.4964
	DM	-.0702	.19305	1.000	-.6755	.5352
	Dental	.1980	.17584	1.000	-.3533	.7494
Dental	ANC	-.1848	.18402	1.000	-.7619	.3922
	MCH	-.4614	.17301	.194	-1.0039	.0811
	FP	-.0864	.21579	1.000	-.7630	.5903
	NCD	-.1602	.20316	1.000	-.7972	.4768
	DM	-.2682	.23905	1.000	-1.0178	.4814
	Dressing	-.1980	.17584	1.000	-.7494	.3533

```
ONEWAY
 observed BY gov
 /STATISTICS DESCRIPTIVES
 /MISSING ANALYSIS
 /POSTHOC = BONFERRONI ALPHA(.05).
```

ANNEX 24

Post Hoc Tests Workload by Unit Value with Governorates

Multiple Comparisons

Dependent Variable: OBSEVED

Bonferroni

(I) GOV	(J) GOV	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
North	Gaza	2.1477	1.92487	1.000	-3.4074	7.7028
	Mid Zone	6.8846*	2.31112	.038	.2148	13.5544
	Khanyounis	4.8333	2.52456	.591	-2.4525	12.1191
	Rafah	2.1800	2.45723	1.000	-4.9115	9.2715
Gaza	North	-2.1477	1.92487	1.000	-7.7028	3.4074
	Mid Zone	4.7369	1.73448	.077	-.2688	9.7425
	Khanyounis	2.6856	2.01012	1.000	-3.1155	8.4867
	Rafah	.0323	1.92487	1.000	-5.5228	5.5874
Mid Zone	North	-6.8846*	2.31112	.038	-13.5544	-.2148
	Gaza	-4.7369	1.73448	.077	-9.7425	.2688
	Khanyounis	-2.0513	2.38259	1.000	-8.9273	4.8248
	Rafah	-4.7046	2.31112	.451	-11.3744	1.9652
Khanyounis	North	-4.8333	2.52456	.591	-12.1191	2.4525
	Gaza	-2.6856	2.01012	1.000	-8.4867	3.1155
	Mid Zone	2.0513	2.38259	1.000	-4.8248	8.9273
	Rafah	-2.6533	2.52456	1.000	-9.9391	4.6325
Rafah	North	-2.1800	2.45723	1.000	-9.2715	4.9115
	Gaza	-.0323	1.92487	1.000	-5.5874	5.5228
	Mid Zone	4.7046	2.31112	.451	-1.9652	11.3744
	Khanyounis	2.6533	2.52456	1.000	-4.6325	9.9391

*. The mean difference is significant at the .05 level.

ANNEX 25

Post Hoc Tests Workload by Unit Value with Qualifications

Multiple Comparisons

Dependent Variable: OBSEVED

Bonferroni

(I) Q05	(J) Q05	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Two Years Diploma	Three years Diploma	-1.4933	1.55904	1.000	-5.3028	2.3161
	Bachelor	-4.1364*	1.35441	.009	-7.4458	-.8269
Three years Diploma	Two Years Diploma	1.4933	1.55904	1.000	-2.3161	5.3028
	Bachelor	-2.6430	1.55904	.281	-6.4525	1.1664
Bachelor	Two Years Diploma	4.1364*	1.35441	.009	.8269	7.4458
	Three years Diploma	2.6430	1.55904	.281	-1.1664	6.4525

*. The mean difference is significant at the .05 level.

```
ONEWAY
  obseved BY q06
  /STATISTICS DESCRIPTIVES
  /MISSING ANALYSIS
  /POSTHOC = BONFERRONI ALPHA(.05).
```

ANNEX 26

Post Hoc Tests Workload by Unit Value with Job Title

Multiple Comparisons

Dependent Variable: OBSEVED

Bonferroni

(I) Q06	(J) Q06	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Practical Nurse	Staff Nurse	-2.8812	1.36763	.383	-6.8295	1.0671
	Head Nurse	-3.5833	3.99732	1.000	-15.1235	7.9568
	Midwife	3.6167	2.04426	.807	-2.2851	9.5184
	Dental Nurse	1.7500	3.32597	1.000	-7.8520	11.3520
Staff Nurse	Practical Nurse	2.8812	1.36763	.383	-1.0671	6.8295
	Head Nurse	-.7022	3.92310	1.000	-12.0281	10.6237
	Midwife	6.4978*	1.89504	.010	1.0269	11.9687
	Dental Nurse	4.6312	3.23639	1.000	-4.7122	13.9745
Head Nurse	Practical Nurse	3.5833	3.99732	1.000	-7.9568	15.1235
	Staff Nurse	.7022	3.92310	1.000	-10.6237	12.0281
	Midwife	7.2000	4.20706	.909	-4.9457	19.3457
	Dental Nurse	5.3333	4.95806	1.000	-8.9805	19.6471
Midwife	Practical Nurse	-3.6167	2.04426	.807	-9.5184	2.2851
	Staff Nurse	-6.4978*	1.89504	.010	-11.9687	-1.0269
	Head Nurse	-7.2000	4.20706	.909	-19.3457	4.9457
	Dental Nurse	-1.8667	3.57531	1.000	-12.1885	8.4552
Dental Nurse	Practical Nurse	-1.7500	3.32597	1.000	-11.3520	7.8520
	Staff Nurse	-4.6312	3.23639	1.000	-13.9745	4.7122
	Head Nurse	-5.3333	4.95806	1.000	-19.6471	8.9805
	Midwife	1.8667	3.57531	1.000	-8.4552	12.1885

*. The mean difference is significant at the .05 level.

الخلاصة

يعتبر التمريض عصب خدمات الرعاية الصحية الأولية في المجتمع, حيث يقع على عاتقهم مسئولية الخدمات الأساسية وتهدف هذه الدراسة لتقييم عبئ العمل في محطات التمريض في مراكز الرعاية الأولية الحكومية في محافظات غزة وقد تم القيام بدراسة وصفية مقطعية لتطوير قياسات عبئ العمل والتي ستساعد كأداة إدارية عند اتخاذ قرارات بشان عدد الموظفين وتوزيعهم كما تهدف أيضا إلى تحديد وجهة نظرا التمريض حول عبئ العمل و بيئته .

شملت هذه الدراسة جميع التمريض العاملين في مراكز الرعاية الصحية الأولية الحكومية الكبرى التسعة في محافظات غزة وعددهم 117 حيث تم جمع المعلومات باستخدام استبانه يعبئها الموظف ونموذج تقييم يحتوي على استمارة لاستخلاص نتائج الوقت اللازم لإجراء العمليات التمريضية ، تم تنفيذ عملية جمع المعلومات وقياس الوقت من خلال طاقم مدرب من وكانت نسبة الاستجابة 78% .

أظهرت نتائج الدراسة عدم توفر معيار خاص لقياس عبئ العمل في محطات التمريض. كما بينت أن الإدراك الايجابي الذي عبر عنه 71.2% بأن المستوى الوظيفي وتوزيع الموظفين يقوم حسب النشاطات والخدمات المطلوبة بينما الموضوعية والعدالة في التوزيع تصل إلى 50% فقط.

كان هناك فروقا ذات دلالة إحصائية بين قيمة عبئ العمل والمحافظات جليا في الشمال بمتوسط 12.5 دقيقة لكل حالة كما أن العمل اليومي في المحافظات يبين أن مراكز المنطقة الوسطى كان الأعلى في ساعات العمل كمتوسط 10.22 ساعة يوميا وان الوقت الملاحظ لكل حالة بين 6.6 إلى 11.9 دقيقة. كما أن معرفة الموظفين لمصطلح عبئ العمل والقياس يبدو ذو نسبة عالية 76.9% ، وأيضا 89% من المشاركين في الدراسة كانوا قد حصلوا على مساقات تدريب بعد التخرج .

كما تشير النتائج إلى أن 82.4% من المشاركين يعتقدون بالضرورة الإدارية لمقياس عبئ العمل وان 85.7% يرون بضروريتيه لأي قرارات ذات علاقة بمستوى الموظفين.وكشفت الدراسة أن 61.4% يعتقدون بان هناك زيادة في عبئ العمل داخل محطات التمريض لعدة أسبا ب أهمها : زيادة كثافة

العمل، نقص الموظفين ، زيادة العمل المكتبي ، قلة الحوافز ، غياب الوصف الوظيفي ، عدم العمل بنظام المواعيد ، قلة الموارد ، عدم ملائمة بيئة العمل .

كما تبين نتائج الدراسة أن متوسط التمريض العاملين في محطات التمريض كانت: صحة الأم والطفل هي الأعلى 3.1 يليه الرعاية اليومية ورعاية الحوامل 1.9 ثم الأسنان 1.5 ثم الأمراض الغير المعدية 1.4 وأخيرا تنظيم الأسرة 1.2.

بينما متوسط الحالات الملاحظة في كل ساعة كان 9.33 في وحدات الأسنان ، 6.52 في صحة الأم والطفل ، 5.96 في الأمراض المزمنه ، 5.18 في الرعاية اليومية ، 4.78 لرعاية الحوامل أما تنظيم الأسرة فكان 3.39 حيث يتبين هنا أن العبء الأكبر كان في وحدات الأسنان مقارنة بعدد التمريض.

علاوة على ذلك فان متوسط قيمة الوحدة (بالدقائق) للإجراءات التمريضية لكل حالة كان الأكبر في وحدة الأسنان بمعدل 14 دقيقة ، تنظيم الأسرة 13.3, في الأمراض الغير معدية 9.6، في رعاية الحوامل 9.4، الرعاية اليومية 8.1, أما صحة الأم والطفل فكان 7.4 دقيقة .

حوالي 30% من المشاركين كان لديهم إدراك سلبي فيما يتعلق ببيئة العمل و 50% باتجاه العمل في ظل درجة حرارة مناسبة وكذلك عدم كفاية مساحة العمل، أما 39% يرون أنهم يعملون في مناطق غير ملائمة و95.6% يظهرون عدم توفر مكيفات هوائية ويغيب دليل الأمان، كذلك فان 45% عبروا عن عدم رضاهم عن خدمات دائرة الهندسة والصيانة.

وكشفت الدراسة بعدم وجود فروق ذات دلالة إحصائية بين عبئ العمل والجنس رغم أن ما نسبته 59.3% من الإناث وكذلك العمر حيث أن 72% من التمريض 31 عاما فما فوق وكذلك لا توجد فروق ذات دلالة إحصائية بين عبئ العمل والمحطات أو الخبرات لكن توجد فروق ذات دلالة إحصائية بين علاقة عبئ العمل والمحافظات بشكل واضح في الشمال بمتوسط 12.5 وكذلك المسمى الوظيفي والمؤهلات في البكالوريوس بمعدل 11.8 والدبلوم ثلاث سنوات 9.16 والدبلوم السنتان 7.67 .

كذلك تبين بان محاور الدراسة لها علاقة ذات دلالة إحصائية مع محطات التمريض لكن لا توجد علاقة ذات دلالة إحصائية لهامع المحافظات والجنس والمسمى الوظيفي والمؤهلات العلمية.