

**Deanship of Graduate Studies  
Al-Quds University  
School of Public Health**

**Evaluation of Children Clinical Assessment at MoH-PHC Clinics  
in Hebron District**

**Ibrahim Mohamed Issa Abu-Ayyash**

**M.Sc. Thesis**

**Jerusalem-Palestine**

**2010/1431**

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**A thesis Submitted in Partial Fulfillment of Requirements  
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School of Public Health

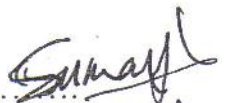

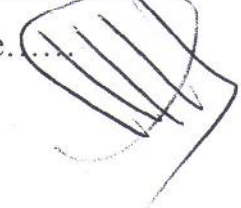
Evaluation of Children Clinical Assessment at MoH-PHC Clinics  
in Hebron District

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Jerusalem - Palestine

## **Dedication**

To my wife Luma

To my parents

To my children Bana, Tala and Rafat

To all the Palestinian children

Dr.Ibrahim Mohamed Abu-Ayyash

## **Declaration**

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

Signed.....

Dr. Ibrahim Mohamed Issa Abu-Ayyash

Date.....

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"Without you I wouldn't have succeeded".

## **Abstract**

Proper clinical assessment in the field of health practices is a necessity for all who are concerned with the health and well-being of those seeking care. Physicians have the primary role in clinical assessment, as they are the first encounter in assessing and evaluating people's health conditions within the MoH-PHC setting. Clinical assessment is an evaluation of patient physical conditions and prognosis based on information gathered from physical and laboratory examinations and the patient medical history. In Palestine there was no study described the children clinical assessment at MoH-PHC clinics.

This study aims to assess clinical assessment of new sick children at MoH- PHC clinics (2<sup>nd</sup> and 3<sup>rd</sup> level) including performances, equipments and facilities; physicians always equip these two levels.

The study utilized a descriptive exploratory design with a purposive convenient sample approach; was carried out in 35 MoH-PHC clinics in Hebron District functioning by 30 physicians with a response rate of 100%. Data collected through international observational checklist that reconstructed by the researcher for the purpose of this study and was pre-tested for validity and reliability in addition to pilot testing prior to starting the data collection.

Each physician in each clinic was observed through performing his or her clinical assessment for 10 new sick children. In addition, 35 PHC clinics were observed for equipments availability.

Study showed that 54.3% of physicians working in the second level PHC clinics, and 45.7% in the third level. The majority of physicians (93.3%) were male, 60% aged 40 and above, 40% under the age of 40 years. It also showed that most of the physicians participated in the study were general physician which presented 86.7%, followed by pediatricians 6.7% and 6.7% of other disciplines (public health or community health).



Physician's year of experience more than 10 years was 73.3% followed by 16.7% (1-5 years) and 10% (6-10 years). The study showed that the mean of cases per clinic was 68.6 patients and the mean of time spent between physician and patient was 3.075 minutes.

The study described tools and equipment in 35 primary healthcare clinics. It showed that reflex hammers, X-ray machine and the emergency kit was not available in all clinics 100% , movable light source or pen light not available in 27 clinics71.4%, timer for respiratory rate not available in 25 clinics 71.4%, privacy curtain not available in 15 clinics42.9%.

The study showed that taking history (medical, family, drug, developmental and social history) as well as the process of physical examination of all body systems that required to be performed to formulate correct diagnosis and treatment were ranked at poor level. Communicating with patients and their families were different from the international standards. Ordering laboratory tests was the best case, but the documentation process was not satisfactory. The process of referral to higher levels was also not satisfactory in terms of explaining the reasons and the place of referral.

The researcher concluded that physician performance regarding child clinical assessment was poor, and there was an obvious shortage of equipments and protocols needed for clinical assessment. The researcher recommends improving technical level and qualifications of physicians by regular refresher courses or in-service training and frequent quality supervision. Separation of pediatric care from adult care. Establishing norms and standards for the delivery of child health care services also he recommends that equipments and protocols must be available at all clinics.

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## **Definitions**

The following are the conceptual and operational definitions for the other terms used in the study and adopted from the literature.

### **Clinical assessment:**

Mosby's Medical Dictionary (2009) defined clinical assessment as "Evaluation of patient physical conditions and prognosis based on information gathered from physical and laboratory examinations and the patient medical history".

### **Protocol:**

A detailed plan, or set of steps, to be followed in a study, an investigation, or an intervention, as in the management of a specific clinical condition e.g., care of a patient with diarrhea (Mosby's Medical Dictionary, 2009).

### **Standard:**

Standards are an agreed-upon, common and consistent way to record and communicate health information. Standards provide rules, guidelines or characteristics and help ensure that products, processes and services are fit for their intended purpose. Standards need to be available in an accessible format and subject to ongoing review and revision process (Minnesota Department of Health, 2008).

### **Physician:**

A person licensed and legally authorized to practice medicine at MoH-PHC clinics level I and level II.

### **Consultation:**

It is a conference or a contact between the health care provider (physician) and sick child or his/her relatives to consider a particular care as; listening to their problem,



give clear instruction, provide the appropriate medical information and assist in making decisions rather than telling what to do.

**Consultation time:**

The time of interaction between the physicians and children or their families started when entering the exam room and ending with exiting from it.

**Communication:**

Communication is generally defined as a process of transferring information from one source to another (Rijssen et al, 2009). Communication skills in this study measured according to items mentioned in the observational checklist.

**Performance:**

A performance comprises an event in which generally one group of people (the performer or performers) behaves in a particular way for the benefit of another group of people. (World IQ, 2010)

**Clinical setting:**

Primary health care clinic (level I and level II) in which the primary purpose is the delivery of prevention, promotion and curative services, this setting is operated by Ministry of Health in Hebron District.

**Growth parameters:**

Growth parameters include weight, height/length, and head circumference as recommended according to tool used in this study.

**Follow up:**

To maintain contact with patient so as to monitor the effects of earlier activities or treatments and to take appropriate action. (Mosby's Medical Dictionary, 2009)

## **List of Abbreviations**

C.H - Community Health  
CHR- Child Health Record  
CI - Confidence Interval  
CNS- Central Nerves System  
EMR- Electronic Medical Record  
GP - General Practitioner  
GS- Gaza Strip  
M.D- Doctor of Medicine  
MCH- Mother and Child Health  
MoH- Palestine Ministry of Health  
Msc- Master Social Science  
NGOs- Non Governmental Organizations  
NSHP- National Strategic Health Plan  
PCPS- Palestinian Central Bureau of Statistics  
PHC- Primary Health Care  
P.H - Public Health  
PMS- Police Medical Services  
Pt - Patient  
SD- Standard Deviation  
SPSS - Statistical Package for Social Sciences  
UK- United Kingdom  
UNRWA- United Nations Relief and Works Agency  
UW- University of Washington  
WB- West Bank  
WHO- World Health Organization

# **Chapter 1**

## **Introduction**

### **1.1 Introduction**

Proper clinical assessment in the field of health practices is a necessity for all who are concerned with the health and well-being of those seeking care. The physicians have the primary role in clinical assessment, as they are the first encounter in assessing and evaluating the people's health conditions

Collecting data by interviewing the parents, interviewing the child and physical examination is necessary in clinical practices that help the physician to put his action plan for health care management.

The aim of clinical assessment is to gather data that allow us to reduce uncertainty regarding the probabilities of events (Richard M et al, 1999). Mosby's Medical Dictionary (2009) defined clinical assessment as "Evaluation of patient physical conditions and prognosis based on information gathered from physical and laboratory examinations and the patient medical history".

Ferholt (1980) explained that clinical assessment of children is different from adult; children are by their very nature extraordinarily dependent on their caregivers, and they are in a state of rapid growth in body and mind. This rapid change poses many challenges to the pediatric practitioner, who must assess these developments and evaluate them with a flexible notion of what is normal for a given child at any point in his or her life.

The Palestinian health care system is a mixture of public, nongovernmental, united nations relief and works agency (UNRWA), and private (profit and not for profit) service delivery, with a developing governmental health insurance system (Palestine Ministry of Health Report, 2003).

In Palestine, the Ministry of Health (MoH) primary health care (PHC) clinics are divided into four levels, and the majority of physicians working there are general practitioners. The MoH has

its own guidelines and protocols for physicians working at PHC clinics to achieve a comprehensive health care and to reduce medical error and misdiagnosis of diseases.

Clinical assessment of children at MoH primary health care clinics is not assessed or evaluated to identify strength and gaps of those who are performing this clinical assessment. Improved clinical assessment is essential to initiate change, but achieving this goal will be a challenging task to identify its strength and gaps and to develop recommendations based on the results for policy-makers and it needs further evaluation.

Thus, the study aims to assess clinical assessment of sick children under five years at 2<sup>nd</sup> and 3<sup>rd</sup> level; physicians always equip these two levels.

## **1.2 Research problem**

Children have unique health and developmental needs that can make them vulnerable to adverse effects of poor quality health care, which in turn has implications for their life courses. “Many health conditions that manifest in adulthood have their origins in childhood. Likewise, health behaviors begun in childhood often persist into adulthood. Hence, it makes little sense to subordinate the quality of children’s health care to that of adults, when the health of adults depends in part on the quality of health care that they received as children” (Forrest, 1997). Therefore, if children are to achieve their full potential in growth and development, then some of basic biological and physical requirement in the context of post-natal development, as well as during infancy and late childhood should be adequately addressed.

The situation of Palestinian children and their living conditions are difficult and lack many basic rights and services; also poor political and economic situation has a negative impact on the performance of the health sector particularly on children's health.

Many of the chronic disease of children, as well as congenital if not followed properly, it leads to poor health and high mortality rate, as well as the negative impact on society. The majority of child mortality cases occur among children in the age group (0-4) year’s and 82% of death cases

occur in this age, respiratory and infectious diseases are the main cause of under five child mortality ( MoH Annual Health Report , 2007). Therefore, physicians have the primary role in clinical assessment, as they are the first encounter in assessing and evaluating the peoples health conditions, thus good physicians performance has a positive impact on child health

Lack of studies on the physicians performance regarding clinical assessment, lack of documentation and follow-up, poor referral system, in addition to lack of equipments and facilities that help on performing complete physical assessment ,are all strong factors that needs to be highlighted on how children clinical assessment is carried out. Thus, the study aims to find out weakness and strengths that can be recommended for decision makers to improve the children health status through the improvement of the clinical assessment practices.

### **1.3 Justification and Significance of the study**

Clinical assessment is a complex and very important aspect of physician practice, the problem of unsuccessful clinical assessment lead to medical error, misdiagnosis and poor quality of health care services provided for children.

According to family complaints about the quality of services at MoH primary health care clinics, the overload of patient and tight time visits, the availability of staff and equipments needed for clinical assessment. This research proposes to study the clinical assessment of children including physician's performance at MoH-PHC in Hebron to identify their practice patterns and barriers regarding child health assessment.

The population of Hebron District is relatively young population, the number of people aged 0-14 years in this governorate total 240.732 or 44.7% of its total population (Palestinian Central Bureau of Statistics- PCPS, 2007). According to MoH Annual Health Report (2009), the number of physicians working at Hebron PHC clinics is relatively small compared to number of attendance seen by physicians at these clinics, which is 80.5 patients per doctor per day. There are 30 physicians working at the 2<sup>nd</sup> and 3<sup>rd</sup> level PHC clinics, only two pediatricians and 28 general practitioners.

From own professional experience as general practitioner, the majority of physicians at MoH primary health care clinics compliance and use of protocols in clinical assessment is not very considered and could be classified as poor. Physician performance for this study are the following skills; physical examinations, taking history, laboratory examination, documentation, communication skills...etc which are the core components in child health quality management.

Therefore, this study proposes to assess clinical assessment of children including physician's performance and clinical setting including equipments and resources at MoH-PHC clinics in Hebron District. Thus, the study attempts to collect data about clinical assessment procedures followed within those PHC clinics that could help policy makers to be aware of factors affecting these procedures. In addition, the findings of the study might provide recommendations to the policy makers that could be used to improve the quality of care for the aim of reducing the mortality and morbidity among children

#### **1.4 Purpose of the study and objectives**

The purpose of this study is to evaluate the clinical assessment of sick children followed within the MoH-PHC clinics emphasizing physician's performances and skills. Facilitations and barriers to effective clinical assessment will be highlighted in order to recommend for policy makers aiming at improving the quality of health care served to children in these settings in Hebron District. To achieve this purpose the following measurable objectives were set:

##### **Objectives**

1. To assess the clinical setting for equipments, facilities and protocols availability within targeted clinics.
2. To assess physician physical and laboratory examinations of children seeking health care in targeted clinics.
3. To assess communications patterns of physician with children and their families.

4. To describe documentation patterns followed by physician including growth parameters, referral and follow up issues in the medical records for children seeking health care.
5. To identify barriers to effective clinical assessment procedures followed by the physicians.
6. To develop recommendations to policy makers to improve the quality of care.

### **1.5 Research Questions**

- Does the clinical setting have recommended equipments and resources that enable physicians to conduct comprehensive clinical assessment for children?
- Do Physicians provide proper physical and laboratory examination to children seeking health care?
- Do physicians communicate professionally with children and their families?
- Do physician at PHC follow and apply protocols and guidelines set by MoH at the PHC clinics?
- Do physicians document growth parameters, referral and follow-up issues in the medical records of children seeking care?
- What are the barriers to effective clinical assessment procedures that influence the physician's performance?

### **1.6 Feasibility of the study**

The study was carried out as a requirement for the Master's degree in public health at Al-Quds University. The study is self funded and was implemented in MoH primary health care clinics in Hebron district that was somewhat geographically feasible due to time and financial resources constraints. All physicians working at MoH- PHC 2<sup>nd</sup> and 3<sup>rd</sup> was approached and cooperated with the researcher. Ethically there should be no harm for the participating physicians in the study, anonymity was ensured and their consent was taken prior to their participation in the study.

## **1.7 Background of the study**

### **1.7.1 General Overview of the Health care system in Palestine:**

Many health sectors; MoH, United Nations Relief and Works Agency (UNRWA), private and nongovernmental organizations (NGOs), provide health care. The largest component of the health care system is the governmental sector where MoH is considered the main provider of health services.

MoH operates 24 out of the 75 hospitals in West Bank (WB) and Gaza Strip (GS) with 2,864 beds, which represent 57% of the hospital beds in Palestine. In addition, MoH is operating 440 out of 693 Primary Health Care facilities (MoH Health Report, 2009).

The MoH Primary Health Care facilities are distributed as 59 centers in Gaza Strip and 381 centers in West Bank representing 63.4% of total PHC facilities in Palestine, where as local NGO's operates 27.9 % (194 centers), followed by UNRWA that operates 8.5% (59 centers) of the facilities (National Strategic Health Plan- NSHP, 2008).

In Hebron District the MoH provide health services through 122 primary health care clinics and 2 general hospitals for the majority of Hebron district population and particularly governmental employees who are participants in the governmental health insurance system.

UNRWA health services focuses on comprehensive preventive and primary health care; these services are provided to Palestinian refugees through the 18 PHC centers in Gaza Strip and 41 in the West Bank. The UNRWA provides services for those who have registration refugee cards within the district.

The third component of the health care system is the non-governmental organizations. These vary widely from longstanding missionary hospitals, to facilities supported by international organizations, to community health centers organized by political factions, or supported by religious charities (NSHP, 2008).



The fourth component of the health care system is the private sector, as of 2009, the private sector operated nearly 433 beds, in 23 hospitals, many of which are specialized maternity beds and some private diagnostic units. In Hebron, private individual medical specialists, physicians, dentists, pharmacists, lab technicians and X-ray technician, operate hundreds of private settings and six hospitals. Private sector plays an important role in providing PHC services to Palestinian people.

The fifth component is the Police Medical Services (PMS), which provides medical care to the police forces and their families. PMS operates 2 hospitals with a capacity of 72 beds (NSHP, 2008).

Some of tertiary health services are not available and replaced by purchasing it from other countries

### **1.7.2 Primary health care system:**

Primary health care was described in the 1978 Declaration of Alma-Ata as: “Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process” (WHO, 1978).

Primary health care is considered the cornerstone of all health services, and not only the major tool but also the promoting and improving mechanism to restore and sustain the well-being of the Palestinian people (NSHP, 2008).

MoH primary health care and public health facilities are classified into four levels according to the following criteria; the type of services provided, population size benefiting of the PHC facility, distance to nearest PHC facility, availability and type of health services in nearest facility, and the distribution of PHC centers in the WB (MoH, 2005) please refer to annex I.

Of the 4 levels, the study targeted 2<sup>nd</sup> and 3<sup>rd</sup> level. The 2<sup>nd</sup> level criteria includes a population of 2001-4000; minimum area (M2)180; general practitioner working full time; specialist once monthly; peripheral II laboratory; ultrasound once monthly; no dental care and X-ray.

The 3<sup>rd</sup> level criteria includes a population of 6001-12000; minimum area 240m<sup>2</sup>; general practitioner available full time; specialist twice monthly; peripheral III laboratory; ultrasound twice monthly; no dental care and X-ray. All level provides health education, mother and child health, and first aid services.

In Hebron District, there are 122 MoH- PHC clinics (MoH Health Report, 2009); the PHC clinics are distributed according to their level as follows:

- First level 80 clinics
- Second level 28clinics
- Third level 16 clinics

No forth-level PHC clinics are provided by MoH in Hebron District. The study will target all PHC at 2<sup>nd</sup> and 3<sup>rd</sup> level in Hebron District. Level one is excluded because physicians are not working their full time.

### **1.8 Background of study settings**

Hebron is one of the largest cities in Palestine and one of the oldest in the world. It lies in the southern part of the West Bank, 36 km south of the capital, Jerusalem. It is characterized by its high mountains that reach to the height of 900- 1000m above sea level. It extends over an area of 1000 square km. Planted mainly with fruits and vegetables.

The total number of Hebron Governorate population was 552,164 people, including 281,570 males and 270,594 females, divided as 85.3% of the total population live in urban areas, 12.0% live in rural areas, 2.7% live in camps (PCPS,2007).The population of Hebron is relatively a young population, the number of the people aged 0-14 years in Governorate totals 240,732 or 44.7% of the total governorate population, the number of people aged 15-64 is 278.312 or 52.7% of the total population, the number of the rest of the population whose age is 65 years and over totals 14,018 or 2.6% of the total population (PCPS,2007).

In Hebron District there are 146 PHC clinics (3.979 per center) were MoH operates 122 clinics, the second and third level was been my population study, 16 operates by NGOs and 8 by UNRWA. The MoH-PHC work force in Hebron district distributed as the following: General physicians 45, specialists 10 (only 28 Gps and 2 pediatricians are working at second and third level); nurses 111, midwives 8 (MoH Health Report, 2009).

The number of visits seen by physicians at MoH-PHC clinics in Hebron District in 2009 is 345320, which presented 0.6 visits per person per year; the number of visits seen by nurses is 125704, which presented 0.2 visits per person per year; the total attendance per center is 3861(MoH Health Report,2009).

Traditions still govern the population more than any other Palestinian community; the local economy depends mainly on small-scale business, trade, industry, agriculture, governmental employment and employment in Israel.

## **Chapter II**

### **Review of Literature**

#### **Introduction**

This chapter reviews international and regional studies done in the area of clinical assessment, a comprehensive search was employed to uncover theoretical and research work related to the study concepts. Internet search using the following key words "clinical assessment, history taking, physical examination, physicians practice, communication, documentation, referral system, clinical setting and pediatric care" was implemented. Search failed to find out any regional or local published studies similar to this proposed study concepts.

#### **2.1 Global Studies**

##### **Taking history and physical examination**

Of all the diagnoses are made by physicians, mostly during the process of history taking and most of the rest during the physical examination. For example, Crombie (1963) documented that 88% of diagnoses in primary care were established by the end of a brief history and some sub-routine of the physical examination. Similarly, Sandler (1980) found that 56% of patients in a general medical clinic had been assigned correct diagnoses by the end of their history, and that this figure rose to 73% by the end of their physical examination.

Amonoo-Larston and Neumann, (1985) in rural clinics in Ghana assessed the process of providing maternal and childcare. The researchers compared actual (observed) performance level with expected levels for number of diagnostic, therapeutic and counseling tasks. The researchers found significant performance gaps by physicians especially in the area of physical examination and counseling of patients.

Bjork and Kanji (1992) studied the performance of primary health care workers (physicians and nurses) for the provision of curative primary health care in nine health centers and 18 health points in Angola. Over 500 consultations by health workers were observed by five physicians

who evaluated the adequacy of their performance; history taking, examination, diagnosis, therapy and information supplied to each patient. Only 12% of the consultations were judged to be adequately managed using minimally acceptable implicit standards. With this level of low quality of primary curative services, the authors raised questions about the implementation of cost recovery mechanisms for such services, initial and refresher training programs and the supervision of primary level workers.

In 1992, a survey of thermometer use reported that 48% of GPs measured temperature less than once per fortnight (Clarke, 1992).

According to a study by Acheson et al, (2000) that aimed to explain the main barriers to collect family history at out- patient clinics, they found that the amount of time spent by family physicians on family history discussions averaged 2.6 minutes for a new patient and 1.8 minutes for a return patient, they concluded that the main barrier to collecting family history in the clinical setting is time. Time constraints might also be a factor in the lack of updated and detailed family histories.

Hing et al, (2004) in their study aimed to evaluate physicians' communication skills, and family history taking at outpatient clinics. They found that the average duration of time spent with a patient during a visit is 15.2 minutes for pediatricians and 17.9 minutes for family practitioners.

Studies have shown that a majority of people do not know their family history and do not appreciate its relevance in medical management, and consequently the potential impact of family history information is diminished (Guttmacher, 2004).

A study conducted by Hugh, et al (2008) in the northeast of the United Republic of Tanzania, aimed to assess pediatric care in 13 public hospitals to determine if diagnoses and treatments were consistent with current guidelines for care. Data were collected over a five-day period in each site where pediatric outpatient consultations were observed, and a record of care was extracted from the case notes of children on the pediatric wards. Additional data were collected from inspection of ward supplies and hospital reports. The result obtained have identified the followings; of 1181 outpatient consultations, basic clinical signs were often not checked; e.g. of

895 children with a history of fever, temperature was measured in 57%, and of 657 of children with cough or dyspnoea only 57 (9%) were examined for respiratory rate.

Matthew et al, (2008) conducted a survey among 210 eligible Gps in Oxford, 162 Gps responded 77% of the targeted population. The aim was to describe the vital signs that GPs use to assess children (aged <5 years) with acute infections. The result shows how frequently GPs reported measuring temperature, pulse rate, and respiratory rate in the previous 12 month. Temperature was the vital sign measured most frequently; more than half (54%) reported measuring it at least once per week, compared to pulse (21 %), and respiratory rates (17%). Less than 7% of practitioners reported never measuring pulse, temperature, or respiratory rate. In contrast, less than half of GPs (77, 48%) never measured capillary refill time.

## **Communication**

The interpersonal relationship between the patient or his \her caregiver and health care provider is one of the most important issues for client's assessment of pediatric care. The clients prefer a care provider who gives a warm welcome, acts friendly, shows respect and treats client as human being, is sympathetic, acts fair and does not discriminate, communicates well in a language the client and his caregiver understands, pays attention to the client, expresses or demonstrates a commitment to their work, assures clients and caregivers of confidentiality . The relationship between physician and client or caregiver is a thin one. The physician has an opportunity to be extremely effective on a client simply by the way he or she interacts with that person.

One study found that physicians typically wait only 23 seconds after a patient begins describing his chief complain before interrupting and redirecting the discussion. Such premature redirection can lead to late-arising concerns and missed opportunities to gather important data (Marvel et al, 1999).

To be good communicator you must be good listener, it is the best start and finding the right time to say the right words, by showing good understanding, and rephrasing what is the need of clients lead to positive effect, and having a good chance for communication, and understood their concerns. Also reflecting the feeling and to be sympathy is one of the most active forms of

listening, that lead to increases the confidence, and there is interpersonal relation between the care provider and client (Manallack,S 2003).

Many professional and academic organizations have defined key elements of communication skills needed by physicians. For example, the Accreditation Council for Graduate Medical Education recommends that physicians become competent in five key communication skills: (1) listening effectively; (2) eliciting information using effective questioning skills; (3) providing information using effective explanatory skills; (4) counseling and educating patients; and (5) making informed decisions based on patient information and preference (Duffy, 2004).

Kapil and Eric (2004) in their study that aimed to compare GP recognition of disorders with child mental health data and to examine factors affecting recognition, and in particular whether recognition is enhanced if the parent expresses concern during the consultation. For 186 children attending primary care, GP recognition of disorders was compared with the results of a child mental health questionnaire completed by parents. They found that 74% of children were not recognized by GPs as having a mental health disorder. The expression of parental concern in the consultation about a mental health problem increased the sensitivity of recognition from 26% to 88%. Expression of concern also increased GP recognition of non-cases; this reflected GP identification of other mental health and learning problems. Only a third of parents who had concerns expressed these during the consultation.

More broadly and measurably, research into the degree of care used by physicians in patient-physician communication has been shown to improve patient outcomes. One review of randomized controlled trials on patient-physician communications reported that the quality of communication in the history-taking and management-discussing portions of the interactions influenced patient outcomes in 16 of 21 studies. Outcomes influenced by such communication include emotional health, symptom resolution, function, pain control, and physiologic measures such as blood pressure level or blood sugar level (John et al, 2005).

A review of the literature by Cahill and Papa Georgiou (2007) which aimed to ascertain the evidence available on the amount and type of involvement that children in the 6–12 year age group have in their primary care consultations when held with a child, and GP. Twenty-one

studies were selected for inclusion in the study. Children were found to have little quantitative involvement in their own consultations. They may take part during information gathering but are unlikely to participate in the treatment planning and discussion parts of the consultation.

## **Documentation**

Quality of documentation may reflect the quality of care delivered; recent studies have suggested that medical record documentation in the outpatient setting tends to underestimate the actual performance of preventive health care services and other indicators of quality care (Dresselhaus et al, 2000). Electronic medical record (EMR) systems may improve the quality of care delivered as well as the documentation of that care in the outpatient setting, but few studies have examined this issue (Gill et al, 2001).

Javier et al, (2002) examined clinical histories in a representative sample of case notes from a Spanish general hospital. Two independent observers assigned legibility scores, and a third adjudicated in case of disagreement. Defects of legibility such that the whole was unclear were present in 18 (15%) of 117 reports. They concluded that through poor handwriting, much information in medical records is inaccessible to auditors, to researchers, and to other clinicians involved in the patient's care. If clinicians cannot be persuaded to write legibly, the solution must be an accelerated switch to computer-based systems.

A study conducted by Jolt et al, (2006) in the outpatient department of the Sophia Children's Hospital, to evaluate electronic records for its completeness, uniformity of reporting, and usability in general pediatrics; they found that clinicians documented 44% of all available patient information identically in the paper and electronic records. Twenty-five percent of all patient information was documented only in the paper record, and 31% was present only in the electronic record. Differences were found in patient history and physical examination documentation in the electronic record; more information was missing for patient history (38%) than for physical examination (15%). Furthermore, physical examination contained more additional information (39%) than did patient history (21%).



## **Laboratory examination**

Primary care physicians order tests for a considerable number of patients. Recent estimates are that family physicians and general internists order laboratory tests in 29% and 38% of patient visits and imaging studies in 10% and 12%, respectively (Hickner et al, 2005).

Elder et al (2009) explored study test results management systems in family medicine offices to delineate the components of quality in results management. They found variability between offices in how they performed the tasks for each of the specific steps of results management. No office consistently had or adhered to office-wide results management practices, and only 2 offices had written protocols or procedures for any results management steps. Where as most patients surveyed acknowledged receiving their test results (87% to 100%), a far smaller proportion of patient charts documented patient notification (58% to 85%), clinician response to the result (47% to 84%), and follow-up for abnormal results (28% to 55%).

## **2.2 Regional studies**

### **Consultation time**

One study conducted in Saudi Arabia in 1994, reported that consultations at primary health care clinics were 5 minutes on average, which is considered short by international standards (Al-Faris et al, 1994).

Khoury and Mawajdeh (2004) conducted a study in Jordan to analyse time utilization in primary health care by type of provider, activity, type of facility and patient volume at facilities; and measure the characteristics of provider– patient contact. They found that the mean physician– patient contact time was 3.08 minutes and it is higher in facilities with a low volume of patients than those with a high volume of visits (4.85 versus 3.22 min).

### **Communication skills**

Abulhadi, et al (2006) in their study to explore how physicians interact with patients and their

family at PHC level in Muscat, Oman. Direct observations of 90 consultations (patients) with 23 doctors. Consultations were assessed as optimal if more than 75% of observed aspects were fulfilled and suboptimal if less than 50% were fulfilled. They found that overall 52% of the doctors' consultations were not optimal. Some important aspects for a positive consultation environment were fulfilled in only about half of the doctors' consultations: ensuring privacy of consultation (49%), eye contact (49%), good attention (52%), encouraging asking questions (47%), and emphasizing on the patients' understanding of the provided information (52%).

## **Documentation**

Al-khaladi et al, (2001) conducted a study to assess the documentation process in two large PHC centers in Abha city in Saudi Arabia. Three hundred medical records of children less than 5 years with acute respiratory tract infection were evaluated, they found that less than one third of files revealed appropriate recording of history and physical examination.

Faramarz et al, (2008) reviewed and evaluated 300 medical records in women hospital in Tabriz in Iran, all records had problems in terms of quality of documentation. There was no record in which all information was documented correctly and compatible with the official format in medical records provided by Ministry of Health and Medical Education. Interviewees believed that poor handwriting, missing of sheets and imperfect documentation are major problems of the paper-based medical records, and the main reason was believed to be high workload of both physicians and nurses.

## **Referral system and clinical setting**

Many studies were found on quality of PHC satisfaction with the setting and referral system.

Kordy (1992) in his study that conducted at PHC clinics in Jeddah to assess the morbidity pattern of referred patients and the effectiveness of the referral system in primary health care centers, he found that 5 per cent of patients were routinely referred to the secondary health care centers, and the feedback from these secondary health care facilities was (22.7%). It was also noted that the majority of referral letters lack commonly accepted standards of information about the patient. It

was concluded that the follow-up and feed-back system needs to be reinforced. The primary health care providers need to review the patient referral system and implement specific criteria for the optimum utilization of this essential service for the benefit of the community.

Khattab and his colleagues (1999) studied the referral system in one family practice center in Saudi Arabia, they found that referral letters often did not include important information, were handwritten, and sometimes illegible. Hospitals sent feedback reports for only 22–39% of patients, these reports lacked essential information including details of the advice given (100%), diagnoses (15%), and findings on investigations (21%).

Al Qatari and Haran (1999) studied patient satisfaction with primary healthcare settings and services in Saudi Arabia; they found that patients were dissatisfied with several aspects of access, including waiting time (74.9%), waiting areas (58.1%), and the physical environment of the premises (63.8%).

Al-Ahmadi and Roland (2005) reviewed 31 studies for quality of primary health care in Saudi Arabia, and identified factors impeding the achievement of quality, with the aim of determining how the quality of Saudi primary care could be improved. Components of quality were reviewed in terms of access and effectiveness of both clinical and interpersonal care. Good access and effective care were reported for certain services including: immunization, maternal health care, and control of epidemic diseases. Poor access and effectiveness were reported for chronic disease management programs, prescribing patterns, health education, referral patterns, and some aspects of interpersonal care including those caused by language barriers. Several factors were identified as determining whether high-quality care was delivered, these included management and organizational factors, implementation of evidence-based practice, professional development, use of referrals to secondary care, and organizational culture.

A study between “2004-2006” was conducted by Anbrasi et al, to study trends in the quality of the health care provided to children aged less than 5 years in Afghanistan. They observed consultations for children aged less than 5 years, interviewed their caretakers, interviewed health-care providers and measured adherence to case management standards for assessment and counseling in a random sample. They found that assessment quality improved significantly every

year and was statistically associated with certain characteristics of the provider (being a doctor, having a higher knowledge score, and providing a longer consultation time). The presence of clinical guidelines and the frequency of supervision were significantly associated with improved quality scores in 2006 ( $P < 0.05$  and  $< 0.01$ , respectively). Providers who spent 10 or more minutes in a consultation provided better care, as shown by significantly better assessment and counseling quality. Doctors performed significantly better than assistant doctors and nurses in both assessment and counseling. Sex differences were evident, with female providers showing significantly higher adherence to assessment standards than male providers do, and to counseling standards.

### **2.3 Local studies**

In Palestine, there is a lack of studies in this field. One study conducted by Madi (1999) to assess the quality of child health care services offered by UNRWA MCH clinics. This study aimed at utilizing the quality assessment measurement as a managerial tool to assess staff performance and adherence to the relevant technical instructions. The objectives of the study were to assess the completion of child health records (CHRs) and the quality of recorded data, the quality of health care provided to children 0-3 years of age, staff compliance with the relevant technical instructions and the prevalence of anemia among the different age categories and the staff compliance with the technical instruction on management of anemia. The study finding indicated that most of the preventive aspects of quality care were generally of high standard. However, there were areas, which need further attention and supervision such as first medical examination, recording of clinical findings, relevance of nurses' notes and further integration of family planning services within the child health care services.

## **Chapter III**

### **Conceptual framework**

This chapter begins with the conceptual framework of the study, which is considered as a guide\ blueprint for the research process, the framework includes different factors or component that affect children clinical assessment as physical examination, taking history, communication, documentation, laboratory examination, referral system, facility and equipments, and demographic characteristic of physicians and type of PHC clinic.

This conceptual framework guides the research process for defining theoretically and operationally for all components of clinical assessment as presented in the following illustration.

## Conceptual Framework

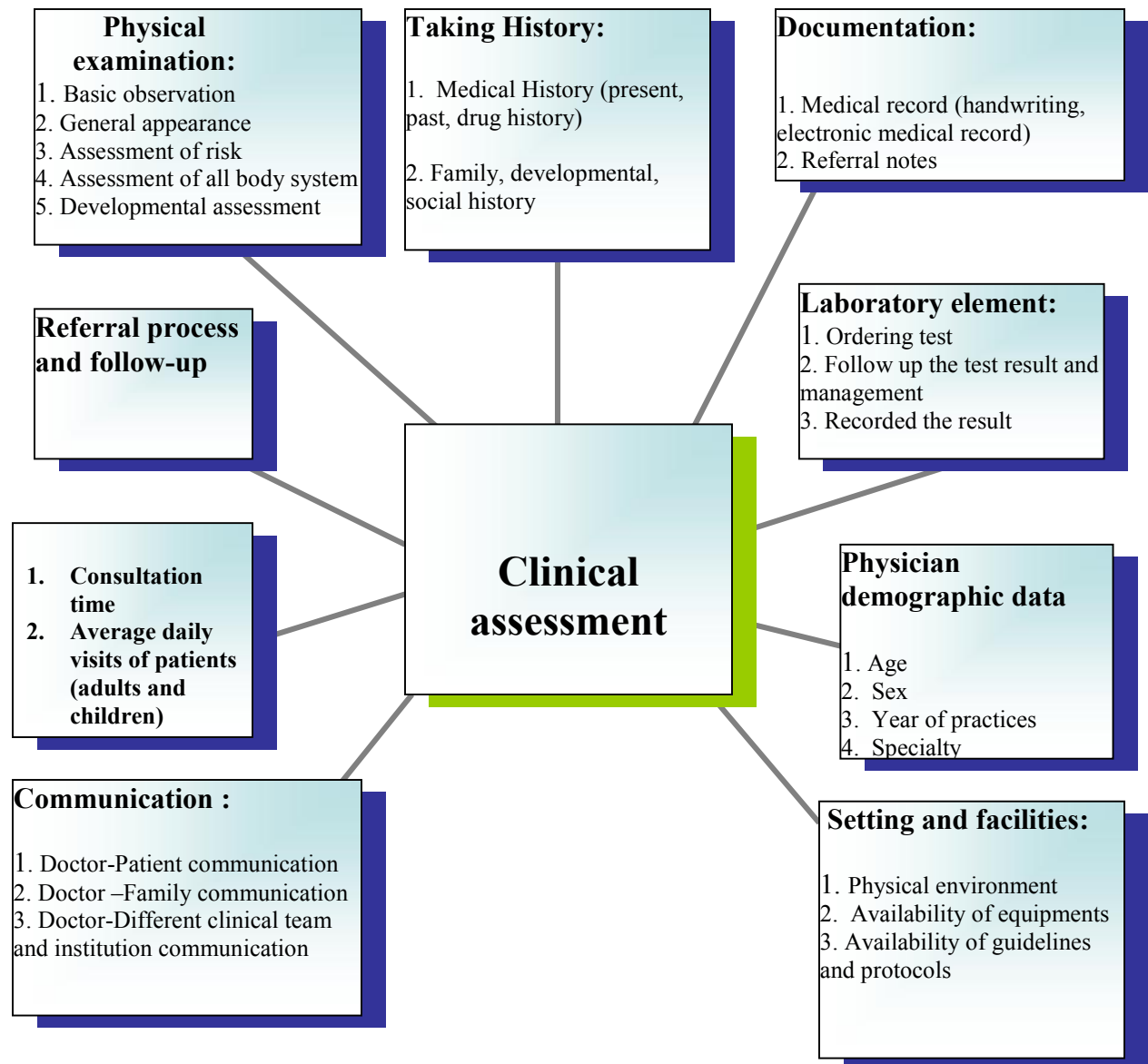


Figure: 3.1 Conceptual frameworks

### **3.1 Clinical assessment:**

Clinical assessment is an evaluation of patient physical conditions and prognosis based on information gathered from physical and laboratory examinations and the patient medical history (Mosby's Medical Dictionary, 2009). Thus, this section will identify the components of clinical assessment, the study variables which include history taking, communications, physical examination, documentation, setting and facilities, laboratory and referral system.

#### **3.1.1 History taking:**

Taking history from patients and their families affects all areas of medicine, and it is important for all health care professionals to have a working knowledge of how to take a history because it can help establish a diagnosis and initiate comprehensive care when needed (Bennett, 1999). Therefore, history taking is the most important and first step in clinical assessment process.

History taking has a wide scope and should be detailed to include; family history, history of past and present illness of the child and family. A medical family history can be abbreviated or detailed. An abbreviated family history entails questioning the person of interest. This approach however is prone to misinformation and omission because it relies on the knowledge and memory of one person. A detailed family history refers to questioning multiple individuals within a family and requires specific demographic information (e.g., age at disease onset) and documentation of disease and other pertinent health issues by medical record review. A detailed family history can help establish a diagnosis and initiate comprehensive care when needed (Bennett, 1999).

The physicians at primary health clinics begin the clinical assessment of children by reviewing and updating his or her medical history. This includes personal medical history such as symptoms, past medical history, allergies, chronic conditions, immunization, hospitalization and medications; social history this includes information about patient habits and lifestyle (social history) and information about any health problems that may run in the family (family history).

### **3.1.2 Communication:**

Communication is generally defined as a process of transferring information from one source to another (Rijssen et al, 2009).

Communication is one of the most important components of physicians' patient management skills and overall competence. Competence in a physician is a composite of clinical skills, interpersonal aspects of patient physician encounter, professionalism and communication skills; a good communicator can extract appropriate history from the patient, formulate an appropriate diagnosis, build a strong doctor patient relationship, and can appropriately negotiate management strategy with the patient (Pellegrino,2002; Cassileth,2001 and Cronbach et al,1972).

Good physician-patient communication is especially important when new medications are prescribed, since patients frequently misunderstand or have difficulty reading medication labels (Davis et al. 2006a, b; Wolf et al. 2006).

Communication is an essential component of the medical care process, it contributes to patients' understanding about their illness and the risks and benefits of treatment, offers encouragement, and helps in gathering and using the resources needed to follow prescribed regimens, all of which enhances adherence (Haskard and DiMatteo, 2009).

Knowledge of psychosocial and mental health problems is only part of the patient assessment process. The ability to communicate effectively with the patient is pivotal for accurate assessment (Silverman et al, 1998).

### **3.1.3 Physical examination:**

Physical examination is the process of evaluating objective anatomic findings through the use of observation, palpation, percussion, and auscultation. The information obtained must be thoughtfully integrated with the patient's history and pathophysiology. Moreover, it is a unique situation in which both patient and physician understand that the interaction is intended to be



diagnostic and therapeutic. The physical examination, thoughtfully performed, should yield 20% of the data necessary for patient diagnosis and management (Earl W et al., 1990).

A complete physical examination usually starts at the head and proceeds all the way to the toes. However, the exact procedure will vary according to the needs of the person being examined and the preferences of the examiner. An average examination takes about 30 minutes (Fleming, 2004).

Developmental assessment of children under 5 years includes fine and gross motor skills, language, (reception, expression and verbalization), sensory perception, social and emotional development and play. Developmental assessment is necessary for early identification of developmental disorders to allow interventions to be implementing, also allows families to receive advice and support to help them adjust and respond to the child's difficulties.

#### **3.1.4 Documentation:**

Documentation is any written or electronically generated information about client that describes the care or service provided to that client. Health records may be paper document or electronic document, such as electronic medical records, faxes, e-mails, audio or video tapes and images. Documentation is an accurate account of what occurred and when occurred (College of Registered Nurses of British Columbia, 2003).

Documentation defined as notes recorded in the patient's medical record. Documentation may be dictated and typed, hand-written or computer-generated, and typed or handwritten. Documentation must be dated and include a legible signature or identity (University of Washington Physicians, 2009).

Documentation in the medical records facilitates diagnosis and treatment, communicates suitable information to other caregivers to ensure patient safety and reduce medical errors, and serves an important medical-legal function in risk management (Wood DL, 2001).

Referral notes are an important component of documentation in patient records. They should include the date and time of issue, the patient's general condition, cause of reference, and the course of action to be taken. It is wise to keep a duplicate copy of the referral note with the patient's signature. The duplicate copy of the referral note kept by the doctor could prove the fact that some patients do not go immediately to the referral site as advised, this could save a doctor who could be sued for alleged late referral after the patient's condition deteriorated (Joseph T, 2009).

### **3.1.5 Setting and facilities in pediatric health care:**

The ability of practitioner to provide good comprehensive care will be diminished if the clinical setting is inadequate. There are several important features that a good clinical setting should provide. There must be enough time for each child and family to feel that the clinician can listen to them talk about their concerns. There should be adequate time for any examination or procedures and time for physician to review the findings (Ferholt, 1980).

The physical environment should convey that patients and their families are people with sensitivities who deserve to receive care in pleasant surroundings.

Every clinic must have an appropriate structure to provide quality of services for clients, here we are focusing on examination room and equipment needed physicians to perform clinical assessment of children and should include the following:

Hand out and wall chart protocols, timer for respiratory rate, otoscope, referral form and record, stethoscope, ophthalmoscope, reflex hammers, emergency kit, sharps disposal container, pediatric scale, infant length board, oral and rectal thermometers, basic exam table, adult scale with height measurement, X-Ray machine, laboratory, step stool, waiting room chair, privacy curtain, gloves, moveable light source or pen light and tongue blades.

### **3.1.6 Laboratory element (Testing practices):**

The appropriate ordering and interpreting of laboratory tests is an essential element of a

Physician's clinical skills. Along with history taking, physical examination, and the use of imaging techniques, the clinical laboratory is an important element for an evaluation of physician's performance

Laboratory tests are medical procedures that involve testing samples of blood, urine, or other tissues or substances in the body. Physician uses laboratory tests to identify changes in health condition before any symptoms occur, diagnose a disease or condition, plan treatment for a disease or condition, evaluate response to a treatment, or monitor the course of a disease over time (Medical device,2009).

General practitioners (GPs) frequently order blood tests when they see patients presenting with unexplained complaints. Due to the low prevalence of serious pathology in general practice, the risk of false-positive test results is relatively high. This may result in unnecessary further testing, leading to unfavorable effects such as patient anxiety, high costs, somatisation and morbidity (Bokhoven et al, 2006).

### **3.1.7 Referral system:**

Referral was defined as a process in which the treating physician at a lower level of the health service, who has inadequate skills by virtue of his qualification and/or fewer facilities to manage a clinical condition, seeks the assistance of a better equipped and/or specially trained person with better resources at a higher level, to guide him in managing or to take over the management of a particular episode of a clinical condition in a beneficiary (Al-Mazrou, 1999).

The decision to refer to a particular specialty should be based on clinical evaluation by the emergency medicine clinicians and current local practices (Reid et al, 2005).

An optimal referral has a clear purpose, related to diagnosis or treatment, which is specified by the GP in the communication with the consultant. In addition, patients have specific expectations of the referral, related to diagnosis or treatment, which may or may not have been discussed with the GP (Thomas et al, 2006).

The referral process is a critical component of quality clinical care, and it has become increasingly scrutinized in the managed care era. Physician-to-physician communication is vital to the success of an outpatient referral. Optimal communication involves transfer of relevant clinical information in both directions (from the referring physician to the specialist and vice versa) (Tejal, et al 2000).

Most health services agencies have policies for referral. An agency may have a special form that personnel are to use when making referral. Referral policies usually indicate who initiate a referral, how it is to be done, and so on.... (Whaly and Wong, 2003).

### **3.1.8 Consultation time and workload**

Consultation time in this study is the time of interaction between the physicians and children or their families started when entering the exam room and ending with exiting from it. The short consultations do not provide sufficient time to deal with complex patient issues, particularly psychosocial issues and preventive or health promotion activities, also the new patient need longer time than follow up cases.

The clinical workload defined as the average number of patients attended to by all physicians in a PHC facility per day.

## **Chapter IV**

### **Methodology**

#### **Introduction**

This chapter describes the methodology used in this study; it describes the study design, study population, sample size, study settings, study period, sampling process, response rate, inclusion and exclusion criteria and data collection technique. Moreover, it illustrates the validity and reliability of the instrument that constructed and used for the purpose of data collection. The methods of data analysis, limitations of the study and ethical matters were also included in this chapter.

#### **4.1 Study design**

This study was conducted utilizing a descriptive exploratory approach through observational method. According to Polit et al (2001), the main objective of descriptive research is the accurate description of persons, situations, or groups, and/or the frequency with which certain phenomena occur. Exploratory research is undertaken when new topic or phenomena is to be investigated. Hence exploratory design sheds the light on various ways in which a phenomena is manifested and its underlying processes (Polit et al, 2001). Cormack (2000) indicated that an exploratory approach is used when the researcher is exploring a particular area to discover what the meanings attached to the discoveries are there, and how these meanings can be organized.

The study instruments was based on the conceptual framework and previous studies done in this field, the researcher used an international observational checklist that constructed an used by International Training and Education Center for Health (I-TECH), which was modified for some items and another items were added and used to guide the observations and to record data observed, as well as to be able to quantify data in a way that findings can be numerated, measured and thus generalized on the study population. Instrument validity and reliability was tested prior to its introduction into the field.

There was two observational check list forms; one for physicians performance which include physical examination, communication process with child and family as well as documentation procedure. Another chick list form included items to observe the clinic setting as physical environment, and equipment availability

While observation is a good way to determine whether service providers can do their assigned tasks, the observer has to be unobtrusive so as not to interfere with or distract the health provider and the patient or caregiver. There is also a possibility that people will behave differently when being observed. This can usually be overcome with multiple observations. After awhile, people tend to ignore the observer and behave normally.

#### **4.2 Study population and sample size**

In summer 2007, there were 44 MoH clinics in Hebron District covering the two levels (level II, and level III) (PCPS, 2007). A 35 clinics were covered in the study and 9 clinics were excluded because they are not completely governmental (shared with other health agencies).

The target population consists of all officially employed physicians at 2<sup>nd</sup> and 3<sup>rd</sup> level at MoH-PHC clinics in Hebron District, with a total number of 30 physicians who served 35 clinics. It was noteworthy that there are physician assigned to two clinics of the same level, these were observed for equipment availability. Each physician in each clinic was observed through performing his or her clinical assessment for 10 new sick children under five years (first time children being assessed by the physician in that PHC clinic). In addition, 35 PHC clinics were observed for equipments and protocols availability.

#### **4.3 Study setting**

This study was carried out in all 2<sup>nd</sup> and 3<sup>rd</sup> level at MoH- PHC clinics in Hebron District. At the time of conducting the study, the MoH operates 44 PHC clinics (2<sup>nd</sup> and 3<sup>rd</sup> level) in Hebron. Nine clinics were excluded because they are not completely governmental.

#### **4.4 Response rate**

Extra ordinary response rate were reached, as it reached 100%

#### **4.5 Inclusion criteria**

All physicians who were officially employed (permanent job) and practicing medicine at PHC centers at the time of the study and working in MoH were included in the study and all PHC centers (level II, and level III) which belonged to the MoH. Also only new sick children under five years were included.

#### **4.6 Exclusion criteria**

- All clinics of level I
- MoH –PHC center shared with other agencies were excluded and the totals were 9clinics.
- Child seen before

#### **4.7 Data collection techniques**

Data were collected by researcher over a 40 days period one day in each clinic where pediatrics outpatient consultations were observed, using a special checklist form to guide the observations to record the data. Additional data were collected through observation of PHC facilities and supplies. The researcher used a chronometry to measure the length of consultation time

To avoid bias and to have accurate information regarding clinical assessment, the investigator of the study located himself at a corner of the consultation room. The structured checklist used was kept out of sight of the health worker. The observations were done in the mornings during the busiest period of the day at the clinics. The researcher sometimes accompanied children into the consulting room for the consultation, and on other occasions awaited their arrival into the consulting room. Encounters were selected on a convenience basis: as child/caregiver entered the consultation room and participants were included based on whether the researcher was ready for the next encounter (i.e. the paper work from the previous observed consultation was complete).

After the clinical observations were completed or during periods when there were no patients available for observation, the researcher observed the clinic with regards to infrastructure and checked if equipment was available and functioning.

#### **4.8 Validity and reliability of the study instrument**

The observational checklist used in this study was been constructed by International Training and Education Center for Health (I- TECH). The instrument in addition to the study objectives was distributed to six experts including the research advisor; others were pediatricians to evaluate its contents (Annex 2). After revising the feedback from experts, some modifications on wording, contents, and some other items were added to the demographic variables, communication skills, laboratory examination, and referral system and equipments availability in PHC clinic.

Pilot testing of the instrument on five clinics (five physicians) resulted in no significant changes so the pilot respondents were added to the study sample.

Reliability refers to the degree of consistency or accuracy with which the instrument measures the attribute it is designed to measure (Polit et al.2001).The reliability statistics showed a Cronbach Alpha of 89.8% for 52 items (sub items in part 1,2 and 3 were counted ) of the observational checklist , which means the instrument, has a high degree of reliability. After that, the study started at all clinics.

#### **4.9 Statistical analysis**

The researcher himself will conduct the analysis with consultation and assistance from his supervisor and statistician, using the Statistical Package for Social Sciences (SPSS version15).

Prior to analysis, the researcher followed the following steps:

- Reviewing the checklist
- Coding the papers
- Designing data entry model



- Defining variables
- Data entry
- Cleaning the data
- Formulation of frequency tables for the study variables.

#### **4.10 Ethical consideration**

Official letters for approval were sent from Al-Quds University to the managers of the PHC centers included in the study. Every participant in the study received an explanation about the purpose, confidentiality and sponsorship of the study. In addition to all participants were informed that participation is optional and they have the right to refuse to participate or withdraw at any stage in the study through an informed consent attached with each questionnaire.

#### **4.11 Limitation of the study**

1. Local available related studies and research resources were limited
2. Time limitation
3. The financial limitation since the study is self-funded.
4. The presence of an observer in the consultation room was a potential source of bias.

#### **4.12 Study period**

The study started in October 2009 after the approval of the Al Quds University Higher Studies Council. Pilot testing was conducted in July 2010 followed by data collection after one week. Data collection was completed in August 2010. Analysis and writing the final report continued until the end of November 2010.

## **Chapter V**

### **Results**

#### **Introduction**

The first section of this chapter presents demographic characteristics of the 30 physicians performing clinical assessment in MoH-PHC clinics in term of their age, gender, specialization, years of experience, time of interaction, primary health care center level, and daily average visits per clinic. The second section includes the protocols and equipments availability at 35 PHC clinics using a frequency table to describe these equipments and facilities.

The third section includes the results of clinical assessment of 300 sick children performed by the physician working in 30 clinics. There are five categories of clinical assessment (Annex 3); history taking, clinical examination, communication skills, laboratory examination and referral system.

For describing history taking and clinical examination a structured observational checklist was used for the following scales; 1, 2, and 3 as poor, satisfactory and good respectively; and yes, and no responses for describing communication skills, laboratory examination, and referral.

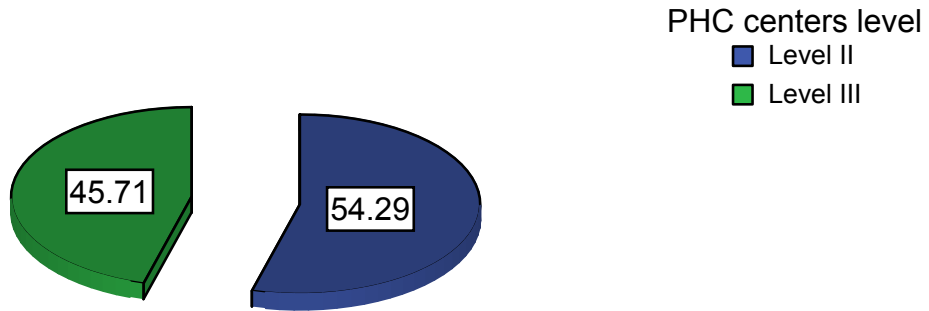
#### **5.1 Descriptive analysis of the study population**

This section will present the demographic data of the study participants (physicians) in Table 5.1 and specific graphs for each category including the time of interaction between the physician and the children to perform physical assessment.

**Table 5.1: Summary table of the characteristics of the study population**

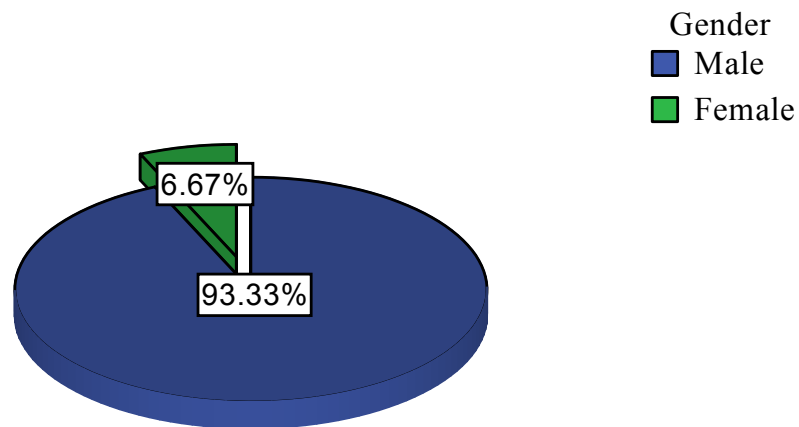
<b>Variables</b>	<b>Number</b>	<b>%</b>
<b>PHC centers level</b>		
Level II	19	54.3
Level III	16	45.7
Total	35	100
<b>Physician title</b>		
General practitioner	26	86.6
Pediatrician	2	6.7
Others( P.H,C.H)	2	6.7
Total	30	100
<b>Age group</b>		
40 -	12	40
40 +	18	60
Total	30	100
<b>Sex</b>		
Male	28	93.3
Female	2	6.7
Total	30	100
<b>Years of experience</b>		
1-5	5	16.7
6-10	3	10
10+	22	73.3
Total	30	100

Table 5.1 and Figure 5.1.1, indicates that 54.3% of study participants are working in PHC centers level II (n=19), and the remaining 16 participants 45.7% are working in PHC centers level III

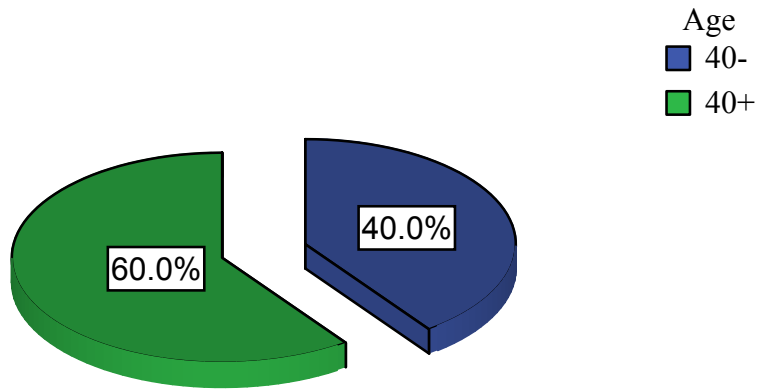


**Figure 5.1.1** Distribution of the study population by PHC centers level

Figures 5.1.2 and 5.1.3; almost all participants 93.3% are male physicians while only 6.7% are female physicians. Their age has ranked under two categories; 60% were 40 years and over and 40% were 40 years and less

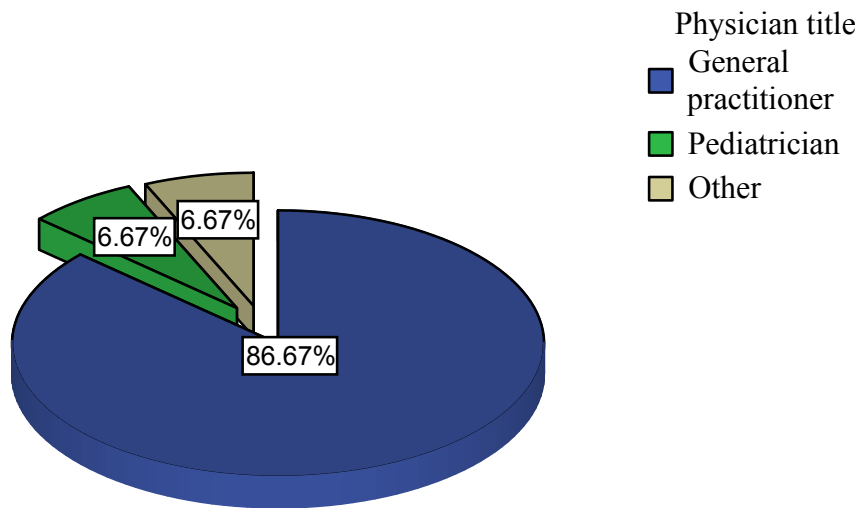


**Figure 5.1.2** Distribution of the study population by gender



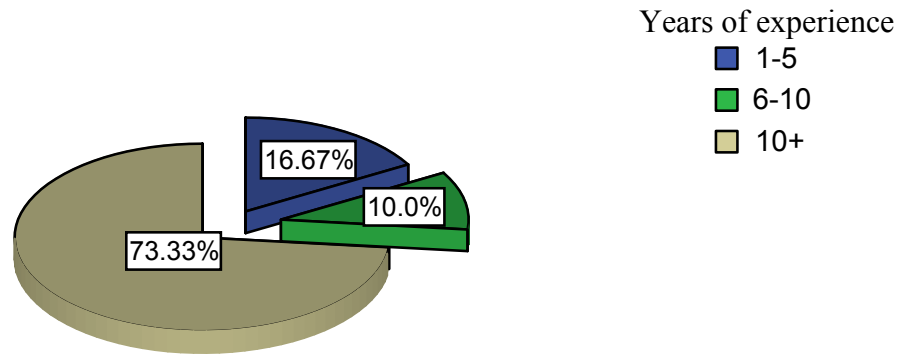
**Figure 5.1.3 Distribution of the study population by age**

Figure 5.1.4, the majority of physicians 86.7% is general practitioners followed by 6.7% pediatrician and 6.7% of other specialists (GP, Public health and community health).



**Figure 5.1.4 Distribution of the study population by physician title**

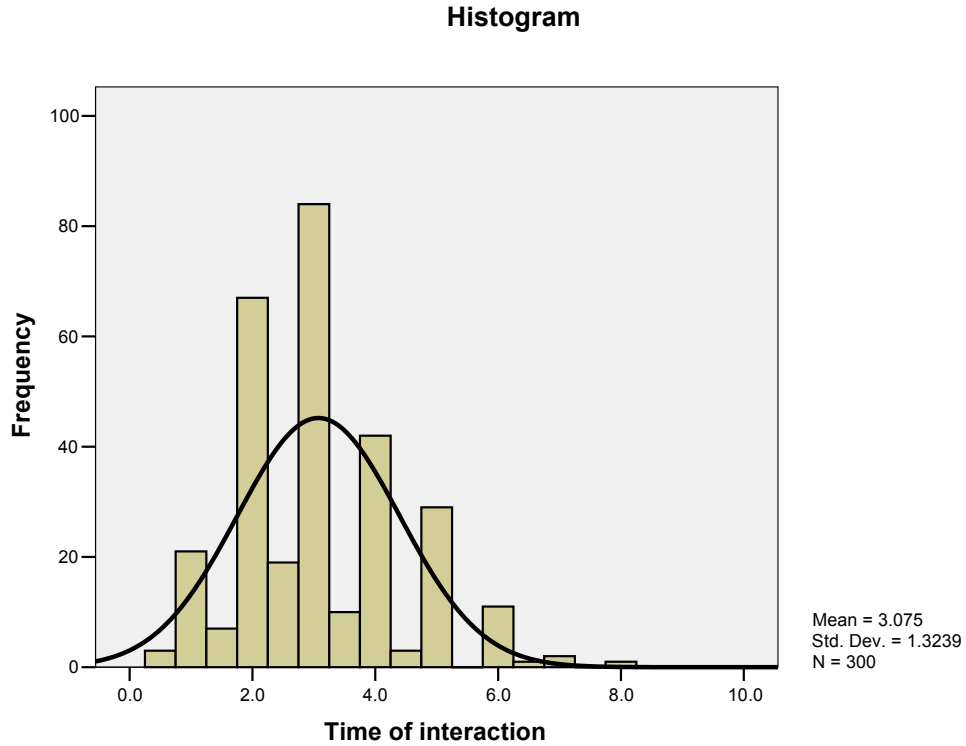
The distribution of the participants based on their total years of experience as indicated in figure 5.1.5 illustrates that 73.3% of the participants have more than 10 years. Followed by 16.7% have an experience that ranged from (1-5) years, and 10% have an experience that ranged from (6-10) years.



**Figure 5.1.5 Distribution of the study population by years of experience**

### **5.1.6 Time of interaction**

The time of interaction between the physician and the child being examined was at maximum time of 8 minutes, and a minimum of 0.5 minutes. The mean time of interaction was 3.075-minute  $\pm$  SD1.32 minute as indicated by in Figure 5.1.6.



**Figure5.1.6. Time of interaction**

### 5.1.7 Daily average visits

**Table 5.2: Daily average visits of patient (total) to targeted PHC clinics**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Daily average visits</b>	<b>30</b>	<b>28</b>	<b>135</b>	<b>68.63</b>	<b>27.404</b>

Table 5.2 shows the mean of daily visits to PHC clinics  $68.63 \pm SD 27.4$  with the maximum 135pt/day and minimum 28 pt/day.

## **5.2 Descriptive analysis of health facilities in terms of availability and unavailability of protocols and equipments in the targeted clinics**

The general finding of the data collected by the observation method utilizing the structured checklist (table 5.3) indicates that hand out protocols (the detailed outline of the steps to be followed in the treatment of a patient) are available in 11 clinics out of 35 clinics (31.4%).

The wall chart protocols (a large chart on which words or a text are written in letters large enough for a group to read; and usually hangs on a wall) are available in 54.3% of targeted clinics and lastly the referral forms and records are 100% available in all clinics.

For the availability of physical examination equipments; otoscope, stethoscope, sharps disposal containers, pediatric scale, infant length board, and basic exam table are 100% available in all clinics.

Other available necessary examining equipments like tongue blades, oral and rectal thermometers, adult scale with height measurement in addition to waiting room chairs are available in 34 clinics (97.1%) and lastly gloves available in 28 clinics (80.0%). Step stool available in 23 clinics (65.7%), privacy curtain available in 20 clinics (57.1%), ophthalmoscope, laboratory are not available in 19 clinics (54.3%).

Reflex hammers, X-Ray machine and emergency kit are not available in all clinics (100%), moveable light source or pen light not available in 27 clinics (77.1%), timer for respiratory rate not available in 25 clinics (71.4%)



**Table 5.3: Equipment and facilities needed to provide an appropriate clinical assessment and to implement protocols, available in the clinic?**

Variables	Available		Not available	
	Number	%	Number	%
Hand out protocols	11	31.4	24	68.6
Wall chart of protocols	19	54.3	16	45.7
Referral form and record	35	100	0	0
Otoscope	35	100	0	0
Timer for respiratory rate	10	28.6	25	71.4
Stethoscope	35	100	0	0
Ophthalmoscope	16	45.7	19	54.3
Reflex hammers	0	0	35	100
Emergency Kit	0	0	35	100
Sharps disposal containers	35	100	0	0
Pediatric scale	35	100	0	0
Infant length board	35	100	0	0
Oral and rectal thermometers	34	97.1	1	2.9
Basic exam table	35	100	0	0
Adult scale with height measurement	34	97.1	1	2.9
X-Ray machine	0	0	35	100
Laboratory	16	45.7	19	54.3
Step stool	23	65.7	12	34.3
Waiting room chairs	34	97.1	1	2.9
Privacy curtain	20	57.1	15	42.9
Gloves	28	80	7	20
Moveable light source or pen light	8	22.9	27	77.1
Tongue blades	34	97.1	1	2.9

## 5.3 Descriptive analysis of clinical assessment

### 5.3.1 Initial assessment: History Taking

This section shows how the physicians demonstrated history-taking skills, which are the first important items in initial assessment.

The data obtained indicated that most of the items has ranked poor, particularly those related to family history which received the highest score 85.7% for poor category, followed by drug history 81.3%, past medical history 80% and 72.7% for present medical history. Around 48% of physicians elicited chief complaints, elicited growth and development history and documented history information on satisfactory level. The best score received positively on 48% of physicians' utilized documentation satisfactorily, 16.7% met the criteria of good level, for eliciting chief complaints from children around 48% scored under satisfactory level and 14.3% under good level.

**Table 5.4: Initial assessment by 30 physician for patient: History Taking (N=300 patient)**

Demonstrated knowledge/skills	Poor		Satisfactory		Good	
	N	%	N	%	N	%
Chief complaints	114	38	143	47.7	43	14.3
Present medical history	218	72.7	77	25.7	5	1.7
Past medical history	240	80	58	19.3	2	0.7
Family history	257	85.7	39	13.0	4	1.3
Drug history	244	81.3	56	18.7	0	0
Growth and development history	150	50	143	47.7	7	2.3
Documentation	106	35.3	144	48	50	16.7

### 5.3.2 Clinical assessment: physical examination

Table 5.5 presents the findings for physicians' performances on physical examination of children. It was found out that all items under this category have ranked poor except for the last one on documentation. Recorded vital signs, height and weight, general examination, records and verifies lymphadenopathy, oral cavity, hydration status have ranked poor (79.3%, 66.7%, 77%,

and 89.3% respectively), while the sum of satisfactory and good level for those items were 20.7%, 33.3%, 23%, and 10.7% respectively.

For body systems examination; CNS, CVS, abdomen, respiratory system, and genitalia has ranked at a higher level of poor category (93.3%, 86%, 79.7%, 79%, and 78.3% respectively), while the sum of satisfactory and good level for these systems were 6.7%, 14%, 20.3%, 21%, and 21.6% respectively. For documentation of physical examination findings, 43% scored under poor level, while the sum of satisfactory and good level was 57%.

**Table 5.5: Physical examination**

Demonstrated knowledge/skills	Poor		Satisfactory		Good	
	N	%	N	%	N	%
Vital signs recorded and comfort of patient considered	238	79.3	62	20.7	0	0
Records height and weight of the patient accurately and calculates percentage of weight gain/loss.	200	66.7	96	32	4	1.3
General examination adequate including examination from head to toe looking for signs of internal disease.	231	77	64	21.3	5	1.7
Records and verifies lymphadenopathy, oral cavity, hydration status	268	89.3	32	10.7	0	0
Systemic examination cardiovascular system (CVS).	258	86	39	13	3	1
Systemic examination respiratory system	237	79	62	20.7	1	0.3
Systemic examination— abdomen	239	79.7	61	20.3	0	0
Systemic examination —genital examination	235	78.3	55	18.3	10	3.3
Systemic examination—CNS, peripheral, and autonomic systems	280	93.3	20	6.7	0	0
Documentation of physical examination	129	43	128	42.7	43	14.3

### 5.3.3 Clinical assessment: Communication skill

This section clarify the extent to which physician used their communication skills with children and their families through their clinical assessment.

Taking the positive attitudes and skills about physicians communication skills when dealing with children and their families( on the yes response), the findings indicated that; 89.3% of the physicians use simple language when talking with their clients, 73.3% asks about the child's problem (Cause of visit), and more than 66% demonstrates active listening skills and talks in kind tone

For the no response which indicate a negative approach followed by the physicians was the lack of utilizing the team approach in dealing with children during the clinical assessment (shares information with nurse and other specialist physician) which presented 95%.

The physicians did not advise on immediate return for 261 patients, which presented 87%, did not check caregiver understanding for 78.7 %, and did not advise on return for follow up for 75.3%. To less extent, the physicians did not give the patient and his\her family the opportunity to ask questions for 67.7%; did not praise caregiver for 63%, and did not give advises on medication for around 62% of the children and family. Around 61% of the physicians did not welcome the patient and family, and did not offer seat and 56.7% did not explain health problem

**Table5.6: Communication skill**

Communication items	Yes		No	
	Number	%	Number	%
Welcomes the patient and family and offers seat.	118	39.3	182	60.7
Asks about the child's problem (Cause of visit)	220	73.3	80	26.7
Demonstrates active listening skills	199	66.3	101	33.7
Praises caregiver	111	37	189	63
Uses simple language	268	89.3	32	10.7
Talks in kind tone	200	66.7	100	33.3
Explains health problem	130	43.3	170	56.7
Advises on medication	113	37.7	187	62.3
Advises on immediate return	39	13	261	87
Advises on return for follow up	74	24.7	226	75.3
Checks caregiver understanding	64	21.3	236	78.7
Gives the patient and his\her family opportunity to ask questions	97	32.3	203	67.7
Uses team approach (shares information with nurse and other specialist physician)	16	5.3	284	94.7

### 5.3.4 Laboratory examination and radiography

Table 5.7 shows the number of patients for whom laboratory tests were ordered and shows whether the physicians checked, recorded, and managed the results; then shows if physicians ordered X-Ray requests.

As shown the physicians did not order any laboratory tests for 275 patient (91.7%), while they ordered tests for only 25 patients (8.3%), all ordered tests were checked 100%, while recorded the results of findings were only for 16 patients (64%), the physicians managed the results for 24 patients (96%), and did not managed the results for only 1 patient (4%).

X-ray request was written for 1 childe out of 300 children during these observations

**Table 5.7: Laboratory examination and radiography**

Laboratory items	Yes		No	
	Number	%	Number	%
Evaluates patient , using laboratory tests as appropriate and to confirm the clinical provisional diagnosis	25	8.3	275	91.7
Checks Lab results	25	100	0	0
Records of the results	16	64	9	36
Manages the results	24	96	1	4
Writes X-Ray requests	1	0.3	299	99.7

### 5.3.5 Referral system

As shown in Table 5.8 only 28 patients (9.3%) were referred to another level of care or specialty. The physician discussed reasons for referral with patients and family for 26 patients (92.9%), and did not discuss reasons for referral for 2 patients (7.1%).

Also the physicians explained about place for referral for 23 patients (82.1%), while did not explain that for 5 patients (17.9%).

The physicians recorded presenting problem and diagnosis in referral form for 24 patients (85.7%), while recording not done only for 4 patients who was referred (14.3%).

**Table 5.8: Referral system**

Referral items	Yes		No	
	Number	%	Number	%
Is the physician refer the childe to another level of care or specialty	28	9.3	272	90.7
Discusses reasons for referral with patient and family	26	92.9	2	7.1
Explains about place for referral	23	82.1	5	17.9
Records presenting problem and diagnosis in referral form	24	85.7	4	14.3

## **Chapter VI**

### **Discussion and implications**

#### **6.1 Introduction**

This study was conducted primarily to evaluate the clinical assessment of sick children provided by physicians at MoH- PHC clinics in Hebron District.

The study has been conducted as a health services research, because assessment of physician's skills, knowledge, and compliance with the guidelines and protocols set by MoH is an integral part to improve the quality of health services. The coming pages in this chapter shed light on the most important findings that was revealed and the implications of these findings in reference to the objectives of the study. As aforementioned, the conceptual framework of this study has considered certain components of clinical assessment. These components were: history taking, communication skills, physical examination, documentation, laboratory examination, referral process, and facilities and equipments needed to provide an appropriate clinical assessment. Also considered physicians characteristics (e.g age, sex, speciality, and years of experience ), and type of PHC clinics and daily average visits in total.

#### **6.2 Summary of key findings**

The quality of child health services for sick children offered at MoH- PHC clinics in Hebron District was disappointingly poor. The main areas of concern were the short consultation time; poorly skilled staff (e.g. unfocussed consultations; poor history taking, examination skills, communication skills, limited identification of children with systematic diseases); absence of emergency kit; and limited practice of child health promotion activities. There was inadequate attention to routine health promotion and prevention activities such as adequate growth monitoring, and developmental assessment. Issues related to structure should not be entirely ignored as this is an important aspect of quality of care. In this study basic amenities were available but emergency equipment was not available at all clinics. Not all clinics had ophthalmoscope, moveable light source or pen light, timer for respiratory rate, privacy curtain and laboratory.

### **6.3 The study sample**

The researcher described the work environment as aforementioned in the study background and supported by the study findings which pointed that governmental primary health care are suffering from a heavy workload (68 visits \day), this workload was reflected on the performance of physicians. Also the study shows the distribution of PHC clinics in terms of level of care 54% level II, and around 46% level III.

The findings illustrated that the sample was heterogeneous in terms of age, sex, years of experience, and speciality. The participants were 30 physicians, GP 86.6%, Pediatrician 6.7%, public health and community health 6.7%.

Like most Arab countries males counted for the majority where 93.3% were males vs 6.7% females physicians showing a wider gender gap and this could be associated with the socio-cultural factors to affect this phenomenon. For instance, palestinian families prefer to send their sons rather than their daughters to study medicine particularly abroad.

The study indicates that female physicians are generally more knowledgeable, and has higher performance than their male counterparts. This could be related to the nature of women who usually is more obedient, committed and motivated to work (Hamad, 2001).

Regarding age of PHC physician, the study illustrates that the study population is relatively younger (40% less than 40 years) than other countries for example in America 31% less than 40 years, (Bouvier,1998). Also it reflects high recruitment rate of physicians within the Palestinian health organizations especially after the establishment of the Palestinian Authority.

### **6.4 Health facilities and equipments**

It would be difficult to apply the gained knowledge and skills and to follow the protocols if you lack the necessary equipment in your health facilities, or if your supervisor expected you to do things differently. Various aspects of the primary health care clinics are considered as important pillars which affect the physicians performance.



Availability of materials and equipments are very essential components to be used by the physician to assist him/her to reach to the proper assessment, diagnosis and treatment of their patients.

The study reveals that there were obvious shortage of the needed equipment and materials in the majority of PHC clinics. The essential equipment for physical examination such as reflex hammers, pen light, timer for respiratory rate and ophthalmoscope are very much lacking in most investigated clinics. These equipments are most important in making the diagnosis and identifying the complaints as well as the symptoms. Level II clinics should be equipped with more diagnostic equipments such as X-Ray machine and this is not present at all clinics, laboratory and moveable light source which are not available in the majority of the studied clinics (54.3%, 77.1% respectively).

Emergency kit is not available in all clinics, privacy curtain, step stool and gloves are available (80%, 65.7%, and 80% respectively); the other equipments listed in table 5.3 are available in all clinics.

Hand out protocols and wall chart protocols are part of the MoH policy in standardizing the work as part of the quality assurance when working within their PHC facilities. The hand out protocols is not available 68.6%, and wall chart protocols are not available in 45.7% of the investigated clinics. The literature indicates that the above-mentioned equipments and protocols should be available in all PHC facilities. In addition, literature indicates that copies of the protocols should be available on daily basis and in all facilities for the use by the physicians during their practice (WHO, 1998). Therefore, distribution and dissemination of an adequate number of copies of the adapted protocols combined with providing training and follow up and monitoring are most likely to yield more positive results.

The provision of the standardized needed equipment and materials in the health facilities is an important priority that should be addressed to stakeholders identifying the consequences of its and unavailability. Also a regular supervisory visit by MoH managers for the availability and functional status of equipment is highly recommended to have a professional well equipped PHC facility.

## **6.5 Time of interaction**

It is noteworthy that during the 1-working day observation by the study investigator physicians had seen and contact with a mean of 68.63 patients, reaching a mean of time for this contact of 3.075 minutes with each patient. Contact time with patients is too short to reach an accurate diagnosis and provide appropriate treatment, instructions, health education and proper counseling.

The mean contact time between patient and provider was inversely proportionate to the volume of visits in the facility. Some types of services influence the length of contact time, especially when extensive explanations or examinations that take a long time to perform are needed.

This study confirmed by study carried out in Jordan, where pediatric consultations are generally brief; the mean duration for all consultations was 3.08 minutes (Khoury and Mawajdeh, 2004).

Other studies in European and in Arabian Gulf States show longer consultation time, (Annex6).

Contact time in governmental primary health care facilities in Hebron district appear to fall short of the optimum for quality care. When doctors spend more time with patients the consultation will be more likely to include important elements of care. Longer consultation times can be used to build a strong client- provider relationship, give clients time to ask questions and give providers an opportunity to educate their clients on pertinent issues.

Any change in the present primary care system should concentrate on increasing the contact time between the patient and provider in order to allow patients and their caregiver to ask questions and provider to explain the nature of disease and its management. However; changing the system does not ensure that either providers or patients will abide by the new rules. Thus, even if an appointment system is implemented which allocates a longer contact time; it is not guaranteed that a physician who is used to completing a visit within around 3 minutes will allocate 10 or 12 minutes to provide the patient with the necessary components of quality of care. This may require continuous education of professionals and some times retraining in management procedures. At the same time, it is imperative to conduct an intensive educational campaign to change the behavioral pattern of the community in seeking health care.

## 6.6 Initial assessment

History taking skills are the first important items in initial assessment. In this study most of the items has ranked poor, particularly those related to history taking (family history , past and present medical history , drug history). Around 48% of physicians elicited chief complaints, growth and development history and documented history information on satisfactory level. Documentation on satisfactory and good level may be due to supervision on medical records.

Acheson et al, (2000) in their study concluded that the main barrier to collecting family history in the clinical setting is time. Time constraints might also be a factor in the lack of updated and detailed family histories.

Also all items under physicians performances on physical examination of children have ranked poor except for the last one on documentation ,these finding confirmed by a study carried out in 1985 in rural clinics in Ghana (Amonoo-Larston and Neumann, 1985). This may be attributed to overload in those clinics and time constraints. And also there is the possibility that these physicians are not trained on how to examine children. This study also confirmed by study carried out in Angola in 1992 were history taking, physical examination were not taken or limited in 88% of 539 consultations at PHC clinics. In 1980 Sandler found that 56% of patients' in general medical clinic had been assigned correct diagnoses by the end of their history, and rose to 73% by the end of their physical examination. As mentioned above taking history and physical examination at MoH- PHC clinics were ranked at poor level which needs further interaction.

Regular refresher courses, backed up by frequent, quality supervision are prerequisites for providing quality services. Refresher courses should be instituted, and the resources required for them provided. A supervision system with clear objectives and with incentives that motivate good performance is an area that requires urgent consideration.

As said earlier that the most important point or stage in the process of assessing the sick children is to take the medical history and collect information about children and their families. To carry

out this task, physician must be equipped by highly skilled in communication with patients and their families in order to extract information necessary for the diagnosis and treatment.

The Accreditation Council for Graduate Medical Education recommends that physicians become competent in five key communication skills: (1) listening effectively; (2) eliciting information using effective questioning skills; (3) providing information using effective explanatory skills; (4) counseling and educating patients; and (5) making informed decisions based on patient information and preference (Duffy, 2004), but the results of current study showed a great gap from these five key communication skills. These five key were not implemented in an integrated manner, in most cases as been observed. There is also a problem in providing guidance and advice to patients or their relatives in the fields of medicine, follow up, and the interpretation and clarification of the disease. It was also noticed that teamwork does not exist in most clinics.

The reason for the visit must always be addressed, regardless of how trivial it may seem. Different words mean different things to different people. What physicians say as health care providers can have a significant influence on the patient's or parents' perception of a situation. Effective, empathic communication is an essential skill for physicians caring for pediatric patients and their families. It can lead to improved outcomes for children, their families, and physicians themselves.

Physicians should first encourage patients to discuss their main concerns without interruption or premature closure. This enhances satisfaction and efficacy of the consultation-yet. Doctors should

also strive to elicit patients' perceptions of the illness and associated feelings and expectations.

Experience also supports the value of learning methods of active listening. Other important skills include giving clear explanations, checking the patient's understanding, negotiating a treatment plan and checking patients' attention to compliance. There is therefore a clear and urgent need for teaching physicians of these clinical communication skills.

The physicians have ordered laboratory tests for 8.3% of sick children, all physicians (100%) who required the lab tests have checked the results, but these results were recorded only for 16 sick children (64%) of the required who need further interaction; physicians managed the results for 96% which is good indicator. The rate of ordering laboratory and imaging studies in this

study is low compared to study conducted by Hckner et al in 2005 were general practitioner at PHC clinics order laboratory tests and imaging studies in 38% and 12%, respectively.

The lower rate of ordering laboratory tests and referral to another level of care, may be due to unavailability of laboratory in 54% of these clinics, proper physical examination were not done, and a heavy workload (68 visits \day) can force the physician not to ordering laboratory tests that need further time to be checked

Findings of this study regarding referral rate and notes is better compared to Kordy study in Jaddah were the referred patients to secondary level presented only 5% and the majority of referral notes lack commonly accepted standards of information about the patient.

## **Chapter VII**

### **Conclusion and Recommendation**

#### **Conclusion**

In general, the performance of physicians in MoH-PHC clinics is weak in most areas of clinical assessment for children and this may be due to heavy workload; and there may be other reasons that should be noted and investigated such as physician's behavior and attitudes.

This study emphasizes that the quality of child health services offered at clinics in Hebron needs revising and the standard of care offered needs improvement with more focus on issues relating to process and structure.

Emphasis needs to be placed on health worker training and appropriate use of standard protocols and guidelines. The modified tool or checklist utilized for this study can be reconstructed and implemented into a scoring system for systematic supervision and evaluation of child health services offered at PHC clinics.

#### **General recommendations**

A focused attention to establishing norms and standards for the delivery of child health care services in Hebron District is required.

Each child health worker needs to have clear expectations of what is required at any individual clinical consultation; this will also enable greater accountability for the (lack of) delivery of adequate services to children.

A consensus on the structure and mechanisms whereby child care will be provided needs to be established to address issues such as:

- What are the basic pediatric skills required by health professionals caring for children at the PHC level?
- Should promotive and sick care services be combined?

- Standard equipment needed at every child health service (including emergency equipment)
- Better supervision and routine, regular evaluation of child health services is needed..

### **Detailed Recommendations for the clinics**

- A dedicated health worker who is ideally specifically skilled in pediatrics should attend children.
- Ensure that there is emergency equipment such as nebulisation, pediatric resuscitation masks, and nasogastric tubes present at all clinics.
- Primary clinical care manuals and growth monitoring guidelines should be available for reference and dispensing at all clinics.

### **Specific Recommendations for health authorities**

- Conducting regular assessments: quality of care needs to be assessed repeatedly over time in a comprehensive manner using the same assessment tool at regular intervals. These assessments should include appraisal of infrastructure and equipment; assessments of staffing levels; structured interviews with staff and patients to elicit their opinions and knowledge; observation of consultations assessing technical as well as interpersonal skills of health workers and record reviews on tracer conditions.
- Improving structural aspects in terms of the physical condition of buildings and availability of equipment
- Improving organizational aspects such as number of staff and qualifications as well as improving managerial and administrative procedures.
- Improving technical level and qualifications of health workers by:
  - a) Regular refresher courses or in-service training
  - b) Frequent quality supervision
- Programme planners and health policy makers can utilize the researcher developed structured checklist from this study as well as the recommendations mentioned above to

undertake a major review of the quality of child health care offered at primary health care clinics in Hebron District.

- Emphasis needs to be placed on health worker training and appropriate use of protocols and guidelines.



## Chapter VIII

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## Annex 1

### Classification of PHC and PH facilities in Palestine:

Criteria	Level			
	I	II	III	IV
<b>Population</b>	Up to1000	2001-4000	6001-12000	Over 12000
<b>Minimum area (m2)</b>	120	180	240	420
<b>Health education</b>	+	+	+	+
<b>Mother and Child Health</b>	+	+	+	+
<b>First Aid</b>	+	+	+	+
<b>General practitioner</b>	Part time	Full time	Full time	Full time
<b>Specialist</b>	-	Once monthly	Twice monthly	Twice weekly
<b>Laboratory</b>	Peripheral I	Peripheral II	Peripheral III	Peripheral IV
<b>Ultrasound</b>	-	Once monthly	Twice monthly	Twice weekly
<b>Dental care</b>	-	-	-	±
<b>X-Ray</b>	-	-	-	±

## **Annex 2**

### **Name of experts who criticized the observational tool**

- 1- Dr. Sumaya Sayej: Assistant professor, College of Health Profession- Al-Quds University
- 2- Dr. Asma Imam: Assistant professor, College of Public health, Al-Quds University
- 3- Dr. Mohammed shaheen: Associate professor, College of Public health, Al-Quds University
- 4- Dr. Sudqi Hamada- Pediatrician: Al-Maqased hospital
- 5- Dr. Al Imari : MD, Canada. Info@oscehome.com
- 6- Dr. Shareef Hassan: pediatrician, Al-Mohataseb Hospital

### Annex 3

#### Observational checklist

Name of PHC clinic-----

Clinic N0-----

#### Part I

1. **PHC centers level:** Level II ( ), Level III ( ).
2. **Physician title:** General practitioner ( ), Pediatrician ( ), others specify -----
3. **Age**-----
4. **Sex:** M ( ), F ( ).
5. **Years of experience (in general):** a) <1year b) 1-5 c) 6-10 d) >10yr
6. **Date of observation:** Day----- Month ----- Year -----
7. **Time of interaction**

Patient number N0	Start time of interaction\Hour-- Minute---	End time of interaction\Hour-- Minute--	Time of interaction
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

8. **Average daily visits to target PHC ( )**

*Part II*

**2.1 Initial assessment: History Taking**

Demonstrated knowledge/skills	1=Poor, 3=Satisfactory, 5=Good	n	n	n	n	n	n	n	n	n
		1	2	3	4	5	6	7	8	9
1- Chief complaints asked and recorded, including the duration of the problem.	1—No questions asked.									
	3—Asks questions, but only related to positive symptoms,									
	5—Asks questions relating to both positive and negative symptoms									
2- Present medical history is taken that is sequential, relevant to chief complaints, and is recorded.	1—Elicits chief complaints only.									
	3—Elicits sequential, chronological elaboration of symptoms using open-ended and close-ended questions									
	5—Performs analysis in chronological order of positive and negative symptoms, all major systems (CVS, RS, abdomen, CNS),									
3- Past medical history is taken relevant to chief complaints; co morbid medical conditions, previous surgical procedures, blood transfusions and drug allergies recorded.	1—Limited to chief complaints only, not dealing with co morbid medical complaints.									
	3—Inquires into co morbid medical conditions (diabetes, asthma, epilepsy, etc)									
	5—Records previous surgical conditions, blood transfusions, and drug allergies, in addition to above.									
4- Family history is taken and recorded.	1—No\ Limited to details of parent's marital status.									
	3—Elicits details of parents marital status, (wife/husband), children, and parents (grandparents).									
	5—Elicits details of co- morbid medical conditions, genetic disorders in all generations, in addition to above,									
5- Drug history is taken comprising current and previous medication, side effects, toxicity, allergy, etc.	1—No\ Limited to current medication, with some previous medication details.									
	3—Elicits current and recent past medications, dosage, and duration									
	5—Elicits toxicity, side effects, compliance, , in addition to above.									
6- Takes growth and development history in infants and children.	1—Limited/no elicitation of growth and development milestones.									
	3—Elicits growth and development milestones									
	5—Verifies growth and development milestones from previous records, in addition to above									
7- Documentation accurate and complete	1—Documentation not done,									
	3—Partially complete documentation of all findings									
	5—Documentation completes.									

## 2.2 Clinical examination

Demonstrated knowledge/skills	1=Poor, 3=Satisfactory, 5=Good	n	n	n	n	n	n	n	n	n
		1	2	3	4	5	6	7	8	9
1- <b>Vital signs</b> recorded and comfort of patient considered.	<p><b>1</b>—No/limited recording of some vital signs.</p> <p><b>3</b>—Records all vitals (temperature, respiratory rate, blood pressure, pulse), using appropriate method.</p> <p><b>5</b>—Records all vitals signs, identifies patients not comfortable at rest.</p>									
2- Records <b>height and weight</b> of the patient accurately and calculates percentage of weight gain/loss.	<p><b>1</b>—Limited/no recording of height and weight.</p> <p><b>3</b>—Records height and weight</p> <p><b>5</b>—Records height and weight and calculates BMI</p>									
3- <b>General examination</b> adequate, including examination from head to toe looking for signs of internal disease.	<p><b>1</b>—No/limited examination, vital signs</p> <p><b>3</b>—Performs thorough general examination, records vital signs</p> <p><b>5</b>—Performs thorough general examination, records vital signs with privacy (e.g., female patients—side room)</p>									
4- Records and verifies <b>lymphadenopathy, oral cavity, hydration</b> status	<p><b>1</b>—Limited/no checking of groups of lymph nodes, oral cavity, and hydration status.</p> <p><b>3</b>—Examines all groups of lymph nodes, entire oral cavity, and hydration status, with proper methodology.</p> <p><b>5</b>—Clearly identify abnormalities of nodes (number, size, matted, sinus etc.)/oral cavity/ hydration in addition to above</p>									
5- <b>Systemic examination—cardiovascular system</b>	<p><b>1</b>—Limited/no use of stethoscope—</p> <p><b>3</b>—Inspection and palpation of apical impulse, arterial/venous neck pulsations, auscultation of heart sounds and murmurs,</p> <p><b>5</b>—In addition, feels all peripheral pulses, notes rhythm irregularities</p>									
6- <b>Systemic examination respiratory system</b>	<p><b>1</b>—Limited to upper respiratory-tract examination—sinus tenderness, tonsillar enlargement, etc.</p> <p><b>3</b>—Inspection and palpation of tracheal position, vocal fremitus, chest-wall movements, percussion of chest, auscultation of breath sounds.</p> <p><b>5</b>—Identification of abnormal (bronchial) breathing and additional sounds (rhonchi, crepitations), respiratory failure, in addition to above</p>									

2.2 Clinical examination (cont)

Demonstrated knowledge/skills	1=Poor, 3=Satisfactory, 5=Good	n	n	n	n	n	n	n	n	n
		1	2	3	4	5	6	7	8	9
7- Systemic examination— abdomen	1—No\ limited to Inspection of abdomen. 3—Palpation of abdominal quadrants systematically (including scrotum and testes in male patients), identification of organomegaly, masses, free fluid (using appropriate methods), per rectal examination (when appropriate). 5—Auscultation of bowel sounds, identification of acute abdomen, in addition to above									
8- Systemic examination— genital examination	1—Limited/no examination of genitalia. 3—Inspection/palpation of male/female external genitalia. 5— Inspection/palpation of male/female external genitalia.(considers privacy)									
9- Systemic examination— CNS, peripheral, and autonomic systems	1—Limited/no examination. 3—Examination of higher functions, cranial nerves, motor system (power, tone, reflexes), sensory system, cerebellar signs, neck stiffness (Brudzinski sign, Kernig’s sign). 5—Optic fundus, gait examined in addition to above,									
10- Documentation accurate and complete on every clinical examination	1—Documentation not done, 3—Partially complete documentation of all findings 5—Documentation complete									

### 2.3 Communication skill

Communication items	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	Pt 9	Pt 10
	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
1. Welcomes the patient and family, and offers seat.										
2. Asks about the child's problem(Cause of visit)										
3. Demonstrates active listening skills										
4. Praises caregiver										
5. Uses simple language										
6. Talks in kind tone										
7. Explains health problem										
8. Advises on medication										
9. Advises on immediate return										
10. Advises on return for follow up										
11. Checks caregiver understanding										
12. gives the patient and his\her family opportunity to ask questions										
13. Uses team approach(shares information with nurse and other specialist physician										

### 2.4 Laboratory examination (if yes go to Q 2-4)

Laboratory items	Pt n 1	Pt n 2	Pt n 3	Pt n 4	Pt n 5	Pt n 6	Pt n 7	Pt n 8	Pt n 9	Pt N 10
	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
1. Evaluates patient , using laboratory tests as appropriate and to confirm the clinical provisional diagnosis										
2. Checks Lab results										
3. Records of the results										
4. Manages the results										
5. Writes X-Ray requests										

**2.5 Referral system (if yes go to Q2-4)**

Referral items	<u>Pt n 1</u>	<u>Pt n 2</u>	<u>Pt n 3</u>	<u>Pt n 4</u>	<u>Pt n 5</u>	<u>Pt n 6</u>	<u>Pt n 7</u>	<u>Pt n 8</u>	<u>Pt n 9</u>	<u>Pt N 10</u>
	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
1 Is the physician refer the childe to another level of care or specialty										
2.Discusses reasons for referral with patient and family										
3. Explains about place for referral										
4.Records presenting problem and diagnosis in referral form										

**Part III**

**Are the equipment and facilities needed to provide an appropriate clinical assessment and to implement protocols, available in the clinic?**

Type of equipment or facilities	Available(seen)	Not available
Hand out protocols		
Wall chart of protocols		
Timer for respiratory rate		
Otoscope		
Referral form and record		
Stethoscope		
Ophthalmoscope		
Reflex hammers		
Emergency Kit		
Sharps disposal containers		
pediatric scale		
Infant length board		
Oral and rectal thermometers		
Basic exam table		
Adult Scale with height measurement		
X-Ray machine		
Laboratory		
Step stool		
Waiting room chairs		
Privacy curtain		
Gloves		
Moveable light source or pen light		
Tongue blades		

n- Number of patient, Pt- Patient, Y-yes, N-no



Annex 4

بسم الله الرحمن الرحيم

Al-Quds University  
Jerusalem  
School of Public Health



جامعة القدس  
القدس  
كلية الصحة العامة

التاريخ: 2010/2/14

الرقم: ك ص ع / 11 ج / 2010

حضرة الدكتور خالد سدر المحترم  
مدير صحة شمال الخليل

الموضوع: تسهيل مهمة الطالب ابراهيم أبو عياش

تحية طيبة وبعد،،

يقوم الطالب ابراهيم أبو عياش ماجستير الصحة العامة/ جامعة القدس بإجراء بحث بعنوان:  
(Evaluation of children clinical assessment at MOH – PHC clinics in Hebron district)

كمطلب لبحث رسالة الماجستير في الصحة العامة. أرجو من حضرتكم التكرم وتسهيل مهمة الطالب وتزويده بالمعلومات اللازمة، علماً بأن هذه المعلومات خاصة للبحث العلمي فقط.

شاكرين لكم حسن تعاونكم،،

الدكتور ابراهيم أبو عياش  
١٨  
٢٠١٠/٢/١٤



Annex 5

بسم الله الرحمن الرحيم

Al-Quds University  
Jerusalem  
School of Public Health



جامعة القدس  
القدس  
كلية الصحة العامة

التاريخ: 2010/2/14

الرقم: ك ص ع / 119 / 2010

حضرة الدكتور نزيه عابد المحترم  
مدير صحة جنوب الخليل

الموضوع: تسهيل مهمة الطالب ابراهيم أبو عياش

تحية طيبة وبعد،،

يقوم الطالب ابراهيم أبو عياش ماجستير الصحة العامة/ جامعة القدس بإجراء بحث بعنوان:  
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شاكرين لكم حسن تعاونكم،،

الأستاذة ليليا

د. أماني الإمام  
عميدة كلية الصحة العامة

د. أماني الإمام  
عميدة كلية الصحة العامة

## Annex 6

Consultation length for patients of general practitioners in European and in Arabian Gulf States

EEC and Arabian Gulf Countries	References	Sample size	Minutes Seen by Doctor - Mean $\pm$ SD
Germany	Deveugelee et al., 2002	889	7.6 $\pm$ 4.3
Spain	Deveugelee et al., 2002	539	7.8 $\pm$ 4.0
United Kingdom	Deveugelee et al., 2002	446	9.4 $\pm$ 4.7
Netherlands	Deveugelee et al., 2002	579	10.2 $\pm$ 4.9
Belgium	Deveugelee et al., 2002	601	15.0 $\pm$ 7.2
Switzerland	Deveugelee et al., 2002	620	15.6 $\pm$ 8.7
USA	Levinson and Chaumenton, 1999	106	13
Australia	Britt et al., 2002	926	14.8
Saudi Arabia	Al-Shammari, 1991	843	5.7 $\pm$ 2.3
United Arab Emirates	Annual Health Report UAE, 2004	925	5.9 $\pm$ 2.6
State of Qatar	Present study	598	6.6 $\pm$ 2.1

The middle East Journal of Family Medicine, January 2007, V 5, Issue 1

العنوان: التقييم السريري للأطفال في عيادات الرعاية الصحية الأولية التابعة لوزارة الصحة في محافظة الخليل  
اعداد الطالب: ابراهيم محمد ابو عياش  
اشراف : د.سميه صايح

## ملخص الدراسة

التقييم السريري السليم في مجال الممارسات الصحية هو ضرورة لجميع المهتمين في صحة ورفاه أولئك الذين يلتصون الرعاية. الأطباء لهم دور أولي في التقييم السريري لأنهم الركن الأساس في تقدير وتقييم الأوضاع الصحية للناس. التقييم السريري هو تقييم حاله المريض الفيزيائية أو البدنية والتشخيص على أساس المعلومات التي تم جمعها من الفحوصات الطبية والمخبرية وتاريخ المريض الطبي. لا يوجد في فلسطين أي دراسة تصف أداء الطبيب أثناء فحصه للأطفال المرضى في عيادات الرعاية الصحية الأولية وكذلك أيضا لا يوجد وصف لهذه العيادات من حيث المعدات والمواد المتوفرة فيها

تهدف هذه الدراسة لتقييم التقييم السريري للأطفال المرضى حتى عمر خمس سنوات في عيادات الرعاية الصحية الأولية الحكومية (المستوى الثاني والثالث) وكذلك ملاحظه وجود المعدات والمواد اللازمة لكل طبيب لأداء عمله. يتواجد الأطباء في هذه العيادات بشكل كامل خلال أيام الأسبوع

أجريت دراسة وصفية استطلاعية ذات عينه هادفة في عيادات الرعاية الصحية الأولية بوزارة الصحة في محافظة الخليل، وتكونت العينة من 35 عيادة (مستوى ثاني وثالث) وكذلك 30 طبيب يعملون في العيادات مع معدل استجابة قدره 100%. تم جمع البيانات من خلال قائمة المراقبة الدولية التي أعيد بناؤها من قبل الباحث لتحقيق غرض هذه الدراسة، وقد عمل اختبار لصدق وثبات الاداء البحثية بالإضافة إلى اختبار تجريبي قبل البدء في جمع البيانات. وقد تم مراقبه أداء كل طبيب أثناء فحصه السريري لعشره مرضى جدد كما تم ملاحظه الأدوات والمعدات المتوفرة في 35 عيادة

أظهرت الدراسة أن 54.3% من الأطباء يعملون في المستوى الثاني وان 45.7% في المستوى الثالث. وان نسبه 93.3% هم ذكور و 6.7% إناث وان 60% أعمارهم 40 فما فوق و 40%تحت عمر 40 عام. كما بينت أن معظم الأطباء المشاركين في الدراسة هم أطباء عاميين ما نسبته 86.7%، يلي ذلك أطباء أطفال بنسبه 6.7% و 6.7% تخصصات أخرى ( أطباء عاميين حاصلين على ماجستير في الصحة العامة أو صحة المجتمع ) وذلك بنسبه 6.7%. أما سنوات الخبرة فكانت 73.3% أكثر من 10 سنوات يلي ذلك 16.7% (1-5 سنوات) و 10% (6-10 سنوات). وبينت الدراسة أن معدل الحالات لكل عيادة هو 68.6 وان معدل الوقت الذي يقضيه الطبيب مع المريض هو 3.075 دقيقة لكل مريض . وصفت الدراسة الأدوات والمعدات الموجودة في 35 عيادة رعاية صحية أوليه. وبينت أن مطارق رد الفعل بجهاز الفحص بالاشعه السينية وأدوات الطوارئ غير متوفرة في جميع العيادات 100% أما مصدر الضوء المتنقل أو القلم الضوئي وجهاز توقيت معدل التنفس غير متوفرة 71.4%.

بينت الدراسة أن اخذ التاريخ المرضي والمعلومات اللازم أخذها من المريض للوصول إلى تشخيص وعلاج صحيحان وكذلك عمليه فحص المرضى سريريا لجميع اجهزه الجسم كانت تشير إلى ضعف في الأداء عند الأطباء إلا في عمليه

التوثيق فكانت أفضل حال كما أن عملية التواصل مع المرضى وأهاليهم كانت تختلف عن المعايير العالمية في فن التواصل. كذلك طلب الفحوصات المخبرية كانت على أفضل حال إلا أن عملية التوثيق كانت غير مرضية. أما عملية التحويل للمستويات الأعلى فكانت أيضا غير مرضية من ناحية شرح الأسباب والمكان للأهل عن التحويل.

واستنتج الباحث أن هناك ضعف في اداء الاطباء في عملية التقييم السريري ، و نقص واضح في التجهيزات والبروتوكولات اللازمة لعملية التقييم السريري. ويوصي الباحث تحسين المستوى التقني ومؤهلات الأطباء من خلال الدورات التنشيطية العادية أو التدريب أثناء الخدمة ومراقبة متكررة للجودة. أيضا فصل الرعاية الطبية للأطفال عن رعاية الكبار. وضع القواعد والمعايير اللازمة لتقديم خدمات الرعاية الصحية للطفل ويوصي بأن تكون المعدات والبروتوكولات متوفرة في جميع العيادات

HEALTH CARE CENTERS  
IN HEBRON  
FEBRUARY 2005

**Legend**

- MOH Level 1 (ambulance)
- MOH Level 2 (ambulance)
- MOH Level 1
- MOH Level 2
- MOH Level 3
- MOH Level 4
- WPC
- UAWA
- PHC
- UWC
- ERCC
- MOH Hospital
- MOH Hospital
- Private Hospital
- UPMH Hospital
- Palestinian Refugee Area
- Settlements Reserves
- West Bank
- Jordan
- Unsettled Land
- Road
- Proposed Road

**MOH Level (1) provides:**

- \* Preventive services: mother and child health care and immunization.
- \* Curative services: first aid.

**MOH Level (2) provides:**

- \* Preventive services: mother and child health care, and immunization.
- \* Curative services: General Practitioner (GP) medical care. Laboratory (in some clinics).

**MOH Level (3) provides:**

- \* Preventive services: mother and child health care, immunization, family planning and dental.
- \* Curative services: GP and medical specialist care and dental care.
- \* Laboratory.
- \* Health education.

**MOH Level (4) provides:**

- \* Preventive services: mother and child health care, immunization, family planning and dental.
- \* Curative services: GP and medical specialist care and dental care.
- \* Gynecology and obstetric.
- \* Laboratory.
- \* Health education.
- \* Emergency Medical Services (EMS).

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Health Forum is a non-profit organization. For more information, please contact Health Forum, PO Box 1000, Hebron, West Bank, Palestine.

**PHC: Primary Health Care**

**WPC: Worker Health Care**

**MOH: Ministry of Health**

**MOH: Medical Health Organization**

**PHC: Palestinian Red Crescent Society**

**ERCC: East of River Camp Coordinator**

**UWC: Union of Women's Center**

**UAWA: Union of Arab Women's Association**

**UAWA: Union of Arab Women's Association**

