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Quality Assessment of Selected Aspects of Health Care Provided to Children Aged Six Months to Three Years at UNRWA Balata Health Center West Bank.

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Dedication

To my parents,

my supportive husband Hasan Fitian ,

my children Nada, Sarah and Omar ,

and to my family for the encouragement and motivation I have received all through my study .

Nehaya Yassin-Fitian

Declaration

I certify that this thesis submitted for the degree of Master is the result of my own research and this thesis has not been submitted for higher degree to any other university or institute of learning.

Signature.....

Nehaya Yassin-Fitian

Date…….

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Abstract

This study was conducted to assess the quality of care provider at UNRWA Balata Health Center in Nablus City in the West Bank regarding anemia treatment and prevention, growth monitoring and development, and health education. These services were chosen because they address conditions of high prevalence, are associated with poor long-term outcomes with significant functional impact, and have demonstrated efficacy in the clinical intervention.

The researcher collected the data herself using a service quality checklist with the responses 'Yes" ,"No" ,"Do not know", "Not applicable", which designed by the Primary Health Care Management Advancement Programme (PHCMAP) . The researcher investigated whether the primary health services provided to children between six months –three years from Balata UNRWA health center are with high quality. The aim of this study is to inform the policy makers about the strengths and weaknesses of the quality of primary health care services which can serves as a starting point to improve the quality of care. More over, the study aims to contribute to the further development of an analytical frame work for the measurement of perceived quality of care at UNRWA health centers.

Drawing attention to the difficult task of measuring quality, the researcher distinguishes between structural and process quality. Observations were conducted among 171 encounter interaction between the nurse in the MCH and the mother who accompanied the child for preventive services. Through observation of encounter case-management with mother nurse interaction, and the exit interviews with mother of each child, the researcher aimed to collecting information on indicators relating to quality of assessment, classification and treatment of the anemic child, counseling and communication with the mother and health systems support.

Since the population served is relatively of homogenous socio-demographic characteristics it had only limited impact on the quality of care in all sub-scales and the total scores, the study was able to detect some significant impact of mothers' age, educational status, and place of residence but these were relatively small.

A significant performance gap was found in the effectiveness of care of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet, administration of medication (iron) prescription, and giving scheduled visits for follow up for anemia treatment reported that the task of evaluation of child health services delivered by UNRWA primary health facility in the study area has documented that the quality of care was inadequate, evaluation of primary health care services reported poor health worker performance.

The findings on anemia case management deserve special attention. Only 74.1 % of the observed children were examined for Hb. at age 6 months -12 months, and of the examined about 66.1%were anemic, and about 74.5% of the anemic were given iron supplement, but not followed up . Analysis documented inadequate case-management for anemia 28.6% of confirmed cases left the facility without treatment and 71.4% of those who were treated for anemia were under treated and not followed up. Also about 25.7% of the children were not checked for Hb. at proper time according to UNRWA instruction.

Success in reducing anemia will require not only rapid and appropriate treatment with effective iron supplementation and proper follow up and implementation of technical instruction, but also high levels of coverage with effective preventive interventions such as mother education about diet iron rich, and proper administration of iron prescribed .The study suggests that quality can lead to rapid improvements in the correct treatment of presumed anemia in health facilities.

The inter-personal skills are an important quality aspect which in certain settings had been found to be mutually reinforcing the technical quality components. Improving the attitudes of health personnel towards patients seems a promising way to enhance perceived quality of care. Results show that about 24.6% of the mothers did not receive any kind of information or guidelines about infant feeding.

Health care outcome is strongly correlated with the type of interaction that occurs during a client visit, the process of primary care can be best conceptualized as a process

of teaching, and that analysis of nursing action should focus on those activities that could be considered as teaching functions.

الملخص

قياس جودة الخدمات الصحية المقدمة للأطفال من عمر ستة اشهر إلى عمر ثلاث سنوات في عيادة مخيم بلاطة في نابلس التابع لوكالة الغوث الدولية في مجالات مختارة من الرعاية الصحية الأولية

لقد أجريت هذه الدراسة كمحاولة لقياس مدى جودة الخدمات الصحية المقدمة على مستوى الرعاية الصحية الأولية في عيادة مخيم بلاطة التابع لوكالة الغوث الدولية في مجال الوقاية والعلاج لمرض فقر الدم و مراقبة النمو والتطور وتقديم النصح والإرشاد المتعلق بهاذين الأمرين. لقد تم اختيار هذه المجالات لما لها من اثر بالنسبة لصحة الطفل وتطوره على المستوى البعيد.

لقد تم استخدام مقياس معد من قبل جامعة آغاخان في الباكستان من أجل مساعدة العاملين في الصحة الأولية على قياس مدى جودة الخدمات المقدمة وقد تم تعديله ليتناسب مع الخدمات المقدمة في عيادات الوكالة. لقد تم استخدام أربعة نماذج للحصول على معلومات ذات علاقة بجودة الخدمات حيث تم حسب النموذج الأول مراقبة العمل والتفاعل بين ا لأم والممرضة ثم إجراء مقابلة مع ا لأم يليها مراجعة لملف الطفل الطبي.ثم قياس مدى تلائم التجهيزات في العيادة من اجل تقديم هذه الخدمات على أكمل وجه.

خلال إجراء الدراسة تم مراقبة التفاعل والرعاية المقدمة من الممرضة للأم خلال إحضارها لطفلها للرعاية، كما تم إجراء مقابلة مع الأم من اجل الحصول على معلومات حول

مدى معرفتها حول سبل الرعاية الصحية السليمة بالأطفال الذين يعانون من ضعف الدم، وسبل التغذية السليمة من خلال 171 عينة أدخلت في الدراسة.

لقد أظهرت نتائج الدراسة أن خصائص التركيبة ألاجتماعيه المتجانسة للعينة لها اثر محدود على النتائج و أن المؤسسة تملك جاهزية عالية من حيث الموارد والمواد التي تساعد على تقديم الخدمات وان هناك جودة عالية على مستوى مراقبة نمو وتطور الطفل حيث أن كل الأطفال يخضعون لقياس الوزن وتسجيله وكذلك للفحص الطبي الكامل عند التسجيل. ولكن أظهرت النتائج أن هناك خلل في إعطاء الأم الوصف لوضع طفلها من حيث وزنه الحالي ،غذائه أو طبيعة تطوره.

كما أظهرت النتائج أن هناك خلل في مدى جودة الخدمات المقدمة في الوقاية والعلاج % من الأطفال يتم إجراء فحص نسبة تركيز الدم(الهموجلوبين) 74.1لفقر الدم حيث انه فقط لاكتشاف المرض حيث أن 66.1% منهم كانوا يعانون من ضعف الدم وأن فقط 71.4 % من الذين يعانون فعلا من ضعف الدم أعطوا العلاج ولكنهم لم يعطوا المتابعة اللازمة.

كما أظهرت النتائج أن التفاعل بين الممرضة والأمهات المستفيدات من الخدمة هو دون المستوى المطلوب، حيث أن الممرضة لا تقدم النصائح اللازمة للأم والمناسبة لطفلها بالقدر الكافي حيث أن 24.6% من الأمهات أشرن إلى عدم تلقيهن أي تثقيف صحي خلال زيارتهن للعيادة. بالإضافة إلى عدم استخدام الممرضة الوسائل التوضيحية أو توزيع النشرات التي تساعد ألأم على حل مشاكل طفلها الصحية.

إن تبني مبدأ الجودة في تقديم الخدمات الصحية في الرعاية الأولية يساعد على إعطاء أفضل النتائج والوقاية من المضاعفات والتقليل من العبء المادي للمؤسسة في ظل الظروف الحالية.

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Abbreviations

BHC	:	Balata Health Center
CDC	:	Centers for Disease Control and Prevention.
CFHP	:	Chief Field Health Programme.
CHS	:	Child Health Services.
CMR	:	Child Mortality Rate.
IMR	:	Infant Mortality Rate.
IOM	:	Institute of Medicine.
GHI	:	Governmental health insurance.

MCH	:	Maternal Child Health.
MOH	:	Palestinian Ministry of Health.
NGOs	:	Non- Governmental Organization.
NHP	:	National Health Plan.
PHC	:	Primary Health Care.
PHCMAP	:	Primary Health Care Management Advancement Programme.
PRCS	:	Palestine Red Crescent Society.
PNHA	:	Palestinian National Health Authority.
UNICEF	:	United Nations Children's Fund.
UNRWA	:	The United Nations for Relief and Work Agency for Palestinian refugees in the Near East.
WBGS	:	West Bank and Gaza Strip
WHO	:	World Health Organization.

Chapter One

Introduction

This study is an assessment of the quality of primary health care through one of its elements “the Child Health Care”. The requirements for such care are carefully considered before considering the assessment in more details.
The information resulting from the quality assessment can be used by local managers, the board of directors, and regional directors. It can also be used by health workers themselves and the communities. This use can be done in a variety of ways. For example, it might be used to identify problems so that plans can be made for training, supervision, or technical assistance.

The wider environment has a role in affecting families and through them children. At the same time both the immediate community and the larger society have a responsibility towards children and their families. Children need advocacy for a variety of reasons especially for vulnerability and dependency. More and above, all children are now increasingly recognized as the seed corn of development, they are the human capital of tomorrow.*" Societies who neglect children are behaving as if there will be no tomorrow*" (Ebrahim, 1982).

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 the basic biological and physical requirement in the context of pre-natal and post-natal development, as well as during infancy and late childhood should be adequately addressed.

Assessing and improving the quality of health care was, until recently, a low priority, both for policy markers in developing countries, and for technical agencies. The reasons for this long neglect of quality of care include; (i) a perceived priority of extending coverage at the expense of quality; (ii) the view that quality is difficult to assess in the absence of reliable documentation and health information systems; and (iii) the

perception that improving quality is equivalent to increasing inputs, thus costly and not affordable for many countries (Reerink, 1996).

The situation of Palestinian children and their living conditions are difficult and lack many basic rights and services. The United Nations for Relief and Work Agency for Palestinian Refugees in the Near East (UNRWA) has been one of the lead agencies responsible for the Palestinian assisted programs for more than 50 years of insecurity.

"*In the West Bank and Gaza (WBGS) an estimated3.8million Palestinians live in that form of geographic patchwork, where the population still live under Israeli military control. Some 41 % (over 1.4 million) are registered as refugees and are entitled to basic services from UNRWA* (UNRWA, 2001).

Infant and under-five mortality raters are of the most critical indicators on the child wellbeing in a country. In recent years, improved access to health care services, near-universal immunization coverage, decreasing malnutrition rates, and a high literacy level have all contributed to declining infant and under- five mortality rates. At the same time, the high population growth rates brought about by high fertility rate (Total Fertility Rate of 3.87) together with the continuously deteriorating economic status and rising number of people living under the poverty line all pose a challenge that requires substantial investments for maintaining current level of social service delivery at the bare minimum (Palestinian National Health Authority, & UNICEF 2001).

The assessment of quality must rest on a conceptual and operational definition of what the “quality of health care means". Many problems are present at this level, for the quality of care is remarkably a difficult concept to define.
Perhaps one of the good known definitions on medical care quality is that offered by Lee and Jones, where they state that “*Good medical care is the kind of medicine practiced and taught by the recognized leaders of the medical profession at a given time or period of social, cultural, and professional development in a community or population group* "(Lee and Jones, 1933).

Other definitions illustrate the violations of the thinking over the past sixty years.

Standards of quality of care should be based on the degree to which care is available, acceptable, comprehensive, continuous, and documented, as well as on the extent to which adequate therapy is based on an accurate diagnosis and not on symptomatology (Esselstyn, 1958).

Meanwhile, some definitions stress the outcomes dimension of quality. For example, Institute of Medicine (1990) defines quality of care as "*the degree to which health services for individuals and population increase the likelihood of desired outcomes and are consistent with current professional knowledge*" (Institute of Medicine1990pp313).

The above stated definitions of the quality of care indicate that it is extremely difficult to arrive at a consensus as to what constitutes good quality care because of the implied values inherent in multidimensionality. This partly explains the existence of the many definitions and the several approaches to its measurement.
However, services provided in a health care institution should have certain characteristics beyond the issues of affordability and availability. It should involve elements and characteristics of quality. Elements of acceptability by the consumer are actually the most important. If the consumer (the patient) does not accept the services provided, he/she will neither seek them nor approve of them even though these services are available, accessible and affordable. Therefore, the quality of services rendered is crucial to health care. Quality, however, should be from the perspective of the consumer, because quality care is acceptable service by the consumer of that care. It is a call for efficiency and cost savings. It is not necessarily luxurious items or services. It is, however, a product or a service that is acceptable, accessible, efficient, effective and safe that is continuously evaluated and upgraded (Al-Assaf, 2001).

UNRWA's cost effective investment in health contributed to the attainment of marked improvement in the health status of Palestinian women and children over the last five decades. In order to improve access to and quality of primary health care services efforts spend through upgrading the standard of care and facilities, and enhancing the skills and capabilities of staff at the service delivery level, further rationalization of the referral criteria by avoiding unnecessary referral of patients who could be managed at primary level. So we must clarify the requirements for such care, before considering it in more detail through the assessment (UNRWA, 2000).

This study is intended to assess the quality of primary health care provided to children at primary health centers (Balata health Center BHC) regarding anemia prevention and treatment. This study of quality assessment for primary health care is intended to summarize, in relatively brief form, the principal aspects of the large subject of "Quality".

1.1 Quality and primary health care

Quality of health services has been an object of research and controversy for many years. It has been considered by some to be intangible. Others consider it measurable in certain aspects and elusive in others (Al-Assaf, 2001).
In any event, the large amount of literature that has accumulated on health care quality has been oriented almost entirely to the problems of clinical medicine. Relatively little work has been done on the evaluation of public health programs in general and primary health care in particular. The drive for primary health care has been to provide a network of basic health services that are both available and accessible to everyone (WHO, 1998).

"*Primary health care refers to the kind of care provided at the first point of contact with the health care system. Thus it has more to do with the community in which people live than with high- technology hospitals* "(WHO,1998 pp24). It means ensuring certain basic elements-nutrition, water and sanitation, maternal and child care, immunization, health education, prevention and treatment of common local diseases, and provision of essential drugs. Wherever this much is provided, it will certainly make more people healthier than will expensive medical treatment that benefits only a few"(WHO,1998).

The International Conference on Primary Health Care (PHC) that convened in Alma-Ata in September 1978, expressed the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world, by releasing the following Declaration;

The Conference strongly reaffirms that health, which is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health

is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector (Green, 1992).

The new concern for quality of PHC in the late 1980s brought several factors together to put quality of care on the agenda: **first,** the recognition that the quality of many health services was, indeed, low. **Second,** studies that the low utilization of both community health workers and first line health services was, to a large extent, due to consumers' perceptions of low quality of care. **Third,** the crucial motivation to address the problem of quality came from a change in the financing of health care. *"Austerity policies under the banner of "structural adjustment" forced governments in the 1980s to cut subsidies to the health sector*" (Sauerborn, 1989).

"*The fact that primary health care includes the provision of many services that some might consider commonplace, heightens the importance of assessing and assuring its quality*"(Roemer, 1988). The very simplicity of many primary health care activities means that they are subject to faulty performance, and various safeguards must be established to ensure their proper provision. Thus, primary health care quality encompasses a range of attributes that contribute to define the conditions for implementing any policies and plans oriented towards attainment of health for all (Roemer and Montoya-Aguilar, 1988).

Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally available and 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 main focus, and of the overall social and economic development of the society. 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, 1998).

1.2 Defining Quality of Health Care for Children

When conceptualizing quality of health care for children, one must not think of children as simply “little adults.” Health and health care are different for children than for adults in numerous ways, with implications for quality measurement (Jameson and Wehr, 1993).

1. Children have different demographics than adults, which may accentuate socioeconomic, racial, and ethnic disparities in health care. *"Proportionally more children than adults are poor and of minority race and ethnicity, which puts them at a disadvantage in obtaining health care and achieving good health"* (Starfield, 1997).

2. Children undergo rapid and continuous developmental change." *Although all children have inherent developmental vulnerabilities, some children face greater vulnerability from adverse social conditions"* (Halfon and Hochstein, 1997). Many health promotion and preventive services are recommended for children to foster healthy development and to identify developmental vulnerabilities and risks warranting early intervention.

3. Children have different disease patterns and manifestations than adults. Children typically experience many short or recurrent illnesses, but most are generally healthy. Whereas many adults are affected by a relatively small number of chronic conditions, a minority of children are affected by a relatively large number of rare diseases that are “usually related to birth or congenitally acquired conditions, rather than the degenerative conditions that affect adults” (Halfon and Hochstein, 1997).

4. Children are dependent on their parents or other caregivers to foster a safe and healthy home environment and to obtain health care and adhere to treatment regimens. "*In many ways, the child’s family can be considered the “patient” in child health care encounters* "(Szilagyi and Schor, 1998). This dynamic creates challenges for including children appropriately in communication with health professionals and addressing parents’ health problems that may affect children (Gidwani , 2003)

5. Children often rely on different sources of coverage and systems of care than adults. Proportionally more children than working-age adults are insured by public programs such as MOH Health Insurance Program for under 3y ,UNRWA, or NGOs, that are often not well coordinated. "*Children also may receive care in facilities or be treated with equipment that is not ideally suited or appropriate for children, potentially compromising the quality of their care*" (Palmer and Miller, 2001).

1.3 Health services: Access and Quality

International Conventions on Children recognize a child's right to "facilities for the treatment of illness and the rehabilitation of health", and recognizes primary health care as a framework for combating disease and malnutrition (UNICEF 1999).
Data from the WBGS on the proximity of health facilities show that 60% of families are less than one kilometer away from a health facility, but that the geographic distribution of health facilities is very uneven. A 1993 study estimated that there were 277 villages, comprising 14% of the population that did not have health clinics, and a further 196 localities, where 9% of the rural population lived, that did not have any kind of health care services(UNICEF1999).

Since 1993, the worsening budgetary situation of the UWRWA has eroded its ability to maintain the quality of its health services for registered refugees in its five fields of operations. UNRWA states that" *staffing is failing to keep pace with the increase in demand for health care, citing, for example, daily patient visits per doctor, which have now reached an untenable 100 agency-wide and 109 visits per doctor in Gaza field* "(UNRWA, 2001).
Reduced allocations for medical supplies, maintenance of premises, travel, and training are also resulting in increased equipment and drugs shortages and a reduced overall quality of care.

1.4 Background and Significance of the study

Age distribution of the population has important implications for the health status of the population, due to the different health needs, the different patterns of health care utilization and the different health status among the various age groups.

The Palestinian population pyramid of 2001 shows that the under five year's old still constituting the largest proportion with percentage of 18.3% of population (MOH, 2002).

According to UNRWAs 2000 report, the total number of refugees is estimated at 1,428,891 where 58.6% of them are residents in Gaza and 41.4 % are residents in the West Bank. Most refugees still live in overcrowded camps with sub-standard dwelling

and sanitation conditions, which have a negative impact on the health status (MOH, 2000).

According to an UNRWA study in 2000 the total fertility rate was estimated at 3.5, and the annual population growth rate was 3.5 %, of the registered refugee population.

Children below 15 years of age represent 35% of the registered Palestine refugee population. Approximately one third of those children are under three years of age. Because they are in a state of rapid growth and development, those children have special needs and require access to high standards of integrated maternal and child health care (UNRWA, 2002).

Infant Mortality Rate (IMR) and Child Mortality Rate (CMR) are important health indicators since they reflect the health and nutritional status of children as well as the level of health care provided to them. They are direct measures of the children well being in any society (UNRWA, 1998).

Efforts continued to be exerted in order to improve access to and quality of primary health care services through upgrading the standard of care and facilities, and enhancing the skills and capabilities of staff at the service delivery level, further rationalization of the referral criteria by avoiding unnecessary referral of patients who could be managed at primary health care level (UNRWA, 2000).

Since its establishment UNRWA has implemented several cost-effective preventive measures to reduce mortality among infants and young children who were given the top priority in the agency's health programmes and interventions. These included immunization, growth monitoring, promotion of breast feeding, and oral rehydration for diarrheal diseases, and high quality of ante-natal and post natal care, family planning services, food supplementation for the malnourished and iron supplementation for the anemic. Protein-energy malnutrition among children had been eliminated. However, micronutrient deficiencies, which affect the physical and mental development of children, are still high (UNRWA, 2002).

Iron deficiency anemia is a problem of public health significance, given its impact on physical and psychological development, behavior and work performance .It is the most common form of malnutrition in the world. It is most prevalent in children (6-24 months) and women of

reproductive age, but is often found in older children and adolescents, especially girls, and may be found in adult male and elderly (UNRWA, 2000).

Growth monitoring is widely accepted and strongly supported by health professionals, and is a standard component of community pediatric services throughout the world. We sought to evaluate research evidence of its impact. In this review, we define growth monitoring as the regular recording of a child's weight, coupled with some specified remedial actions if the weight is abnormal in some way.

Growth monitoring consists of routine measurements to detect abnormal growth, combined with some action when this is detected. As primary care workers worldwide invest time in this activity, we sought evidence of its benefits and harms. The review objectives are to evaluate the effects of routine growth monitoring on:

1. The child, in relation to preventing death, illness or malnutrition; and referrals for medical care, medical specialist assessment or professional social support follow-up.
2. The mother, in relation to nutritional knowledge, anxiety or reassurance about the child's health, and satisfaction with services.

"*Given the level of investment in growth monitoring worldwide, it is surprising there is so little research evaluating its potential benefits and harms*" (Panpanich R, and Garner P.,2000).

Nutrition surveys conducted among the Palestine refugees in 1961, 1978 and 1984 revealed that more than 50 % of preschool children and women in reproductive age suffer from iron deficiency anemia (UNRWA, 2000).

In 1990, a nutrition survey was conducted by the WHO Collaborating Center at Centers for Disease Control and Prevention (CDC), Atlanta in four fields of UNRWAs area of operation, namely Jordan, the Syrian Arab Republic (SAR), Gaza Strip and the West Bank. The survey revealed that the prevalence of iron deficiency anemia among pregnant women ranged between 31.3 % in the first trimester and 58.9 % in the third trimester Agency-wide. While the prevalence among children 6-36 months of age ranged between 57.7 % in the West Bank and 75.3 % in SAR. A new intervention strategy for iron supplementation was introduced in 1991, which was amended in 1995 placing special emphasis on treatment (UNRWA, 2000).

This suggests that in spite of interventions that the agency had, so far, undertaken, iron-deficiency anemia still represents a major public health problem.

Reduction of iron-deficiency anemia is a significant activity in UNRWA's child health care programme. A number of health surveys have been carried out in the Agency's area of operation with most of these studies reflecting the low hemoglobin level among children. However, these studies did not measure the unexpected variation in the socioeconomic conditions, accessibility to/and quality of health care provided.

A value analysis framework is then proposed in order to make the point that paying attention to quality assurance control is more about optimizing the fit between available resources and ideal outcomes; rather than always being about additional resources (Yassin, 2001).

Growing demand for health care, rising costs, constrained resources, and evidence of variations in clinical practice have increased interest in measuring and improving the quality of health care in many countries of the world (Roland, Holden & Campbell, 1999)

There has been a move away from assessing costs and activity to assessing quality with an emphasis on both efficient uses of resources and on the effectiveness of health care.

The researcher suggests that using value analysis to support quality management is a promising approach in the drive to further decrease anemia rate among children through exchange and sharing of knowledge between those located at the two ends of the care giving continuum- providers and recipients of care, particularly at a time of budgetary restrictions.

Mothers-the prime caretakers- must be empowered through equipping them with the needed knowledge base so as to deal with, in fact, a wide variety of the under-fives health problems. This empowerment value based approach including its tangible and intangible dimensions is assumed to counterbalance the wastage in resources reiterated in quality improvement attempts seen in various organization.

1.5 Overall Objective

To assess the quality of selected aspects of health care services offered to six monthes-3 years children at the UNRWA health center at Balata Camp.

1.6 Specific Objectives

1. To assess the availability of selected areas of primary health services offered to the 6m-3 years children at UNRWA Balata health center.
2. To assess accessibility of selected areas of primary health services offered to the 6m-3 years children at UNRWA Balata health center.
3. To examine selected quality indicators of existing primary health services offered to the 6m-3 years children at UNRWA Balata health center.
4. To assess the knowledge and practices of mothers concerning issues under study.
5. To examine the adherence of the care providers to growth monitoring procedures as stated in relevant protocol and literature.

Chapter Two

An Overview of the Refugee Health Care in Palestinian

2.1Overview

Since the early days of Israeli Military Occupation in the West Bank and Gaza, the Israeli Military Occupation have continuously attempted to takeover the existing Palestinian health care structures and to make them increasingly dependent on the Israeli health care system. In the early years of occupation, little development has taken place as most the efforts of the Palestinian structures, which were not taken over by the Israeli Military Authorities were directed towards maintaining their existence and providing needed health care services under numerous restrictions imposed by the Israeli Military Authorities. The Israeli restrictions took many forms, ranging from delay in licensing of projects to the point where such activities as health education became activities requiring permission from the military occupation authorities.

A number of indigenous health care organizations, predominantly charitable societies, were able to obtain permits to operate in the Occupied Territories, but their operations were mainly focused on curative health services with little emphasis on preventive health activities and primary health care services which rendered further development of this sector virtually impossible.

Basically, the current Palestinian health sector reveals a number of aspects and circumstances that are unique to it. Developments and initiatives in the health sector were not determined on the grounds of a plan based on people's actual needs, but rather on that of political considerations on the part of the Israeli authorities, and often on unnecessary destructive competition amongst the various Palestinian professionals, structures and organizations which led to an improper development of the infrastructure of health sector.

2.2UNRWA Historical Background

The United Nations Relief and works agency for Palestine Refugees in the Near East (UNRWA) began operation in May 1950. Its task was to provide emergency assistance to the hundreds of thousands of Palestinians displaced by the 1948 Arab-Israeli conflict. Today, UNRWA continues to provide essential education, health, relief and social services to 3.8 million Palestinian refugees living in Jordan, Lebanon, the Syrian Arab republic, the West Bank and Gaza Strip.

The Agency's services to the refugees, which constitute an essential investment in their human resources, include the following broad categories: elementary and preparatory education; vocational and technical training; comprehensive primary health care, including disease control and family health; assistance towards hospitalization; environmental health services in refugee camps; relief assistance to vulnerable households; and social services for women, youth and persons with disabilities.

UNRWA remained committed to the goal of contributing to the process of rehabilitation and building a sustainable health care system in Palestine within the means available to it and within any framework that is considered appropriate.

However, the prevailing circumstances and the restrictions imposed on movement of area staff between Gaza and the West Bank continued to have adverse effects on promoting coordination in health not only within UNRWA but also between UNRWA and other health care providers (UNRWA, 2000).

2.3 Refugee Health Today

One-third, or over 1.3 million registered Palestine refugees still live in camps where living conditions are characterized by high population densities, high unemployment, and inadequate basic infrastructure, with open sewers, limited supplies of clean water and unsatisfactory drainage systems which make flooding commonplace in the often harsh winters. In addition, the years of conflict and hostilities, and the feeling of an insecure future all affects the health of the refugees. Non-communicable diseases such as diabetes, hypertension, cardiovascular diseases and cancer are all on the increase. Birth rates are among the highest in the world and intervals between births are short, thus affecting women's health. Diarrhea and intestinal parasites, particularly affecting children, are highly prevalent due to poor environmental conditions in the camps. While

refugees also have varying degrees of access to public sector health services provided, UNRWA remains the main provider of basic health care and the refugee community share in the cost of hospital services and medical investigations. The refugees also contribute through their voluntary participation in health-related projects (UNRWA, 2004).

The situation in the occupied Palestinian territory has caused a significant deterioration of the refugees' health: various studies document the increasing prevalence of acute and chronic malnutrition as well as iron deficiency anemia and low birth weight. The workload at UNRWA general clinics continued to be high, with an average of over 100 consultations per doctor per day Agency-wide, reaching a peak of 129 in the Gaza Strip.

2.4 The mission of the (UNRWA) health department

UNRWA is responsible for PHC services provision for refugees. An acceptable level of health for all the people of the world by the year 2000 can be attained through a fuller and better use of the world's resources, a considerable part of which is now spent on armaments and military conflicts. A genuine policy of independence, peace, détente and disarmament could and should release additional resources that could well be devoted to peaceful aims and in particular to the acceleration of social and economic development of which primary health care, as an essential part, should be allotted its proper share (UNRWA2000) .

"The mission of the Agency (UNRWA) health programme is to protect, preserve and promote the health status of the registered refugees and meet their basic health needs consistent with the basic principles and concepts of the WHO " (UNRWA2000) .

2.5 The objectives of the (UNRWA) medical care program are

1*To reduce morbidity, mortality and disability from acute and chronic diseases and provide continuity care to patients with special health needs.

2*To increase the efficiency and cost-effectiveness of services at primary health care level by providing necessary support services for diagnosis ,as well as, by monitoring the progress attained in management of morbidity conditions.

3* To ensure access of refugee patients to essential hospital services within the financial means available to the UNRWA in order to prevent disability or premature death from life-threatening conditions.

UNRWA's overall health policy is;

a. to make essential health services accessible and free of charge to the refugee population through UNRWA primary health care facilities with special emphasis on at risk groups.

b. to provide secondary medical care , especially emergency and life-threatening treatment at governmental or non-governmental health facilities.

c. to provide essential sanitation services in camps.

The overall strategic approach of the health programmes will continue:

1. To focus on preserving the sustainable investment that has been achieved in primary health care.

2. Improve the quality of health services provided to the Palestinian refugees within the financial means available to UNRWA.

3. Stream-line health policies and services standards with those of the Palestinian National Authority.

2.6 The UNRWA health department challenges

1. The work load at UNRWA health centers continues to be high (aver. 112 consultations per Medical Officer per day). This reduces doctor-outpatient contact time, and adversely affect the quality of care provided to patients. It continues to be a main obstacle towards implementing an effective appointment system in UNRWA clinics (pre-set date and time for the patient to see his doctor).

2. The approved budget continues to be disproportional to the need of providing adequate assistance towards essential services, at least, at the current levels.

3. The inadequate budget has resulted in significant stock ruptures that has adversely affected the implementation of the approved intervention strategies and has compromised programmes achievements.

4. The limited provision of medical technology that is readily available to the public sector services renders UNRWA unable to introduce programmes and facilities for surveillance of morbidity and life-threatening conditions that are associated with high and premature mortality such as cancer, congenital anomalies e.g.haemoglobinopathies ,

cardiovascular diseases….etc. Likewise, UNRWA remained unable to provide long-term life sustaining treatment for refugee patients, especially for those who need complicated treatment such as haemodialysis, immune suppressive therapy, chemotherapy and radiotherapy (UNRWA,2000).

UNRWA health programme emphasis on interventions in primary health cane in protecting and promoting the health status of the Palestine refugees.

The registered Palestine refugees in the agency area of operations were distributed as follows: 1610000 in Jordan 388000 in Lebanon, 388000 in Syria Arab Republic 838000 in Gaza Strip and 591000 in the West Bank (UNRWA, 2000).
Approximately one third of the registered refugee population live in 58 camps and the rest live in cities, towns and villages in the five fields of UNRWA's area of operations.

According to on UNRWA study in 2000 the total fertility rate was estimated at 3.5, and the annual growth rate was 3.5 per cent, of the registered refugee population.
Approximately 35% of the registered refugees are below 15 yrs of age. Women of reproductive age (15-49y) and adult population (40y) and above each represent approximately one fourth of the total registered population.
The health center provides comprehensive health care comprising preventive and curative medical care services, supplementary feeding to vulnerable groups and environmental sanitation services in camps.

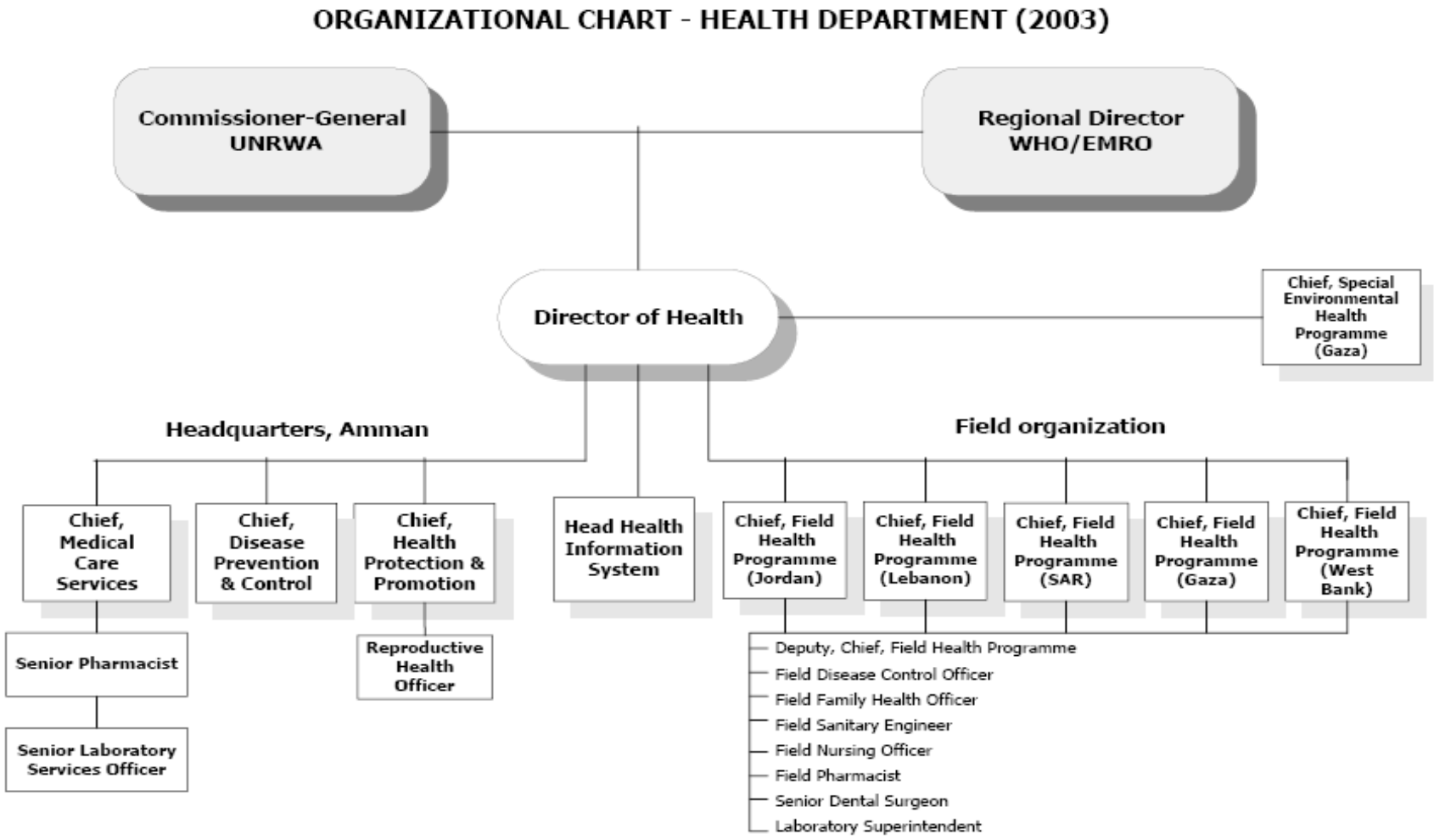
The primary health care center provides medical care services with fully equipped laboratory, radiological unit, ultrasound machine and dental clinic. In addition, mobile team to provide preventive health services to school children.
UNRWA provides assistance towards hospitalization through contractual agreements with governmental or non-governmental hospitals or through reimbursement of patients of the costs incurred by refugees on their treatment in local hospitals.

2.7 UNRWA Health Programme Management

Technical supervision of the UNRWA health programme is provided by WHO, which also supplies the services of senior management staff and short-term consultants, technical literature and publications (UNRWA, 2002).

1. The Director of health is seconded from the WHO. The Department of Health Headquarters is in Amman and comprises Head of Health Information System and three Chiefs of Division who are directly responsible to the director for the planning, development, technical supervision and evaluation of the agency's health programme.
2. The department of health in each field is headed by the Chief Field Health Programme, who is assisted by his deputy, Field Disease Control Officer, Field Family Health Officer, Field Nursing Officer, Field Sanitary Engineer , Field Pharmacist, Laboratory Superintendent and Senior Dental Surgeon (see figure2.1) .
3. Technical direction of the various components of the health programme is provided through a set of technical instruction series, manuals and management protocols which are periodically revised and updated consistent with the basis principles and concepts of WHO as well as with the approved agency policies.

Figure: 2.1 Organizational Chart-Health Department (Annual report 2003).



2.8 Primary Health Care (PHC)

Since 1948, UNRWA has been responsible for the provision of health services for Palestinian refugees. Primary health-care services were delivered to Palestine refugees in the West Bank through the Agency's network of 34 primary health facilities, providing the full range of preventive and curative medical-care services, of which 17 were inside refugee camps, these centers provide services for 1428891 people, about 28000 refugee per center in (About 49,300 refugee per center in Gaza and 17400 refugee per center in West Bank) (UNRWA, 2004).

UNRWA has been offering health services free of charge to all Palestinian Refugees and plays a distinguished role in the program of vaccination, in addition to curative services, antenatal & postnatal care and the specialized services.

The main PHC services are:

1. Curative and first aid services.

2. Specialized services including diabetic clinics, hypertension, cardiovascular, dermatology and ophthalmology services depending on the needs of their populations.

3. Preventive and MCH services including prenatal and post-natal care, well baby clinics and vaccinations.

4. Epidemiological surveillance and infectious diseases management and control.

5. Women's health including family planning.

6. Rehabilitation services.

7. Laboratories with facilities to provide hematology, clinical chemistry and microbiology tests.

8. Dental care services.

9. Health education and promotion programs.

10. An ambulatory surgery section for minor surgical procedures and emergency condition.

11. Child delivery facilities (in the center or home).

12. Water and food control and environmental monitoring.

The ongoing humanitarian crisis since October 2000 has had adverse consequences on the health and nutritional status of the population and resulted in breakdowns in the

delivery and quality of services. There was increased demand for the Agency's general clinic services because many populations had to change the health-care provider owing to difficulties accessing their normal providers and because of difficult socio-economic conditions. There was a decline in the coverage of maternal health and immunization services, especially in localities which had been under prolonged closures and curfews.

In addition to these services at the primary level, UNRWA continued to place special emphasis on health educational activities targeting School children and adolescents. The special programmes on prevention of tobacco use and HIV/AIDS, which were developed in previous years, continued to be implemented as multi-sectored activities with full participation of teaching staff (UNRWA,2002).

2.9 Secondary care

UNRWA provides assistance towards the cost of secondary medical care, especially emergency and life-saving treatment, at public, non-governmental and private hospitals. However, with the rise in hospital costs in the 1990s, and a reduction in the Agency's budget, UNRWA has been forced to increase the percentage of cost sharing by the refugees themselves to between 12-40 per cent of treatment costs, as well as limit the number of referrals and discontinue reimbursements for certain treatments. Hospitalization costs for special hardship cases, the poorest of refugees, are fully covered by the Agency. However, the problem of hospitalization costs has become particularly acute in W.B where most of the refugees are unable to cover their share and so cannot get the treatment they need (UNRWA, 2002).

In-patient care was provided through the Agency's hospital in Qalqilia and contractual arrangements with three NGO hospitals in East Jerusalem and five other hospitals in the West Bank. The Agency also reimbursed insurance premiums to cover cancer treatment costs for refugees holding Jerusalem identity cards. The level of co-payment by refugees stood at 25 per cent for secondary care and 30 per cent for specialized life-saving care. However, owing to increased poverty, many refugees were unable to contribute towards the cost of their treatment. Owing to problems of mobility and access, three additional hospitals were contracted in Nablus, Jenin and Al-Bireh.

UNRWA runs a small 43-bed hospital in Qalqilia in the West Bank with strong support from the local community. Founded in 1950, the hospital offers medical care, surgery, gynecology and obstetric services to refugee and needy non-refugees in the northern

West Bank. The hospital is being upgraded to include a 20-bed pediatric ward, radiology and physiotherapy units, and a nursing dormitory (UNRWA, 2004).

2.10 Environmental Health

UNRWA provides essential environmental health services in refugee camps including sewage disposal, management of storm water runoff, provision of safe drinking water for domestic use, collection and disposal of refuse and control of insect and rodent infestation. However, many of the camps still suffer from poor environmental health conditions and much work still needs to be done in this area.

UNRWA carried out a series of feasibility studies, prepared detailed technical designs and made major contributions towards improving the poor infrastructure in refugee camps and adjacent municipalities under its Special Environmental Health Programme in Gaza (UNRWA, 2003).

2.11 Health Finance- UNRWA Health expenditures

The Agency's services are funded from its budget, where appropriate and possible, refugees contribute to service costs through co-payments, self-help schemes, participation fees and voluntary financial contributions. The Agency's regular budget allocation for the occupied Palestinian territory was $156.9 million in 2004, compared with $154 million in 2003 of which 12.7 millions of United States dollars invested in health (UNRWA, 2004).

In a study by the World Bank (1997), the estimated per capita health expenditures in West Bank and Gaza was 122 US$ in 1996, which means 8.6 percent of the GDP. About one third of all health care expenditures are directed towards Ministry of Health facilities, while private providers, non- governmental organization and UNRWA making up the rest. Estimated that between 15% and 17% of all health care expenditure in Palestine are on drugs and vaccines. About 47% of the Ministry of Health budget and nearly half of all expenditures in UNRWA and non- governmental sector consist of wages and salaries and other forms of employee remuneration. Finally, excluding capital expenditures, about one third of all health expending appears to be directed for primary health care (MOH,1999).

According to WHO analyses of the finances of health-care systems worldwide (see table2.1 below), the annual per capita spending on health in low-income countries ranged from $2 to $50. Average expenditure by UNRWA on health in 2003 was estimated at $14.6 per refugee. Even if the most conservative estimate of the number of actual users of UNRWA health services were considered, in 2003 the per capita allocations on health activities was less than $20 (UNRWA,2004) .

Table2.1 Finances of health-care systems worldwide

Country rank	Annual per capita income in US $	Annual health spending in US $
High-income	>8,000	1,000 – 4,000
Middle-income	1,000 – 8,000	75 – 550
Low-income	<1,000	2 – 50
UNRWA	-	12.8 per refugee 17.3 per user

The Agency's health services were cost-effective by regional and international standards; moreover, programme achievements place it closer to those of middle-income countries, which, according to WHO, spend from $75 to $550 per capita. This large disparity between financial resource allocations and health outcomes can no longer be sustained if Agency income does not increase at rates commensurate with population growth, steady inflation, changes in the demographic and epidemiological profile of the refugee population (including increased life spans and a rising burden of non-communicable diseases) and changes in health needs and priorities. The 2004-2005 results-based budget was prepared in accord with the United Nations System-wide format at a total of USD 126,817,000 representing a 6 percent increase in allocations for health over the 2002-2003 approved budget and17.8 per cent of the total Agency budget for the biennium. The budget allocations for health per registered refugee per annum varied significantly from one Field to another depending on local circumstances, dollar equivalent of staff salaries and access of refugees to the services of other care providers or otherwise. The highest per capita allocations per year were for Lebanon, namely USD 34.3 and the lowest for Jordan, namely USD 7.3. These allocations were established at USD 19.1 per refugee per year for Gaza, 19.2 for the West Bank and 14.3 for Syria Field. The Agency-wide average16 allocations per registered refugee per year

under the regular 2004-2005 approved budget were USD 15.3 for the full range of medical care services, environmental health services in camps and food aid to vulnerable groups (UNRWA, 2004).

2.12 Human Resources

The number of available health staff (671) continued to fall below those required to meet increasing needs, and far below the standards maintained by the region authorities. In spite of intensive investment in staff training and development, the capacity of the staff continued to be stretched to the limit.Human resources in UNRWA are 97 physicians, 316 nursing personnel, 72 nursing staff, 134 technicians, 25 dental professionals and 26 pharmacy professionals.(UNRWA,2004)

2.13 Quality in the health care system in Palestine

Quality of health care has been identified as an important area for improvement in the Palestinian health sector. The National Health Plane (NHP) was the first Palestinian policy document that recognized the need for quality improvement in health system.

Data available on the issue of quality of health care in Palestine is very limited. The issue of quality of health care was addresses as one of the ten guiding principles for activities in the health sector in Palestine in the Policy Statement of the Palestinian delegation.

A situational analysis don by (Massoud 1996) to identify the core factors leading to poor quality of health care, indicated that the national expenditure on health care appear to be very high relative to GNP and compared with other country with similar national product .The interesting fact is that these countries appear to be investing a significantly lesser proportion of their national product in health than the Palestinian people are. In other words countries of similar economic status appear to be investing less in total amount and in proportion of national produce into health and to be obtaining

comparable health outcomes. "*Directing and better utilization of existing recourses will yield more improvements in quality of health care*" (Massoud, 1996).

The fact that for the given inputs we are obtaining low outcome and that the degree of waste in the system of delivery of health care is large, are highly indicative of inefficiency in the system. Deficiency in inputs cannot be the cause of poor quality of the health care in Palestine, but it's the ineffective resource allocation. *"Inefficiency in the system of delivery seems to dominate the big picture of the issue of quality of health care in Palestine"* (Massoud, 1996).

The quality of health care problems in Palestine are pointed to process related issues. This poses two interesting questions: first, why is the Palestinian investment in health care such a large percentage of the national product? Second, why is the relatively larger than expected investment not yielding corresponding health outcomes?

The proposed solution lies in a two pronged approach to improving quality: tackling the micro picture of inefficiency at the level of the provider organizations, and tackling the macro picture of reforming the health system on a national scale (Massoud, 1996).
Thus, reform must be viewed as dynamic process continuously evolving with the evolution of the system and directed at effectiveness, efficiency and quality improvement. Efforts should be cared to identify causes of poor quality and/or barriers to improvement and that recommends actions that may be effective in overcoming them. Improving performance requires systematic approaches to evaluate and incorporate evidence into practice, more effective education for patients and practitioners, and more rigorous methods of assessment and accountability.

1) Lack of priority for health care quality. A relative shortage of credible quality data may be explained by the common method of prioritizing of extending coverage at the expense of the quality issues. "*An alternative approach would be to prioritize based on services that modify health states and behaviors that predispose individuals to future morbidity and mortality"* (Forrest, 1997).

2) Fragmentation of health care delivery and financing. The current array of health care services and programs for Palestinian has been characterized as a "non-system" of

care that is often difficult for families to navigate. The availability of partially or totally subsidized services has several positive attributes but has not without effect on the demand for health services and the consequences of this on efficiency and quality. First, it drove the demand for services up with consumer sensitivity for the costs incurred. Second, it drove the efficiency and quality of the services down in the sectors concerned. The services usually can only be obtained at predetermined points of service delivery. The patient either receives what ever services are available there irrespective of how content he is with the service or does not receive it these given system of health care delivery. In reality, this means two things: minimal choice provider for the patient and little incentive for the provider to satisfy his patient. In addition if for example a drug is not available and this is quit often an essential drug that the patient may be taken regularly. The mechanisms by which the systems of delivery of health care are financed are acting as disincentive for quality health care.

3) Lack of awareness or agreement. Physicians may not follow guidelines for health care because few have been rigorously evaluated to establish their validity in improving outcomes. Even when a guideline is well supported by evidence, health professionals may not practice in accordance with the guideline because they lack knowledge of or are not in agreement with it (Cabana, 1999).

4) Insufficient time and reimbursement. Adequate time and reimbursement are necessary but not sufficient to ensure that comprehensive, patient-centered care will be delivered. Increasing visit length was associated with increased preventive service delivery in the context of one quality improvement intervention.

5) Insufficient professional skill or confidence. Physicians and other care providers may recognize their responsibility for improved performance but lack the necessary skill or confidence that they can apply a skill. "*Passive continuing medical education is rarely effective in changing outcomes*' (Davis, 1995).

6) Insufficient systems and supports for improvement. The importance of system thinking is also familiar in the field of health promotion, where good practice is to work at coordinating different activities and agencies to produce a result which is grater than the sum of the parts underlying this principle is the philosophy that individuals or parts of the system are not to be blamed or praised for success or failure. Results depend on

the parts working together, and quality methods help to insure that they do. Although some of the principles of the quality movement are familiar, many health promotion practitioners are not aware of the methods and frameworks for systematically improving quality. This is perhaps where quality ideas has the greatest value for heath promotion programs- to implement good practice and to give stuff simple methods to give real, practical improvement .Traditionally good practice is slow to be adapted or gets pushed to one side by practicalities and the business of every day work.

"*Small health plans, community hospitals, clinical practices, and solo practitioners may not have the operational capacity to implement changes in systems or practices* "(Dickey and Kamerow, 1996).

7) Insufficient motivation for change. Health plans and practitioners may lack incentives to adopt innovations and to improve their performance—or worse, may face perverse incentives that discourage them from doing so. The lowering of efficiency and quality is enhanced also by the lack of competition for quality and efficiency in the public sector services. To make the picture worse, the health care professionals are neither rewarded nor really penalized for any shortages or poor quality of service. Their earnings are completely unrelated to the quantity or quality of services they provide. Within the same system health care provision competition is for all practical purposes non existent.

8) Evaluating and sustaining the gains. Quality improvement interventions must be evaluated to determine whether and when they are cost effective in achieving their aims for improving outcomes and patient experience. Many interventions are evaluated on a relatively short-term basis; a critical challenge is to ensure that these gains are sustained over time through ongoing monitoring and reinforcement. Some examples in the *Capacity to Improve* section illustrate that gains may be variable in different settings, so interventions should be evaluated across multiple institutions or practices whenever possible. Such an approach also can help ensure that the intervention design is replicable by other organizations.

However, not quality improvement activities in themselves they are essential in put in to the quality process

The quality health care unit at the Palestine council of health is currently engaged in designing the strategic plan for quality of health care in Palestine, which tackles both the internal efficiency at the level of the provider organizations and the systems reforms on the national scale.

Chapter Three

Literature Review

This chapter attempted to present an overview of the concepts of quality in health care. Obviously the field is too vast to be careered in this chapter, but should the reader be interested to know about the concept of quality in health care its principles and component.

The purpose of this chapter is to review conceptual and pragmatic evolution of quality over the past years. With the explicit objective of lying the groundwork for the examination of what is applicable to the context of assessing primary health care in such a developing country, accordingly to the researcher will choose the appropriate unit of analyzing and measuring the quality health care provided in the three areas of research, growth monitoring, anemia prevention and treatment, and health education provided in these areas.

3.1 Historical Development of Quality Assurance

Quality assessment and quality control in health care date back to the mid-nineteenth century in England. During that period, there was an increased awareness of the sanitary problems associated with community dwellings and use of minors as laborers. Dr Edwin Chadwick, a public health activist and a pioneer, published a report in 1842 which vividly described the unacceptable sanitary conditions associated with urban and rural communities in Britain at that time. He attributed this problem to the lack or shortage of qualified public health professionals who could provide quality service to the community. He recommended the establishment of guidelines with regard to the availability and training of public health workers. Influenced probably by Chadwick's report, in the United states, another public health physician, Dr Lemuel Shattuck, published a similar report but this one was on the sanitary conditions in the town of Massachusetts. He, too, recommended the improvement of the structural elements of public health sanitation and the establishment of "sanitary police" to monitor the sanitary conditions in local communities.

In Britain, around 1854, Florence Nightingale served as the leading nurse during the European Crimean War ,Ms Nightingale was the first to notice the positive correlation between the introduction of adequate nursing care to wounded soldiers and the decrease in the mortality rate among them. This concept triggered her interest in studying the relationship between the quality of care and positive outcomes. She busied herself after the end of the war documenting this fact in several studies that looked at other components of quality. She started looking at the extent of services and resource utilization and their impact on quality outcomes, and was instrumental in writing up several quality criteria in nursing care. These criteria are considered to be the first nursing care standards in history. A period of testing these concepts was passed and a few other clinicians attempted to further study the correlation between care and outcome (Al-Assaf, 2001).

During the early part of the twentieth century a British physician, Emory Grove, surveyed all hospitals with more than 200 beds regarding mortality as a postoperative complication. Even though Dr Grove collected some important data, he ran into problems when he attempted to compare one hospital with another using the same criteria. Still, he noted major variations in mortality between different diseases and , based on this survey, recommended the development of a standardized classification of diseases and establishment of a follow- up system for post-operative conditions over a long period of time to minimize complications and reduce mortality.

Almost at the same time in the United States several physicians were conducting studies on the quality assessment of health care. In 1914, a surgeon, Emest Codman, of Massachusetts General Hospital, studied general surgeries and their follow- ups and was responsible for influencing the adoption of follow- up progress exams after one year of surgery. This prompted the American college of Surgeons to create, in 1918 the Hospital Standardization programme that provided the criteria and standards for accreditation, which were later adopted by the joint commission on Accreditation of Hospitals.

Just prior to this an interest to develop structure criteria had been created. In 1910, Abraham Flexnor presented his famous report after his study of the education of physicians in the U.S. and was quick to point out the deficiencies in the medical education system. He further pointed out that the education of physicians was directly

related to the quality of care the patient received and that medical education needed substantial reforms. As was expected, this report the emphasis shifted from process elements to structure elements, i.e. the human and physical resources. Education, certifications and licensure became very important in qualifying a health care professional and an educational organization. Several professional associations were established to provide these services with state licensure and examining boards.

Not much was done on health care quality during the 1920s and 1930s this could be attributed to the First World War and /or the economic depression that followed.
The mid- 1930s saw the passage of the National Social Security Act of 1935 that afforded an increased access to health care services for the needy and may have had an indirect effect on the quality of health care services, as certain provisions were outlined in the act which related to the expected performance of providers. Access to health care dominated the trend in global events and several activities in different countries emphasized increasing the availability and affordability of health care services. Most of these events, however, were associated with improving the structure of health care resources, both physical and human (Al-Assaf, 1994).

3.2 Conceptualization

The assessment of quality must rest on a conceptual and operationalized definition of what the “quality of health care means". Many problems are present at this level, for the quality of care is remarkably a difficult concept to define. Many definitions are available and much effort has already been spent on attacking and defending old definitions and on formulating new ones. More importantly, a definition almost always dictates the contents and the process of measuring care implicitly because, it includes norms and value judgments and advocates the criteria to be used in evaluating care. Therefore, the criteria selected to assess the quality of care implicitly define quality operationally because the measurement process measures the criteria that were selected a priori to define quality.

Perhaps one of the good known definitions on medical care quality is that offered by Lee and Jones, where they state that “*Good medical care is the kind of medicine practiced and taught by the recognized leaders of the medical profession at a*

given time or period of social, cultural, and professional development in a community or population group "Lee and Jones, 1933," (De Geyndt, 1995).

Other definitions illustrate the violations of the thinking over the past sixty years. "*Standards of quality of care should be based on the degree to which care is available, acceptable, comprehensive, continuous, and documented, as well as on the extent to which adequate therapy is based on an accurate diagnosis and not on symptomatology"* (Esselstyn, 1958).

The Institute of Medicine state that quality of care" *is the degree to which health services for individuals and population increase the likelihood of desired outcomes and are consistent with current professional knowledge*" (Institute of Medicine, 1990) .

The above stated definitions of the quality of care indicate that it is extremely difficult to arrive at a consensus as to what constitutes good quality care because of the implied values inherent in multidimensionality partly explains the existence of the many definitions and the several approaches to measure it.
Mindel Sheps, seminal paper (1955) on hospital care created conceptual order that did not existed before. Sheps listed prerequisites for good quality care, defined the elements of satisfactory performance and examined the effects of care. His work stimulated and influenced efforts at conceptualizing quality of care for the next twenty years. Alternative approaches were formulated by Donabdiain (1966), Dror (1968) and De Geyndt (1970). These alternative formulations were neatly summarized by Donabdiain (1980) as shown in figure (3). The basic building block of the formulations in the table is the structure- process- outcome trilogy (Donabedien, 1980).

3.2.1 Bruce: Bruce defines quality in terms of the way individuals and clients are treated by the system providing services. (Anrudh1992). Using this principle, Bruce (1990) has evolved a working definition of quality of services that incorporates six elements as follows:

1- Choice of methods: Refers both to the number of contraceptive methods offered on are liable basis and their intrinsic variability. To what degree will these methods meet current or merging needs? For example are there

satisfactory choices for those men and women who wish to space births, those who wish to limit them, those who cannot tolerate hormonal contraceptives, and so forth.

2-Information given to clients refers to the information imparted during service contact that enable clients to choose and employ (contraception) with satisfaction and technical competence. It includes information about range of methods available and their scientifically documented contraindications, advantages and disadvantages; screening out unsafe choices for the specific client and providing details on how to use the method selected, its possible impacts on sexual practice and its potential side effects, and about explicit information about what clients can expect from service providers regarding sustained advice , support, supply, and referral to other methods and related services, if needed.

3-Technical competence involves, principally, factors such as the competence of the clinical technique of providers, the observance of protocols, and meticulous asepsis required to provide clinical methods such as intrauterine devices (IUDs),implants, and sterilization.

4-Interpersonal relations are the personal dimensions of service. Relations between providers and clients are strongly influenced by a program's mission and ideology, management style, resource allocation (for example, patient flow in clinical settings), the ratio of workers to clients, and supervisory structure.

5-Mechanisms to encourage continuity can involve well-informed users managing continuity on their own or formal mechanisms within the program. They can rely on community media or on specific follow-up mechanisms, such as forward appointments or home visits by workers.

6-Appropriate constellation of services refers to situating family planning services so that they are convenient and acceptable to clients, responding to their natural health concepts and meeting pressing pre-existing health needs. Services can be appropriately delivered through a vertical infrastructure, or in the context of maternal and child health (MCH) initiatives, postpartum services, comprehensive reproductive health services, employee health programs, or others (Bruce, 1990: 63-64).

The analytical framework proposed by Bruce (1990), shown in Figure (3.1) below, links the elements of quality to program effort on the one hand and to its client-level output on the other. This framework is unusual as a tool for describing child health programs,

not simply because of its focus on the quality dimension but also because of its vantage point- the individual client's perspective on service experience. This framework views the individual- level outcome as the consequence of service- giving. It assumes that individuals' knowledge, satisfaction and behavior can be influenced by specific program inputs. Furthermore, it is based on the idea that clients have a right to expect knowledge and satisfaction, and that fulfilling those expectations is the most valued aim of a conscientious manager and service provider (Anrudh, 1992).

The framework emphasizes the role of the policymakers who are responsible for setting the scene so that the quality dimension as well as the quantity is planned for and assessed. It also emphasizes the role of the field managers who are crucial in making some improvements in care even in the absence of all the desirable logistics and resources. Apart from any other field use, this framework also calls for participatory reviews with staff.

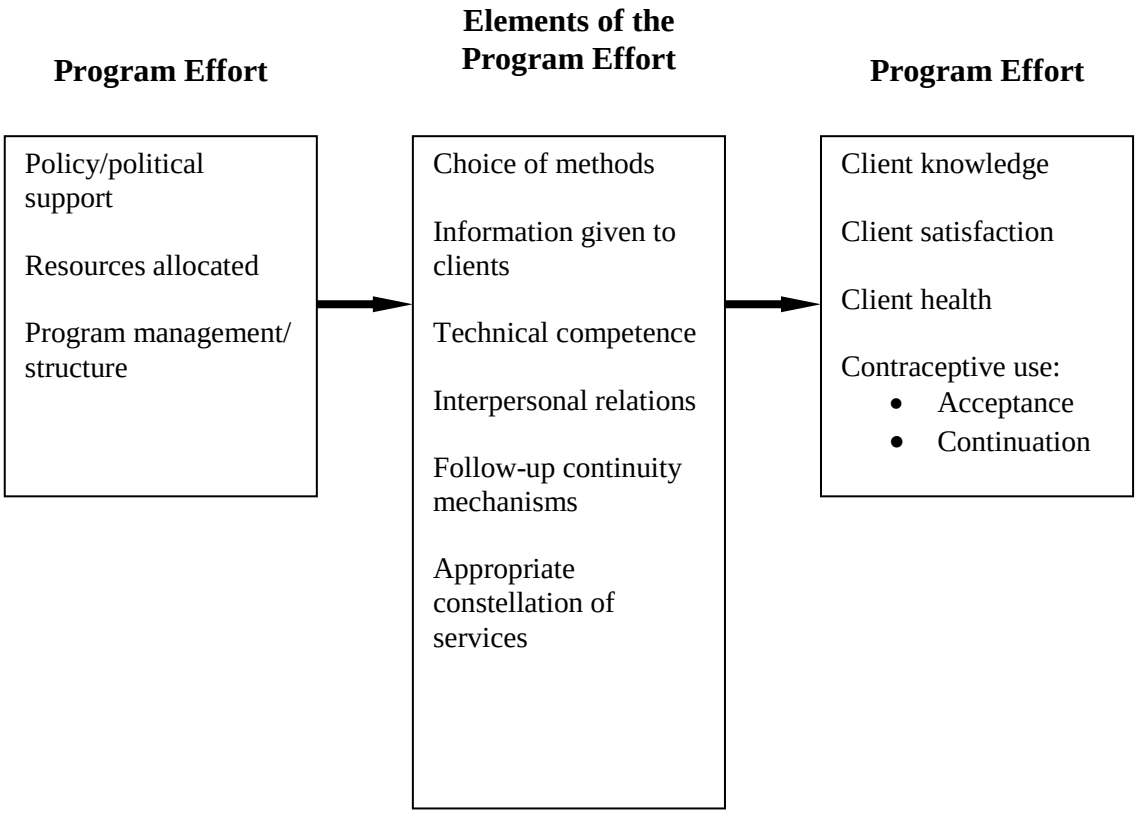


Figure (3.1): The quality of the service experience: its origins and impacts.

3.2.2. E. Deming: is statistician, who introduced new theories of management. Dr Deming was invited by Japan after World War II to help revitalize its dying manufacturing industry. Deming based his theories on the human element and emphasized that developing human resources was the best means to achieve and improve the quality of products and services. He stressed, however, that quality efforts were successful only if these were led by management .These efforts although believed on individual responsibility but these must be practiced and actively supported by top management (Al-Assaf 2001). Deming laid down 14 points for management:

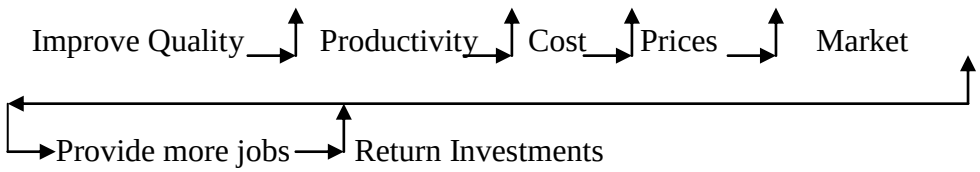


Figure (3.2):Deming chain Reaction.

1. Create constancy of purpose for improvement. Each organization must identify its mission and communicate it mission to all its employees for implementation.

2. Adopt the new philosophy. Organizations should identify their customers and learn their needs and expectations. He stresses cooperation and coordination.

3. Cease dependence on mass inspection. Emphasis should be on improving processes and establishing individual relations.

4. Cease buying based on price tag alone. Emphasis should be on the lifecycle costs of the product or service.

5. Constantly improve the system of production and service. The key word is continuous improvement and not for a period of time only. Deming, in this point, introduces the cycle of improvement plan- Do- Check- Act (PDCA) where you plan (P), implement (Do), analyze and evaluate (Check) and act (A) for improvement. It is a continuous cycle.

6. Institute training on the job. Deming stresses practical training and active interaction with the customer to avoid problems and improve processes.

7 . Adopt and institute leadership. It is people- oriented where accessibility, support, active involvement and empowerment is practiced. Leaders are good listeners, promoters and encouragers of innovation and initiatives.

8 . Drive out fear. Making the work environment fear- free of making mistakes, speaking out, taking risks, making decisions, enquiring, of learning, and offering suggestions.

9 . Break down barriers between departments. Deming stresses here cross- functional teams, interdisciplinary groups and interdepartmental dialogue. This will allow for experience- sharing and efficient utilization of limited resources.

10. Eliminate slogans, exhortations and targets for work force. Deming maintains that these will attempt to shift the responsibility for quality improvement from management to employees. It will give false hopes and unrealistic expectations.

11 .Eliminate numerical quotas for the workforce and numerical goals for the management. These quotas generate result- oriented rather than performance- oriented behaviors.

12 . Remove barriers that rob people of pride of workmanship. Eliminate the annual rating or merit system. According to Deming, almost 85% of errors are system (or management) errors and not employee errors. Also that if we only evaluate

individuals yearly we are losing the opportunity to improve their performance during that year.

13. Institute a vigorous programme of education and self- improvement for everyone. There should be a strong commitment to invest in employees by offering them the opportunity to learn and develop professionally.

14 . Put everyone to work to accomplish the transformation. Deming here stresses that management's commitment is paramount to the success of the quality improvement efforts. This commitment must be genuine and active where the employee would sense and feel the support provided by management (Deming,1986).

3.3.3. Dr. M. Juran is the other quality guru .He also helped the Japanese reestablish their economy through improving their products and services. Dr. Juran defines quality as fitness for use by the customer (Al-Assaf, 2001). He focuses on three major quality processes:

1. Quality control and quality sequence.
2. Quality improvement and break through sequence.
3. Quality planning and annual quality programme.

Quality control attacks special causes (uncommon or sporadic causes); break through sequence attacks the chronic or common causes where it involves great efforts and innovative initiatives to solve system problems. The annual quality programme involves planning or improvement implementation and evaluation of these efforts at least on an annual basis. Dr. Juran also calls for continuous improvement and advocates project-by project improvement. At any point of time simultaneous and numerous processes and problems are being tackled by a process improvement team led by managers. Project selection should be based on a return- on- investment calculation (Juran, 1989).

3.3.4 .Crosby**:** The third quality expert is Philip B. Crosby, author of books like quality is free, quality without Tears, Leading, and commitment. Dr Crosby is the reviver of the Zero-defect concept (Al-Assaf, 2001). Crosby calls for four absolutes of quality:

1-The definition of quality is conformance to requirements. Setting those requirements, he believes, is the responsibility of management based on customers' real need.

2-The system for causing quality is prevention. This process should be preceded by a system of detecting potential problem areas and identifying methods for preventing the occurrence of these problems. This concept obviously has a direct impact on cost-

saving efforts where preventing problems from ever occurring or detecting their occurrence early may help in saving the organization the cost of resolving them.

3-The performance standard is zero defect. Crosby believes that nonconformance is unacceptable, and that error is not inevitable. He also criticizes certain companies that would follow acceptable quality levels (AQL). He states that AQLs send the wrong message to workers and external customers that making errors was acceptable and that may mean that personal performance for everyone was AQL.

4-The measurement of quality is the price of non- conformance. Again, this absolute is directly related to cost- - containment where non quality causes problems and problems cost money. Costs are then wasted to detect those problems (appraisal costs) in order to prevent those problems (failure costs).(Crosby 1979).

3.3.5. Ishikawa developed the course- effect diagram or the fish- bone diagram. He is also the author of the total quality control concept. Ishikawa is a true proponent of management's commitment to quality and individual responsibility. He believes that quality improvement efforts are the responsibility of all employees and not just of quality specialists. Other issues he advocates are similar to his colleagues, Deming and Juran (Al-Assaf ,1998).

3.3.6. Donabedian In 1966, Dr Avedis Donabedian, a university professor and physician, introduced his famous three measures of quality structure, process, and outcome. He urged health care organizations to look at all the three measures when monitoring and assessing the quality of care. He further described structure as the input to the health care system to include both human and physical resources associated with the delivery of health care to the patient. Processes, as he described them, included all the procedures and activities required to deliver medical care by providers and support systems. Outcome, on the other hand, included results and outputs of the care process; for example, morbidity and mortality rates, and patient satisfaction. This model prompted different players in health care to use it but its misinterpretation led to the use of these measures separately and independently from each other (Al-Assaf,1994).

Therefore, quality calls for leadership, commitment, customer- focus, process based, participative management individual responsibility, empowerment of employees,

proactive problem identification and solution, continuous improvements, a system of employee recognition and interdisciplinary, and education and retraining.

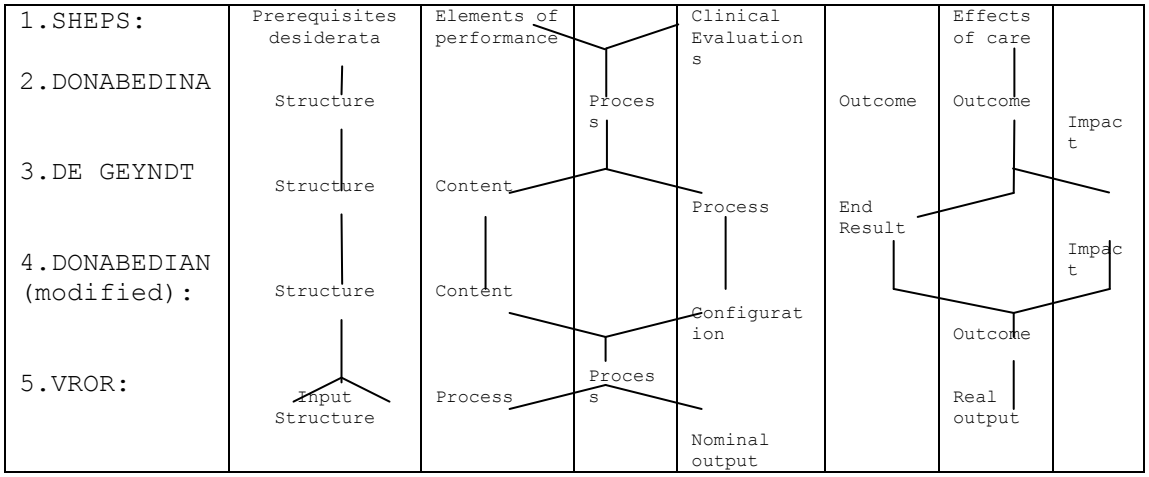


Figure (3.3): Alternative formulation of approaches to quality assessment and program evaluation and their interrelationships (Source: De Geyndt 1970).

Agreement Points of Various Theories:

As shown in figure 3 above the following agreement points between various theories

- All quality experts agreed & insisted on the following
- All philosophies are applicable to kinds of organizations.
- The importance of internal & external customer.
- The importance of top management commitment.
- The importance of fixed objective.
- Doing the right things right from the onset.
- Prevention & correction of defects is the responsibility of management.

3.3.7The Institute of Medicine Conceptual Framework for Reporting Quality of Health Care:

In a recent, widely noted report, *Crossing the Quality Chasm*, the Institute of Medicine outlined six aims for improvement of the health care system: effectiveness, safety, timeliness, patient centeredness, equity, and efficiency (IOM 2001). A subsequent report, *Envisioning the National Health Care Quality Report* (IOM 2001), adapted these aims as related components or domains constituting one dimension of a framework for publicly reporting on health care quality. To be consistent with this framework, the researcher gives brief description about it. She did not find representative data to report on all aspects of this framework for adapting these aims or domains for organizing this study (see table 3.1).

1) Effectiveness: "*providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding under use and overuse*) " (IOM, 2001).

Given the focus on preventive and developmental services for children, most measures of effectiveness included report on under use of services, which defined (in the context of children's health care quality) as the failure to provide a service that would have been likely to produce a desired outcome.

2) Safety: "avoiding injuries to patients from the care that is intended to help them."

Safety issues include wrong diagnoses, medication mistakes, and infections acquired in the hospital. Ensuring safety may require redesigning and improving faulty systems and processes of care, which may involve better staff training, communication, and coordination as well as standardization of equipment and procedures.

3) Timeliness: "reducing waits and sometimes harmful delays for both those who receive and those who give care" (IOM, 2001).

The IOM *Envisioning* report expands the definition of timeliness to "obtaining needed care and minimizing unnecessary delays in getting that care" and distinguishes three aspects of timeliness:

(1) Access to routine primary and specialty care when needed;

(2) Timeliness in getting care for a specific problem once having accessed the system, including waiting time for an appointment and time from diagnosis to treatment.

(3) Timeliness for an episode of care, including waiting time in the doctor's office and coordination of care among multiple providers (IOM, 2001).

4) Patient-centeredness: "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions."

The IOM Envisioning report distinguishes two aspects of patient centeredness:

1) Partnership in decision-making and

2) Patient experience with care. This domain of quality is especially important because "*what patients experience…as much as the technical quality of care, will determine how people use the health care system and how they benefit from it"* (Gerteis et al., 1993). Partnership is perhaps even more important for children's health care given the involvement of parents in the physician patient relationship and the need to rely on family values to guide decision-making. Given the intermediary role those parents and other family caregivers play in health care for children.

5) Equity: "providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status" (IOM ,2001).

The IOM distinguishes equity at two different levels: 1) population level: "differences in access to health care services by various subpopulations," focusing especially on disparities between those with and without insurance; and 2) individual level: "differences in treatment received based on unrelated personal characteristics" (IOM, 2001).

Understanding the causes of disparities is important for determining changes that need to be made by the health care system or in wider social policies that influence health and health care. For example: socioeconomic factors such as income and education generally are stronger determinants of primary health care use than race or ethnicity alone (Fiscella, 2000), but racial and ethnic disparities remain in some studies even after controlling for socioeconomic factors (Flores , 1999). Moreover, disparities in access or treatment often remain among those who are equally insured, indicating that insurance

coverage and ability to pay are necessary but not sufficient conditions for equal care (Rosenbach, 1999).

6) Efficiency: "avoiding waste, in particular waste of equipment, supplies, ideas, and energy" (IOM, 2001).

The IOM Envisioning report did not include this aim in its recommended framework for the National Healthcare Quality Report, on the grounds that it is a related but separate concept that demands additional research. For example, some research has found that improving the patient-centeredness of care has reduced costs (Tidikis and Strasen, 1994). In other research, hospitals that scored higher on patient-centeredness tended to have better outcomes (rates of unexpected deaths and complications) but also had higher costs (Bechel, 2000). Research is needed to determine whether improved outcomes and patient-centered care can be achieved at equal or lower cost for children.

Quality of care will be defined as more than the quality of service in terms of the correctness of the service procedure and appropriateness of the expertise of the service provider or even the quality of the outcome of service. It will include the quality of service and its outcome as it affects the quality of the patient's life." *The push for demonstrating the quality of care thus defined will be constant. It will be necessary to quantify quality and to resolve such issues as perceived versus real quality and provider- defined versus consumer defined quality* (Friedman, 1991).

TABLE (3.1) Components of Health Care Quality and Their Subcategories

Safety	Effectiveness	Patient Centeredness	Timeliness
1. Diagnosis 2. Treatment a. Medication b. Follow-up 3. Health care environment	1. Preventive care 2. Acute, chronic, and end-of-life care 3.Appropriateness of procedures	1. Experience of care 2. Effective partnership	1. Access to the system of care 2. Timeliness in getting to care for a particular problem 3. Timeliness within and across episodes of care

At a fundamental level, quality can be conceived of and measured in terms of structure, process, and outcomes (Donabedian, 1980). The Institute of Medicine has formulated a widely accepted definition of health care quality that integrates these concepts: "Quality of health care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (IOM, 1990).

*"**Consistent with current professional knowledge**"* means following "the best available scientific evidence concerning the processes of care that are likely to improve outcomes" (Palmer and Miller 2001). For children," *lack of strong scientific evidence for the effectiveness of many health care services means that clinical quality measures must often rely on expert opinion"* (Schuster, 1997).

*"**Desired health outcomes**"* means that both societal values and individual preferences must be considered in the context of children's dependency. The former implies a duty of protecting children from harm and providing life-saving treatment when needed. The latter implies the need for good communication, shared decision-making and cultural sensitivity in interpersonal interactions between the health professional and the parent and child, as appropriate to the child's age and developmental maturity (Schuster and McGlynn ,1999).

In conceptualizing patient care, one could consider safe care as the narrowest category. More comprehensive would be appropriate care, with quality care including safe and appropriate care with additional value added. These concepts do overlap in that appropriate care would include some aspects of safe care just as quality care includes safe and appropriate care and more. Figure (3.4)

The Institute of Medicine defines *quality* as "the degree to which health services for individuals and populations increase the likelihood of desired health care outcomes and are consistent with current professional knowledge." *Patient safety* is defined by the Institute of Medicine as "*freedom from accidental injury.*" Viewing these tow definitions, "safety" is clearly the more basic level of care while quality represents some higher place on a continuum. Although safety is defined as the more basic level of care,

the differences between safe and quality care get lost. It seems apparent that one must have “safe” care before addressing quality care (Patricia, 2004).

If one can successfully address the most basic level of care—safe care—then what next—quality? No. What should be addressed next is the “appropriateness” of care received by the patient. A case can be made that appropriateness is the highest level of care we can address/identify at this stage in the health care industry's development.

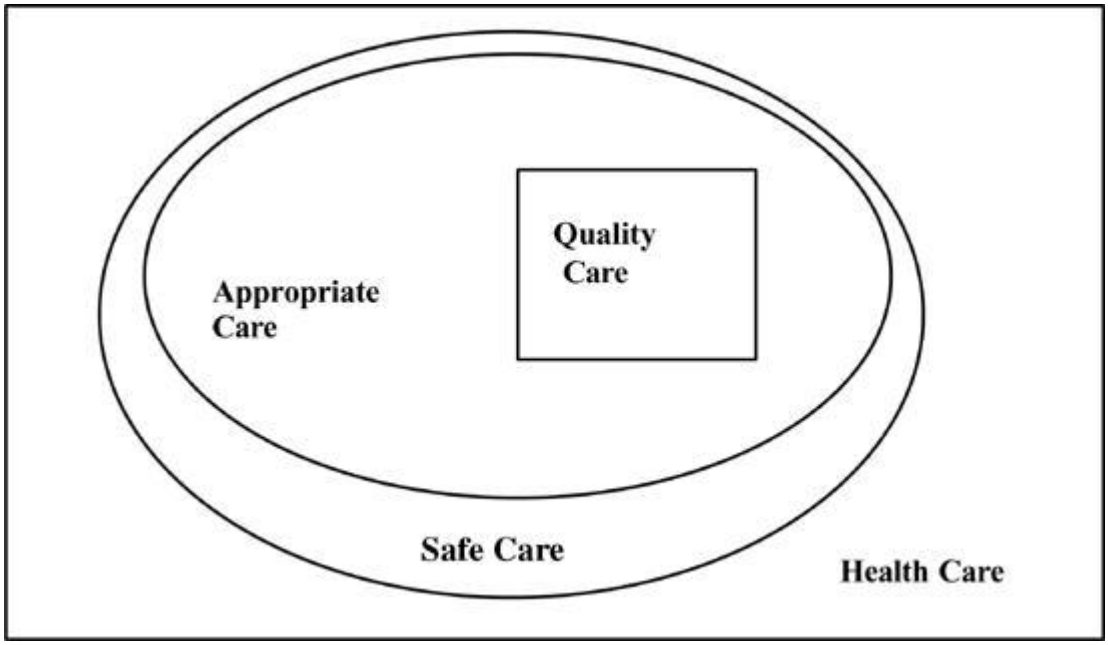


Figure (3.4) Source: Patricia 2004 Quality Management in Health Care

3.3 Defining and measuring quality in health promotion

The concept of consumer requirements encompasses both what people want and what professionals assess people to need. It is one definition of quality that is more suited to health promotion and is in line with good practice within the field. In the past, some health promotion programmes were only based on professionals' judgments about priorities and about what they thought that people and communities needed to do to prevent illness and improve their health. A more consumer-oriented approach pays attention to what people want from a health promotion programme, which may, in turn, make the programme more effective.

However, a health promotion service that both gave people what they wanted and what professions thought that they need could still be poor quality, according to one definition of quality. Another aspect of quality is whether the services make the best use of resources and how efficiently the service is provided. This brings in ideas which are central to the quality approach about avoiding waste, mistakes and delays.
Putting these three aspects of quality together gives a definition of quality which may be appropriate for health promotion programmes.

Consumer quality – Whether the programme gives individuals and the community what they say they want to help them prevent illness and improve health (as measured by people's satisfaction with health promotion and health education programmes).

Professional quality – whether the programme meets individual and community for health needs for health promotion, as assessed by health promotion professionals; and whether the programe is designed and provided in a way which professionals believe will prevent illness and promote health (as measured by different professional assessments of the programme, and by outcome indicators and long-term measures).
Measurement quality –whether the programme is planned, designed and provided or implemented in a way which makes the best use of resources, without waste or mistakes, and which meets higher-level requirements (as measured by the cost of poor quality, and in relation to policies and targets set by higher levels).
The definition above seeks a balance between the consumer and professional dimensions to quality. Between the process and outcome dimensions, and also includes the managerial dimension by including cost consideration of quality related to these three dimensions also implies in equity in outcome, meeting the requirements of those who most need help to prevent illness and improve their health .

3.4 The Conceptual Framework for Reporting Quality of Health Care

Quality has been defined in a number of different ways .Definitions of quality include excellence, expectations or goals which have been met , zero defects or fitness for use.

Health care defined as being composed of health care systems and actions taken within them designed to improve health or well-being. Donabedian (1966) first proposed a systems-based framework of structure, process and outcome. These have also been described as categories of care. Donabedian's model has been used previously as a basis for defining quality (Steffen, 1988).

A wealth of literature reflects the progress made in developing tools to monitor and improve the quality of health care. In developing countries, however, interest in the issue has been surprisingly low until recently.

Our focus in this research will be on the quality of primary health car services provided to children 6-36m of age, regarding anemia prevention and treatment, growth monitoring, and nutrition education.

A framework is important as it both increases understanding of what such sets of indicators mean and also those aspects of care that should be covered and which are, and are not, actually being covered. It is necessary to distinguish between the structure of health care, actual care given (process) and the consequences of the interaction between individuals and a health care system (outcome).

Whenever health care issues are discussed, three concepts keep coming up. These are: access, cost, and quality. Obviously, access involves physical, financial and mental or intellectual access to available care and health services. The issues of affordability and efficiency are also important. However, services provided in a health care institution should have certain characteristics beyond the issues of affordability and availability. It should involve elements and characteristics of quality. Therefore, the quality of services rendered is crucial to health care. It is a call for efficiency and cost savings. It is not necessarily luxurious items or services. It is, however, a product or a service that is acceptable, accessible, efficient, effective and safe that is continuously evaluated and upgraded (Al-Assaf, 2001).

Quality is also measurable, according to the simple system theory and as it was applied to health care by Donabedian (1966), each health care system can be divided into three

components: structure (human and physical resources), processes (the procedures and activities of care and services), and outcomes (the results of care and services). The quality of inputs (structure) can be measured; this includes the quality of personnel, supplies, equipment, and physical resources under structure, one might look at the quality of physicians in terms of their training, experience and education as one attribute of the total quality of the system of health care they work in. The quality process is also measurable, diagnostic, therapeutic and patient care procedures and protocols are all measurable and quantifiable, one may calculate the variance of current procedures performed as compared to a standard set of steps to the same procedure as another attribute of the total quality of that health care system. The same is true of system outcomes or results. They too are measurable. For example, hospital infection rates, morbidity and mortality rates as well as patient and employee satisfaction are all outcome measures and are all measurable variables. Therefore, the system components of inputs, processes and outcomes have certain quality characteristics that are measurable and are important in quantifying quality of a system.

As stated in research the more cost effective unit of analysis and the most frequent unit of quality analysis is the practitioner performance in providing health care (DeGeyndt ,1995). Care provided by providers consists of two elements:

A). Technical performance as evidenced by the knowledge and judgment used in arriving at appropriate strategies of care and on skill in implementing those strategies.

B).The interpersonal relationship with a two- way exchange of information between the patient and the care giver as the vehicle to implement the technical care and make it successful. The performance of care providers is central to the medical staff committee approach, to the health accounting method, and to the clinical out comes management approach.

A pathways to formal care are complex and multidimensional .They are dependent on factors which include the socio-demographic characteristics of the population, health need and factors such as lay support, frequent attendance and health beliefs.

Two principal dimensions of quality of care for individual patients adopted by the UK National Performance Assessment Framework these are access and effectiveness. Do users get the care they need, and is the care effective when they get it? Within

effectiveness, we define two key components effectiveness of clinical care and effectiveness of inter-personal care. These elements are discussed in terms of the structure of the health care system, processes of care, and outcomes resulting from care (Roland, 1999).

Quite different types of information are needed for quality assessment in primary health care. It is seldom feasible to obtain the refined measurements that can be made in orderly conditions of PHC centers. The objectives to quality assessment and the methods used to measure it must be realistic.

There is a need to clarify the level at which the concept of quality is being utilized in each particular case. Tow different levels in the conceptualization of quality of health care may be understood.

1-General level: - one may speak of the quality of the health care system as a whole in this approach, the resources, the activities, the management, and the out come of health care are all implicated " *quality is the merit or excellence of system in all its aspects*" (Donabedian ,1966).

2- Restricted level: - quality may be considered to be one of the features of the health care resources and activities. Do they comply with certain establish standards? A given set of resources include their category or type, their unit cost, and their quality. The attributes of a set of activities include: their type, quality, effectiveness in regard to the health problems addressed, coverage of the target population, and quality. In this perspective the out comes or effects of the system would depend on the attributes of the resources and activities, including their quality the quality of the resources and activities would themselves depend on the financing, resource development, planning, organization and management of the system. "*The more restricted view of quality makes it possible to handle it as asset of variables, that can be easily defined, measured, assessed and improved"* (Romer and Montoy-Aguilar,1988).

The above illustration may clarify the meaning of "structure, process and out come" when applied to health experience in a population.

Donabdian triangle of quality is used in this study. As the availability and quality of physical and human resources (structure) are relatively easy to measure, the health personnel mender services to the inhabitants must be taken into account in any appraisal of quality. Are they making use of appropriate technologies? Is essential equipment available? are other questions to be asked on quality of resources.

Structure refers to the organizational factors that define the health system under which care is provided (Donabedian,1980). The researcher identify two domains of structure: Physical characteristics and staff characteristics and table 3 shows the dimensions of each of these domains. Components of the dimension of resources include, for example, personnel, equipment and buildings. The ways in which those services are organized would include, for example, the existence of a booking system for appointments. These are both structural elements of the health care system. Structural features of health care provide the opportunity for individuals to receive care but do not guarantee it. On the whole structures, whilst being able to increase or decrease the likelihood of receiving high quality care, are indirect and contingent influences on care. However, structural features within a systems based model of care can have a direct impact on processes and outcomes, e.g. if necessary equipment or skills are not available to undertake an effective examination or if all appointments are booked-up prohibiting a patient accessing care.

The measurement of process "services" is more difficult to make, but it is more significant, as it tells us what happened to the people. Collection of the data depends on having reporting and recording systems, and it is necessary to ask if the various procedures are being done with proper care. Care full assessment of the services would require evaluation of the content – counseling.

Process variables are more frequently used by practitioners of medicine who attach more importance to how well care is delivered, how correctly patients are diagnosed and if treatment is consistent with the clinical diagnostic evaluation.

Processes of care involve interactions between users and the health care structure; what is done to or with users. Process is the actual delivery and receipt of care. "*Two key processes of care have often been identified: technical interventions and inter-personal interactions between users and members of a healthcare system* " (Donabedian, 1988). Technical care refers to the application of clinical medicine to a personal health problem and is based upon a theory of function which can be evaluated for efficacy and generally standardized. Care should be appropriate and necessary

The process of care defined as the process of care in terms of clinical and interpersonal aspects of care. Interpersonal care describes the interaction of health care professionals and users or their careers. This includes the management of the social and psychological

interaction between client and practitioner (Donabedian1980). A number of skills underlie good interpersonal skills including: communication, the ability to build a relationship of trust, understanding and empathy with the patient and to show humanism, sensitivity and responsiveness .Mothers want explanation and discussion about their child symptoms of anemia, and to be involved in decisions about their management. Both clinical and inter-personal care processes involve the definition and communication of problems or needs, diagnoses, their management and co-ordination by the patient and professional concerned. The lack of quality indicators for acute minor illness has important implications for assessing the quality of general/family practice where they form the bulk of all presenting problems. Clinical and inter- personal aspects of care are relevant for each consultation and apply equally to chronic, acute or preventive care. In general, process measures are better indicators of quality of care if the purpose of measurement is to influence the behavior of the health care system: processes are common, under the control of health professionals, and may more rapidly be altered.

Outcome measures were not used in the developing country studies. Improving out comes is a presumptive result of improving the process and is not documented mainly for lack of valid and reliable measuring tools and indicators, the expense involved and the tenuous cause- effect relationship between process and outcome (WHO,1998).

"*Measuring the outcome of services is generally still more difficult to carry out and is less frequently done*" (WHO, 1995). Furthermore, how can one be sure that the health changes are attributable to the programme? They may be due to an improvement in the weather or in the overall economic situation; so that more food was available to every one perhaps a better water supply was made available, so that improved environmental conditions were mainly responsible. "*Taking account of such confounding variables usually requires numerous areas of observation, sophisticated statistical techniques and greater expenditure on research."* (Romer and Montoy-Aguilar,1988).

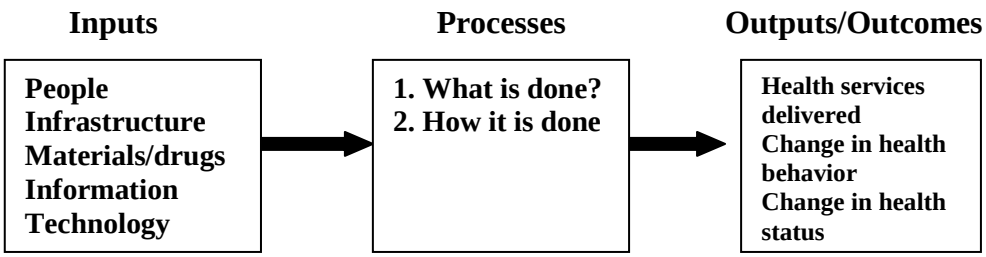
"*Conclusions about the effect of a health service, under non- controlled conditions may sometimes be supported by circumstantial evidence*" (WHO, 1978).

The effectiveness of structure and processes (both clinical and inter-personal) can be defined in terms of their capacity to result in two principal domains of outcome: health status and user evaluation, incorporating non-health as well as health related outcomes. There may be feedback loops with, for example, an individual's user evaluation (outcome) influencing their subsequent consulting behavior, or care negotiated in one consultation affecting sub- sequent decisions.

Another dimension of out come can be determined through measurement of patient satisfaction with services; this may be inferred to reflect the quality of care that has been rendered.

Our framework focuses upon care for individual users so outcome in (Fig.3.5) refers to health status and user evaluation, e.g. enablement and health related quality of life. These must also be related to patient expectations and to the needs of that individual patient. User evaluation may include assessment of outcome (symptom resolution) and/or processes of care (e.g. communication skills of the health professional). Although outcomes may be explicitly related to process for both health status and user evaluation, this is not always the case. This is because outcomes are often causal rather than logical consequences of processes and their activation is contingent upon a wide variety of factors.

Figure 3.5 Inputs, Processes, and Outputs/Outcomes Source: (Donabedian, 1980).



All dimensions of quality suggested previously, can be subsumed by and appropriately regarded, as elements of access and effectiveness. Quality of care may, in this way be reduced to two questions. **First,** can individuals get the care they need when they need it? **Second**, when they get the care, is it effective both in terms of clinical effectiveness and inter personal relationships? In this study we adopt this model by applying access and effectiveness to the systems based model of care (structure, process and outcome) described above.

All components and dimensions of the health care system must be measured to determine quality; this will facilitates the concrete definition of each one and helps to clarify the cause- effect relationships within the system.

The first part of our definition of quality of care emphasizes ``whether individuals can access health structures and processes of care which they need". The most basic dimension of access to a health structure is geographic/physical access. This may relate to geographic barriers to getting to health care facilities such as rurality. Availability is the extent to which the health care system provides facilities (structures) and services (process) which meet the needs of individuals. Examples include access to a general practitioner, a specialist clinic, or a member of a health care team .The latter is increasingly important given the emergence of a far more diverse range of skills among health care providers as part of attempts to increase the cost effectiveness of care.

Organizational access is a sub-component of availability. If people are physically able to access a health facility, they may still face barriers to accessing care in terms; for example, of the length and availability of appointments, or whether the health professional can be adhere to their needs. In a system where the primary care practitioner acts as a gatekeeper, access to secondary care or other members of the primary health care team is determined by access to the primary care practitioner and by his or her referral behavior.

Three of the four attributes of quality identified as being of particular relevance to primary care are sub-components of access. First contact, comprehensiveness- a range of services and care broad enough to meet all common needs as they occur - and provider continuity or longitudinally are all sub-components of the structural aspects of availability, rather than quality attributes in their own right. The view is that continuity of care is not a unique dimension of quality but a structural characteristic that may produce benefits though is not guaranteed to do so .For example, continuity of care from an infective professional with poor communication skills does not constitute high quality care, even though such a professional could nevertheless score well on access and patient evaluation dimensions. In this study, we do not include equity as a component of quality of care for individuals as equity requires an element of comparison of individuals within a population. Monetary costs of access at the individual level are only relevant to the payer. This may be the patient where services are not free at the point of delivery. So affordability is not a key component of access in our study where health care is provided free of charge. Financial barriers may also be important in other systems, either in terms of the material cost of attending an appointment (transport costs, and prescription charges); this is not applicable to our study as most of the clients are in camps.

The second part of our definition of quality of care relates to whether, when accessed, the care received by an individual is effective. Effectiveness is the extent to which care delivers its intended outcome or results in a desired process, in response to need. The effectiveness of clinical care depends on the effective application of knowledge based care. Knowledge-based care refers to both evidence-based medicine and care which is regarded as legitimate (Donabedian, 1990). The latter relates to aspects of care that may be widely accepted without necessarily having scientific evidence of effectiveness.

Knowledge-based care incorporates the extent to which a treatment or service is consistent with patients' reasonable expectations and contemporary professional standards of care, reflecting both societal and professional norms.

Once again, processes and outcomes are context specific for each individual person because quality of care for individual users requires that individual circumstances and the complexity of individual patients must be considered. Effective care, therefore, requires appreciation of the patient's personal experience of illness and must align the agendas of the professional and the patient. Care should be planned for and with individual patients through negotiation between care giver and patient and shared responsibility for care. Focusing on the effectiveness of patient centered processes reduces the risk of over emphasizing scientific/technical aspects of care at the expense of the experiences of the individual patient. The professional patient interactions, patient centeredness is increasingly regarded as a set of skills which can be taught and which are related to improved outcome .Patient-centeredness is concerned with the meaning of care for individuals rather than care which is generalsable to all.

Co-ordination or integration of care for individual patients is also an important attribute of quality (i.e. effectiveness) of care, and is a further attribute of particular relevance to primary care (Starfeld, 1994). Co-ordination is a sub-component of both clinical effectiveness and the effectiveness of inter-personal skills. Co-ordination refers to the effectiveness with which health professionals' deal with those other organizations or other professionals within the same organization, which impact directly or indirectly upon the health or health related quality of life of the patient.

The framework suggests that effectiveness, when related to individual patients, should refer to maximizing care and desired processes and outcomes based upon need. It consider efficacy to be a redundant component of quality of care because we are unable to conceptualize high quality care which involves delivering treatments which are efficacious (in ideal settings), but ineffective in routine healthcare settings. The framework also rejects acceptability as a basic component of quality or as an attribute of care: it is more appropriately regarded as an outcome or consequence of care: it is a component of users' evaluation.

The framework have defined care as systems based model composed of health structures and two processes of care (clinical and inter-personal) which result in consequent outcomes.

However, whilst systems and processes increase or decrease the likelihood of individuals receiving the care they need, they do not guarantee quality care.

Below **(**Table 3.2**)** we cite quality indicators for various elements of primary health care provided at a child health citing. These indicators should be taken into account while assess quality.

Table 3.2 Quality Dimensions and relevant indicators as employed in the study guided by the adopted conceptual Framework.

Category	**Indicators**
I) Access	
1) Structural Access	
1.1 physical infrastructures	• Well lighted clinic • Well ventilated clinic • Clean water supply • Adequate space (number of rooms) • Waiting room is available • Enough space in waiting room • Waiting room is clean • Benches are available • Chairs are available • Refuse disposal bins are available • Desks are available • Infant couch is available • Operating telephone line • Signs to direct clients to appropriate place & information • Educational materials are put up for clients in the waiting room.

1.2 Equipments

- Equipment for hemoglobin test are available
- More than one stethoscope is available
- Infant health cards
- Home based cards
- Infant registration Book
- Health education materials related to anemia
- Health education material related to nutrition education
- Index of availability of essential oral treatments for anemia
- Health facility has equipment and supplies to support anemia prevention services and growth monitoring
- working weighing scales for children
- Health facility has IMCI chart, booklet and mother's nutrition and counseling card.

1.3 Professional staff.

- Doctor
- Staff nurse
- Lab Technician
- Pharmacist
- Door keeper

2) Process Access (client-centered care)

- Examine the new-born
- Weight checked against growth chart
- Record findings of history and physical examination health record
- Document the etiology of the anemic condition
- Hemoglobin checked at 6 months-1y.
- Explain to mother the administration schedule for iron prescribed.

II) Effectiveness

1) Effectiveness of Clinical Care

1.1 Evidence-based care.

- If the child is malnourished(less than 2.5kg), was he refereed for growth monitoring clinic
- Presence of Congenital abnormality recorded.

- Correctly calculate the (age)
- Correctly read scale.
- Locate the child's weight at correct weight
- Tell mother the extent of weight normality of the child.
- Ask about child anemia history.
- Ask about previous treatment response
- If baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed.
- If "yes"; Was Hb. repeated after one month.
- Provide appropriate treatment according to condition.
- Anemia correctly treated
- Child not needing iron supplement leaves the facility without iron supplement
- Child needing referral is referred
- Discuss the relevance and purpose of the issue of anemia
- Discuss potential complications of anemia.
- Discuss potential danger signs
- Explain the importance of introducing complementary foods during a two-month transitional period (i.e., months five and six).
- Explain that children should be breastfed (not exclusively) for at least one year.
- Explain to mother the administration schedule for nutrition supplements.
- Discuss the importance of proper iron supplementation.
- Schedule a return/follow-up appointment after 1month of treatment to evaluate treatment response.
- Tell mother whether child has gained, lost ,or stayed the same since last weighing

1.2 Legitimate care

- Ask if the child has had any health problems since last weighing (visit).
- Explain which locally available foods constitute a balanced diet for children
- Discuss specific recommended behavior changes
- Care provider distributes related available educational material
- Discuss when to go for services/follow up or seek help, if needed
- Discourage dietary habits that restrict important foods/food groups for anemic children.

- Explain the importance of gaining weight for health (child growth and development)

2) Interpersonal care

- Establish good rapport with the care taker (mother).
- Speak clearly and make eye contact.
- Avoid use of technical/medical terminology
- Care provider display willingness to compromise as needed.
- Explain the purpose of growth monitoring
- Make recommendations regarding child feeding and care
- Explain how to feed children during illness.
- Tell mother the extent of weight normality of the child.
- Tell mother when to take child for next weighing
- Explain the importance of gaining weight for health (child growth and development)
- Use growth chart to explain to mother how her child is growing
- Ask mother if she has any questions
- Explain the purpose of growth monitoring
- Provide nutrition counseling
- Discuss problems that are realistic and relevant to the care taker
- Assess the mother comprehension of the instructions given
- Ask the mother if she has any questions
- Respond thoroughly to questions from the mother
- Checked for other problems
- Tell mother to increase her child total quality food and liquid intake during treatment
- Tell mother to balance her child food intake
- Discuss the importance of proper nutrition (rich in iron)
- Discuss the importance of proper iron supplementation
- Assess the mother knowledge about anemia
- Assess the mother practices about anemia
- Discuss prevention of anemia
- Caretaker advised to give extra fluids and continue feeding
- Caretaker of child prescribed oral iron supplement knows how to give the treatment.
- Caretaker advised when to return immediately

III) Outcome

1) User Evaluation (experience)

- Mother reported that she having been given guidelines about infant feeding.
- Mother agrees that these given instruction where similar to her practices.
- Mother accepts to change her practices and follow the new instruction.
- Mother agrees that these given guidelines were helpful to her.
- Mother knows when she can get refills for the drug.
- Mother knows when she can get to repeat the Hb level.
- Mother knows when she should return for growth monitoring.
- Mother knows the weight of her child
- Mother knows what anemia means.
- Mother knows what causes anemia.
- Mother knows about types of anemia.
- Mother knows what the signs and symptoms of anemia are.
- Mother has an idea what Hemoglobin is.
- Mother knows what Iron Deficiency Anemia means (IDA).
- Mother knows what medicines are used to treat IDA.
- Mother knows what makes the iron stores in the body to drop.
- Mother knows why her child did not respond to the therapy.
- Mother knows three kinds of foods that contains large amount of iron.
- Mother knows the foods that interfere with iron intestinal absorption.
- Mother knows about the amount (dose) of iron supplement given to her child.
- Mother knows about drug administration frequency.
- Mother knows about duration of drug administration
- Mother thinks her child can be fully cured by sticking to iron supplementation only.

2) Health Statues

- If the child is malnourished(less than 2.5kg), was he refereed for growth monitoring clinic
- Hb. checked at six months-1year.
- If baby was anemic (Hb. less than 11gr/dl), and Iron supplements prescribed.

- If baby was anemic (Hb. less than 11gr/dl), and Iron supplements prescribed was Hb. repeated after one month
- Normal Hb upon repetition.
- Hb. remained below normal after giving the iron supplements.
- Hb. remained below normal after giving the iron supplements; child was referred for further assessment

3.5 Contextualization

3.5.1 International studies:

A survey was conducted among the U.S. children and adolescents (ages birth to 17 years) in 2000 to assess parent perceptions of accessibility and timeliness of care. The findings show that (12%) of the children who had a doctor or clinic visit in the past year had *problems receiving care* that the doctor or parent thought was necessary ,(22%) children had *problems getting a referral* to a specialist in the past year when the doctor or parent thought the child needed to see a specialist,(36%) children who needed care right away for an illness or injury in the past year did not always get that care as soon as the parent wanted, (48%) children who had an appointment for routine care in the past year *did not always receive an appointment as soon as the parent wanted* ,and finally children and adolescents without insurance or covered only by public insurance were more likely than those with any private insurance to have a parent report gaps in access to and timeliness of care (AHRQ 2002).

Parents and other caregivers—especially mothers act as intermediaries in health care for children, at least until the adolescent years. Parents' perceptions of the accessibility and interpersonal quality of care may affect their care-seeking behavior, such as whether to use routine primary care or visit the emergency room , and decisions related to selecting or changing physicians and health plans . Greater accessibility of primary care is associated with better health outcomes (Forrest and Starfield ,1998).

Research conducted in the United Stats indicates that primary care practitioners improve their ability to deliver preventive care when they adopt a systematic, organized approach—such as using information tools, improving office processes, and increasing teamwork among office staff. Yet, less than half of primary care physicians report using

such office systems. For example, only two of five pediatricians (38%) report assessing immunization performance and one of six (16%) report using systems to remind parents about upcoming or overdue immunizations techniques that are effective and recommended for improving immunization rates (Dietrich, 1997).

A study to evaluated the impact of a year-long, community-wide collaborative effort to increase preventive care for young children in Durham, North Carolina,, found that all the major primary care group practices and clinics serving young children established multidisciplinary teams and received technical assistance to set objectives, monitor performance, and adopt or enhance quality-improvement systems
directed at one or more levels:
1. *patients*—educational materials and activation cards to prompt discussions with the doctor or nurse;
2. *practitioners*—it reminders on patient charts and risk assessments to prompt screening when appropriate; and
3. *the practice*—chart prescreening to identify needed services, flow sheets indicating recommended age-specific services, and tracking systems to identify patients in need of care.

After the intervention, the combined rates of preventive care provided to patients of these practices increased significantly for three of four project goals compared to pre intervention rates: being up to date on immunizations (by 7 percentage points at age 12 months and by 12 percentage points at age 24 months), screening for anemia (by 30 percentage points), and screening (risk assessment or blood testing) for lead poisoning (by 36 percentage points). Rates of screening for tuberculosis, the fourth goal, increased at practices that focused on this objective but not in aggregate (Bordley, 2001).

With assistance, primary care practitioners can establish and improve office systems to increase preventive care for children. "*The degree of improvement achieved varied among practices depending on whether they targeted a particular service for improvement and based on their ability to successfully implement changes in office systems*" (Bordley , 2001).
Controlled studies may be useful to verify the effectiveness of this approach and compare the relative effectiveness of different tools.

An interview survey was conducted in 2000, among U.S. children and adolescents (ages birth to 17 years) without insurance find that those children were much more likely than those with insurance to lack a regular source for care and to have unmet needs for health and dental care, as perceived by parents. Among the uninsured, more than (27%) did not have a regular source of health care, (16%) delayed care because of cost, (13%) did not get needed health care because of cost, and (19%) did not get needed dental care because of cost (Blackwell, 2003,pp203).

The most important benefit of insurance is to facilitate having a regular source of care. Children without a usual source of care are more likely to have unmet needs for care more hospitalizations, and higher costs of care, and they are less likely to keep doctor appointments and receive preventive care. "*The extent to which children's regular source of care is oriented toward primary care greatly determines the benefit that children derive from that care"* (Starfield, 2000).

Unmet needs may have long-term effects on health and developmental outcomes. More effort and funding are needed to expand health insurance coverage for children and adolescents. Formerly uninsured children who gain coverage are more likely to have a usual source of care, fewer unmet needs for care, increased use of preventive care, and improved health status (Lave, 1998).

In a national survey in 2000, the majority (56% to 94%) of parents of young children (ages 4 to 35 months) agreed that their child's doctor or health professional should ask about six topics related to family well-being, including parents' health and emotional support, violence in the community, difficulty providing for the child's needs, and substance abuse and tobacco use in the household. More than three-quarters (77%) of parents reported being asked whether a household member smoked tobacco. Less than half (10% to 44%) of parents reported that health professionals had discussed the other five topics with them. "*Parent emotional support and economic concerns were the topics exhibiting the greatest divergence between parent endorsement and actual discussion*" (Halfon, 1997pp303-338).

To help children achieve better outcomes, the American Academy of Pediatrics' Task Force on the Family recommended that pediatricians "strengthen parental partnerships in different family types, screen for family circumstances that put children at risk, and help create family-friendly practice environments" (Schor ,2003).
While most physicians say that they involve families in decision-making around children, family-oriented pediatric care goes further by addressing family issues that may affect the health and well-being of children—such as by providing brief counseling or referring a parent for treatment or services when appropriate (Schor, 2003).

Children's health and development depends heavily on family well-being. Family stress or dysfunction from factors such as poverty, parental depression, and substance abuse in the home can disrupt parenting and put children at risk of developmental, behavioral, and emotional problems. On the other hand, parents who quit smoking not only avoid exposing their child to second-hand smoke but also reduce the likelihood that their child will take up smoking (Farkas et al., 1999).

Parents have a substantial role in seeking and overseeing their child's health care. Parents' perceptions of interpersonal communication and time spent with health professionals are important indicators of patient and family centeredness and are closely tied to overall assessments of the quality of care (Gross , 1998).

To assess parent perceptions of interpersonal quality of care, in 2000, among children and adolescents (ages birth to 17 years) who received health care in the past year in US, findings showed that about one of three parents (32% to 35%) reported that the child's doctor or other health professional did not always communicate well (in terms of listening carefully, showing respect, and explaining things well). More than four of 10 parents (44%) reported that the doctor or other health professional did not always spend enough time with the parent and child. Children and adolescents without insurance or covered only by public insurance were more likely than those with any private insurance to have a parent report gaps in timely access to and quality of care (AHRQ, 2002).

The quality of parents' communication with their child's health professional may affect parents' receptivity to receiving advice, how they oversee their child's

compliance with treatment regimens, and satisfaction with and outcomes of care (Stewart, 1995). The amount of time that parents and pediatric patients have with clinicians may affect their ability to raise questions or address issues that fall outside the stated reason for a visit.

Improvements are needed to better meet parent expectations. Interpersonal deficits in care may account for some of the perception of inadequate time spent with the patient and parent. Greater attention also needs to be paid to the child's role in communications with health professionals. Interventions that might address these gaps include: education and incentives for health professionals and their staff to help improve patient-centered communication skills (Blumberg, 2003).

Formal or informal patient feedback to help professionals assess needs for improvement. Culturally relevant questionnaires, written and audiovisual materials, and coaching in the waiting room to help proper parents and children for effective health care encounters.

Interpreter services and teams of professionals that include at least one bilingual professional to overcome language barriers .Use of mid-level practitioners (physician assistants and nurse practitioners) to increase time spent with patients during intake and follow-up care ; and follow-up services such as telephone calls to determine how the child is doing post-care .

To assess effect of family income on parent perceptions of accessibility and interpersonal quality of care for children with special health care needs in 2001, parents of children with special health care needs (ages birth to 17 years) with family income below the federal poverty level were three-and-one-half times more likely than those with higher family income (400 percent of poverty or higher) to report that their child had one or more unmet needs for health care (32% vs. 9%) and twice as likely to report a lack of family centeredness (50% vs. 25%) in the health care that their child did receive (Blumberg, 2003).

"*Children living in poverty have worse health and greater disability than children in higher income families, even when they suffer from the same diseases* "(Starfield, 1997). Families with low income are less likely to have health insurance and their children are less likely to get needed health care. Moreover, poverty is associated with other risk

factors such as poor living conditions and inadequate nutrition. Children with special health care needs are more likely than other children to have unmet needs for health care across all income levels (Starfield, 1997).

Finding of an assessment of differences in receipt of recommended preventive health care visits by type of insurance, race, ethnicity, and family income in the US in 1999 show that among children and adolescents (ages 3 to 17 years), those with public insurance, minorities, and those with family income below poverty were more likely than those with private or no insurance, whites, and those with family income above poverty (respectively) to receive preventive health care (well-child) visits at recommended ages in the past year.(32%) of those without insurance missed well-child visits, compared to (24%) with those with private insurance and (15%) with public insurance. (12%) black children and (21%) Hispanic ethnicity or other race (22%) missed well-child visits, versus (26%) white children. (17%) in families with income below the poverty level, versus (24% to 26%) in families with income above poverty, missed preventive visits.

Without regular preventive health care visits for children and adolescents, immunizations may be delayed, health and developmental problems may go undetected, parents will not receive advice on child safety and childrearing, and will miss the opportunity for counseling to encourage healthy lifestyles and help prevent risky behaviors." *Lack of preventive care is associated with more ER visits and avoidable hospitalizations among young children* "(Hakim and Bye 2001).

Quality of care was assessed as part of a comprehensive study of Ecuador's primary health services comparing the services provided by the Ecuador's Ministry of Health and by the rural social security health subsystems. Structure and process indicators were considered. Compensation received by staff members was hypothesized to be related to quality under the assumption that higher pay leads to the employment of better trained and / or more experienced personnel. This assumption was not verified in the study. The total cost among categories of resource inputs was used as an indicator to identify the proportion of total inputs for medical supplies, primarily drugs. The Ecuador's Ministry of Health facilities were less well supplied with pharmaceuticals and the premise of relatively lower quality at Ecuador's Ministry of Health facilities was supported. Another cost category was the percentage of total cost (Robertson and Zschock, 1991).

The quality of services was assessed as part of research on the effects of oral dehydration therapy and immunizations on child morbidity and mortality in 27 public and 21 private outpatient clinics of Metro Cebu in the Philippines. Structured observations of immunization sessions and clinic logistics highlighted functional problems that contributed to shortages of vaccines, sterilized needles and oral dehydration salts.

Results show wide variation in the recorded quality of treatment of diarrhea was noted when clinical records were analyzed. Immunizations and diarrhea treatment were used as tracer indicators. The survey identified facilities whose performance deviated from others thereby providing information for correcting process defects (improving the cold chain, staff training needs) (Peters and Becker, 1991).

One of the first large-scale comprehensive efforts to provide detailed information on how primary health care services were delivered in developing countries was carried out by the USAID- financed Primary Health Care Operations Research (PRICOR) project (1985-1992) whose studies spanned 12 countries. It is common to select specific interventions, tracer conditions, or diagnostic categories to examine the quality of the process in the provision of health care. It developed practice parameters for the effective delivery of seven child survival interventions: case management of acute respiratory infection, diarrhea, and malaria; immunization; growth monitoring and promotion; maternal health; and child spacing. Standards were also developed for seven support systems related to child survival services: training, supervision, information systems, logistics, community outreach, planning, and financing. The USID sponsored PRICOR project used a systems analysis approach to examine the process of primary care delivery Using a direct observation of over 6000 patient – provider encounters, this project uncovered severe deficiencies in the diagnosis , treatment, and counseling of patients as well as in the supervision of health workers for the following primary care activities: growth monitoring and promotion, immunization, case management for malaria, diarrhea and acute respiratory infections (Nicholas and Hatzell,1991).

The performance of primary health care workers in providing curative outpatient services in nine health centers and 18 health points in Angola was assessed. Over 500 consultations by health workers were observed by five physicians who evaluated the adequacy of 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 curative services the authors raise questions about the implementation of cost recovery mechanisms for such services, initial and refresher training programs and the supervision of primary level workers(Bjorck and Kanji, 1992).

Another study carried out in 1984 in rural clinics in Ghana assessed the process of providing maternal and child care. The researchers compared actual (observed) performance level with expected levels for a number of diagnostic, therapeutic and counseling tasks. They found significant performance gaps, especially in the area of physical examination and in the counseling of patients/clients (Amonoo-Larston and Neumann, 1985).

An analysis of maternal and child health services in a rural district of Burkina Faso reported that especially the task of screening for risk factors in both under fives' clinics and antenatal clinics was carried out well below standard, the researchers also found that communication in both curative and preventive clinics was poor, e.g. only 5% of mothers who brought their children to under fives' clinics received any kind of counseling during their visit (Sauerborn and Diesfeld, 1989).

Bjorck observed 539 primary care visits in Angola and found that, according to local standards of care, only 65 (12%) of the patients were adequately diagnosed and treated(Bjorck1992). The same weakness in the process of primary health care provision was reported by Garner and Donaldson for managerial tasks, such as cold chain support and maintenance in 76 rural health centers in Papua New Guinea (Garner and Donaldson 1990). It is therefore no surprise that community satisfaction with primary health services is low, especially in the domain of interpersonal skills of health center staff, as reported from a qualitative study in Tanzania (Gilson and Heggenhougen, 1994).

A study conducted in the Philippines reported that supervisors thought that 82% of health workers explored a history of vomiting in children with diarrhea, while simultaneous observation of patient-provider encounters revealed that only 11% did so in reality (PRICOR, 1989).

In Colombia, researchers conducted tests to see whether local health workers were more responsible and capable of counting respiratory rates in children with acute respiratory illness (ARI). Reports showed 30% accuracy before the Quality Assurance (QA) program was implemented versus 85% there after, In Costa Rica, the recording accuracy for documenting immunization was improved from 28% to 85%, and sterility of syringes was maintained in 85% of observations, compared with the previous figure of 22% (Reerink, 1996).

Research to understand how can QA be best implemented and what are the effects on quality improvement in Zimbabwe? In his research, the investigator combined quantitative and qualitative methods to analyze the quality of the management and the delivery of immunization services in first – line health facilities in Zimbabwe. He identified weaknesses in the process of immunization, using a software package developed by WHO. The author then carried out focus group interviews with mothers and health care providers to understand the underling root causes for the deficiencies, and suggested improvements in the delivery of immunization (Razum, 1995).

A study in a Jamaican hospital was conducted to shed more light on the assumed relationship between the process of care and health outcomes on diarrhea case management. The researcher found a significant decline in diarrhea- related case fatality rates after quality improvements were implemented in the managements of inpatients with severe diarrhea (Walkar and Hayes, 1988).

In 1998 assessment of utilization of child health services during the first 18 months of life in Swedish preschool children based on information in health records. The aim of this study was to evaluate some aspects of care given within preventive Child Health Services (CHS) during the first 18 months of life. A national random sample performed on child health records of 172 Swedish preschool children born between 1982 and 1987 was analyzed regarding services recorded as having been provided and used within and beyond the national programmed of health surveillance. Most families had made visits within the core programme of health surveillance to an optimal or at least sufficient extent.

First-time parents visited the CHS more frequently than did more experienced parents. Procedures within the programme, such as growth monitoring, hip examination and immunizations, were documented to have been optimally performed on a majority of the children. Conversely, screening for hearing impairment and assessment of developmental milestones were performed less frequently, as were health information and postnatal parental education. To improve the quality of care, national recommendations ought to be more specific regarding both the performance and the documentation of the service (Hagelin and Wikblad ,1998).

In 1999 research to assess the nutritional status and dietary practices of 4-24-month-old (under-twos) children from a rural South African community was conducted. Results about under-twos children (n = 115), 4-24 months who attended growth monitoring posts in the area, show that 37.3% had low vitamin A status , 65.2% were anemic, 43.2% had serum ferritin levels < 10 microg l(-1) (an indicator of low iron stores) and 15.3% were stunted. Breastfeeding was initiated by 99% of mothers. At the time of the survey, 80% of infants in the 4-12-month-old category and 56.9% of children in the 12-24-month-old category were being breastfed. Solid foods were introduced at 3.6 +/- 0.8 months. Food intake reflected a high intake of carbohydrate-rich foods, and irregular intakes of fruit and vegetables, especially those rich in vitamin A. Foods of animal origin were not consumed regularly. Of these under-twos, 15.9% experienced an episode of diarrhea during 2 weeks prior to the survey. These under-twos had a poor vitamin A and iron status. Nutrition education, intervention programmes and feeding schemes should address micronutrient deficiencies, with the focus on the quality of the diet, rather than quantity (Faber and Benade, 1999).

Data from two of the primary Health Care field sites of The Aga Khan University, Essa Nagri and Azam Basti (squatter settlements), in Karachi for May 1989 were analyzed to determine the relationship between weight change and nutritional status. 21% of 2,838 children had a decrease in weight from April to May 1989. The studied children in Grade I malnutrition (n = 274) contributed much more to this decrease than children with Grades II and III (54 and 5, respectively). By focusing attention only on those with Grades II and III malnutrition, the obvious ones, we have been missing the opportunity to prevent a deterioration of those in Grade I, though it is easier and less time consuming to reverse this trend in early stages of malnutrition. To ensure more quality-

time for community health workers' focus on the at-risk population, three alternatives "high-risk" groups are proposed. Promotion of growth and weight change needs to be stressed more, instead of the nutritional status only in GMP programs (Thaver and Cara, 1989).

The Integrated Management of Childhood Illness (IMCI) is a strategy developed by the World Health Organization (WHO), the United Nations Children's Fund (UNICEF) and other technical partners to address major child health problems in the developing world (Gove, 1997).

A survey conducted in August 2000 in stratified random samples of government health facilities to compare the quality of case-management and health systems support in IMCI and comparison districts of under-fives in rural Tanzania. Through observation of case-management, exit interviews with caretakers, re-examination of each child and interviews with health care providers' information collected on 29 indicators relating to assessment, classification and treatment of the child, counseling and communication with the mother and health systems support. Three indices were also constructed. One index assessed the availability of eight essential oral treatments. The second index assessed the availability of the four vaccines in the Tanzania Expanded Programme on Immunization. The third index measured the availability of four pre-referral treatments for severely-ill children.

The results indicated that children in IMCI districts received better care than children in comparison districts: their health problems were more thoroughly assessed, they were more likely to be diagnosed and treated correctly as determined through a gold-standard re-examination, and the caretakers of the children were more likely to receive appropriate counseling and reported higher levels of knowledge about how to care for their sick children. There were few differences between IMCI and comparison districts in the level of health system support for child health services at facility level (Joanna and Katarzyna, 2000).

3.5.2 Palestinian studies:

Al-Adham implemented a study for assessing the perceived health care service quality at Palestinian hospitals; she found a positive strong relationship between organizational aspects and the various clauses of the standards.

As the majority of working hospitals in her study area (Nablus City) did not have stand operational system that defines all types of processes in the profession, these hospitals lack performance measures and measurement systems which play an important role reflected on the quality of offered services.
The study shows a strong lack of concern about quality which forms the key factors in hospital management. A direct relation ship between over all hospital delivery care processes and patient satisfaction, which is directly related to the attitudes and perception of employee as they, in turn related to the hospital and its management practices

Direct impact of the employees attitudes on over all effectiveness of the hospital and patient satisfaction. As well as the hospital's culture and environment, as established by the management directly affects employee perception and patient satisfaction (Al-Adham ,2004).

Chapter Four

Methodology

In this chapter the research process is described including research design, setting and target population, eligibility criteria, sampling, ethical considerations, instrument, pilot testing, method and technique, concept definitions and methods of data analysis.

4.1. Study Design

This study is non experimental, descriptive correlation research where a convenient non random sampling method was used in order to make it easier to carry out the research and to minimize the amount of time, money and effort invested in data collection, such advantages of this design explains why it is preferred for use.

4.2 Setting and target population

Balata UNRWA Health Center in Nablus (BHC) in the West Bank represented the setting where the study population was targeted.
The targeted study population consisted of a sample of refugee children 6-36 months of ages who attend UNRWA B.H.C for well baby clinic and follow up, through their mothers. The total population is estimated to be around (1705) child.

4.3 Eligibility criteria

Eligibility criteria for inclusion in this study were;

a) Being born during the period from September 2000 to March 2003.
b) Attending B.H.C for well-baby clinic for follow up during the data collection phase.

4.4 Sampling

4.4.1 Sampling Frame:

The sampling frame employed in this study was a listing of all children 6m-3 yrs old as documented in the registration book at BHC.

4.4.2 Sample selection and sample size:

Children who attend BHC for well-baby clinic and aged 6-36 months were targeted in this study. Out of 1705 targeted children, only 171 children were included in the study (10 % of the target pop.).In descriptive studies 5% -20% sample size of the target population is representative (Al-Quds University, 1998)."*Large samples are not advocated because large numbers are good in and of themselves. They are advocated in order to give the principle of randomization, or simply randomness, a chance to "work," to speak somewhat anthropomorphically*."(Kerliner, 1973 pp128).

4.4.3 Sampling method:

During the initial phase of this study, it was intended to go for a random sample selection method for genralizability reasons. However, it was found out that not all families of the registered refugee children live within the official boundaries of the camp but rather a considerable sum of them are residents of Nablus city or one of the surrounding villages. As such, accessibility of the targeted population turned out to be quite encumber some, particularly where various Israeli imposed mobility restriction including; closures, sieges and curfews became part of the Palestinian daily life. Therefore, it was decided to employ a convenient non random sampling method in selecting potential participants.

"Convenience sampling : If a manager wants to gather information quickly, minimize the amount of time invested in data collection, and is not too concerned about statistical precision, then a convenience sample may be an attractive option".(Modul 6).

A convenience sample is made up of units that are convenient to observe, usually because they are close by or scheduled to occur at a convenient time. To choose a convenience sample the researcher selects a time and site for the assessment and makes as many observations as possible during the visit, including scheduled MCH sessions, the health facilities, MCH sessions, and service providers are not chosen randomly, and therefore the MCH sessions observed may not be representative of all MCH sessions. Nevertheless, researcher knows the programmes well enough to spot extreme discrepancies and to interpret the results realistically. A quota sample involves deciding how many observations will be made and then observing those that occur first until the "quota" of observations is met. None of the convenience sampling techniques produce probability samples. This means that it is not possible to determine the probability that the results obtained are correct.

"*Similar to other sampling methods, this method holds the potential disadvantage of bias and thus de-generalization of the result*" (Talbot, 1995).

4.5 Ethical considerations

Ethical considerations was taken to make the mother of the participant child fully informed of the study, its purpose ,confidentiality assurance, right to withdraw from the study at any stage of participation.

4.6 Data collection instruments

To assess the quality of primary health care provided to children 6-36 months age in the selected areas (growth monitoring, nutrition, anemia, and health education), at BHC the researcher utilized four different but complementary data collection instruments. These were; the encounter observation checklist, exit interview with the mothers, review of medical report of the investigated children, and the clinic observation checklist.

The tool was structured in the form of a checklist with dichotomous 'Yes" ,"No" ,"Do not know", "Not applicable", responses that can be answered by observation of the interaction between health workers and their clients, inspection of the health facility, supplies and equipment, review of health records, and interview with the mothers .

4.6.1 The encounter observation checklist:

This is a service quality checklist designed by the Primary Health Care Management Advancement Programme (PHCMAP) to help PHC teams collect process data and analyze useful management information for quality assessment.
The items that make up the checklist represent key tasks that should be carried out in providing quality care. It was developed and tested over a three- year period in consultation with experts in PHC service delivery and are consistent with WHO standards (see annex I).

Through the checklist the researcher is going to record the observation of service delivery encounters between providers and clients. The checklists are made up largely of lists of tasks that providers are expected to carry out in clinical assessment, treatment, and health education. The items that make up the checklist represent key tasks that should be carried out in providing quality care. In addition to using service quality checklists to assess the clinical performance of providers, it is useful to assess provider performance from the patient or client perspective.

Observing service providers during service delivery directly assesses how well they apply their knowledge, and how well the patient responds to clinical treatment and counseling. It permits a supervisor, manager, or researcher to help the health worker to evaluate service quality, identify problems, and measure improvement in performance. 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 mother. 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.

The encounter observation check list covers four major themes. The first is on growth monitoring/nutrition education addressing 6 growth monitoring and nutrition education issues. The second theme on anemia, is composed of another 6 components while the third concerned with use of appropriate techniques and the fourth on use of materials were tackled as one whole entity, each, with no subdivisions.

Because the checklists include only explicit observable criteria, the resulting information will have a high level of reliability. In all these situations, specificity is preferred because it leads to specific, focused action for improvement. These checklists can be use to assess service provider own strengths and weaknesses, and to identify areas for improvement.

4.6.2 The Exit Interview:

A brief exit interview (see annex II) with the mothers also includes a few key questions to the mothers to check their knowledge of important information to assess whether their needs and expectations are being met, and will enable managers to identify opportunities to improve the quality of care as it relates to patient satisfaction. Client satisfaction is important because it enhances the likelihood of compliance with the treatment regimen and follow-up visits. Also, it may be an important determinant of whether or not mothers seek future care for their family members. At the beginning of the interview the mothers were asked to express their opinions about the service in general not on the one specific consultation after which they were interviewed by the researcher.

The Exit interview with the mothers addressed two prime components; first growth monitoring and nutrition education, and second knowledge about anemia.

4.6. 3-Record review:

Service quality assessments can also be based on review of records, especially health records. The "*ideal reporting system may involve triangulation between administrative data, chart review, and voluntary self reports of critical incidents to maximize the ability to identify events*" (Miller, 2003).

While a record review has limited value for assessing the service delivery process, such important information as whether a treatment was given or whether a required laboratory test was done can often be collected from records. The data generated will be used as part of a service quality assessment.

The writer of this thesis reviewed the medical records for every child participant in the study in order to get information about his previous health condition, treatment regimen and follow up, together with the demographic data.
The reviewed record comprised 5 parts coring around the followings; demographic data, medical history, child first postnatal visit, growth and development, and anemia screening, treatment and follow up (See annex III).

4.6.4-The clinic observation checklist:

The items that make up the checklist represent key items that should be available in providing quality care. It was developed in a form of five themes that is (physical infrastructure, MCH waiting room, MCH furniture, equipments and facilities, and human resources) (see annex IV).

4.7 Pilot testing

Before commencing the implementation phase of the assessment, the researcher reviewed the checklist and the technical instructions used at the UNRWA health department in order to adapt the tool to the local situation at BHC. Thereafter, pilot testing was done thus:
1. Multiple revisions of the modified drafts of the checklist were completed under the guidance as instructed by the study supervisor.
2. Two pediatricians were consulted as external experts for ensuring the medical validity of each question. Their suggestions, feedback and recommendations were all integrated into the tool
3. As a final draft at this stage, the tool was reviewed by 8 colleagues; 5 doctors and 3 staff nurses, some work at government facilities, others work at UNRWA or NGOs. Their comments and suggestions were studied and necessary corrections were made.
4. Pilot testing of the tool was conducted at Camp Number 1 UNRWA Health Center and a sample of 12 children was taken. Notes were recorded and modification done.
5. The latest reviewed questionnaire was used in a pilot testing conducted at Camp No 1 UNRWA health center as 2 practical nurses and one staff nurse reviewed the tools and

the researcher discuss with them their notes and also their comments and suggestions which were taken in consideration before finalizing the tool.

4.8 Techniques and methods

An official letter was sent by the study supervisor at Al- Quds University to the Chief Field Health Programme (CFHP) in the West Bank explaining about the study in order to get the permission for the researcher to conduct the study at UNRWA Balata Health Center in Nablus in the West Bank, and to obtain access to the needed records and information. Furthermore, the researcher talked to the CFHP and gave him more details about the study and its objectives and asked him to enhance the data collection process. Approval was attained and necessary arrangements were made to carry out the study at BHC- Nablus. On the same day, the researcher initiated the implementation phase by holding a brief meeting with the medical officer and nursing staff at the center telling them about the study, its purpose and nature and how it will be conducted, facility staffs were not given advance warning of the exact dates of visit. The researcher sat in the MCH room and observed the encounter nurse/mother interaction without interruption of the clinic schedule or of the encounter actions.

While the researcher was filling the checklist using child medical record number as a serial number for the tool, when the first child's encounter case management was complete and observed, the exit interviews were conducted with the caretaker of each child for whom encounter case management was observed, then the researcher returned to the entrance of the MCH and accompanied the next child to be seen by the nurse. This was repeated until the required number of children was observed. All caretakers were assured of the complete confidentiality of their responses. By the end of the day the researcher reviewed the record of each child included in the sample studied.

Data collection started in September 2003. The field work was carried out by the researcher here self, she was fairly successful in finding the target number of children: total number of observed children was 171within nine days starting 22/9/2003 and ending 1/10/2003.

Part of the chosen sample included children between 6 and 36 months of age who were registered and interviewed in the study were not applicable for all items in the toll

because some babies were found to be weaned or not breastfeeding and there were children who had normal hemoglobin with no signs of anemia and further data was not collected from them. This, in addition, to reviewing the record sheets of the children at the end of the session, lessened the amount of time needed to achieve the research. However, Due to the fact that the researcher is actually an employee at the UNRWA for long time she is quite familiar with all procedures and protocols undertaken by the clinics. This made collecting and processing of the data much easier and faster taking less time than is usually expected.

4.9 Research Questions

- What is the quality of primary health care services being provided to children 6m-3yrs at UNRWA B.H.C?
- What is the level of readiness in Balata H.C to provide PHC services in terms of availability?
- How does the perception of providers reflect on the quality of PHC delivery system?
- To what extent are mother's knowledge about child growth and related matters?
- How important do mothers' knowledge affect child growth?

4.10 Assumptions of the Research Process

The following assumptions were expected.

- It is easy to reach the health center and the worker
- It is easy to reach and review the technical guidelines and health records at the clinic in relation to primary health care provided.
- The tool yielded reliable measures.
- Health workers provided honest responses
- This study will give the UNRWA health department an idea about the real situation of the quality of primary care provided at Balata H.C in anemia prevention, Growth monitoring, nutrition and health education that will enable effective modification of the policies and strategies related to these services.

4.11 Limitations of the Research Process

The following limitations were expected:-

1) - Un ability to randomize the study in order to generalized the results.

2) -literature of similar studies on the West Bank and Gaza Strip was limited.

4.12 Method of Statistical Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS).

Analysis of differences in ratios percentage was based on the statistical distribution of the ratios of YES and NO responses to the quality indicators.

Analysis was performed using overall chi square test analysis controlling for differences in socio-demographic variables was conducted for differences among health outcome and the quality indicators and gender.

Using Minitab, chi square test analysis controlling for differences in the actual observed and the expected performance level of the quality indicators.

Chapter Five

Findings and data analysis

Introduction

This chapter presents 3 levels of analysis undertaken in this study.

First: *Descriptive statistics*: using frequencies and percentages of responses to each statement which were calculated for weighing each dimension of quality assessed and its attributes, in addition to descriptive of socio- demographic characteristics of the children, and the descriptive of the study setting and its readiness to carry out the tasks of such care under study.

Second: *Correlation analysis:* where cross-tabulation and chi-square were calculated for finding out about the significance of established relationships of dimensions. All items under all themes and attributes were cross-tabulated by all by-ground categories to highlight the weaknesses of the quality of the service and provide recommendations to correct them.

Third: *Factor Analysis:* A large number of variables examined for interrelationships, adding more items to the measurement scale would increase its explanatory power but also decrease its practicality. So, it combined into a smaller number of correlated variables to reduce the volume of data" *the purpose of factor analysis is to summarize the information contained in the data set and present it in a more manageable form with minimal loss of information*" (Talbot,1995).

Factor analysis to breakdown the items into homogenous subscales, resulting in an item grouping which is coherent with quality dimensions as proposed by Donabedian, 1980. Consequently this grouping has been used for the definition of 3 subscales.

The first subscale: Process access consists of 6 items related to the practices and conduct of the health personnel clinical examination.

The second subscale: Effectiveness divided into 2 sub-components ; **a)** effectiveness of clinical care, either evidence based or legitimate care and it contain 29 items related to the practices of the health personnel in patient follow up and the health care delivery ,prescription and diagnosis and care outcomes;).**b)** Inter-personal effectiveness involves 29 items related to the reception of the mothers, respect, communication, and honesty of the staff, counseling and education given to the mother.

The third subscale: Outcome is divided into **1)** user evaluation and **2)** health outcome. 30items checked to assess the issue related to the views of the mothers of the care given and to assess effect on the child health status as it provides evidence that the perceived quality of care of health care services has a strong impact on child health and mothers knowledge and practice pattern.

These factors make a distinction between observed quality of care and perceived quality of care. It focuses on structural and process measures relate to professionally defined standard of care, and refers to whether health care services adheres to these standards.

5.1 First Level of Analysis: Descriptive statistics using frequencies and percentages

5.1.1 Demographic characteristics of the sample:

No children presented for curative care on the day of the visit for data collection in the facility included in the study. As seen in *table 5.1* below about half of the children observed were under 1 year , (6m-12m)of age 40.9%;(n= 70) and more than one-thirds were under 2 years (12m-24)of age 43.3%;(n= 74) and about 15.8%;(n= 27)were(24-36m)of age.

Table 5.1 **Children distribution by age in full months**

Child age in full months	Frequency	Percent %
Six-12m	70	40.9
13-24 m	74	43.3
25-36 m	27	15.8
Total	171	100

Approximately half of the children observed were girls 56.1 %;(n= 96), and 41.9 %,(n= 75) were males *Table 5.2*, and all the children accompanied by their mother to the health facility 100% (171/171).

Table 5.2 **Children distribution by sex.**

Gender	Frequency	Percent %
Male	75	41.9
Female	96	56.1
Total	171	100

Results also showed that 93.0 %,(n=159) of the children observed were register between the age of 0-31 days. Around 79.5%, (n=136) of the participant were born with normal birth weight 2.5-4kg, and about 87.7 %,(n= 150) of them were born normal vaginal delivery, and of about 96.5 %,(n= 165) of the total were full term babies, and 97.1%, (n=166) of the total babies were single birthed. See *Table 5.3* below.

***Table 5.3* Children distribution by selected indicators**

Variable	Level	Frequency	Percent %
Age at registration	0-31 days	159	93.0
	32-60 days	9	5.3
	60 days	3	1.8
Weight at birth	Less than 2.5 k.g	22	12.9
	2.5-4 k.g	136	79.5
	More than 4 k.g	13	7.6
Type of delivery	Normal vaginal delivery	150	87.7
	Caesarian section	21	12.3
Gestational age	Premature	6	3.5
	Term	165	96.5
Number of fetuses	Single	166	97.1
	Twins	3	1.8
	Triples	1	0.6
	More than 3	1	0.6

5.1.2 Demographic characteristics of the mothers of the children observed:

As seen in *Table 5.4 and 5.56 below,* 54.4%, (n= 94) of the mothers age 25-34 years old and 29.8 %,(n= 51) aged 16-24 years old and 15.8%, (n= 27) aged more than 35 years. Of these mothers 24.6%, (n=42) were married at age less than 16 years and 69.6%, (n=119) married at age 16-24 years old.

Table 5.4 **Children distribution by mother's age**

Mother's current age	Frequency	Percent %
16-24 years	51	29.8
34-25 years	93	54.4
More 35	27	15.8
Total	171	100

Table 5.5 **Children distribution by mother's marital age**

Mother's marital age	Frequency	Percent %
Younger than 16 years	42	24.6
16-24 years	119	69.6
25-34 years	8	4.7
35-40 years	2	1.2
Total	171	100

5.1.3 Parents Education:

Mothers' education

Of the total participant mothers around 39.2%, (n= 67) were with secondary education and 33.35 %,(n= 57) were with preparatory education while mothers with elementary education composed 15.2 %,(n= 26) and illiterates composed 3.5 %,(n=6). Mothers with higher education composed 8.8 %,(n=15).As seen in *Table 5.6*

***Table 5.6* Children distribution by mother's level of education**

Mother's level of education	Frequency	Percent %
Illiterate	6	3.5
Elementary	26	15.2
Preparatory	57	33.3
Secondary	67	39.2
Higher education	15	8.8
Total	171	100

Fathers' education

While the data *in Table 5.*7 revealed that 19.3%, (n= 33) of the participants fathers were highly educated, 33.5%, (n= 57) were secondary educated and 34.5%, (n=59) were with preparatory education and 9.4%, (n=16) were with elementary education. Illiterate fathers composed 3.5%, (n= 6).

***Table 5.*7 Children distribution by father's level of education**

Father's level of education	Frequency	Percent %
Illiterate	6	3.5
Elementary	16	9.4
Preparatory	59	34.5
Secondary	57	33.5
Higher education	33	19.3
Total	171	100

The data revealed in *Table 5.*8 that around 48.0%, (n= 82) of the participant mothers of the observed children have 2 to 4 children and 21.1%, (n=36) have only one baby while 31.0 %,(n= 53) have more than 4children.

***Table 5.*8 Families distribution by number of children**

Number of children	Frequency	Percent %
One baby	36	21.1
2-4 children	82	48.0
5-6 children	33	19.3
More than 6 children	20	11.7
Total	171	100

5.1.4 Health System Support, Structural Access, Physical Infrastructure:

The clinic assessment observation check list *Table 5.9* show that the clinic physical infrastructure offers satisfactory conditions as the clinic well lightened well ventilated with clean water supply and enough rooms. The MCH waiting rooms are small to satisfy for the large number of attendees to the clinic. The furniture available is new and in a satisfactory condition. Availability of essential equipment and materials for both anemia prevention and treatment and growth monitoring was satisfactory in the clinic during the data collection and 3 months prior to the study. The health facility has the complete set of materials; it has the required child booklet and nutrition and counseling cards.

Table 5.9 The clinic observation check List

S.N	Item category	% of Availability	% of Condition: satisfactory
A- Physical Infrastructure			
1-	Accessibility for clients	100	100
2-	Well ventilated clinic	100	100
3-	Well lighting clinic	100	100
4-	Enough space (number of rooms)	100	100
5-	Water supply availability	100	100
B- MCH Waiting room			
6-	Waiting room availability	100	50
7-	Enough space in waiting room	50	50
8-	Waiting room is clean	100	100
9-	Good lighting	100	100
10-	Well ventilated	100	100
11-	Are there benches	100	50
12-	Are there chairs	100	50
13-	Refuse disposal bins	100	100
C-MCH Furniture			
14-	Are there desks	100	100
15-	Are there chairs	100	100
16-	Refuse disposal bins	100	100
17-	Infant couch	100	100
18-	Telephone	100	100
19-	Refrigerator	100	100
C- Equipment and facilities			
20-	Signs to direct clients to appropriate place & information	100	100
21-	Educational materials for clients in the waiting room.	100	100
22-	Equipment for hemoglobin test.	100	100
23-	Infant weight scale.	100	100
24-	More than one stethoscope	100	100
25-	Infant cards	100	100
26	Home based cards	100	100
27-	Infant registration book	100	100
28-	Iron supplementation	100	100
29-	Health education material related to anemia	100	100
30-	Health education material related to nutrition education	100	100
D- Human Resources			
31-	Doctor	100	50
32-	Staff nurse	100	100
33-	Practical nurse	100	100
34-	Lab Technician	100	100
35-	Pharmacist	100	100

	Door keeper	100	100

5.1.5 Quality Indicators Performed During Encounter Interaction:

A twenty two items were tested to check the mother knowledge about anemia; all of them were positively stated. An investigation of this subscale also was done by cross-tabulation of the data to see their frequency as shown in Table *5.10* below. Calculating the positive responses, the total percentages of all attributes who responded positively to the items of all attributes under this dimension show that only were16.3% of the mothers know when they can get refills for the drug for their children, and 17.5% of the mothers have an idea what hemoglobin is. Question M37was negatively stated, to check about mothers who think that their child can be fully cured by sticking to iron supplementation only. Negative response for this item was counted as favorable responses and 31.3% responded positively to the item.

Mothers' knowledge assessment about anemia in all items show low level of knowledge in almost all information related to the issue. Mothers' response to questions found that only 15.2% of them know what anemia means, 20.4% know what causes anemia, and 31.5% have an idea what the signs and symptoms of anemia are. On the other hand 35.0% of the mothers know that there is more than one type of anemia, 12.2% know what iron deficiency anemia means, about treatment of anemia41.5% of the mother know what medicines are used for treatment. Also 10.5% of the mothers of anemic children know how often to administer the drug, 16.9% of them know how much to give their child (dose) of iron supplement, and15.4% of them know for how long to administer the drug, 17.5% know when they can get to repeat the Hb level for their children, 7.0% of the mothers of anemic children have an idea about why their children did not respond to the therapy. Result found out that 7.6% of the mothers have an idea about what makes the iron stores in the body to drop, and 63.7% of the mothers know three kinds of foods that contains large amount of iron, 31.5% of them know three kinds of foods that interfere with iron intestinal absorption.

Table 5.10 Mother knowledge about anemia

No.	Statement & Level of Agreement	Yes		NO		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
M18	Do you know what anemia means?	26	15.2	140	81.8	0	0	5	2.9
M19	Do you know what causes anemia?	35	20.4	136	79.5	0	0	0	0
M20	Do you know what the signs and symptoms of anemia are?	54	31.5	117	68.4	0	0	0	0
M21	Is there one type of anemia or more?	60	35.0	111	64.9	0	0	0	0
M22	Have you an idea what Hemoglobin is?	30	17.5	141	82.4	0	0	0	0
M23	Do you know what Iron Deficiency Anemia means (IDA)?	21	12.2	148	86.5	0	0	2	1.1
M24	Has any of your children had ID anemia?	53	31	50	29.2	66	38.5	2	1.1
M25	Has any of your children been treated for IDA?	50	29.2	12	7.0	107	62.5	2	1.1
M26	Do you know what medicines are used to treat IDA?	71	41.5	98	57.3	0	0	2	1.1
M27	Do you know what makes the iron stores in the body to drop?	13	7.6	151	88.3	4	2.3	3	1.7
M28	Did your child suffer of ID anemia before?	68	39.7	44	25.7	56	32.7	3	1.7
M29	Did you use medications for anemia to treat him?	59	34.5	14	8.1	95	55.5	3	1.7
M30	Did he respond well to the therapy?	29	16.9	19	11.1	120	70.1	3	1.7
M31	If no; why do you think he did not respond to the therapy?	12	7.0	48	28.0	111	64.9	0	0
M32	Do you know three kinds of foods that contains large amount of iron?	109	63.7	59	34.5	0	0	3	1.7
M33	Do you know the foods that interfere with iron intestinal absorption?	54	31.5	117	68.4	0	0	0	0
M34	How much do you give your child (dose) of iron supplement?	29	16.9	31	18.1	111	64.9	0	0
M35	How often to administer the drug?	18	10.5	42	24.5	111	64.9	0	0
M36	Fore how long to administer the drug?	23	15.4	37	21.6	111	64.9	0	0
M37	Do you think your child can be fully cured by sticking to iron supplementation only?	54	31.5	44	25.7	73	42.6	0	0
M39	Do you know when you can get refills for the drug?	28	16.3	22	12.8	119	69.5	2	1.1
M40	Do you know when you can get to repeat the Hb level	30	17.5	22	12.8	117	68.4	2	1.1

Four items were tested to check the mothers' perception about the encounter interaction through asking about her experience with the nurse as shown in *Table5.11below.* All items were positively stated and positive response was considered favorable. About 74.2% of the mothers agree that they have been given guidelines about infant feeding by the nurse through their preventive visits to the MCH.Only7.0% of those mothers who get instructions deferent than their practices agree that they accept to change their practices and follow the new instruction given by the nurse, and73.0% of those mothers accept that these guidelines given to them by the nurse were helpful.

Table 5.11 Mothers experience with the care giver

No.	Statement & Level of Agreement	Yes		NO		N/A/DN		Missing	
		No.	%	No.	%	No.	%	No.	%
M14	Have you been given guidelines about infant feeding?	127	74.2	42	24.6	0	0	0	0
M15	If "yes" where these instruction similar to your practices?	75	43.8	52	30.4	44	25.7	0	0
M16	If no will you accept to change your practices and follow the new instruction?	12	7.0	40	23.4	117	68.4	2	1.1
M17	Where these guidelines helpful to you?	125	73.0	4	2.3	39	22.8	3	1.7

As illustrated in Table *5.12 below* six items were tested to check the nurse performance and quality of care during age calculation and weighing، all of them were positively stated; these were questions number H1-H6. Negative responses for these items were counted as unfavorable responses. Percentage of 97.1%-99.4% was measured as positive response correctly record weight and age, and correctly calculates the age, and correctly read scale except for the item if the nurse set scale to zero which showed 46.2%. This shows a good quality performance in this attribute.

Table 5.12 **Age calculation and weighing**

No.	Statement & Level of Agreement	Yes		NO		N/A		Missing	
		No.	%	No.	%	No.	%	No.	%
H1	Base calculation on birth certificate	12	7.0	149	87.1	10	5.9	0	0
H4	Set scale to 0	79	46.2	92	53.8	0	0	0	0
H7	Correctly record weight	167	97.6	1	0.5	0	0	3	1.7
H3	Correctly record the age	170	99.4	1	0.6	0	0	0	0
H2	Correctly calculate the (age)?	166	97.1	4	2.4	1	0.6	0	0
H6	Correctly read scale?	170	99.4	1	0.6	0	0	0	0

As illustrated in *Table 5.13 below* three items were tested to check the nurses' practices about growth monitoring all of them were positively stated; these were questions number H11-H13. Positive responses for these items were counted as favorable responses. Percentage of22.3 % was measured as positive response regarding the use of growth chart to explain to the mother how her child is growing. About 46.2% of the mothers informed about the extent of weight normality of their children. These levels of performance were shows an unacceptable according to UNRWA standards.

Table 5.13 **Growth monitoring**

No.	Statement & Level of Agreement	Yes		NO		N/A		Missing	
		No.	%	No.	%	No.	%	No.	%
H11	Locate the child's weight at correct weight	134	78.0	34	19.8	3	1.7	0	0
H12	Tell mother the extent of weight normality of the child?	79	46.2	92	53.8	0	0	0	0
H13	Use growth chart to explain to mother how her child is growing	38	22.3	129	75.3	1	0.6	3	1.7

As illustrated in *Table 5.14 below* ten items were tested to show quality of growth monitoring and nutrition education for malnourished children and for children who have not gained weight since the last session. All of them were positively stated; these were questions number H14-H23. Negative response for these items was counted as unfavorable responses. Percentage of18.1 % of the mothers' of malnourished children

and children who have not gained weight since the last session were asked by the nurse if their child has had any health problems since last weighing. 11.6%of breast feeding mothers were given any consultation about good breast feeding practices, and 9.3%of them were consulted about the importance of good weaning practices. Also results found that only 25.7% of the mothers' were given any information about which locally available foods constitute a balanced diet for children, and 16.9 of them were given any explanation about how to feed children during illness,31.5% of them were given any explanation about the purpose of growth monitoring, and 25.7% were given any explanation about the importance of gaining weight for health .This shows an unacceptable level of quality of care and education for the mothers to encourage them to follow-up the visits for growth monitoring and development of their children.

Table 5.14 **Growth monitoring and nutrition education for malnourished children and for children who have not gained weight since the last session**

No.	Statement & Level of Agreement	Yes		No		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
H14	Ask if the child has had any health problems since last weighing (visit)?	31	18.1	30	17.5	108	63.1	2	1.1
H16	Explain importance of good breast feeding practices?	20	11.6	91	53.2	58	33.9	2	1.1
H17	Explain importance of good weaning practices	16	9.3	97	56.7	56	32.7	2	1.1
H18	Explain which locally available foods constitute a balanced diet for children	44	25.7	107	62.5	17	9.9	3	1.7
H19	Explain how to feed children during illness	29	16.9	41	23.9	96	56.1	5	2.9
H20	Tell mother when to take child for next weighing	136	79.5	29	16.9	5	2.9	1	0.6
H21	Ask mother if she has any questions	29	16.9	140	81.8	0	0	2	1.1
H22	Explain the importance of gaining weight for health (child growth and development	44	25.7	124	72.5	1	0.6	2	1.1
H23	Explain the purpose of growth monitoring	54	31.5	114	66.6	1	.6	2	1.1

As illustrated in *Table 5.15 below* five Items were tested to show the quality of growth monitoring and nutrition education for weaning children. All of them were positively

stated; these were questions number H25-H29.Positive response for these items were counted as favorable responses. Percentage of 4.6% of breast feeding mothers were counseled about for how long they will breast feed their children, and 7.6 % of them were given any explanation about the importance of introducing complementary foods during a two-month transitional period .Only 4.6%-7.6% of breast feeding mothers were counseled about the duration of exclusive breast feeding and was measured as positive response if the nurse gives any counseling about weaning or the administration schedule for nutrition supplements. This shows an unacceptable level of quality of health information regarding breast feeding and weaning practices during the mothers' visits to the MCH.

Table 5.15 **Weaning education for the mothers**

No.	Statement & Level of Agreement	Yes		NO		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
H25	For how long she will breast feed	8	4.6	69	40.3	87	50.8	7	4.0
H26	Explain the importance of introducing complementary foods during a two-month transitional period (i.e., months five and six)?	13	7.6	71	41.5	84	49.1	3	1.7
H27	Explain that children should be breastfed (not exclusively) for at least one year?	13	7.6	78	45.6	80	46.7	0	0
H28	Explain that children should be breastfed preferably for up to 2 years of age or beyond.	8	4.6	80	46.7	80	46.7	3	0.7
H29	Explain to mother the administration schedule for nutrition supplements	10	5.8	80	46.7	78	46.4	3	0.7

As illustrated in *Table 5.16 below* four items were tested to show quality of taking anemia medical history for the children. All of them were positively stated; these were questions number H30-H36. Positive responses for these items were counted as a favorable response. Percentages of 15.2% of the mothers were asked about their children anemia history, only 1.1% of them were asked about their family anemia history. Only 19.2% of the mothers of anemic children were asked about their children

previous treatment response and 14.0% of the mothers of anemic children where asked about their child current response to the treatment. This shows an unacceptable level of quality regarding taking anemia medical history and follow up for the child.

Table 5.16 **Anemia medical history and examination**

No.	Statement & Level of Agreement	Yes		NO		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
H30	Ask about chief complaints	8	4.6	124	72.5	36	21.0	3	1.7
H31	Ask about child anemia history	26	15.2	109	63.7	30	17.5	6	3.5
H32	Ask about family anemia history	2	1.1	156	91.2	10	5.8	3	1.7
H33	Ask about previous treatment response	33	19.2	96	56.1	39	22.8	3	1.7
H34	Check color of conjunctiva	27	15.7	75	43.8	66	38.5	3	1.7
H35	Ask about current treatment response	24	14.0	73	42.6	71	41.5	3	1.7
H36	Request Hb level	63	36.8	89	52.0	13	7.6	6	3.5

Questions number H37-H46 to assess the quality of performing these actions related to anemia diagnosis, treatment, and nutrition education, assessment as illustrated in *Table 5.17 below*. Positive response for these items was counted as a favorable response. Percentage of 5.2% was counted as positive response if the nurse told the mother to increase her child total quality food and liquid intake during treatment. Only14.6% of the anemic children was provided by appropriate treatment according to condition, and 14.0%-26.9% of their mothers were given any kind of nutrition counseling related to anemia. Regarding to anemia treatment12.8% of the anemic children mothers were provided by information about the importance of proper iron supplementation, and14.0% of them were given any explain about the administration schedule for iron prescribed. Of the anemic children15.2% were given a schedule return/follow-up appointment after 1month -2months of treatment to evaluate treatment response. This shows an unacceptable level of quality regarding anemia diagnosis treatment, and nutrition education as stated by UNRWA technical instruction.

Table 5.17 **Anemia diagnosis treatment, nutrition education**

No.	Statement & Level of Agreement	Yes		NO		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
H37	Document the etiology of the anemic condition	8	4.6	70	40.9	90	52.6	3	1.7
H38	Provide appropriate treatment according to condition?	25	14.6	43	25.1	103	60.2	0	0
H39	Provide nutrition counseling	46	26.9	114	66.6	5	2.9	6	3.5
H40	Tell mother to increase her child total quality food and liquid intake during treatment	9	5.2	93	54.3	66	38.5	3	1.7
H41	Tell mother to balance her child food intake	31	18.1	130	76.0	7	4.0	3	1.7
H42	Explain to mother the administration schedule for iron prescribed?	24	14.0	66	38.5	78	45.6	3	1.7
H43	Discuss the importance of proper nutrition (rich in iron)?	58	33.9	107	62.5	3	1.7	3	1.7
H44	Discuss the importance of proper iron supplementation	22	12.8	68	39.7	75	43.8	6	3.5
H45	Schedule a return/follow-up appointment after 1month -2months of treatment to evaluate treatment response	26	15.2	67	39.1	72	42.1	6	3.5
H46	Provide a referral to a specialist if the anemia is due to causes other than (IDA	3	1.7	23	13.4	139	81.2	6	3.5

As illustrated in *Table 5.18below*, twelve items were tested to assess the quality of communication between the nurses and the mothers according to the mother educational background. All of them were positively stated; these were questions number H48-H64. Positive responses for these items were counted as a favorable response. Percentage of2.9 %of the mothers of anemic children were given any counseling about potential danger signs of anemia by the nurse, and 5.2% of the mothers were given any guidelines about anemia prevention. The nurse assess20.4% of the mothers about their practices about anemia, also she give about 25.1% counseling with the mothers for specific recommended behavior changes and the benefits of the proposed behavior change related to anemia. About 36.8% of the mothers were discouraged about dietary habits that restrict important foods/food groups for anemic children; and35.6% of them were encouraged about those cultural practices that promote consumption of important foods

for anemic children. This shows an unacceptable level of quality regarding counseling and educating mothers about anemia.

Table 5.18 **Determine educational background and assessing mother knowledge**

No.	Statement & Level of Agreement	Yes		NO		N/A,D/N		Missing	
		No.	%	No.	%	No.	%	No.	%
H48	Assess the mother knowledge about anemia	37	21.6	120	70.1	5	2.9	9	5.2
H49	Assess the mother practices about anemia	35	20.4	122	71.3	5	2.9	9	5.3
H51	Discuss the relevance and purpose of the issue of anemia	36	21.0	123	71.9	6	3.5	6	3.5
H52	Remain focused on the issue of concern	35	20.4	126	73.6	3	1.7	7	4.0
H53	Discuss potential complications	24	14.0	140	81.8	0	0	7	4.0
H55	Discuss potential danger signs	5	2.9	159	92.9	0	0	7	4.0
H59	Discuss prevention of anemia	9	5.2	155	90.6	0	0	7	4.0
H60	Discuss specific recommended behavior changes	43	25.1	118	69.0	0	0	10	5.8
H61	Discuss benefits of the proposed behavior change	55	32.1	109	63.7	0	0	7	4.0
H62	Discourage dietary habits that restrict important foods/food groups for anemic children	63	36.8	101	59.0	0	0	7	4.0
H63	Encourage those cultural practices that promote consumption of important foods for anemic children	61	35.6	103	60.2	0	0	7	4.0
H64	Discuss when to go for services/follow up or seek help, if needed	16	9.3	108	63.1	41	23.9	6	3.5

As illustrated in *Table 5.19below* eight items were tested to assess the quality and use of appropriate techniques of communication between the nurses and the mothers according to the mother educational background during the visit to the clinic. It is clear here that the nurses avoid use of technical/medical terminology in about89.4% during the communication with the mothers, and she establishes good rapport with 49.7% of them. The nurses discuss problems that are realistic and relevant to44.4% of the mothers, and assess 15.7% of the mothers' comprehension of the instruction given and the nurse respond thoroughly to22.8% of the mothers questions.

Table 5.19 **Use of appropriate techniques**

No.	Statement & Level of Agreement	Yes		NO		N/A		Missing	
		No.	%	No.	%	No.	%	No.	%
H65	Establish good rapport with the care taker	85	49.7	79	46.1	0	0	7	4.0
H66	Avoid use of technical/medical terminology	153	89.4	11	6.4	0	0	7	4.0
H67	Speak clearly and make eye contact	46	26.9	118	69.0	0	0	7	4.0
H68	Display willingness to compromise as needed	33	19.2	133	77.7	0	0	5	2.9
H69	Discuss problems that are realistic and relevant to the care taker	76	44.4	88	51.4	0	0	7	4.0
H70	Assess the mother comprehension of the instruction given	27	15.7	137	80.1	0	0	7	4.0
H71	Ask the mother if she has any questions	24	14.0	140	81.8	0	0	7	4.0
H72	Respond thoroughly to questions from the mother	39	22.8	123	71.9	2	1.1	7	4.0

As shown in table 5.20 below the nurses didn't distribute related available educational materials or use educational materials that were appropriate for attendee, if necessary in a satisfactory condition.

Table 5.20 **Use of materials**

No.	Statement & Level of Agreement	Yes		NO		N/A		Missing	
		No.	%	No.	%	No.	%	No.	%
H73	Use materials appropriate for attendee, if necessary	56	32.7	108	63.1	0	0	7	4.0
H74	Distribute related available educational materials?	3	1.7	161	94.1	0	0	7	4.0

5.2 Second Level of Analysis: Correlation analysis

5.2.1 Process Access:

Process access (client centered care) was assessed as a subcomponent of the major category of quality which is access. As seen in the first level of the analysis of the study the structural access was satisfactory in its three dimensions (physical infrastructures, equipments, and professional staff).

The process access assessment contains 6 selected indicators related to procedures and actions which had to be carried out in order to enhance quality of care in PHC in the selected areas, these including (examination of the new-born, checking weight against growth chart, record findings of history and physical examination on the health record, document the etiology of the anemic condition, checking hemoglobin at 6 months-1y, and explain to mother the administration schedule for iron prescribed).

Chi square test used to detect any statistical differences between the quality indicators in the process access assessment. Cross tabulation between selected indicators and gender show that there was no evidence of differences in process access by sex of the child. The results shown in *Table 5.21*below indicate that children in the first visit undergo thorough assessment and were more likely to be classified correctly. Statement no.14 Examination of the new-born, show 100% response rate in both male and female, as it's a must that any newborn registered at UNRWA health clinic must have a complete medical examination on registration, so no statistical calculation were found. Record of findings of medical history and physical examination on the health record was carried out among 43.3% of males and 56.1% of females with chi-square 1.289 and P value 0.257. Weight checked against growth chart show response rate of 42.9% of males and 56.5% of females with chi-square 0.754 and P value 0.385. This indicates that there is a good implementation of the technical instructions regarding growth monitoring follow up and newborn medical examination without differentiation between male and female which enabled the team to detect any abnormality of growth and development to enhance the follow up and interfere at the proper time.

In the item hemoglobin check at 6months to one year,(n=127) who were checked for Hb% (35.6%of the males and 38.5% of the females)were checked with chi-square 6.521, and P value 0.038 which indicates that there is a statistical difference between male and female regarding Hb. testing.

Table 5.21 **Process Access (client-centered care) and sex of the child**

Process Access (client-centered care)		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No.	%	No.	%		
1	Examine the new-born					No statistics	
	Yes	75	43.8	96	56.2	are computed	
	No	0	0	0	0	because A14	
	N/A	0	0	0	0	is a constant.	
2	Weight checked against growth chart						
	Yes	72	42.9	95	56.5	0.754	0.385
	No	0	0	1	0.06		
	N/A	0	0	0	0		
3	Record findings of history and physical examination health record					1.289	0.257
	Yes	74	43.3	96	56.1		
	No	1	0.06	0	0		
	N/A	0	0	0	0		
4	Document the etiology of the anemic condition						
	Yes	3	1.8	5	2.9	0.102	0.950
	No	30	17.9	40	23.9		
	N/A	39	23.2	51	30.4		
5	Hemoglobin checked at 6 months-1y.						
	Yes	61	35.6	66	38.5	6.521	0.038*
	No	13	7.6	29	16.9		
6	Explain to mother the administration schedule for iron prescribed					1.659	0.436
	Yes	8	4.8	16	9.5		
	No	27	16.1	39	23.2		
	N/A	37	22.0	41	24.4		

* Significant at ($\alpha \leq 0.05$)

The quality of process access of providing preventive child care in anemia prevention and treatment, growth monitoring, and health education was assessed using chi-square and p-value significant at ($\alpha \leq 0.05$). The actual (observed) performance level compared with expected levels for a number of diagnostic, therapeutic and counseling tasks was carried out. A significant performance gap was found in process access, effectiveness of care, and out come of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet, administration of medication (iron) prescript, and giving schedule visits for follow up for anemia treatment.

The analysis of process access, of child health services using chi-square and p-value significant at ($\alpha \leq 0.05$) reported in *Table 5.22*below showed that the task of screening for Hb. for 6m-12m (question A23) in children who visit the clinic for preventive services was carried out well below standard core according to UNRWA local standards of care, only 74.1%, (n=127) was checked for Hb. with chi-square (47.487) and p-value 0.000001, where100% should have been .It was also found that communication in both curative and preventive services for anemia were poor. (Question H42) to assess if the nurse explained to the mother about the administration schedule for iron prescribed, point out chi-square51.429 and P value0.000001.Only14.5%(n=24) of the anemic children mothers were given explanation about the administration schedule for iron prescribed during their visits .

***Table 5.22Process access* observed performance level of care compared with expected levels**

Item	**Frequency**			**Chi-Square Value**	**P-Value**
	Yes	No	N/A		
A23 Hb. checked at six months-1year.	127	42	0	47.487	0.000001*
H42 Explain to mother the administration schedule for iron prescribed.	24	36	0	51.429	0.000001*

*Significant at ($\alpha \leq 0.05$)

5.2.2 Effectiveness Clinical Care:

As shown in *Table 5.23*below, the quality of effectiveness of clinical care (evidence-based care) and sex of the child was assessed, as statistical test chi-square and P value at significant level $\alpha \leq 0.05$ results show that there is a statistical relationship between the two variables. Although the difference between the two sexes was in favor of, it did not reach statistical significance.

***Table 5.23*Effectiveness of clinical care of evidence based care and sex of the child**

1.1 Evidence-based care.		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No.	%	No.	%		
1	If the child is malnourished(less he refereed for growth monitoring					1.288	0.257
	Yes	1	0.6	0	0		
	No	0	0	0	0		
	N/A	74	43.3	96	56.1		
2	Presence of Congenital abnormality recorded.					1.859	0.395
	Yes	1	0.6	3	1.8		
	No	1	0.6	0	0		
	N/A	71	42.7	93	54.4		
3	Correctly calculate the (age)					4.024	0.134
	Yes	75	43.9	91	53.2		
	No	0	0	4	2.4		
	N/A	0	0	1	0.6		
4	Correctly read scale					0.786	0.375
	Yes	75	43.9	95	55.5		
	No	0	0	1	0.6		
	N/A	0	0	0	0		
5	Locate the child's weight at correct weight					0.786	0.375
	Yes	75	43.9	95	55.5		
	No	0	0	1	0.6		
	N/A	0	0	0			
6	Tell mother the extent of weight normality of the child.					0.671	0.413
	Yes	43	25.1	49	28.7		
	No	32	18.7	47	27.5		

	N/A	0	0	0	0		
7	Ask about child anemia history Yes No N/A	16 46 9	9.6 27.8 5.4	10 63 21	6.0 39.2 12.7	0.177	0.915
8	Ask about previous treatment response Yes No N/A	14 38 20	8.3 22.6 11.9	19 58 19	11.3 34.5 11.3	1.553	0.460
9	If baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed. Yes No N/A	30 10 35	17.5 5.8 20.4	30 14 52	17.5 8.2 30.4	0.524	0.769
10	If "yes"; Was Hb. repeated after one month Yes No N/A	8 20 47	4.6 11.6 27.4	3 29 61	1.7 16.9 35.6	3.326	0.190
12	Anemia correctly treated Yes No N/A						
13	If baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed. Yes No N/A	30 10 35	17.5 5.8 20.4	30 14 52	17.5 8.2 30.4	0.524	0.769
14	If "yes"; Was Hb. repeated after one month. Yes No N/A	8 20 47	4.6 11.6 27.4	3 29 61	1.7 16.9 35.6	2.943	0.230
15	A (27) If "yes" was Hb. normal Yes No N/A	5 3 67	2.9 1.7 39.1	0 3 93	0 1.7 54.3	5.483	0.064

16	A (28) If still anemic; was further Iron supplementation, given?					0.546	0.761
	Yes	2	1.2	2	1.2		
	No	2	1.2	1	0.6		
	N/A	70	40.9	93	54.3		
17	A (29) If Yes, was Hb. repeated after 2 months					0.017	0.895
	Yes	1	0.06	1	0.06		
	No	1	0.06	1	0.06		
	N/A	72	42.1	93	54.3		
18	A (30) If was repeated, were results normal (>11gr. /dl)					0.017	0.895
	Yes	1	0.06	0	0		
	No	1	0.06	0	0		
	N/A	73	42.6	95	55.5		
19	Child needing referral is referred					1.118	0.542
	Yes	1	0.06	0	0		
	No	0	0	0	0		
	N/A	73	42.6	95	55.5		
20	Discuss the relevance and purpose of the issue of anemia					1.520	0.468
	Yes	16	9.7	20	12.1		
	No	51	30.1	72	43.6		
	N/A	4	2.4	2	1.2		
21	Discuss potential complications of anemia					0.074	0.786
	Yes	11	6.7	13	7.9		
	No	60	36.6	80	48.8		
	N/A	0	0	0	0		
22	Discuss potential danger signs					0.586	0.444
	Yes	3	1.8	2	1.5		
	No	68	41.5	91	55.5		
	N/A	0	0	0	0		
23	Explain the importance of introducing complementary foods during a two-month transitional period (i.e., months five and six)					5.339	0.069
	Yes	2	1.1	11	6.5		
	No	29	17.2	42	25.0		
	N/A	41	24.4	43	25.6		

24	Explain that children should be breastfed (not exclusively) for at least one year.					4.712	0.095
	Yes	2	1.1	11	6.5		
	No	32	19.0	43	25.6		
	N/A	38	22.6	42	25.0		
25	Explain to mother the administration schedule for nutrition supplements.					2.320	0.313
	Yes	3	1.8	7	4.2		
	No	31	18.4	49	29.2		
	N/A	38	22.6	40	23.8		
26	Discuss the importance of proper iron supplementation.					0.522	0.770
	Yes	10	6.1	12	7.3		
	No	27	16.4	41	24.8		
	N/A	34	20.6	41	24.8		
27	Schedule a return/follow-up appointment after 1month of treatment to evaluate treatment response.					1.010	0.604
	Yes	11	6.7	15	9.1		
	No	26	15.6	41	24.8		
	N/A	34	20.6	38	23.0		
28	Tell mother whether child has gained, lost ,or stayed the same since last weighing					0.870	0.647
	Yes	57	33.3	77	45.0		
	No	16	9.3	18	10.5		
	N/A	2	1.1	1	0.6		

* Significant at ($\alpha \leq 0.05$)

The analysis of effectiveness of evidence based care of child health services using chi-square and p-value significant at ($\alpha \leq 0.05$) was carried out. The quality of the actual providing preventive (observed) performance level compared with expected levels for a number of diagnostic, therapeutic and counseling tasks was carried out .A significant performance gap was found in quality of care provided to the children in anemia prevention and treatment, growth monitoring, and health education as seen in Table *5.24* below, effectiveness of care of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet,

administration of medication (iron) prescript, and giving schedule visits for anemia treatment follow up.

Evaluation of child health services delivered by UNRWA primary health facility in the study area have documented that the quality of care was inadequate, evaluation of primary health care services in a number of diagnostic, therapeutic and counseling tasks reported poor health worker performance.
Question (H12) with *Chi-Square Value*99.381 and *P-Value* 0.000001* show that 100% of children (6-36m) weight checked against growth chart, and 53.8 %(n=92) of their mothers were not informed about the extent weight normality of their children.

Analysis documented inadequate case-management for anemia in the study, 74.1% (n=127) of children were examined and 28.6% (n=24) of confirmed cases left the facility without treatment and 71.4% (n=60) of those who were treated for anemia were under treated and not followed up. Also about 25.7% (n=44) of the children were not checked for Hb. at proper time according to UNRWA instruction.
Question (A25) to show if the baby was anemic (Hb. less than 11gr/dl), iron supplements were prescribed. *Chi-Square Value* 26.776 and *P-Value* 0.000001*, point out that 71.4% of children (6-36m) with Hb. less than 11gr/dl were prescribed iron supplements.

Question (A26) to shows if the baby was anemic (Hb. less than 11gr/dl), and iron supplements were prescribed, whether Hb. was repeated after one month. *Chi-Square Value* 82.817 and *P-Value* 0.000001*, point out that 18.3% (n=11)of children(6-36m) who's Hb. was less than 11gr/dl and received iron supplements ,Hb. was repeated after one month.

Question (H44) to point out if the nurse discussed the importance of proper iron supplementation to the child mother. *Chi-Square Value* 98.264and *P-Value* 0.000001*, point out that only 12.8% (n=22) mothers of children (6m-36m) who's Hb. was less than 11gr/dl and iron supplements prescribed, had discussion with the nurse about the importance of proper iron supplementation .

Question (H45) to points out if the nurse scheduled a return/follow-up appointment after 1month of treatment to evaluate treatment response for the baby who was anemic (Hb.

less than 11gr/dl), and iron supplements were prescribed. *Chi-Square Value* 47.442 and *P-Value* 0.000001*, point out that only 15.2% (n=26) of (6m-36m) children who's Hb. was less than 11gr/dl and iron supplements prescribed, had scheduled a return/follow-up appointment after 1month of treatment to evaluate treatment response.

***Table 5.24*Effectiveness of evidence based care observed performance level of care compared with expected levels:**

Item	*Frequency*			*Chi-Square Value*	*P-Value*
	Yes	*No*	*N/A*		
H12 Tell the mother the extent of weight normality of the child.	92	79	0	99.381	0.000001*
H31 Ask about child anemia history.	26	101	44	167.673	0.000001*
H33 Ask about previous treatment response	33	27	0	34.839	0.000001*
A25 If the baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed.	60	24	0	26.776	0.000001*
A26 If "yes"; Was Hb. repeated after one month.	11	49	0	82.817	0.000001*
A28 If still anemic; was further Iron supplementation, given?	4	2	0	2.400	0.121
A29 If Yes Hb. was repeated after 2 months?	2	2	0	2.667	0.102
H44 Discuss the importance of proper iron supplementation.	22	62	0	98.264	0.000001*
H45 Schedule a return/follow-up appointment after 1month of treatment to evaluate treatment response.	26	34	0	47.442	0.000001*

* Significant at ($\alpha \leq 0.05$)

Question (H31) to show if the nurse asked the mother about child anemia history show the results of *Chi-Square Value*167.673 and *P-Value* 0.000001*, point out that 15.2%(n=26) of children(6m-36m) mothers have been asked about child anemia history. Question (H33) to show if the nurse asked the mother about child previous anemia treatment response with *Chi-Square Value* 34.839 and *P-Value* 0.000001*, point out that only 19.2% (n=33) of children mothers have been asked about child previous anemia treatment response.

As shown in *Table 5.25*below, the quality of effectiveness of clinical care (Legitimate care) was assessed in as statistical test chi-square and P value at significant level $\alpha \leq 0.05$ was done statistical relationship was found between the two variables. Although the difference between the tow sexes was in favor of, it did not reach statistical significance.

Table 5.25 **Effectiveness of clinical care of legitimate care and sex of the child**

1.2 Legitimate care		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No.	%	No.	%		
1	Ask if the child has had any health problems since last weighing (visit)					2.157	0.340
	Yes	12	7.1	19	11.2		
	No	10	5.9	20	11.8		
	N/A	51	30.2	57	33.7		
2	Explain which locally available foods constitute a balanced diet for children					2.534	0.282
	Yes	16	9.5	28	16.6		
	No	47	27.8	61	36.1		
	N/A	10	5.9	7	4.1		
3	Discuss specific recommended behavior changes					0.062	0.803
	Yes	18	11.2	25	15.5		
	No	52	32.3	66	40.1		
	N/A	0	0	0	0		

4	Care provider distributes related available educational material					0.123	0.725
	Yes	1	0.7	2	1.4		
	No	70	42.7	91	55.5		
	N/A	0	0	0	0		
5	Discuss when to go for services/follow up or seek help, if needed					0.529	0.768
	Yes	6	3.6	10	6.1		
	No	46	28.0	62	37.8		
	N/A	19	11.6	21	12.8		
6	Discourage dietary habits that restrict important foods/food groups for anemic children					0.780	0.377
	Yes	30	18.3	33	20.1		
	No	41	25.0	60	36.6		
	N/A	0	0	0	0		
7	H22 Explain the importance of gaining weight for health (child growth and development)					0.767	0.682
	Yes	19	11.2	25	14.8		
	No	54	31.9	70	41.4		
	N/A	0	0	0	0		

* Significant at ($\alpha \leq 0.05$)

5.2.3 Effectiveness of interpersonal care:

As shown in Table *5.26* below, the quality of effectiveness of interpersonal care was assessed in as statistical test chi-square and P value at significant level < 0.05 was done. No statistical relationship was found between the two variables. Although the difference between the two sexes was in favor of, it did not reach statistical significance. In the statement to check if the nurse made recommendations regarding child feeding and care, it indicates that there is a statistical difference between male and female with chi-square 6.229 and P value0.044*

Table 5.26Effectiveness of interpersonal care* and sex of the child*:

2) Interpersonal care		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No.	%	No.	%		
	Establish good rapport with the care taker (mother)						
1	Yes	8	4.9	77	46.9	1.136	0.287
	No	63	38.4	16	9.8		
	N/A	0	0	0	0		
	Speak clearly and make eye contact						
2	Yes	55	32.0	67	40.9	0.052	0.820
	No	20	12.2	26	15.9		
	N/A	0	0	0	0		
	Avoid use of technical/medical terminology						
3	Yes	69	42.1	84	51.2	3.028	0.082
	No	2	1.2	9	5.5		
	N/A	0	0	0	0		
	Care provider display willingness to compromise as needed						
4	Yes	58	35.4	73	44.5	0.256	0.613
	No	13	7.9	20	12.2		
	N/A	0	0	0	0		
	Explain the purpose of growth monitoring						
5	Yes	26	15.4	28	17.1	1.480	0.477
	No	47	28.7	67	40.9		
	N/A	0	0	1	0.6		
	Make recommendations regarding child feeding and care.						
6	Yes	28	17.3	30	18.6	6.229	0.044*
	No	47	29.1	53	32.9		
	N/A	6	3.7	4	2.5		
	Explain how to feed children during illness						
7	Yes	10	6.00	19	11.4	3.651	0.169
	No	14	8.4	27	16.3		
	N/A	47	28.3	49	29.5		

8	Tell mother the extent of weight normality of the child						
	Yes	43	25.1	49	28.7	0.671	0.413
	No	32	18.7	47	27.5		
	N/A	0	0	0	0		
9	Tell mother when to take child for next weighing						
	Yes	59	34.9	76	45.0	0.917	0.632
	No	11	6.5	18	10.7		
	N/A	3	1.8	2	1.2		
10	Explain the importance of gaining weight for health (child growth and development)					0.767	0.682
	Yes	19	11.2	25	14.8		
	No	54	31.9	70	41.4		
	N/A	0	0	1	0.6		
11	Use growth chart to explain to mother how her child is growing					0.787	0.675
	Yes	15	8.8	23	13.5		
	No	57	33.3	72	42.1		
	N/A	0	0	1	0.6		
12	Ask mother if she has any questions					2.047	0.153
	Yes	16	9.5	13	7.7		
	No	57	33.7	83	49.1		
	N/A	0	0	0	0		
13	Explain the purpose of growth monitoring					1.480	0.477
	Yes	26	15.4	28	17.1		
	No	47	28.7	67	40.9		
	N/A	0	0	1	0.6		
14	Provide nutrition counseling					3.587	0.166
	Yes	16	9.7	30	18.2		
	No	55	33.3	59	35.8		
	N/A	1	0.6	4	2.4		
15	Discuss problems that are realistic and relevant to the care taker					0.362	0.548
	Yes	40	24.4	48	29.3		
	No	31	18.9	45	27.4		
	N/A	0	0	0	0		

16	Assess the mother comprehension of the instructions given					0.017	0.895
	Yes	12	7.3	15	9.1		
	No	59	36.0	78	47.6		
	N/A	0	0	0	0		
17	Ask mother if she has any questions					2.047	0.153
	Yes	16	9.5	13	7.7		
	No	57	33.7	83	49.1		
	N/A	0	0	0	0		
18	Respond thoroughly to questions from the mother					2.673	0.263
	Yes	17	10.4	22	13.4		
	No	52	31.7	71	43.3		
	N/A	2	1.2	0	0		
19	Tell mother to increase her child total quality food and liquid intake during treatment					0.823	0.662
	Yes	4	2.4	5	2.9		
	No	37	22.0	56	33.3		
	N/A	31	18.5	35	20.8		
20	Tell mother to balance her child food intake					0.986	0.611
	Yes	15	8.9	16	9.5		
	No	55	32.7	75	44.6		
	N/A	2	1.2	5	3.0		
21	Discuss the importance of proper nutrition (rich in iron)					0.213	0.899
	Yes	24	14.3	34	20.2		
	No	47	30.0	60	35.7		
	N/A	1	0.6	2	1.2		
22	Discuss the importance of proper iron supplementation					0.522	0.770
	Yes	10	6.1	12	7.3		
	No	27	16.4	41	24.8		
	N/A	24	14.5	41	24.8		
23	Assess the mother knowledge about anemia					1.869	0.393
	Yes	14	8.6	23	14.2		
	No	55	33.9	65	40.1		
	N/A	1	0.6	4	2.5		

24	Assess the mother practices about anemia						
	Yes	14	8.6	21	12.9	1.419	0.492
	No	55	33.9	67	41.4		
	N/A	1	0.6	4	2.5		
25	Discuss prevention of anemia						
	Yes	5	3.0	4	2.4	0.583	0.445
	No	66	40.2	89	54.3		
	N/A	0	0	0	0		
26	Mother knows about the amount (dose) of iron supplement given to her child						
	Yes	16	9.4	14	8.3	1.569	0.465
	No	8	4.7	14	8.3		
	N/A	52	30.8	67	39.6		
27	Mother knows about drug administration frequency						
	Yes	14	8.2	14	8.3	3.873	0.423
	No	10	5.9	11	6.5		
	N/A	50	29.6	70	41.4		
28	Mother knows about duration of drug administration						
	Yes	14	8.3	15	8.8	6.733	0.151
	No	14	8.3	14	8.3		
	N/A	46	27.2	66	39.0		

* Significant at ($\alpha \leq 0.05$)

Health nurses should enhanced counseling and communication skills with the mothers. The analysis of effectiveness of interpersonal care of child health services using chi-square and p-value significant at ($\alpha \leq 0.05$) was don .The analysis of effectiveness of interpersonal care of child health services quality of providing preventive child care in anemia prevention and treatment, growth monitoring, and health education was assessed. The actual (observed) performance level compared with expected levels for a number of diagnostic, therapeutic and counseling tasks were carried out. A significant performance gaps were found as seen in Table *5.27* below, effectiveness of care of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet, administration of medication (iron) prescript, and giving scheduled visits for follow up for anemia treatment reported that especially the task of evaluations of child health services delivered by UNRWA primary health

facility in the study area were documented that the quality of care was inadequate, evaluation of primary health care services reported poor health worker performance. Results showed that 33.9 %;(n=58) of the mothers of anemic children in the study population was advised about the importance of proper nutrition (rich in iron). Question (H43) to check if the nurse talked to the mother about the importance of proper nutrition (rich in iron)for her child showed the response rate of *Chi-Square Value* 158.341 and *P-Value* 0.000001*.

For the children who needed an oral iron supplement medications and were prescribed by the health worker, only 14.0% (n=24) of their mothers were advised on how to administer the treatment, compared with only 5.2 %,(n=9) of mothers who were advised to give extra fluids and to continue feeding during the treatment.

Question (H48) to point out if the nurse assessed the mother of the child knowledge about anemia, showed *Chi-Square Value* 203.518 *P-Value* 0.000001*. These showed that only 21.6 %,(n=37) of the mothers of the children were assessed about level of any information about anemia by the nurse.

Question (H49) to point out if the nurse assessed the mother of the child practices about anemia, register *Chi-Square Value* 203.845 and P-*Value* 0.000001*. This showed that only 20.4%(n=35) of the mothers were assessed about their practices about anemia.

Question (H22) to indicate if the nurse explained to the mothers about the importance of gaining weight for health to children who are loosed weight ,or not gaining weight since the last weaning , (child growth and development). Register *Chi-Square Value* 17.333 and *P-Value*0.000001. Only 25.7 %(n=44) of the mothers were given counseling about the importance of gaining weight for improving the child health during the session.

Question (H15) to pinpoint if the nurse made any recommendations to the mothers regarding child feeding and care, *Chi-Square Value* 168.760 *P-Value*0.000001.About 33.9%(n=58) of the mothers observed encounter had received any kind of counseling regarding child feeding and care.

Question (H59) to show if the nurse discussed any preventive measures of anemia with the mothers, results show that, *Chi-Square Value*293.873 and *P-Value*0.000001*.Which

point out that only5.2% (n=9) of the observed mothers were given any information about preventive measures of anemia.

Question (H21) to indicate if the nurse asked the mother if she had any questions show the result with *Chi-Square Value* 238.990 and *P-Value*0.000001*.Only 16.9%(n=29) of the mothers were asked if they had any question.

Question (H72) to indicate if the nurses responded thoroughly to questions from the mothers show the result with *Chi-Square Value* 198.269 and *P-Value*0.000001. Only 22.8% (n=39) of the mothers' questions were answered thoroughly by the nurse.

Question (H70) to indicate if the nurse assessed the mother comprehension of the instructions given. Show that the result *of Chi-Square Value* 235.267 and *P-Value* 0.000001. Only 15.7% (n=27) of the care taker comprehension of the instruction given, were assessed by the nurse during the mothers visit to the clinic for preventive services.

Table 5.27 Effectiveness of interpersonal care* observed performance level of care compared with expected levels*:

Item	***Frequency***			***Chi-Square Value***	***P-Value***
	Yes	*No*	*N/A*		
H43 Discuss the importance of proper nutrition (rich in iron)	58	107	3	158.341	0.000001*
H48 Assess the mother knowledge about anemia	37	120	5	203.518	0.000001*
H22 Explain the importance of gaining weight for health (child growth and development)	13	13	0	17.333	0.000001*
H49 Assess the mother practices about anemia	35	122	0	203.845	0.000001*
H15 Make recommendations regarding child feeding and care	58	113	0	168.760	0.000001*
H21 Ask the mother if she has any questions	29	140	0	238.990	0.000001*
H59 Discuss prevention of anemia	9	155	0	293.873	0.000001*
H69 Discuss problems that are realistic and relevant to the care taker	88	76	0	98.921	0.000001*
H70 Assess the mother comprehension of the instruction given.	27	137	0	235.267	0.000001*
H72 Respond thoroughly to questions from the mother.	39	123	0	198.269	0.000001*

* Significant at ($\alpha \leq 0.05$)

5.2.4 Outcomes (User Evaluation):

As shown in Table *5.28* below, the outcome of care was assessed as statistical test chi-square and P value at significant level $\alpha \leq 0.05$ was used .No statistical relationship was found between the two variables. Although the difference between the two sexes was in favor of, it did not show statistical significance. In the statement to check if the mother thinks that her child can be fully cured by sticking to iron supplementation only, it indicates that there is a statistical difference between male and female with chi-square 5.110 and P value0.024*

Table 5.28 **Outcome user evaluation (experience) and sex of the child**

1) User Evaluation (experience)		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No.	%	No.	%		
1	Mother reported that she having been given guidelines about infant feeding.					0.567	0.451
	Yes	57	33.3	70	40.9		
	No	12	7.0	20	11.6		
	N/A	6	3.5	6	3.5		
2	Mother agrees that these given instruction where similar to her practices.					2.267	0.322
	Yes	52	30.4	23	13.4		
	No	25	14.6	27	15.7		
	N/A	14	8.2	30	17.5		
3	Mother accepts to change her practices and follow the new instruction					4.121	0.127
	Yes	8	4.7	4	2.4		
	No	13	7.6	27	15.9		
	N/A	65	38.5	52	30.7		
4	agrees that these given guidelines were helpful to her					0.061	0.970
	Yes	55	32.7	70	41.7		
	No	2	1.1	2	1.1		
	N/A	17	10.1	22	13.1		

5	Mother knows when she can get refills for the drug Yes No N/A	 14 12 48	 8.3 7.1 28.4	 14 10 71	 8.3 5.9 42.0	2.111	0.550
6	Mother knows when she can get to repeat the Hb level Yes No N/A	 16 11 47	 9.5 6.5 27.8	 14 11 70	 8.3 6.5 41.4	2.136	0.545
7	Mother knows when she should return for growth monitoring Yes No N/A	 70 4 0	 41.4 2.4 0	 87 7 1	 51.5 4.1 0.6	1.006	0.587
8	Mother knows the weight of her child Yes No N/A	 68 5 1	 40.4 2.9 0.6	 83 8 3	 49.4 4.8 1.8	0.813	0.666
9	Mother knows what anemia means Yes No	 15 58	 9.1 34.9	 11 82	 6.6 49.3	0.172	0.679
10	Mother knows what causes anemia Yes No	 19 67	 11.2 39.2	 16 69	 9.4 40.3	1.708	0.191
11	Mother knows about types of anemia Yes No	 38 37	 22.2 21.6	 22 74	 12.8 43.7	1.254	0.263
12	Mother knows what the signs and symptoms of anemia are Yes No	 24 51	 14.0 29.8	 30 66	 17.5 38.6	0.538	0.463
13	Mother has an idea what Hemoglobin is Yes No	 17 58	 9.9 33.9	 13 83	 7.6 48.5	0.281	0.596

14	Mother knows what Iron Deficiency Anemia means (IDA).					0.311	0.577
	Yes	9	5.2	12	7.0		
	No	66	38.6	82	47.9		
15	Mother knows what medicines are used to treat IDA					0.005	0.945
	Yes	32	18.7	39	22.8		
	No	43	25.5	57	33.3		
16	Mother knows what makes the iron stores in the body to drop					0.212	0.645
	Yes	7	4.0	6	3.5		
	No	63	36.8	88	51.4		
	N/A	2	1.2	2	1.2		
17	Mother knows why her child did not respond to the therapy					1.353	0.852
	Yes	7	4.0	5	2.9		
	No	10	5.8	38	22.2		
	N/A	58	33.9	53	31.0		
18	Mother knows three kinds of foods that contains large amount of iron					0.562	0.454
	Yes	48	28.0	61	35.7		
	No	26	15.2	33	19.3		
19	Mother knows the foods that interfere with iron intestinal absorption					0.206	0.650
	Yes	22	12.8	32	18.7		
	No	53	31.0	64	37.4		
20	Mother knows about the amount (dose) of iron supplement given to her child					1.569	0.465
	Yes	16	9.4	13	7.6		
	No	7	4.0	24	14.0		
	N/A	52	30.4	59	34.5		
21	Mother knows about drug administration frequency					3.873	0.423
	Yes	8	4.6	10	5.9		
	No	15	8.7	27	15.7		
	N/A	52	30.4	59	34.5		

22	Mother knows about duration of drug administration Yes No N/A	9 14 52	5.3 8.1 30.4	14 23 59	8.3 13.4 34.5	6.733	0.151
23	Mother thinks her child can be fully cured by sticking to iron supplementation only. Yes No N/A	26 15 34	12.2 8.8 19.9	28 29 39	16.3 16.9 22.8	5.110	0.024*

*Significant at ($\alpha \leq 0.05$)

The analysis of outcomes (user evaluation) of care of child health services using chi-square and p-value significant at ($\alpha \leq 0.05$) ,the actual (observed) mother level of knowledge compared with expected levels for a number of diagnostic, therapeutic and counseling tasks was carried out. A significant performance gap were found as seen in Table *5.29*below, it was found that mothers reported high levels of correct knowledge about how to care for their children, and reported low levels of correct knowledge about how to give iron supplementation to their children with anemia, and how to prevent complication.

Question (M14) to check about mothers who were reported that they have been given guidelines about infant feeding. Results show that, *Chi-Square Value* 50.497 and P-*Value*0.000001.Results show that only74.2 %,(n=127) of the observed mothers reported that they had been given guidelines about infant feeding. 25.8 %,(n=44) of mothers who brought their children to the MCH clinic did not receive any kind of counseling during their visits.

Question (M34) to show if the mother knows about the amount (dose) of iron supplement given to her child, results show that, *Chi-Square Value* 41.798 and *P-Value*0.000001*.Which point out that only16.9 %,(n=29) of the served mothers know about the correct amount (dose) of iron supplement should be given to their children .

Question (M35) to assess the level of the mother knowledge about the frequency of iron supplement administration should be given to her child. Results show that, *Chi-Square Value* 45.517 and P-*Value*0.000001.Results showed that only10.5 %,(n=18) of

the observed mothers know the correct frequency of iron supplement should be given to there children.

Question (M36) to check about mothers' knowledge about the duration of iron administration to their child during the treatment course. Results show that, *Chi-Square Value* 43.636 and *P-Value*0.000001.Results show that only15.4 %(n=23) of the observed mothers knows about the duration of iron supplement should be given to their children.

Question (M37) to assess the mother who thinks that their children can be fully cured by sticking to iron supplementation only; results show *Chi-Square Value* 78.734 and P-*Value*0.000001. This question is negatively stated; results show that 31.5 %,(n=54) of the mothers think that their children can be fully cured by sticking to iron supplementation only.

Question (M39) to check if the mother of the anemic child knew when she can get refills for the iron prescribed for her child, results show *Chi-Square Value* 84.000 and P-*Value*0.000001. Results show that only 16.3 %,(n=28) of the mothers of anemic children knew when they could get refills for the iron prescribed for their children.

Question (M40) to pin point if the mother of anemic child knows when she can get to repeat the Hb. level for here child. Results show *Chi-Square Value* 79.579 and *P Value*0.000001.Results show that only 17.5 %,(n=30) of the mothers of anemic children knew when they could get to repeat the Hb. level for their children

Table 5.29 Outcomes(User Evaluation) **actual mother level of knowledge compared with expected levels*:***

Item	*Frequency*			*Chi-Square Value*	*P-Value*
	Yes	*No*	*N/A*		
M14 Mother reported that she has been given guidelines about infant feeding.	127	44	0	50.497	0.000001*
M34 Mother knows about the amount (dose) of iron supplement given to her child.	29	31	0	41.798	0.000001*
M35 Mother knows about drug administration frequency.	27	33	0	45.517	0.000001*
M36 Mother knows about duration of drug administration	28	32	0	43.636	0.000001*
M37 Mother thinks her child can be fully cured by sticking to iron supplementation only.	64	107	0	78.734	0.000001*
M39 Mother knows when she can get refills for the drug.	28	56	0	84.000	0.000001*
M40 Mother knows when she can get to repeat the Hb level.	30	54	0	79.579	0.000001*

*Significant at ($\alpha \leq 0.05$)

5.2.5 Outcomes (Health Statues):

Table 5.30 Outcomes (Health Statues) and sex of the child:

2) Health Statues		**The demographic Sex- variable**				**Statistical test**	
No.	Statement & Level of Agreement	Male		Female		Chi square	P value
		No	%	No.	%		
1	If the child is malnourished(less than 2.5kg), was he refereed for growth monitoring clinic					1.306	0.251
	Yes	1	0.6	0	0		
	No	1	0.6	1	0.6		

	N/A	73	42.9	94	55.3		
2	Hb. checked at six months-1year						
	Yes	61	35.6	66	38.5	2.712	0.100
	No	13	7.6	29	16.9		
	N/A	0	0	0	0		
3	If baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed.					0.524	0.769
	Yes	30	17.5	30	17.5		
	No	10	5.8	14	8.2		
	N/A	35	20.4	52	30.4		
4	If baby was anemic (Hb. less than 11gr/dl), and Iron supplements prescribed was Hb. repeated after one month					2.943	0.230
	Yes	8	4.6	3	1.7		
	No	20	11.6	29	16.9		
	N/A	47	27.4	61	35.6		
5	Normal Hb upon repetition					5.483	0.064
	Yes	5	2.9	0	0		
	No	3	1.7	3	1.7		
	N/A	67	39.1	93	54.3		
6	Hb. remained below normal after giving the iron supplements					5.483	0.064
	Yes	5	2.9	0	0		
	No	3	1.7	3	1.7		
	N/A	75	43.9	85	49.7		
7	Hb. remained below normal after giving the iron supplements; child was referred for further assessment					1.118	0.542
	Yes	1	0.06	0	0		
	No	0	0	0	0		
	N/A	73	42.6	95	55.5		

5.3 Third Level of Analysis: Factor Analysis

As shown in *Table5.31* the quality indicators were classified into 3 major dimensions which are; access, effectiveness and outcome. Each has items related to quality performance. Factor analysis was carried out in order to detect any statistical relations between the 3 dimensions.

The **first** hypothesis was that there is no significant statistical relationship between process access, effectiveness and outcome, and to check the hypothesis**,** Repeated Meaursed Design and Wilks Lambda test was used. The result shown in table (*5.31*) below and it was found that there is a significant level registered the value 0.00001.

Table 5.31 **Wilks Lambda test between process access, effectiveness, and outcomes**

Wilks Lambda Value	Hypothesis Degrees of freedom	Error Degrees of freedom	F-value	Significance
0.577	2	125	45.508	*0.00001

* Wilks Lambda test. Significant at ($\alpha \leq 0.05$)

This means that there is a significant statistical relationship between process access, effectiveness of and outcome of care given, and to detect for whom these differences refer Sidak Post Hoc Test was used Table *5.32* below and when cross tabulation carried out registered the value of 0.335 and 0.250.

Table 5.32 **Sidak Post Hoc Test between process access, effectiveness, and outcomes**

Domain	Process Access	Effectiveness	Outcomes
Process Access		*0.335	*0.250
Effectiveness	-0.335*		0.082
Outcomes	-0.250*	−0.082	

* Sidak Post Hoc Tes. Significant at ($\alpha \leq 0.05$)

This shows that the process access for care has better results than effectiveness of that care and outcome, and this comes with the expectations that the protocols and technical instructions were implemented in a good manner.

The **second** hypothesis was that there is no significant statistical relationship between effectiveness of clinical care and effectiveness of interpersonal care. Paired t test was used to check the hypothesis and cross tabulation was done at T-value 2.079 and degree of freedom 149 the significant level registered the value 0.039, the results shown in Table *5.33* below.

Table 5.33 **Paired t test between effectiveness of clinical care and effectiveness of interpersonal care**

Effectiveness	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Clinical	1.396	1.52	149	2.079	*0.039
Interpersonal	1.135	0.255			

* Paired t test .Significant at ($\alpha \leq 0.05$)

The significant level show that there is statistical relationship between effectiveness of clinical care and effectiveness of interpersonal care, this can be explained as the clinical care compose the implementation of the regulations and technical instructions related to anemia prevention and treatment ,growth monitoring ,and health education.
Effectiveness of clinical care measures the care giver practices and implementation of these instructions.

The **third** hypothesis was that there is no significant statistical relationship between effectiveness of clinical care evidence-based care and effectiveness of clinical care legitimate care.
Paired t test used to check the hypothesis and cross tabulation done at T-value 3.429 and degree of freedom 157 the significant level registered the value 0.001 ,the results shown in *Table 5.34* below.

Table 5.34 **Paired t test between effectiveness of evidence based care and effectiveness of legitimate care**

Clinical	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Evidence	1.13	0.25	157	3.429	*0.001

Legitimate	1.05	0.29			

* Paired t test .Significant at ($\alpha \leq 0.05$)

The evidence-based care is offered in more satisfactory level as these clinical skills are more implemented and followed up by the supervisors and senior staff. So it shows better range than legitimate clinical care.

The **forth** hypothesis was that there is no significant statistical relationship between effectiveness of clinical care and user evaluation. At degree of freedom151, cross tabulation done at T-value 4.905 and the significant level registered the value 0.0001, the results shown in Table *5.35* below.

Table 5.35 **Paired t test between effectiveness of clinical care and user evaluation**

	Mean	**Standard Deviation**	**Degrees of freedom**	**T- Value**	**Significance**
Clinical care	1.31	1.08	151	4.905-	*0.0001
User Evaluation	1.77	0.29			

*Paired t test. Significant at ($\alpha \leq 0.05$).

Results show that there is a significant statistical relationship between effectiveness of clinical care and user evaluation. The user evaluation shows better results than clinical care provided ,this can be explained by that the mother knowledge was not necessarily be one of the output of these given by the nurse .

The **fifth** hypothesis was that there is no significant statistical relationship between effectiveness of clinical care and health status. At degree of freedom156, cross tabulation done at T-value -0.849 and the significant level registered the value0.397, the results shown in *Table 5.36* below.

Table 5.36 **Paired t test between effectiveness of clinical care and health statues**

	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Clinical	**1.11**	**0.22**	***156***	***-0.849***	**0.397**
Health Statues	**1.13**	**0.29**			

* Paired t test. Significant at ($\alpha \leq 0.05$).

Results show that there is no significant statistical relationship between effectiveness of clinical care and health status. The clinical care provided has no effect on the health status of the child.

The **sixth** hypothesis was that there is no significant statistical relationship between interpersonal care and health status. Paired t test used to check the hypothesis and cross tabulation done at T-value 0.110 and degree of freedom 153, the significant level registered the value 0.913, the results shown in Table *5.37* below.

Table 5. 37 **Paired t test. Effectiveness of Interpersonal care and Health Status**

	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Interpersonal	1.233	0.26	153	0.110	0.913
Health Status	1.129	0.24			

* Paired t test. Significant at ($\alpha \leq 0.05$).

Results show that there is no significant statistical relationship between interpersonal care and health status. The interpersonal care has no effect on the health status.

The **seventh** hypothesis was that there is no significant statistical relationship between effectiveness of interpersonal care and user evaluation .Paired t test used to check the hypothesis and cross tabulation done at T-value -17.830 and degree of freedom147 the significant level registered the value $*0.0001$,the results shown in *Table 5.38* below.

Table 5.38 **Paired t test between effectiveness of interpersonal care and user evaluation**

	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Interpersonal	1.14	0.27	*147*	*-17.830*	*0.0001
User Evaluation	1.76	0.29			

* Paired t test. Significant at ($\alpha \leq 0.05$)

The user knowledge and experience are not always due to the care given by the nurse, the mother own experience, education and attitudes affect her input and output about health related information.

The **eighth** hypothesis was that there is no significant statistical relationship between process access of care and user evaluation .Paired t test used to check the hypothesis and cross tabulation done at T-value 6.987 and degree of freedom 138 the significant level registered the value *0.0001 ,the results shown in *Table 5.39* below.

Table 5.39 **Paired t test between process access of care and user evaluation**

	Mean	Standard Deviation	Degrees of freedom	T- Value	Significance
Process Access	**1.98**	**0.17**	***138***	***6.987***	***0.0001**
User Evaluation	**1.78**	**0.29**			

*Paired t test. Significant at ($\alpha \leq 0.05$).

Results show that there is a significant statistical relationship between process access of care and user evaluation of these cares given. The process access of care provided has a big effect on the mothers' information and evaluation about the care given to their children.

The **ninth** hypothesis was that there is no significant statistical relationship between process access of care and health status .Paired t test used to check the hypothesis and

cross tabulation done at T-value 34.292 and degree of freedom 143 the significant level registered the value *0.0001 ,the results shown in *Table 5.40* below.

Table 5.40 **Paired t test between process access for care and health statues**

	Mean	**Standard Deviation**	**Degrees of freedom**	**T- Value**	**Significance.**
Process Access	1.98	0.17	*143*	*34.292*	*0.0001
Health Statues	1.13	0.24			

* Paired t test. Significant at ($\alpha \leq 0.05$)

Results show that there is a significant statistical relationship between process access of care and health status of the child. The process access of care provided has a major effect on the health status of the child.

The **tenth** hypothesis was that there is no significant statistical relationship between user evaluation and health status .Paired t test used to check the hypothesis and cross tabulation done at T-value 21.657 and degree of freedom 161 the significant level registered the value 0.0001, the results shown in *Table 5.41* below.

Table 5.4 1 **Paired t test between user evaluation and health status**

Outcomes	**Mean**	**Standard Deviation**	**Degrees of freedom**	**T- Value**	**Significance**
User Evaluation	1.768	0.29	161	21.657	*0.0001
Health Status	1.123	0.24			

*Paired t test. Significant at ($\alpha \leq 0.05$).

The user knowledge and experience are not always due to the care given by the nurse, the mother own experience, education and attitudes affect her input and output about health related issues.

The impact of the individual characteristics on the various scores are presented in the following statistical tests, the results show that health personal practices and conduct are perceived as poor by relatively educated mothers.

The **eleventh** hypothesis was that there is no significant statistical relationship between the independent variable place of residence and the dependent variables process access, effectiveness ، outcomes ، clinical, interpersonal, evidence, legitimate, user evaluation، health statues. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.42* below. The results show that there is no significant statistical relationship between the independent variable place of residence and the dependent variables process access, effectiveness, outcomes ،clinical, evidence, legitimate, health statues and user evaluation.

Table 5.42 **Results of One Way ANOVA to test the dereferences according to place of residence**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F value	Significance
1	Process Access	**B.G***	0.032	2	0.016	0.530	0.590
		W.G**	4.295	142	0.30		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.046	2	0.023	0.605	0.548
		W.G	5.560	146	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.031	2	0.015	0.301	0.740
		W.G	7.904	155	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.089	2	0.045	0.705	0.496
		W.G	10.059	158	0.064		
		Total	10.149	160			
−1−2	Legitimate	**B.G**	0.023	2	0.011	0.127	0.881

22		**W.G**	14.471	158	0.091		
		Total	14.497	160			
2-2	Interpersonal	**B.G**	0.134	2	0.067	0.946	0.391
		W.G	10.755	152	0.071		
		Total	10.889	154			
3	Outcomes	**B.G**	0.0045	2	0.002	0.029	0.972
		W.G	12.919	159	0.081		
		Total	12.923	161			
3-1	User Evaluation	**B.G**	0.0057	2	0.0028	0.033	0.967
		W.G	13.796	161	0.085		
		Total	13.802	163			
3-2	Health Statues	**B.G**	0.137	2	0.068	1.217	0.299
		W.G	9.377	166	0.056		
		Total	9.515	168			

*Significant at ($\alpha \leq 0.05$)

*B.G: Between Groups. **W.G: Within Groups.

The **twelfth** hypothesis was that there is no significant statistical relationship between the independent variable child age in full months and the dependent variables process access, effectiveness, outcomes ،clinical, interpersonal, evidence, legitimate, user evaluation، health statues. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.43* below.

Table 5.43 **Results of One Way ANOVA to test the dereferences according to child age in full months**

		Source of Variation	**Sum of Squares**	**Degrees of freedom**	**Mean of Squares**	**F value**	**Significance**
1	Process Access	**B.G**	0.03918	2	0.01959	0.649	0.524
		W.G	4.288	142	0.03020		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.021	2	0.018	0.263	0.754
		W.G	5.584	146	0.038		

		Total	5.606	148			
2-1	Clinical	**B.G**	0.062	2	0.031	0.607	0.546
		W.G	7.873	155	0.051		
		Total	9.953	157			
2-1-1	Evidence	**B.G**	0.104	2	0.05198	0.818	0.443
		W.G	10.045	158	0.06357		
		Total	10.149	160			
−1−2 2	Legitimate	**B.G**	0.183	2	0.091	1.011	0.366
		W.G	14.311	158	0.095		
		Total	14.494	160			
2−2	Interpersonal	**B.G**	0.467	2	0.233	3.404	0.036*
		W.G	10.422	152	0.06857		
		Total	10.889	154			
3	Outcomes	**B.G**	0.04331	2	0.02165	*0.267*	0.766
		W.G	12.881	159	0.08101		
		Total	12.924	161			
3−1	User Evaluation	**B.G**	0.05351	2	0.02675	0.313	0.731
		W.G	13.748	161	0.08539		
		Total	13.802	163			
3−2	Health Statues	**B.G**	0.982	2	0.491	9.555	0.001*
		W.G	8.533	166	0.05140		
		Total	9.515	168			

*Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable child age in full months and the dependent variables such as process access, effectiveness, outcomes ،clinical, evidence, legitimate, and user evaluation. However there was a significant statistical relation between the independent variable child age in full months and the dependent variables interpersonal and health statues.

To detect for whom these differences refer L.S.D Test used as shown in *Table 5.44* below to detect for what age these differences in the inter personal care effectiveness refer .

Table 5.44 **L.S.D between interpersonal and child age in full months**

Child age in full months	6 −12	13−24	25−36
6-12		0.047-	*0.16−
13−24	0.047		0.113
25−36	*0.16	0.113−	

* L.S.D Significant at ($\alpha \leq 0.05$)

Results show that children aged 25m-36m have better results than those aged 6m - 24m.this my refer to the communication between care giver and the mothers ,the children usually registered soon after birth at UNRWA health center for follow up and to receive PHC. Mothers of children in this age group sometimes develop special relation with the care giver; this makes the mother ask about her child health needs and problems.

Table 5.45 **Scheffe test between health statues and child age in full months**

Child age in full months	6 −12	13−24	25−36
6-12		*0.16	0.12
13−24	*0.16−		0.42−
25−36	0.12−	0.42	

∗ Scheffe test Significant at ($\alpha \leq 0.05$)

Scheffe test used to check for what age these differences in the health status refer. Scheffe test results shown in *Table 5.45* above, and it indicates that children age 6m-12m have better health status than those 13m-36m.This may suggest that mothers of this age group may be more careful about their children health, another explanation may be that the caregivers adhere more to implementing the technical instructions regarding growth monitoring, and checking Hb. level, when the child reach 6m of age.

Table 5.46 **Results of One Way ANOVA to test the dereferences according to child age at registration**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F value	Significance
1	Process Access	**B.G**	0.006005	2	0.00300	0.099	0.906
		W.G	4.321	142	0.03043		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.053	2	0.026	0.699	0.499
		W.G	5.553	146	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.121	2	0.061	1.201	0.304
		W.G	7.814	155	0.054		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.147	2	*0.07368*	1.164	0.315
		W.G	10.001	158	0.6330		
		Total	10.149	160			
−1−2 2	Legitimate	**B.G**	0.034	2	0.017	0.188	0.829
		W.G	14.460	158	0.091		
		Total	14.494	160			
2−2	Interpersonal	**B.G**	0.311	2	0.155	*2.234*	*0.111*
		W.G	10.578	152	0.06959		
		Total	10.889	154			
3	Outcomes	**B.G**	0.09743	2	0.04872	*0.604*	0.548
		W.G	12.827	159	0.08067		
		Total	12.924	161			
3−1	User Evaluation	**B.G**	0.100	2	0.05002	0.588	0.557
		W.G	13.702	161	0.08510		
		Total	13.802	163			
3−2	Health Statues	**B.G**	0.131	2	0.06561	1.161	0.316
		W.G	9.384	166	0.05653		
		Total	9.515	168			

- One Way ANOVA **.**Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable child age at registration and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, user evaluation, and health status.

Table 5.47 **Results of One Way ANOVA to test the dereferences according to mothers' marital age**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F value	Significance
1	Process Access	**B.G**	0.07655	3	0.02552	0.846	0.471
		W.G	4.251	141	0.03015		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.045	3	0.015	0.387	0.762
		W.G	5.561	145	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	*0.149*	3	0.049	0.981	0.404
		W.G	7.786	154	0.050		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.350	3	*0.117*	1.867	0.137
		W.G	9.799	157	0.06242		
		Total	10.149	160			
2−1−2	Legitimate	**B.G**	0.304	3	0.101	1.120	0.343
		W.G	14.190	157	0.090		
		Total	14.494	160			
2−2	Interpersonal	**B.G**	0.189	3	0.06308	*0.890*	*0.448*
		W.G	10.700	151	0.07086		
		Total	10.889	154			
3	Outcomes	**B.G**	*0.484*	3	0.161	*2.048*	0.109
		W.G	12.440	158	0.07874		
		Total	12.624	161			
3−1	User Evaluation	**B.G**	0.664	3	0.221	2.684	0.048*
		W.G	13.138	160	0.08211		
		Total	13.802	163			

3-2	Health Statues	**B.G**	0.163	3	0.05448	0.961	0.412
		W.G	9.351	165	0.05667		
		Total	9.515	168			

* One Way ANOVA.Significant at ($\alpha \leq 0.05$)

The **fourteenth** hypothesis was that there is no significant statistical relationship between the independent variable, mothers' marital age and the dependent variables process access, effectiveness, outcomes ،clinical, interpersonal, evidence, legitimate, user evaluation، health statues. One Way ANOVA used to check the hypothesis, the results shown in Table *5.47* above.

The results show that there is no significant statistical relationship between the independent variable mother marital age and the dependent variables such as process access, effectiveness, outcomes ،clinical care, and evidence based care, legitimate care, interpersonal care, and health statues. But there was a significant statistical relation in between the independent variable, mother marital age and the dependent variable user evaluation.

To detect for whom these differences refer L.S.D Test used as shown in *Table 5.48* below to detect for what age these differences in the mother marital age and user evaluation refer to**.**

Table 5.48 **L.S.D between user evaluation and mothers marital age**

Mothers marital age	Younger 16	16-24	25-34	35≤
Younger 16		*0.048-	*0.2728-	0.2435
24-16	0.048		*0.2245-	0.2918
25-34	*0.2728	*0.2245		*0.5163
35≤	0.2435-	0.2918-	*0.5163-	

L.S.D Significant at ($\alpha \leq 0.05$)

As shown in table above mothers married at age 24y-35y point out better results in evaluating the health care provided, this may be explained as these mothers are more aware of the instructions given ,they have more information about the health related issues .

The **fifteenth** hypothesis was that there is no significant statistical relationship between the independent variable, mothers' current age and the dependent variables process access, effectiveness, outcomes ،clinical, interpersonal, evidence based care, legitimate care, user evaluation، and health status. One Way ANOVA used to check the hypothesis, the results shown in Table *5.49* below

Table 5.49 **Results of One Way ANOVA to test the dereferences according to mothers' current age**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F value	Significance
1	Process Access	**B.G**	0.01814	2	0.00906	0.299	0.742
		W.G	4.309	142	0.03034		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.074	2	0.037	0.970	0.379
		W.G	5.532	146	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	*0.074*	2	0.037	0.733	0.482
		W.G	7.870	155	0.051		
		Total	7.934	157			
2-1-1	Evidence	**B.G**	0.119	2	*0.05938*	0.935	0.395
		W.G	10.030	158	0.06348		
		Total	10.149	160			
2−1−2	Legitimate	**B.G**	0.058	2	0.029	0.321	0.726
		W.G	14.436	158	0.091		
		Total	14.494	160			
2−2	Interpersonal	**B.G**	0.257	2	0.128	*1.836*	*0.163*
		W.G	10.632	152	0.06995		
		Total	10.889	154			

3	Outcomes	**B.G**	*0.384*	2	0.192	*2.434*	0.091
		W.G	12.540	159	0.07887		
		Total	12.924	161			
3−1	User Evaluation	**B.G**	0.408	2	0.204	2.450	0.089
		W.G	13.394	161	0.08319		
		Total	13.802	163			
3−2	Health Statues	**B.G**	0.01195	2	0.00597	0.104	0.901
		W.G	9.513	166	0.05725		
		Total	9.515	168			

* One Way ANOVA Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable mother current age and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation.

Table 5.50 **Results of One Way ANOVA to test the dereferences according to mothers' level of education**

		Source of Variation	**Sum of Squares**	**Degrees of freedom**	**Mean of Squares**	**F value**	**Significance**
1	Process Access	**B.G**	0.168	4	0.04189	1.410	0.234
		W.G	4.160	140	0.02971		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.0058	4	0.0145	0.038	0.997
		W.G	5.600	144	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.041	4	0.010	0.200	0.938
		W.G	7.893	153	0.052		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.112	4	0.02796	0.435	0.783
		W.G	10.037	156	0.06434		
		Total	10.149	160			
−1−2	Legitimate	**B.G**	0.115	4	0.028	0.313	0.669

2		**W.G**	14.379	156	0.092		
		Total	14.494	160			
2−2	Interpersonal	**B.G**	0.486	4	0.121	1.751	0.142
		W.G	10.403	150	0.06936		
		Total	10.889	154			
3	Outcomes	**B.G**	0.283	4	0.07072	0.878	0.478
		W.G	12.641	157	0.08052		
		Total	12.924	161			
3−1	User Evaluation	**B.G**	0.461	4	0.115	1.374	0.245
		W.G	13.340	159	0.08390		
		Total	13.802	163			
3−2	Health Statues	**B.G**	0.706	4	0.177	3.286	0.013*
		W.G	8.809	164	0.05371		
		Total	9.515	168			

* One Way ANOVA Significant at ($\alpha \leq 0.05$)

The **sixteenth** hypothesis was that there is no significant statistical relationship between the independent variable, mothers' level of education and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation، health status. One Way ANOVA used to check the hypothesis, the results shown Table *5.50* above.

The results show that there is no significant statistical relationship between the independent variable mother level of education and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, and user evaluation. But there was a significant statistical relationship between the independent variable, mother level of education and the dependent variable health status.

To detect for whom these differences refer to, L.S.D Test used as shown in *Table 5.51* below to detect for what level of education these differences in the mother level of education and health statues refer to**.**

Table 5.51 **L.S.D between health statues mothers level of education**

Mothers level of education	**Illiterate**	**Elementary**	**Preparatory**	**Secondary Education**	**Higher education**
Illiterate		*0.1933*	**0.2798*	0.1617	*0.2333
Elementary	0.1933-		0.086	0.03-	0.04
Preparatory	*0.2798-	0.086-		**0.1181* -	0.046-
Secondary Education	0.1617-	0.03	*0.1181		0.072
Higher education	**0.2333* -	0.04-	0.046	0.072-	

*L.S.D Significant at ($\alpha \leq 0.05$)

The results point out that the illiterate mothers' children were in good health status, this may be explained by the quantity of time the mother spends with her child may enable her to follow his treatment ,diet and follow up the instructions given by the care giver. Another explanation may be that those illiterate mothers have better access to good nutrition as their financial status may be better.

Table 5.52 **Results of One Way ANOVA to test the dereferences according to fathers' level of education**

		Source of Variation	**Sum of Squares**	**Degrees of freedom**	**Mean of Squares**	**F value**	**Significance**
1	Process Access	**B.G**	0.07785	4	0.01946	0.641	0.634
		W.G	4.249	140	0.03035		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.085	4	0.021	0.557	0.694
		W.G	5.520	144	0.038		

		Total	5.606	148			
2-1	Clinical	**B.G**	0.124	4	0.031	0.610	0.656
		W.G	7.810	153	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.08701	4	0.02175	0.337	0.853
		W.G	10.062	156	0.06450		
		Total	10.149	160			
2–1–2	Legitimate	**B.G**	0.422	4	0.106	1.170	0.326
		W.G	7.810	156	0.090		
		Total	7.935	160			
2–2	Interpersonal	**B.G**	0.484	4	0.121	1.744	0.143
		W.G	10.405	150	0.06937		
		Total	10.889	154			
3	Outcomes	**B.G**	0.152	4	0.03809	0.468	0.759
		W.G	12.772	157	0.08135		
		Total	12.924	161			
3–1	User Evaluation	**B.G**	0.273	4	0.06828	0.803	0.525
		W.G	13.528	159	0.08508		
		Total	13.802	163			
3–2	Health Statues	**B.G**	0.108	4	0.02689	0.469	0.759
		W.G	9.407	164	0.05736		
		Total	9.515	168			

* One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The **seventeenth** hypothesis was that there is no significant statistical relationship between the independent variable fathers level of education and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health statues. One Way ANOVA used to check the hypothesis, the results shown in Table *5.52*above.

The results show that there is no significant statistical relationship between the independent variable fathers level of education and the dependent variables process

access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation.

The **eighteenth** hypothesis was that there is no significant statistical relationship between the independent variable , number of children and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health status. One Way ANOVA used to check the hypothesis, the results shown in Table *5.53*below.

The results show that there is no significant statistical relationship between the independent variable number of children and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation.

Table 5.53 **Results of One Way ANOVA to test the dereferences according to number of children**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F -value	Significance
1	Process Access	**B.G**	0.130	3	0.04328	1.454	0.230
		W.G	4.197	141	0.02977		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.142	3	0.047	1.253	0.293
		W.G	5.464	145	0.037		

		Total	5.606	148			
2-1	Clinical	**B.G**	0.276	3	0.092	1.850	0.140
		W.G	7.659	154	0.049		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.370	3	0.123	1.981	0.119
		W.G	9.779	157	0.06228		
		Total	10.149	160			
2–1–2	Legitimate	**B.G**	0.249	3	0.093	0.917	0.434
		W.G	14.245	157	0.091		
		Total	14.494	160			
2–2	Interpersonal	**B.G**	0.380	3	0.127	1.818	0.146
		W.G	10.510	151	0.06960		
		Total	10.889	154			
3	Outcomes	**B.G**	0.409	3	0.136	1.722	0.165
		W.G	12.515	158	0.07921		
		Total	12.924	161			
3–1	User Evaluation	**B.G**	0.433	3	0.144	1.726	0.164
		W.G	13.369	160	0.08356		
		Total	13.802	163			
3–2	Health Statues	**B.G**	0.108	3	0.03608	0.633	0.595
		W.G	9.407	165	0.05701		
		Total	9.515	168			

* One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The **nineteenth** hypothesis was that there is no significant statistical relationship between the independent variable , child weight at birth and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health status. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.54* below.

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Table 5.54 **Results of One Way ANOVA to test the dereferences according to child weight at birth**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F- value	Significance
1	Process Access	**B.G**	0.05797	2	0.02898	0.964	0.384
		W.G	4.269	142	0.03006		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.044	2	0.022	0.572	0.566
		W.G	5.562	146	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.093	2	0.046	0.091	0.913
		W.G	7.925	155	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.04029	2	0.02014	0.315	0.730
		W.G	10.108	158	0.06398		
		Total	10.149	160			
2–1–2	Legitimate	**B.G**	0.150	2	0.075	0.828	0.439
		W.G	14.344	158	0.091		
		Total	14.494	160			
2–2	Interpersonal	**B.G**	0.190	2	0.09497	1.349	0.263
		W.G	10.699	152	0.07039		
		Total	10.889	154			
3	Outcomes	**B.G**	0.219	2	0.110	1.373	0.256
		W.G	12.705	159	0.07990		
		Total	12.924	161			
3–1	User Evaluation	**B.G**	0.303	2	0.151	1.806	0.168
		W.G	13.499	161	0.08384		
		Total	13.802	163			
3–2	Health Statues	**B.G**	0.159	2	0.07947	1.410	0.247
		W.G	9.356	166	0.05636		
		Total	9.515	168			

*One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable child weight at birth and the dependent variables process access,

effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation.

The **twentieth** hypothesis was that there is no significant statistical relationship between the independent variable, type of delivery and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health status. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.55*below.

The results show that there is no significant statistical relationship between the independent variable type of delivery and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation

Table 5.55 **Results of One Way ANOVA to test the dereferences according to child type of delivery**

		Source of Variation	Sum of Squares	Degrees of freedom	Mean of Squares	F- value	Significance
1	Process Access	**B.G**	0.04597	1	0.04597	1.535	0.217
		W.G	4.281	143	0.02994		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.046	1	0.046	1.225	0.270
		W.G	5.559	147	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.031	1	0.031	0.603	0.439
		W.G	7.904	156	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.02125	1	0.00212	0.033	0.855
		W.G	10.147	159	0.06382		
		Total	10.149	160			
2–1–2	Legitimate	**B.G**	0.057	1	0.057	0.635	0.427
		W.G	14.436	159	0.091		
		Total	14.494	160			
2–2	Interpersonal	**B.G**	0.04246	1	0.04246	0.599	0.440
		W.G	10.847	153	0.07089		
		Total	10.889	154			
3	Outcomes	**B.G**	0.08389	1	0.08389	1.045	0.308
		W.G	12.840	160	0.08025		
		Total	12.924	161			
3–1	User Evaluation	**B.G**	0.07953	1	0.07953	0.939	0.334
		W.G	13.722	162	0.08470		
		Total	13.802	163			
3–2	Health Statues	**B.G**	0.02453	1	0.02453	0.432	0.512
		W.G	9.490	167	0.05683		
		Total	9.515	168			

* One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The **twenty first** hypothesis was that there is no significant statistical relationship between the independent variable , gestational age and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health status. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.56* below.

Table 5.56 **Results of One Way ANOVA to test the dereferences according to child gestational age**

		Source of Variation	**Sum of Squares**	**Degrees of freedom**	**Mean of Squares**	**F- value**	**Significance**
1	Process Access	**B.G**	0.009392	1	0.00939	0.311	0.578
		W.G	4.318	143	0.03019		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.003	1	0.003	0.077	0.781
		W.G	5.603	147	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.004	1	0.004	0.072	0.788
		W.G	7.931	156	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.01810	1	0.01810	0.284	0.595
		W.G	10.131	159	0.06371		
		Total	10.149	160			
2–1–2	Legitimate	**B.G**	0.082	1	0.082	0.909	0.342
		W.G	14.412	159	0.091		
		Total	14.492	160			
2–2	Interpersonal	**B.G**	0.01543	1	0.01543	0.217	0.642
		W.G	10.874	153	0.07107		
		Total	10.889	154			
3	Outcomes	**B.G**	0.000486	1	0.00086	0.011	0.918
		W.G	12.923	160	0.08077		
		Total	12.924	161			
3–1	User Evaluation	**B.G**	0.001637	1	0.00163	0.019	0.890
		W.G	13.800	162	0.08518		
		Total	13.802	163			

3–2	Health Statues	**B.G**	0.009680	1	0.00968	0.170	0.681
		W.G	9.505	167	0.05692		
		Total	9.515	168			

* One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable gestational age and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation

The **twenty second** hypothesis was that there is no significant statistical relationship between the independent variable , number of fetuses and the dependent variables process access, effectiveness, outcomes ،clinical care, interpersonal care, evidence based care, legitimate care, user evaluation and health status. One Way ANOVA used to check the hypothesis, the results shown in *Table 5.57* below.

Table 5.57 **Results of One Way ANOVA to test the dereferences according to number of fetuses**

		Source of Variation	**Sum of Squares**	**Degrees of freedom**	**Mean of Squares**	**F- value**	**Significance**
1	Process Access	**B.G**	0.05766	3	0.01922	0.635	0.594
		W.G	4.269	141	0.03028		
		Total	4.327	144			
2	Effectiveness	**B.G**	0.004	2	0.002	0.053	0.948
		W.G	5.604	146	0.038		
		Total	5.606	148			
2-1	Clinical	**B.G**	0.078	2	0.039	0.769	0.465
		W.G	7.857	155	0.051		
		Total	7.935	157			
2-1-1	Evidence	**B.G**	0.321	3	0.107	1.711	0.167
		W.G	9.827	157	0.06259		
		Total	10.149	160			

2-1-2	Legitimate	**B.G**	0.060	2	0.030	0.331	0.719
		W.G	14.434	158	0.091		
		Total	14.494	160			
2-2	Interpersonal	**B.G**	0.123	3	0.04113	0.577	0.631
		W.G	10.766	151	0.07130		
		Total	10.889	154			
3	Outcomes	**B.G**	0.114	3	0.03789	0.457	0.705
		W.G	12.810	158	0.03028		
		Total	12.924	151			
3-1	User Evaluation	**B.G**	0.468	3	0.156	1.872	0.136
		W.G	13.333	160	0.08333		
		Total	13.802	163			
3-2	Health Statues	**B.G**	0.312	3	0.104	1.863	0.138
		W.G	9.203	165	0.05578		
		Total	9.515	168			

* One Way ANOVA .Significant at ($\alpha \leq 0.05$)

The results show that there is no significant statistical relationship between the independent variable number of fetuses and the dependent variables process access, effectiveness, outcomes ،clinical care, evidence based care, legitimate care, interpersonal care, health status and user evaluation.

Chapter Six

Discussion and Conclusions

6.1 Discussion of Results

Quality indicators used in this study such as access, effectiveness and outcome point out that the clinic has satisfactory conditions.

Assessment of the access quality showed high level of physical infrastructure with availability of essential equipment and materials for both anemia prevention and treatment and growth monitoring in the clinic. Also it was well staffed with doctor, nurse, lab. technician, pharmacist and door keeper during the data collection and three months prior to the study. The health facility has the complete set of materials; it has the required child booklet and nutrition and counseling cards.

The process access which is a client centered care was considered a major category of quality assessment. Its six components(indicators) were assessed and showed that examination of the newborn and recording the findings on the health records were

satisfactory helped by the fact that all newborn registered with UNRWA Health Centers must have complete medical examination on registration.
Weight checked against growth charts showed a rate of 100% which indicates a good implementation of UNRWA technical instructions. However, Hemoglobin checked in children between six and twelve months was well below UNRWA standard of care as was the explanation to the mothers about the administration instructions of the iron supplements prescribed to children who visited the clinic for preventive services.

The quality of effectiveness of clinical care (evidence-based care) was assessed by both in the descriptive analysis as shown in table 5.17 and5.18, and co- relational analysis(section 5.2.1) as shown in table 5.23 and 5.24. Quality of providing preventive child care in anemia prevention and treatment, growth monitoring, and health education was assessed .The actual (observed) performance level compared with expected levels for a number of diagnostic, therapeutic and counseling tasks were carried out. A significant performance gaps were found in effectiveness of care of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet, administration of medication (iron) prescription, and giving scheduled visits for follow up for anemia .Evaluation of child health services delivered by UNRWA primary health facility in the study area have documented that the quality of care was inadequate, with poor health worker performance.

Analysis documented inadequate case-management for anemia in the study, 74.1% (n=127) of children were examined and 28.6% (n=24) of confirmed cases left the facility without treatment and 71.4% (n=60) of those who were treated for anemia were under treated and not followed up. Also about 25.7% (n=44) of the children were not checked for Hb. at proper time according to UNRWA instruction.

The quality of effectiveness of clinical care (Legitimate care), was assessed by using both descriptive analysis as shown in tables 5.15 to 5.18, and co-relational analysis (section 5.2.2) as shown in *Table 5.25*، the quality of effectiveness of clinical care (Legitimate care) was assessed .Although the difference between the two sexes were in favor of, it did not reach statistical significance.

The nurse showed enhanced counseling and communication skills with the mothers, the analysis of effectiveness of interpersonal care of child health services using both descriptive analysis as shown in tables 5.15 to 5.18, and co- relational analysis (section5.2.3) .As shown in *Table 5.27 and 5.28*، the quality of effectiveness of interpersonal care, the actual (observed) performance level compared with expected levels for a number of diagnostic, therapeutic and counseling tasks was carried out. A significant performance gap was found as seen in Table *5.27,* effectiveness of care of child health services, especially in the area of hemoglobin checking and follow up, and in the counseling of mothers regarding diet, administration of medication (iron) prescription, and giving scheduled visits for follow up for anemia treatment reported that the task of evaluation of child health services delivered by UNRWA primary health facility in the study area has documented that the quality of care was inadequate, evaluation of primary health care services reported poor health worker performance. Results show that only 33.9%; (n=58) of the mothers of anemic children in the study population was advised about the importance of proper nutrition rich in iron.

For children who needed an oral iron supplements medication and who were prescribed, only 12.8%(n=22), of the mothers were advised on how to administer the treatment, and only 5.3 % of the mothers were advised to give extra fluids and continue feeding during the treatment.

This shows that only 20.4 %,(n=35) of the children mothers were assessed about practices about anemia, and only 21.6 %,(n=37) of the children mothers were assessed about level of any information about anemia. Only25.7%, (n=44) of the mothers have been informed about the importance of gaining weight for the child health. Results points out that only5.2 %,(n=9) of the served mothers were given any information about preventive measures of anemia. Only 14.3% of the mothers were asked if they have any question.

Only 15.7 %,(n=27) of the mothers comprehension of the instructions given was assessed by the care giver during the mother visit to the clinic for preventive services.

The outcome of care was assessed in using both descriptive analysis shown in tables 5.15 -5.18, and co- relational analysis (section5.2.4).As shown in *Table 5.28 although*

the difference between the two sexes were in favor of, it did not reach statistical significance. The analysis of outcomes (user evaluation) of care of child health services as the actual (observed) mother level of knowledge compared with expected levels for a number of diagnostic, therapeutic and counseling tasks were carried out. A significant performance gap was found as seen in Table *5.29*. It was found that care takers reported high levels of correct knowledge about how to care for their children, and reported low levels of correct knowledge about how to give iron supplementation to their children with anemia to prevent complications.

Results on the other hand showed that only74.2%, (n=127) of the served mothers reported that they were given guidelines about infant feeding. 24.6 %,(n=42) of the mothers who brought their children to the MCH clinic did not receive any kind of counseling during their visits. Results pointed out that only16.9%,(n=29) of the mothers of anemic children in the study population know about the amount (dose) of iron supplementation showed be given to their children, and that only10.5%,(n=18) of the mothers of anemic children know about the correct frequency of iron supplementation showed be given to their children, and only15.4%,(n=23) of them know about the duration of iron supplementation should be given to their children. Results also show that only25.7 %(n=44) of the mothers think that their children cannot be fully cured by sticking to iron supplementation only. Results showed that only 16.3%(n=23) of the mothers of the anemic children know when they can get to refills for the iron prescribed for their children, and only 17.5%(n=30) of the mothers know when they can get to repeat the Hb. level for their children.

A significant statistical relationship was found when factor analysis (section 5.3) carried out in order to detect the relationship between the 3 major dimensions of quality indicators which are; access, effectiveness and outcome (table 5.32). This shows that the process access for care has better results than effectiveness of that care and outcome, and this comes with the expectations that the protocols and technical instructions were implemented in a good manner.

A statistical relationship between effectiveness of clinical care and effectiveness of interpersonal care were found (table 5.33), this can be explained as the clinical care compose the implementation of the regulations and technical instructions related to

anemia prevention and treatment, growth monitoring, and health education. Effectiveness of clinical care measures the care giver practices and implementation of these instructions. The nurses were more sticking on the implementation of the instruction given, and spend more time in these actions instead of interact with the mother and or dig more in the child record to check and followed up the treatment or the plans for treatment.

The evidence-based care is offered in more satisfactory level as these clinical skills are more implemented and followed up by the supervisors and senior staff. So it shows better range than legitimate clinical care (table 5.34).

Results showed that there is a significant statistical relationship between effectiveness of clinical care and user evaluation (table 5.35). The user evaluation shows better results than clinical care provided ,this can be explained by that the mother knowledge was not necessarily be one the outcomes of those given by the nurse .

The knowledge and experience of the mothers are not always due to the health care instructions given by the nurse, the mother own experience, education and attitudes affect her input and output about health related information (table 5.39). The process access of care provided has a big effect on the mothers' information and evaluation about the care given to their children. So, the user evaluation shows big score than the interpersonal care, the clinical care and the process access. The process access for care provided has a major effect on the health status of the child.

Since the population served is relatively of homogenous socio-demographic characteristics it had only limited impact on the quality of care in all sub-scales and the total scores, the study was able to detect some significant impact of mothers' age, educational status, and place of residence but these were relatively small.

The impact of the individual characteristics on the various scores is presented and the results show that health personal practices and conduct are perceived as poorer by relatively educated mothers.

Analysis show that children age25m-36m have better results than those age 6m -24m, this may refer to the communication between the nurse and the mothers ,the children are usually registered as soon after birth at UNRWA health center for follow up and to receive PHC. Mothers of children in this age group some times develop special relation

with the nurse; this makes the mother ask about her child health needs and problems more often.

Children age 6m-12m have better health status than those 13m-36m.This may suggest that mothers of this age group may be more careful about their children health, another explanation may be that the nurse are more adherent to implement the technical instructions regarding growth monitoring, and checking Hb. level, when the child reach 6m of age.

As shown in table 5.48 mothers marred at age 24y-35y show better results in evaluating the health care provided, this may be explained as these mothers are more aware of the instructions given, they have more information about the health related issues.

The results point out that the illiterate mothers' children were in good health status (table 5.51), this may be explained by the quantity of time the illiterate mothers spend with their children which may enable them to follow their treatment, diet and follow up the instructions given by the nurse. Another explanation may that those illiterate have better access to good nutrition as their financial status may be better.

6.2 Conclusion

This descriptive co- relational study investigated the quality of care given to children 6m -36m to assess and describe the quality of mother-nurse interaction that occurred during preventative and problem solving visits in three selected areas (anemia, growth monitoring, and health education) at Balata Primary Care Clinic .In an area in which issues concerning cost and quality of care are constantly raised, it is increasingly important that nurses should be able to define their unique contributions to quality of primary care.

These services were chosen because they address conditions of high prevalence, are associated with poor long-term outcomes with significant functional impact, and have demonstrated efficacy in the clinical intervention.

The process quality is a measure which accurately represents the provider’s ability to respond to a range of conditions which cause poor human growth in such a low income settings with difficult political situation. The researcher uses the tool that measures the

process quality of child healthcare, which offers an objective method of evaluating what occurs during the encounter between the mother and the nurse, and whether the nurse performance was according to the established standards of care, and technical instructions sited by the UNRWA.

The majority of previous studies in this area have employed structural quality measures to evaluate health interventions, such as the presence of medical doctors, nurses, hospital beds, drug supply, and midwives. The assumption in employing structural measures is that the availability of such tangible assets leads to high technical quality with no variation in provider practice. Yet the existence of a facility or clinician is not synonymous with high quality care. Research conducted in the U.S. and internationally has demonstrated not only enormous variation in provider practice but also that such variation can be linked to adverse health events (Ditrich, 1997).
Preventive visits should have higher levels of health promotion information, and health promotion goal-setting behaviors, and including an emphasis on early intervention, self-care, and ongoing case management, and stress the importance of communication skills and holistic care.

The health outcomes are determined by the fitness of provider responses to individual child health status, and with the presenting needs of the child, and then positive outcomes are more likely to occur. Offering of active listening, comfort, reassurance is considered as an effective support for the mothers .Health information varies in type, quantity, and complexity. Information given should includes knowledge of the mother about the health examinations, health promotion activities, the nature of the health care problems, medications, and treatment options that are needed to help here in managing anemia. This information forms the cornerstone for mothers decision making and goal setting regarding their children treatment and follow up ,and assisting the mothers to make decisions regarding health practices through helping them to be aware of what they do and not to do to maintain their children health, and assisting mothers to see the relationship between their behaviors and specified health outcomes related to their children, and helping them to see what can and can not be changed with regard to their child health states.

The researcher suggests that quality in the presence of some practical and affordable health system tools is feasible for implementation at high level of coverage in resource restricted agency, and is likely to lead to rapid gains in child survival, health and development if adequate coverage levels can be achieved and maintained.

Cost and impact of quality can be used to strengthen the delivery of child health interventions and the implementation of the anemia prevention and treatment strategy.

Quality can be improved by making changes to healthcare systems without necessarily increasing resources. Interestingly, improving the processes of healthcare not only creates better outcomes, but also reduces the cost of delivering healthcare: it eliminates waste, unnecessary work, and rework.

6.3 Recommendations

1) Supervisors should assess the nurses own strengths and weaknesses and identify specific skills that need improvement.

2) The managers and supervisors at BHC should determine whether specified procedures are being carried out, how well they are being carried out, and which tasks need improvement.

3) The managers and supervisors at BHC should determine the need to improve the nurses' skills and appreciate the benefits that will results.

4) The health workers at BHC should realize the patients' rights to receive quality services.

5) The manager of the program should clarify the primary objective of providing such health services and to assess the extent to which the provision of quality services will help in achieving the stated objective.

6) Supervisors should explore continuity and support for continuous quality improvement through supervision visits.

7) The managers and supervisors at BHC should realize that the provision of quality services will help to achieve the stated objectives of providing services.

8) Finally inspecting main activities or processes by the Supervisors is another way that management may attempt to identify and solve problems.

6.4 Farther studies needs

Farther studies must be done to explain why health worker performance in this area of PHC was maintained at low levels with the presence of relatively strong health system support.

References

1) (AHRQ) Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey (2002).*Children's Health Care Quality*. Washington, D.C.: U.S. Department of Health and Human Services.

2) Al-Adham M.A.Al.R,(2004). *Assessment of Perceived Health Care Service Quality at Palestinian Hospitals:A Model for Good Hospital Management Practice(GHMP).* An Najah National University.

3) Al-Assaf, A.F, (1998).*Managed Care Quality: A Practical Guide.* Boca Raton, Fl.: CRC Press.

4) Al-Assaf , A.F. ,(1994). Quality Improvement in Health Care. An Overview, *Journal of the Royal Medical Services*.

5) Al-Assaf , A.F. ,(2001). *Health Care Quality*, An International Perspective. WHO. New Delhi.

6) Amonnoo-Lartson R, Alpaugh-Pjermark M. and Neumann A.,(1985)., An Approach To Evaluating The Quality Of Primary Health Care In Rural Clinics In Ghana. *Journal of Tropical Pediatrics* 31(5)PP: 282-285,

7) Anrudh , K.J. ,(1992). *Managing Quality of Care in Population Programs*. Kumarian Press.

8) Bear Mary, and Lygia Holcomb, D.S.N,(1998). The Client Encounter Form: Conceptual Development, Reliability Analysis, and Clinical Applications: *Public Health Nursing* Volume 16 Issue 2 Page 79 - April 1999

9) Bechel, D. L., (2000). Does patient-centered care pay off? Jt Comm *Journal Quality Improvement.*

10) Bjorck M, Johansson R and Kanji N, (1992).*Improving The Quality of Primary Car eServices in Angola*. Health Pol Plan 7PP: 290-295**.**

11) Blackwell, D. L., (2003). *Summary Health Statistics for U.S. Children*. National Health Interview Survey, 2000. National Center for Health Statistics. Vital Health Stat 10Page (213).

12) Blumenthal, D. (1996). *Quality of care what is it?* N. Engl. J. Med., 335, PP891±894.

13) Blumberg, S., (2003). *Design and operation of the National Survey of Children with Special Health Care Needs*. National Center for Health Statistics. Vital Health Stat 1(41).

14) Bordley, W. C., (2001). Improving preventive service delivery through office systems. *Pediatrics* 108:E41.

15) Bruce, J., (1990). *Fundamental Elements of the Quality of Care: A simple Framework,* Study in Family Planning 21, no.2 .Page64 New York.

16) Bull M.J., (1992). *Professional Accountability Via CQI in Improving Quality*. Aspen.

17) Cabana, M. D., (1999). Why Don't Physicians Follow Clinical Practice guidelines? A framework for improvement. *The Journal of the American Medical Association*. 282PP:1458-1465.

18) Campbell, S. M., & Roland, M. O., (1996). *Why Do People Consult The Doctor?* Factors influencing demand for primary medical care. Family Practice 13, pp75-83.

19) Carmel, S., & Glick, S. M., (1996). Compassionate±emphatic physicians: personality traits and social±organisational factors that enhance or inhibit this behavior pattern. Soc. Sci. Med., 43,PP 1253±1261.

20) Crosby, Philip B. (1979). *Quality is Free: The Art of Making Quality Certain.* McGraw-Hill. New York.

21) Crosby Philip B. (1979). *Quality Without Tear.* McGraw-Hill. New York

22) Davis, D. A., et al. (1995). Changing Physician Performance. A systematic Review of the Effect of Continuing Medical Education Strategies. *The Journal of the American Medical Association* 274PP:700-5.

23) Davies, H. T. O., & Crombie, I. K. (1995). *Assessing the Quality of Care*. Br. Med. J., 311, 766.

24) Declaration of Alma Ata. http//www.who.int/hpr/archive/docs/almaata.html. Accessed at 17.11.2002.

25) DeGeyndt , W. ,(1995). *Managing the Quality of Health Care in Developing Countries.* World Bank Technical Paper pp 258-2 80.

26) DeGeyndt Willy., (1990). "*Towards a Common Vocabulary for Identifying Management Issues in Health Projects.*". Health Services Management Research (2)pp:115-126.

27) Department of Health. (1997). The new NHS: modern, dependable. Cm 3807. Stationary Office, London. Available on: http://www.offcialdocuments.co.uk/document/doh/newnhs/newnhs.htm.

28) Deming W. Edwards. (1986). *Out of Crisis.* Massachusetts Institute of Technology; Cambridge.

29) Dickey, L. L. and D. B. Kamerow. (1996). *Primary Care Physicians' Use of Office Resources in the Provision of Preventive Care.* Arch Fam Med 5pp:399-404.

30) Dietrich, A. J., (1997). *An Office Systems Approach to Cancer Prevention in Primary Care.* Cancer Practice 5:pp375-381.

31) Donabedian, A. (1966). *Evaluating the Quality of Medical Care.* Milbank Q., 44, pp166±203.

32) Donabedian A, (1968). *Promoting Quality Through Evaluating the Process of Patient Care.* Med Care; 6:pp181-202,.

33) Donabedian Avedis. (1980). Explorations in Quality ; Assessment and Monitoring . Volume I: *The Definition of Quality and Approaches to its Assessment*. Ann Arbor, MI: Health Administration Press.

34) Donabedian, A. (1980). *The Definition of Quality and Approaches to its Measurement*. Chicago, Ill.: Health Administration Press.

35) Donabedian, A. (1988). The Quality of Care: How can it be assessed? Journal of the American Medical Association. *The Journal of the American Medical Association,* 260, pp1743±1748.

36) Donabedian, A. (1990). *The Seven Pillars of Quality*. Arch. Pathol. Lab. Med., 114, pp1115±1118.

37) Donabedian, A. (1992). Quality Assurance in Health Care: A Consumers' Role. *Quality Health Care*, 1, pp247±251.

38) Donabedian, A. ,(1996). *Evaluating the Quality of Medical Care*. School of Public Health.

39) Ebrahim,G.J,(1982) .Child *Health In A Changing Environment*.1st edition. London, Macmillan Press ltd.

40) Ellis, R., & Whittington, D. (1993). *Quality Assurance in Health Care* .A handbook. London: Arnold.

41) Esselstyn, Caldwell B. (1958). "*Principles of Physician Remuneration*". Papers and Proceedings of the National Conference on Labor Health Services . Washington, D.C. : American Labor Association.

42) Farkas, A. J., (1999). *Does Parental Smoking Cessation Discourage Adolescent Smoking?* Prev Med 28:pp213-8

43) Fiscella, K.,(2000). Inequality in Quality: Addressing socioeconomic, racial, and ethnic disparities in health care. *The Journal of the American Medical Association 2*83pp:2579-84.

44) Flores, G., (1999). The Impact of Ethnicity, Family Income, and Parental Education on Children's Health and Use of Health Services. *American Journal of Public Health* 89pp:1066-71.

45) Forrest, D., (1997). Child Health Services Research: Challenges and opportunities . *The Journal of the American Medical Association* 277pp:1787-93.

46) Forrest, C. B. and B. Starfield. (1998). Entry Into Primary Care and Continuity: The Effects of Access. *American Journal of Public Health* 88pp:1330-6.

47) Garner P, Thomason J and Donaldson D,(1990). *Quality Assessment of Health Facilities in Rural Papua New guinea*. Health Pol Plan **5pp**:49-59.

48) Gerteis, M., Eds. (1993). *Through the Patient's Eyes: Understanding and Promoting Patient-centered Care.* San Francisco: Jossey-Bass Publishers.

49) Gidwani, P., (2003.) *Laying the Foundation: Identifying Major Issues in Applied Child Health Services Research.* Child Health Services Research: Applications, Innovations, and Insights. Edited by E. J. Sobo and P. S. Kurtin. San Francisco: Jossey-Bass, pp 25-63.

50) Gilson L, Aliolio M and Heggenhougen K,(1994) .*Community Satisfaction with Primary Health Care Services: An Evaluation Undertaken in the Morogoro Region of Tanzania.* Social Science and Medicine **39**: pp767-780,

51) Green, M. and J. S. Palfrey, Eds. (2002). *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*. Arlington, Va.: National Center for Education in Maternal and Child Health.

52) Green , A. ,(1992). *An Introduction to Health Planning in Developing Countries*. ,2nd edition Oxford University Press.

53) Gross, D. A.,(1998). *Patient Satisfaction With Time Spent With Their Physician*.J Fam Pract 47pp:133-137.

54) Hagelin E, Jackson K, Wikblad K,(1998). Utilization of Child Health Services During the First 18 Months of Life: Aspects of Health Surveillance in Swedish Preschool Children Based on Information in Health Records. Department of Women's and Children's Health, Uppsala University Children's Hospital, Sweden. *A Acta Pediatrics* Sep;87(9)pp:996-1002

55) Hakim, R. B. and Bye B. V. (2001). Effectiveness of Compliance With Pediatric Preventive Guidelines Among Medicaid Beneficiaries. *Pediatrics* 108pp:90-97.

56) Halfon, N. and M. Hochstein. (1997). *Developing A System of Care for All*: What the Needs of Vulnerable Children Tell Us. Health care for children: What's Right, What's Wrong, What's Next. Edited by R. E. Stein. New York: United Hospital Fund, pp303-338.

57) Human Management Information System ,(2002). *The Status of Health in Palestine* . Annual Report 2001

58) Institute of Medicine. Crossing the Quality Chasm: the IMO health care quality initiative. Available at: http://www.iom.edu/focuson.asp?id==8089. Accessed December 23, 2003**.**

59) IOM (Institute of Medicine). (1990). *Medicare: A strategy for Quality Assurance*. Vol. I. Edited by K. T. Lohr. Washington, D.C.: National Academy Press

60) IOM (Institute of Medicine)(.2001) . *Envisioning the National Health Care Quality Report*. Edited by M. P.

61) IOM (Institute of Medicine). (1990). *Medicare: A strategy for Quality Assurance*. Vol. I.Edited by K. T. Lohr. Washington, D.C.: National Academy Press. Fund, pp303-338

62) Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academy Press; 2001. Available at: http://www.nursingcenter.com/library/journalarticleprint.asp?Article_ID. Accessed December 23, 2003.

63) Institute of Medicine. Crossing the quality chasm: the IOM health care quality initiative. Available at:http://www.iom.edu/focuson.asp?id=8089. Accessed December 23, 2003.

64) Jameson, E. J. and E. Wehr. (1993). *Drafting National Health Care Reform Legislation to Protect the Health Interests of Children*. Stanford Law & Policy Review 5pp:152-76.

65) Joanna A. S., Jennifer B., Don de S., Thierry L., Conrad Mbuya, Leslie M., and Katarzyna W., (2000) .The Effect of Integrated Management of Childhood Illness on Observed Quality of Care of Under-fives in Rural Tanzania. Health Policy and Planning 19(1)pp: 1–10. Oxford University Press, 2004;

66) Juran, J.M. (1989). *Juran's Quality Control Handbook*. (4th ed). New York: McGraw-Hill.

67) Kerlinger F. N,(1973).*Foundations of Behavioral Research*. Second edition, New York University.

68) Lave, J. R.,(1998). Impact of A children's Health Insurance Program on Newly Enrolled Children. *The Journal of the American Medical Association* 279pp:1820-1825.

69) Lee, Roger I., and Lewis W. Jones. (1993). *The Fundamentals of Good Medical Care*. Chicago, Illinois: University of Chicago Press.

70) Massoud, M.R.F. (1995). Appraisal of Policies and Practices in the Management of Diarrhea Among Children under Five Years of Age in Major Palestinian Health Care providers ,UNICEF.

71) Massoud , M.R.F. (1995). Quality of Health Care in Palestinian: An analysis Council of Health Palestinian; published paper.

72) Module 6, (1993). The AgaKhaan Foundation, Assessing The Quality of Service, Users Guide.

73) MOH Ministry of Health, The Palestinian National Authority.(2000),Annual Report.

74) MOH Ministry of Health, The Palestinian National Authority.2002,Annual Report.

75) National Strategic Health Plan ,(1999-2003). Ministry of Health , The Palestinian National Authority.

76) Nicholas D D, Heiby J R and Hatzell T A, (1991).The Quality Assurance Project: Introducing Quality Improvement to Primary Health Care in Less Developed Countries. *Quality Assurance Health Care* **3pp**: 147-165.

77) Oski's(1999) pediatrics: Principles and Practice .Philadelphia: Lippincott Williams and Wilkins, pp29-35.

78) Ovretveit J., (2000). Evaluating Health Iinterventions: an Introduction to Evaluation of Health Treatments, Services, Policies and Organizational Interventions. Buckingham: Open University Press.

79) Palestinian Authority and UNICEF ,(2001-2003) Program of Cooperation for Palestinian Children and women. Master Plan of Operations for 2001-2003.

80) Palestinian National Health Authority/Ministry of Health and Palestine Council of Health ,Quality of Health Care Unit.(1994). The Strategic Plan for Quality for Health in Palestin.Gaza City and Jerusalem: Ministry of Health.

81) Palmer, R. H. and M. R. Miller. (2001). Methodological Challenges in Developing Implementing Measures of Quality for Child Care. Ambul Pediatrics 1pp:39-52.

82) Panpanich R, and Garner P,(2000). *Growth Monitoring in Children*. Cochrane Database Syst Rev 2000;(2):CD001443

83) Patricia A. Rowell **,(**2004) .*Quality Management in Health Care*. Volume 3 Number 3

84) Peters,David H .,and Becker S.,(1991).Quality of Care Assessment of Public and Private Outpatient Clinics in Metro Cebu, the Philippines. *International Journal of Health Planning and Management* 6pp:273-286.

85) PRICOR Child survival report-results from system analysis in the Philippines(1989). Pricor Child Survival Reports(May 89), p.2,.

86) Razum O, (1995). *Improving Service Quality Through Action Research*. Lang, Frankfurt,

87) Reerink I,H. and Sauerborn R, (1996).Quality of Primary Health Care in Developing Countries: Recent Experiences and Future Directions. *International Journal for Quality in Health Care*,vol.8, pp131-139.

88) Robertson,Robert L .,Carlos E.Castro,Luis Carlos Gomesz,Gretchem Gwynne, Ciro Luis Tinajero Baca, and Dieter K.Zschock.(1991). Primary Health Services in Ecuador: Comparative Costs, Quality, and Equity of Care in Ministry of Health and Rural Social Security Facilities. Social Science Medicine 32(12)pp:1327-1336.

89) Roemer ,M.I. and Montoya-Aguilar,Quality, (1988).*Assessment and Assurance in Primary Health Care* , WHO ,Switzerland.

90) Rogers, A., Hassell, K., & Nicholaas, G. (1999). *Demanding patients? Analysing the Use of Care*. Oxford: Oxford University Press.

91) Roland, M., Holden, J., & Campbell, S. (1999). *Quality Assessment for General Practice.* Manchester: NPCRDC.

92) Rosenbach, M. L., (1999). Access for Low-income Children: Is Health Insurance Enough? Pediatrics 103pp:1167-74.

93) Sauerborn R, Nougtara A and Diesfeld H J, (1989). Low Utilization of Community Health Workers-results From A household Interview Survey in Burkina Faso. Social Science and Medicine **29pp**: 1163-1974,

94) Sauerborn R, Nougtara A, BidigaJ, Sorgho G, Tiebelesse L and Diesfeld H J, (1989).Assessment of MCH-services in the District of Solenzo, Burkinp Faso II. Acceptability. *Journal of Tropical Pediatrics* 35(suppl)pp:10-13 ,

95) Sauerborn R, Nougtara A and Diesfeld H J, (1989). Low Utilization of Community Health Workers-Results from a Household Interview Survey in Burkina Faso. Social Science and Medicine 29, pp1163-1171

96) Sauerborn R, Nougtara A, BidigaJ, Sorgho G, Tiebelesse L and Diesfeld H J, (1989). Assessment of MCH-services in the district of Solenzo, Burkinp Faso II. Acceptability. Journal of Tropical Pediatrics **35**

97) Schuster, M. A., . 1997. Development of a quality of care measurement system for children and adolescents. Methodological considerations and comparisons with a system for adult women. Arch Pediatr Adolesc Med 151:1085-92.

98) Schuster, M. A. and E. A. McGlynn. (1999). Measuring the Quality of Care in Pediatrics.

99) Schor, E. L. 2003. Family pediatrics: Report of the Task Force on the Family. Pediatrics 111pp:1541-71.

100) Shaheen , M..and Al-Sabbah H.,(2002). Clinical Nutritional Survey.

101) Starfield, B. (1997). Social, Economic, and Medical Care Determinants of Children's Health. Health care for children: What's Right, What's Wrong, What's Next. Edited by R. E. Stein. New York: United Hospital Fund, pp39-52.

102) Starfield, B. (2000). Evaluating the State Children's Health Insurance Program: Critical considerations. Annu Rev Public Health 21pp:569-85

103) Stewart,M. A., (1995). Effective Physician-patient Communication and Health Outcomes: A review. CMAJ 152pp:1423-33.

104) Steffen, G. E. (1988). Quality medical care: A definition. *The Journal of the American Medical Association* 260, pp56±61.

105) Stott, N., Kinnersley, P., Elwyn, G. J. et al. (1997). Measuring general practice based primary care generic outcomes. *Family Practice*., 14,pp 486±491.

106) Szilagyi, P. G. and Schor E. L. ,(1998). The Health of Children. Health Service Research 33pp:1001-1039.

107) Talbot, Al.(1995).Principles and Practice of Nursing Research. A time Mirror Company. St.Lewis:Missouri.

108) Tidikis, F. and L. Strasen. (1994). Patient-focused Care Units Improve Service and Financial Outcomes. *Health Finance Manage* 48pp:38-40, 42, 44.

109) Tierney, C. D., et al. (2003). Adoption of Reminder and Recall Messages for Immunizations by Pediatricians and Public Health Clinics. *Pediatrics* 112pp:1076-10 82.

110) UNICEF ,(1999). The Situation of the Palestinian Children in the West Bank andGaza Strip ,Jordan ,Syria and Lebanon. Zimbabwe

111) United Nations Relief and Work Agency (UNRWA), (2000). Annual Report of the Department of Health. UNRWA ,Amman ,Jordan.

112) United Nations Relief and Work Agency (UNRWA), (2001). Annual Report of the Department of Health. UNRWA ,Amman ,Jordan.

113) United Nations Relief and Work Agency for Palestinian Refugees in the Near East,(2002). Report of a study in the West Bank on Anemia Among Palestinian Refugee Children.

114) United Nations Relief and Work Agency for Palestinian Refugees in the Near East,,(1998).Infant and Early Child Mortality Among Palestinian Refugee Children.

115) United Nations Relief and Work Agency (UNRWA),(2004)Public information office, UNRWA Headquarters (Gaza).

116) Walker G .J .A ,Ashley D. E .C,and Hayes RJ, (1999).The Quality of Care is Related to Death Rates: Hospital Inpatient Management of Infants with Acute Gastroenteritis in Jamaica. AJPH 78:1pp49.

117)Yu et al. (2002).Urban Institute/Child Trends, 1999 National Survey of America's Families.

118) WHO Alma-Ata,(1998).*Primary Health Care World Health Organization,*Geneva,p.24.

119) Woloshynowych, M., Valori, R., & Salmon, P. (1998). General Practice Patients' Beliefs about Their Symptoms. Br. J. Gen. Pract., 48, pp885±889.

120) Yassin , K.M. ,Khan I. ,(2001). *Management of Child Health Programs in Developing Countries Quality Assurance of the Knowledge Transfer Process*. Verlag Hans Jacob , Germany.

121) مناهج البحث العلمى(1998) جامعة القدس المفتوحة

Appendix One

Researcher Scale

Questionnaire Used in Data Collection

Encounter Observation Check List

English Version

I-Encounter Observation Check List

Serial number----------

	Theme I. Growth monitoring/nutrition education			
	1.1 Age calculation **Did the service provider** :	**Yes**	**No**	**NA**
1	- Base calculation on birth certificate?			
2-	-Correctly calculate the (age)?			
3-	-Correctly record the age؟			
	1.2 Weighing **Did the service provider**	**Yes**	**No**	**NA**
4-	- Set scale to 0 ؟			
5-	-Place child correctly on scale ؟			
6-	-Correctly read scale?			
7-	-Correctly record weight ؟\			
	1.3 Locating the child's growth on chart Did the service provider :	**Yes**	**No**	**NA**
8-	- Locate the child's age at the correct age ؟			

9-	-Locate the child's weight at correct weight ؟			
10-	-Connect to previous growth point ؟			
	1.4 Growth monitoring and nutrition education Did the service provider do the following	**Yes**	**No**	**NA**
11-	-Tell mother whether child has gained, lost ,or stayed the same since last weighing ؟			
12-	- Tell mother the extent of weight normality of the child ؟			
13-	- Use growth chart to explain to mother how her child is growing ؟			
	1.5-Malnourished children Did the service provider do the following for malnourished children and for children who have not gained weight since the last session:	**Yes**	**No**	**NA**
14-	-Ask if the child has had any health problems since last weighing (visit) ؟			
15-	-Make recommendations regarding child feeding and care ؟			
16-	-Explain importance of good breast feeding practices?			
17-	-Explain importance of good weaning practices?			
18-	-Explain which locally available foods constitute a balanced diet for children?			
19-	-Explain how to feed children during illness ؟			
20-	-Tell mother when to take child for next weighing ؟			
21-	-Ask mother if she has any questions ؟			
22-	- Explain the importance of gaining weight for health (child growth and development) ؟			
23-	- Explain the purpose of growth monitoring؟			
24-	-Provide mothers with available health education materials ؟			
	1.6 Weaning : **Did the service provider tell the mother** :	**Yes**	**No**	**NA**
25-	-For how long she will breast feed؟			
26-	- Explain the importance of introducing complementary foods during a two-month transitional period (i.e., months five and six)؟			
27-	-Explain that children should be breastfed (not exclusively) for at least one year?			
28-	-Explain that children should be breastfed preferably for up to 2 years of age or beyond .			
29-	Explain to mother the administration schedule for nutrition supplements?			
	Theme II. Anemia			
	2.1 Medical history **Did the service provider** :	**Yes**	**No**	**NA**

30-	-Ask about chief complaints?			
31-	- Ask about child anemia history؟			
32-	-Ask about family anemia history؟			
33-	-Ask about previous treatment response?			
	2.2 Physical examination **Did the service provider** :	**Yes**	**No**	**NA**
34	Check color of conjunctiva؟			
35	-Ask about current treatment response?			
	2.3 Laboratory test **Did the service provider** :	**Yes**	**No**	**NA**
36-	Request Hb level?			
	2.4 Diagnosis treatment, nutrition education **Did the service provider** :	**Yes**	**No**	**NA**
37-	-Document the etiology of the anemic condition ؟			
38-	-Provide appropriate treatment according to condition ؟			
39-	-Provide nutrition counseling ؟			
40-	Tell mother to increase her child total quality food and liquid intake during treatment?			
41-	Tell mother to balance her child food intake?			
42-	Explain to mother the administration schedule for iron prescribed?			
43-	-Discuss the importance of proper nutrition (rich in iron) ?			
44-	-Discuss the importance of proper iron supplementation?			
45-	-Schedule a return/follow-up appointment after 1month of treatment to evaluate treatment response ؟			
46-	-Provide a referral to a specialist if the anemia is due to causes other than (IDA) .			
	2.6 Determine educational background -Did the service provider:	**Yes**	**No**	**NA**
47-	-Assess care takers level of education؟			
48-	-Assess the mother knowledge about anemia ؟			
49-	-Assess the mother practices about anemia ؟			

50-	-Clearly define the purpose of the Provider-client encounter?			
51-	-Discuss the relevance and purpose of the issue of anemia ؟			
52-	-Remain focused on the issue of concern?			
53-	-Discuss potential complications?			
54-	-Discuss potential danger signs؟			
55-	–Explain socio-economic risk factors?			
56-	-Explain behavioral risk factors?			
57-	-Explain environmental risk factors?			
58-	-Discuss progress of anemia?			
59-	-Discuss prevention of anemia؟			
60-	-Discuss specific recommended behavior changes ؟			
61-	-Discuss benefits of the proposed behavior change ؟			
62-	Discourage dietary habits that restrict important foods/food groups for anemic children?			
63-	Encourage those cultural practices that promote consumption of important foods for anemic children?			
64-	-Discuss when to go for services/follow up or seek help, if needed ؟			
	2.7Theme 3 Use of appropriate techniques Did the service provider	**Yes**	**No**	**NA**
65-	- Establish good rapport with the care taker ؟			
66-	-Avoid use of technical/medical terminology ؟			
67-	-Speak clearly and make eye contact ؟			
68-	-Display willingness to compromise as needed ؟			
69-	-Discuss problems that are realistic and relevant to the care taker ؟			
70-	-Assess the mother comprehension of the instruction given ?			
71-	-Ask the mother if she has any questions ؟			
72-	-Respond thoroughly to questions from the mother ؟			
	2.8 Theme 4 Use of materials	**Yes**	**No**	**NA**
73-	- Use materials appropriate for illiterate attendee, if necessary ؟			
74-	- Distribute related available educational materials ؟			

Appendix Two

Researcher Scale

Questionnaire Used in Data Collection

Exit interview with the mothers

English Version

Serial number----------

II-Exit interview with the mothers

I	**Growth monitoring and nutrition knowledge:** **Mark "yes" if the respondent answers correctly:** **(Based on UNRWA protocol)**	**Yes**	**No**	**DK**	**NA**
1	Do you know how much does your child weigh?				
2	Since the last weighing; did your child : 1-Gain weight? 2- Loose weight? 3- Stays the same?				
3	Do you know when will you return for growth monitoring?				
4	Did you breastfeed your child?				
5	Was your child exclusively breastfed?				
6	How long was your child breastfed (in full months)? 1- Less than 3 months 2- 3 to 6 months				

	3- More than 6 months to 1 year 4- More than 1 year				
7	Why was breastfeeding stopped? 1- Because of pregnancy 2- Because of maternal illness 3- Because of infant illness 4- Because of milk intolerance 5- No apparent reason				
8	Did you ever use artificial formulas?	**Yes**	**No**	**DK**	**NA**
9	Why was artificial formula introduced? 1- Because of pregnancy 2- Because of maternal illness 3- Because of infant illness 4- Because of milk intolerance 5- Just as supplement.				
10	At what age you start giving artificial formula? 1- Less than 3 months 2- 3 to 6 months 3- More than 6 months to 1 year 4- More than 1 year				
11	When were solid foods introduced? 1- Less than 4 months 2- 4-6 months 3- More than 6 months				
12	What kind of solid foods were first introduced to your child? 1- Cereals 2- Starch products 3- Vegetables				

	4- Juices 5- Ordinary food				
13	26-At what age did the child start eating the following				

No.	<4m	4m-6m	6m-12m	>12m
1- Fruits				
2-Vegetables				
3-Cerelac/rice cereal				
4- Eggs				
5 Meat/chickn				
6- Hous holed food				

14	Have you been given guidelines about infant feeding?				
15	If "yes" where these instruction similar to your practices?				
16	If no will you accept to change your practices and follow the new instruction?				
17	Where these guidelines helpful to you?				
II	**If the child is anemic: Mark "yes" if the respondent answers correctly:**	**Yes**	**No**	**DK**	**NA**
18	Do you know what anemia means?				
19	Do you know what causes anemia?				
20	Do you know what the signs and symptoms of anemia are?				
21	Is there one type of anemia or more?				
22	Have you an idea what Hemoglobin is?				
23	Do you know what Iron Deficiency Anemia means (IDA)?				
24	Has any of your children had ID anemia?				
25	Has any of your children been treated for IDA?				
26	Do you know what medicines are used to treat IDA?				
27	Do you know what makes the iron stores in the body to drop?				
28	Did your child suffer of ID anemia before?				
29	Did you use medications for anemia to treat him?				
30	Did he respond well to the therapy?				
31	If no; why do you think he did not respond to the therapy?				
32	Do you know three kinds of foods that contains large amount of iron?				
33	Do you know the foods that interfere with iron intestinal absorption?				
34	How much do you give your child (dose) of iron supplement?				
35	How often to administer the drug?				
36	Fore how long to administer the drug?				
37	Do you think your child can be fully cured by sticking to iron supplementation only?				
38	If no, what else is important for care? 1-Sleeping well.				

	2- Giving him iron rich diet. 3-Giving him diet rich with calcium.				
39	Do you know when you can get refills for the drug?				
40	Do you know when you can get to repeat the Hb level?				

Appendix Three

Researcher Scale

Questionnaire Used in Data Collection

Record review

English Version

III-Record review

Review of medical reports belonging to the questionnaires respondents

Serial number:----------

Part 1 Demographic Data

1-Six of the child

1-Male

2-Female

2-Place of residence

1-Camp

2-Village

3-City

3-Child age in full months.

1-Six-12M

2-13-24M

3-25-36M

4-Age at registration

1-0-31 days

2-32-60 days

3- 60 days

5-Mother's marital age:

1- Younger than 16 years

2- 16-24 years

3- 25-34 years

4- 35-40 years

5- Above 40 years

6-Mother's current age:

1- Younger than 16 years

2- 16-24 years

3- 25-34 years

4- 35-40 years

5- Above 40 years

7-Mother's level of education

1- Illiterate

2- Elementary

3- Preparatory

4-Secondary education

5-Higher education

8-Father's level of education

1- Illiterate

2- Elementary

3- Preparatory

4-Secondary education

5-Higher education

9-Number of children

1-One baby

2- 2-4 children

3- 5-6 children

4- More than 6 children

Part 2 Medical History

10-Weight at birth

1- Less than 2.5 kg.

2- 2.5-4.0 kg

3- More than 4 kg.

11-Type of delivery

1-Normal vaginal delivery

2-Caesarian section

3-Instrument assisted

12-Gestational age

1-Premature

2-Term

3-Post term

13-Number of fetuses

1-Single

2-Twins

3-Triplets

4-More than 3

S.N	**Theme 3 First Child Postnatal Visit:** Did the service provider	**Yes**	**No**	**D K**	**NA**
14-	- Examine the new-born ؟				
15-	Record findings of history and physical examination health record ?				
16-	If the child is malnourished(less than 2.5kg), was he refereed for growth monitoring clinic ?				
17-	Recommend locally available protein- rich foods?				
18-	Tell mother to register child for well-child clinic care?				
19-	Presence of Congenital abnormality				

Part 4 Growth and Development

20-Child first teeth at age:----------

21-Sitting at age:----------

22-Walking at age:----------

Part 5 Anemia screening, treatment and follow up

23-Hemoglobin checked at 6 months

1-Yes

2-No

3-ND

24-If yes; the result was

1) Hb. >11 gr./dl

2) Hb.10.9-10.0 gr. /dl

3) Hb. 9.9- 7.0 gr. /dl

4) Hb. below 7.0 gr. /dl

S.N		Yes	No	Not Documented
25-	If baby was anemic (Hb. less than 11gr/dl), were Iron supplements prescribed?			
26-	If "yes"; Was Hb. repeated after one month?			
27-	If "yes" was Hb. normal?			
28-	If still anemic; was further Iron supplementation, given?			
29-	If Yes, was Hb. repeated after 2 months?			
30-	If was repeated, were results normal (>11gr. /dl)			
31-	If Hb. was below normal, was the child referred for further assessment			

Appendix Four

Researcher Scale

Questionnaire Used in Data Collection

The Clinic Observation Check List

English Version

IV-The Clinic Observation Check List

For each of the following items. Please identify if an item listed is available. Then assess its condition

Available=Yes .Not available == No

Condition: satisfactory=(Satis) Unsatisfactory =(Unsatis) Not applicable=(NA)

S.N	Item category	Availability			Condition		
	A- Physical Infrastructure	**Yes**	**No**		**Satis.**	**Unsatis.**	**NA**
1-	Accessibility for clients						
2-	Well ventilated clinic						
3-	Well lighting clinic						
4-	Enough space (number of rooms)						
5-	Water supply availability						
	B- MCH Waiting room	**Yes**	**No**		**Satis**	**Unsatis**	**NA**
6-	Waiting room availability						
7-	Enough space in waiting room						
8-	Waiting room is clean						
9-	Good lighting						
10-	Well ventilated						
11-	Are there Benches						
12-	Are there chairs						
13-	Refuse disposal bins						
	C-MCH Furniture	**Yes**	**No**		**Satis.**	**Unsatis.**	**NA**
14-	Are there Desks						
15-	Are there chairs						
16-	Refuse disposal bins						
17-	Infant couch						
18-	Telephone						
19-	Refrigerator						
	C- Equipment and facilities	**Yes**	**No**		**Satis.**	**Unsatis.**	**NA**
20-	Signs to direct clients to appropriate place & information						
21-	Educational materials for clients in the waiting room.						
22-	Equipment for hemoglobin test.						
23-	Infant weight scale.						
24-	More than one stethoscope						
25-	Infant cards						
26	Home based cards						
27-	Infant registration Book						
28-	Iron supplementation						
29-	Health education material related to anemia						

30-	Health education material related to nutrition education						
	D- Human Resources	**Yes**	**No**		**Satis.**	**Unsatis.**	**NA**
31-	Doctor						
32-	Staff nurse						
33-	Practical nurse						
34-	Lab Technician						
35-	Pharmacist						
36-	Door keeper						