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Title: The acceptability of the Family Health Model, that replaces Primary Health Care, as currently implemented in Wardan Village, Giza, Egypt

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Abstract

Introduction: Health Sector Reform was initiated as a component of the Structural Adjustment Policies that were imposed on the developing countries by the international monetary organizations such as the International Monetary Fund and the World Bank during the 1980s and the 1990s. It included three main components, that is, financing reforms, decentralization and introducing competition to the health sector. Changes to the Egyptian health system were introduced in the 1980s through the cost recovery projects, while the Health Sector Reform Program was announced in 1997. This culminated in a change from a Primary Health Care model to a Family Health Model as regards the Primary Health Care sector of the Egyptian health system. Changes in the health systems have profound effects on people, so that it is essential to study the ongoing transformation of the Egyptian health system and its implications.

Aim: The aim of the current study was to determine the acceptability of the Family Health Model, which replaces Primary Health Care, as currently implemented in Wardan Village, Giza, Egypt.

Methodology: The study was a cross sectional survey utilizing a structured questionnaire that was used to determine the awareness and perception/satisfaction of the community members in an Egyptian rural area (Wardan village, Giza Governorate) towards the transformation from primary health care to family health model. 357 subjects participated in this study.

Results: Awareness of the study participants towards the transformation process was 15.6%. The overall satisfaction with the family health unit by the participants was 80.5% compared with 35.7% for the old PHC one. Higher satisfaction was associated with older age ($p=0.02$), less education ($p<0.001$), being married in the past or present ($p=0.02$), working status ($p=0.007$), and more years of using the unit ($p<0.001$). Acceptability of the family health model among the participants of the current study was high at 88.3%. Higher score of acceptability were associated with less education ($p<0.001$), being or have been married ($p=0.048$), and with working status ($p=0.005$). 93.8% of the participants think that family health unit services are accessible and 79.9% of the participants think that the family health unit provides quality services.

Conclusion: The Family Health Model has achieved successes when implemented but encountered some difficulties that have limited the gains and interfered with some of its aspects. The current study has shown that the Family Health Unit has gained a high score of satisfaction and acceptability by the study participants, although the awareness of the study participants about the transformation of the Primary Health Care Model to a Family Health Model was low.



Declaration

I declare that (*The acceptability of the Family Health Model, that replaces Primary Health Care, as currently implemented in Wardan Village, Giza, Egypt*) is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

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Dated: 29-11-2016



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Acronyms

BBP	Basic Benefits Package
CCO	Curative Care Organization
FHC	Family Health Center
FHF	Family Health Fund
FHM	Family Health Model
FHU	Family Health Unit
GDP	Gross Domestic Product
HIO	Health Insurance Organization
HSR	Health Sector Reform
HSRP	Health Sector Reform Program
IMF	International Monetary Fund
MAPs	Macroeconomic Adjustment Policies
MENA	Middle East and North Africa
MOHP	Ministry of Health and Population
NGOs	Non-Governmental Organizations
PHC	Primary Health Care
SPHC	Selective Primary Health Care
UNICEF	United Nation Children's Fund
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

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Chapter 1. Introduction

1.1 Background

The Egyptian health care system has a long history that dates back to the pharaoh's era. The modern/western health system started during Mohamed Ali era that started in 1805. During the first half of the last century, there were developments in both medical education and health system including establishing district hospitals, rural hospitals and Ministry of Health (Shukrallah, 1999). After achieving several health gains during the 1950s and 1960s, the Egyptian Health system started to face many difficulties due to the increase in the population, the emergence of new health problems, the economic crises and the gaps and problems in the system itself.

Due to the multiple challenges facing the Egyptian health system, Egypt decided, in conjunction with a group of donors, to start a process of reform for its health sector. Health Sector Reform (HSR) was initiated as a component of the Structural Adjustment Policies (SAPs) that were imposed on the developing countries by the international monetary organizations such as the International Monetary Fund (IMF) and the World Bank (WB) during the 1980s and the 1990s (Mohindra, 2008). Two decades have elapsed since the declaration of the Health Sector Reform Program in Egypt in 1997. During this period the program has gone through different stages of implementation and modifications.

The targeted core changes were to alter the role of the Ministry of Health and Population (MOHP) from being responsible for provision of all types of health care services to be responsible only for the provision of preventive and primary health care (PHC) services with delegation of the responsibility of the provision of the secondary and tertiary health services to other authorities, transformation of the PHC system into Family Health Model (FHM), and the transformation of the Health Insurance Organization (HIO) into a purely financing body (all provision of health services was to be through contracting other public or private providers) (McEuen, 1997).

Through the last two decades, several legislative, economic and political obstacles have interfered with the implementation of the process of transformation. These obstacles resulted in the change or the delay of the original plan of transformation. For example, while a great number of the PHC units have changed to the proposed FHM, the changes proposed for the health insurance have not yet been implemented, as well as those for the MOHP. Even with the most advanced FHM, many proposed strategies were not completed, such as the accreditation of Family Health Units (FHUs) as there are units that were reformed but not accredited (Gadallah *et al.*, 2010), or stopped such as the pay for performance strategy which was not promoted after the initial period due to financial restrictions (El-Saharty *et al.*, 2010).

1. 2. Rationale and Problem Statement

The FHM adopted for the PHC system has adopted a group of interventions including the basic benefits package (BBP), co-payments, accreditation of health units, and contracting private providers. These changes necessitate considering the communities' perception of the new FHM. Within the primary health care approach it is important to consider the views of the community who use the service, particularly the acceptability of the model, as communities won't benefit from and use the services unless they perceive them to be acceptable. One approach to achieve this is patient satisfaction surveys. Patient satisfaction surveys are an accepted tool for exploring people's perception, monitoring health services delivery and improving quality of these services (Sitzia and Wood, 1997; Alshammari, 2014). The current study looks at the FHM that replaces PHC in an Egyptian rural area, its acceptability by the local community members, along with their satisfaction and recommendations for improving the primary health care services they received.

1.3. Egypt General Profile

Egypt is located in the north eastern part of the African continent with a surface area of slightly more than one million square km, but the inhabited area is around 6% only. Egypt has a population of 91.5 million (CAPMAS, 2016) with a fertility rate of 3.5 for the three years prior to 2014 (MOHP *et al.*, 2015) and an annual population growth rate of 2.5% (CAPMAS, 2016). Thirty one percent of the population is less

than fifteen years and 43% lives in the urban areas (CAPMAS, 2016). Illiteracy is around 26% (CAPMAS, 2016) and Life Expectancy at Birth is 69 years for males and 73 years for females for the year 2015 (WHO, 2016). Its Gross Domestic Product (GDP) is around 330.8 billion US\$ for the year 2015 and it has an annual GDP growth rate of 4.2% for the year 2015 (World Bank, 2016). A study of the World Bank and the Government of Egypt reveals that the poor and near poor during the period 2008-2009 constitute around 40% of the population, around 22% for the poor and 19% for the near poor (World Bank, 2011). The WHO estimates that people under poverty line in Egypt were around 26.4% in 2014 (EMRO/WHO, 2015). Egypt is considered a Low Middle Income (LMI) country, with Human Development Index (HDI) ranking of 108 for the year 2014 (UNDP, 2016).

1.4. Egypt Current Health Status

Regarding the main health indicators for Egypt, these can include maternal and child health indicators, chronic diseases indicators and infectious diseases indicators which illustrate the main burden of disease in Egypt.

As for maternal and child health indicators, Egypt has shown progress in decreasing maternal and child mortality indicators and improving nutritional status indicators. Neonatal mortality rate (per 1,000 live births per year) for Egypt for the year 2012 was 14 (MOHP *et al.*, 2015) decreasing from 20 for the year 2003 (El-Zanaty and Way, 2005). Infant mortality rate (per 1,000 live births per year) for Egypt for the year 2012 was 22 (MOHP *et al.*, 2015) decreasing from 33 for the year 2003 (El-Zanaty and Way, 2005). Under five mortality rate (per 1,000 live births per year) for Egypt for the year 2012 was 27 (MOHP *et al.*, 2015) decreasing from 41 for the year 2003 (El-Zanaty and Way, 2005). According to the WHO, these indicators showed further decrease during 2015 reaching 13, 20 and 24 respectively. Although, these indicators showed that child mortality rates has declined dramatically in Egypt in the last decade, but these rates remain relatively high compared to some of the countries with the same resources and they are still far from what developed countries has achieved. For example, under-5 mortality for the year 2015 is 14 for Tunisia, 18 for Jordan and 8 for Lebanon compared with 24 for Egypt (EMRO/WHO, 2015). Considering Egypt's potentials such as health system capacity, human resources, and

the fact that most of the causes of child mortality in Egypt are preventable, more progress is looked for.

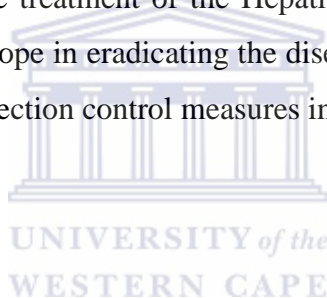
Egypt has a high percentage of vaccinated children. According to EDHS (2014), percentage of fully immunized children in Egypt was 91% for the year 2014, increasing from 89% in 2005 (El-Zanaty and Way, 2005). However, WHO and UNICEF estimates for vaccinations in Egypt are around 95% (EMRO/WHO, 2015).

Maternal mortality ratio (per 100000 live births per year) for Egypt for the year 2012 was 45 compared with 120 for the year 1990 (EMRO/WHO, 2015). Mothers who attended any ANC raised from 56% for the year 2000 to 90% for the year 2014, while percentage of Egyptian pregnant women who took the recommended four visits or more was 83% compared with 39% during the year 2000 (MOHP *et al.*, 2015).

With regard to nutritional status, reviewing the nutritional issues related to the health situation of Egyptian children has shown that many Egyptian children are suffering from nutritional problems that affect their growth and development. Stunting and anaemia are on the top of these problems that need immediate actions. Around 21 percent of Egyptian children under age of five are stunted, and 10 percent are severely stunted (MOHP *et al.*, 2015). Around 8 percent of Egyptian children under age of five are wasted and 6 percent are underweight for their age (MOHP *et al.*, 2015). In addition, more than one in four Egyptian children (27.2%) under age of 5 years (6-59 months) suffers from some degree of anemia (MOHP *et al.*, 2015). Malnutrition has drawbacks on Egyptian children's as it is responsible for delaying their growth and development, weakening their scholastic achievement, has serious health consequences in severe cases and subsequently undesirable effects on their future including less productivity.

Regarding main chronic diseases, the prevalence of hypertension in Egypt is 23.5% for adults, and as for diabetes mellitus, the prevalence for adults is 18.9% (EMRO/WHO, 2015). Regarding cancers, the incidence rate for all cancer types for the year 2012 was 152 per 100000 (EMRO/WHO, 2015).

As regards infectious diseases, Egypt was declared polio-free in 2006 with no reported cases of the disease since 2004 (UNICEF, 2006). According to WHO (2015), there is ongoing eradication of other communicable diseases including measles, schistosomiasis and filariasis. Other indicators for the communicable diseases for Egypt for the year 2013 according to the WHO include tuberculosis incidence which is 152 per 100000, HIV newly reported cases are 825, malaria total reported cases is 313, measles incidence is 28.3 per 1000000 (EMRO/WHO, 2015). The main problem in Egypt is hepatitis C. According to EDHS (2008), 15 percent of the Egyptians aged 15-59 had antibodies to the hepatitis C virus (HCV) in their blood indicating that they had been exposed to the virus at some point, and 10 percent have an active infection (El-Zanaty & Way, 2009). Hepatitis C incidence rate is around 2-6 per 1,000 per year, which will maintain a prevalence rate of 5-15% for the near future (National Committee for the Control of Viral Hepatitis, 2008). However, during the recent years there was advancement in the treatment of the Hepatitis C with the newly emerged oral drugs which carries the hope in eradicating the disease together with the work on the risk factors such as the infection control measures in the medical sector.



Chapter 2. Literature Review

This literature review describes the history of the health system in Egypt up the 1950s, and then considers the changes brought about by the adoption of primary health care principles in the 1950s through the 1970s. It then describes the health system reforms that ensued in developing countries in the 1980s and 1990s and, as part of this broader sweep of health system reform, the family health model adopted in Egypt in 1997.

In a context of changing models of service delivery, as experienced in Egypt, one approach to understand how communities perceive and experience the change is through patient satisfaction surveys. This literature review will therefore illustrate the definition, utilization, factors affecting and approaches of measuring the patient satisfaction.

2.1. History of Egyptian Health System

Egypt has a long history in medicine and health care that goes back to the Pharaohs era (started around 4000 years BC) during which Egypt was a leading country in the world in many fields including medicine. During the Arab-Islamic era (that started in the year 641 AD), many hospitals were established in addition to translating and writing many medical books (Shukrallah, 1999).

Egypt modern health care system was started with the establishment of the first Egyptian modern/western medical school in 1828 during the era of Mohamed Ali (the governor of Egypt at that time) whose era, dating from 1805, was the beginning of establishing the modern Egypt.

The 1919 revolution was one of the major Egyptian historical milestones that came in the course of the struggle of Egyptian people for independence against the British occupation. The first Egyptian constitution was issued 4 years after the 1919 revolution in 1923. In 1925, the first governmental Egyptian university, Fouad the First University (later Cairo University), was established including a medical faculty

(Shukrallah, 1999). Along with this development in medical education there were developments in health service provision during the 1920s through 1940s started by establishing district hospitals then rural hospitals, in addition to the establishment of the Ministry of Health in 1936 with a special section for the rural health sector (Shukrallah, 1999).

During the 1950s and 1960s, Egypt adopted a welfare-oriented social policy as manifested in the health and education sectors, as well as in the employment and social sector policies which aimed to improve the distribution of incomes and to increase the health and education levels (El Gretly *et al.*, 1977 in Nassar, *et al.*, 1992). The leader of Egypt during this era was Gamal Abdel-Nasser (or Nasser) who adopted a socialist policy that resulted in great benefits for the majority of Egyptians such as free education, free health care and more jobs. During the Nasserist Era, Egypt adopted a comprehensive health policy comprised of both equitable distribution of health services' facilities out of the urban areas towards the rural areas and out of Lower Egypt towards Upper Egypt (Shukrallah, 1999), and offering what approximated to a free full package of health services including preventive and curative measures, except for nominal fees at the facilities in addition to the premiums from the insured to the HIO and nominal fees on having the service.

After Nasser, the Vice President Anwar Al-Sadat (or Sadat) became the President of Egypt. Sadat adopted an open door policy in his October 1974 paper (this paper was his vision for Egypt in the following years) aimed at encouraging the private sector and the foreign investors, and limiting the role of the public sector (Sadat, 1974 in Nassar, *et al.*, 1992). This was reflected in more restrictions for the public sector, along with the gradual increase in the role of the private sector in health care provision until it became the single largest provider of outpatient care during Mubarak era (Ministry of Health, Egypt, and Health Systems 20/20, 2010).

During the ensuing Mubarak era, Egypt continued Sadat's policies, additionally moving to liberalize the economy (Waterbury, 1983 in Nassar, *et al.* 1992). All changes in the economic policy since 1985, such as privatization, subsidies cancellation, encouraging foreign investment, freeing external trade, were initiated by the International Monetary Fund (IMF), World Bank (WB) and the Aid Institutions

such as the USAID and the European Commission (Moustafa, 1990 in Nassar, *et al.* 1992). During this period, the health system suffered many obstacles and challenges, such as high rates of population growth, the emergence of new health problems such as Hepatitis C, uncoordinated and incomplete health programme initiatives, inadequate government fund, and changing the health policy with every political regime and sometimes with every minister, leading to a multi-sectoral health system.

2.2. Current Egyptian Health Care System

2.2.1. Current Structure of the Egyptian Health Care System

The Egyptian health system is one of the complex health systems. The current structure of the Egyptian health system includes three main sectors; the public/state sector, the parastatal sector and the private sector. This system comprises twenty nine public agencies responsible for provision of the public health services (Khallaf, 2002) so that the "health services in Egypt are currently managed, financed and provided by various sectors of the government, under different ministries and different laws, operating with variable levels of independence" (MOHP, *et al.* 2005: 13). In addition, there are a huge poorly-organized private sector and a wide network of charity NGOs, particularly religious ones, participating in the provision of health services.

The main public providers for the health services are the MOHP affiliated hospitals and PHC centers which offer subsidized health services to the public and the HIO hospitals and clinics which offer health services for the insurers (World Bank, 2010).

The public sector includes all the health facilities that get their funds from the government (Ministry of Finance) and are controlled by the different ministries (MOHP *et al.*, 2005) such as Ministry of Health and Population (MOHP) which controls general hospitals, district hospitals, specialized hospitals such as fever hospitals and chest hospitals, teaching hospitals, and PHC/Family Health centers and units. Also, there is the Ministry of Higher Education which controls the university hospitals, in addition to other ministries that provide health services mainly to their employees and sometimes to the public such as Ministry of Defense and Ministry of Interior. The parastatal sector includes two main governmental bodies which are the

Curative Care Organization (CCO) and the Health Insurance Organization (HIO). These organizations, which are ultimately controlled by the MOHP, have some degree of independence and autonomy regarding their governing rules and ways of finance. The HIO is the larger organization which runs a huge network of hospitals and clinics, around 40 hospitals and 9000 outpatient clinics (World Bank, 2010), and has millions of beneficiaries. The third sector is the private sector which comprises all for-profit and not-for-profit hospitals, polyclinics and clinics throughout Egypt in addition to private pharmacies and private health insurance companies.

2.2.2. Financing Egyptian Health System

The WHO (2000) defines health financing as the “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system.” (WHO, 2000 in Health Systems 20/20 project, 2008). Moreover, it affirms that the “purpose of health financing is to make funding available, as well as to set the right financial incentives to providers, to ensure that all individuals have access to effective public health and personal health care” (WHO, 2000 in Health Systems 20/20 project, 2008).

Total Health Expenditure (THE) as a percentage of GDP is a common health financing indicator (Health Systems 20/20 project, 2008). Egypt’s THE as a percentage of GDP was 5.9% in 2008/2009 increasing from 3.7% for the year 1994/1995, which is slightly more than the average for countries in the Middle East and North Africa (MENA) region (5.8%) (Nakhimovsky *et al.*, 2011).

WHO estimated a minimum spending per person per year needed to provide basic, life-saving services which is US\$44 for the year 2010 (WHO, 2012). Egypt expenditure for health per person per year is US\$ 178 compared to total global expenditure for health per person per year which is US\$ 948 (WHO, 2012). However, disparities regarding this indicator are huge starting from Eritrea's US\$ 12 reaching that of the United States which is US\$ 8362 (WHO, 2012).

Households in Egypt have financed 72% of total expenditure on health through out-of-pocket spending in the fiscal year 2008/2009 (Nakhimovsky *et al.*, 2011). This figure is gradually increasing as it was 51% in 1994/1995 and 61% in 2001/2002 (Nakhimovsky *et al.*, 2011). With this figure, Egypt is considered the highest country in the region having such a household contribution in the THE compared with an average of 45.4% in the MENA region (WHO, 2012). A comparison of sources of funding between the 1994/1995 and 2008/2009 reveals that the public contribution in the THE declined from 33 to 25.6% compared to an average of 52% for the MENA region (WHO, 2012). The increase in the household out-of-pocket expenditures on health carries the risk of pushing more people into poverty (Health Systems 20/20 project, 2008).

Further analysis of the indicators of the Egypt health finance shows that public expenditures on health as a percentage of the government budget was only 4.3% decreasing from 5% in the year 2001/2002, and much less than that of the MENA region's average of 8.6% (Nakhimovsky *et al.*, 2011). This has to be increased to meet the 15% that the Egyptian constitution and Abuja declaration have recommended, and to be able to meet the rising health challenges. The share of the public PHC centers in THE is only 5.6% compared to around 31% for pharmacies and around 30% for private hospitals and physicians, and around 21% for public hospitals (Nakhimovsky *et al.*, 2011). This obvious tendency to curative care on expense of preventive care requires policy changes to attract more focus and resources to preventive care.

2.3. The Philosophy of Primary Health Care Globally and in Egypt

The historic declaration of Alma-Ata in 1978 on Primary Health Care (PHC) and Health for All (Declaration of Alma-Ata, 1978) started a new era of health care that achieved massive health gains especially for the poor. Since that time debates have continued around the definition, relevance and ways of implementation of PHC, especially in developing countries. PHC has its origins in many of the alternative health care models that were implemented during the period between the 1950s and the 1970s (Cueto, 2004). These models include, but are not restricted to, the Christian Medical Commission experience in training village workers in developing countries on essential drugs and simple methods, the Chinese barefoot doctors model (Cueto,

2004), and the community-based health programs in Nicaragua, Costa Rica, Guatemala, Honduras, Mexico, Bangladesh, and the Philippines (Magnussen *et al.*, 2004). In the early 1970s, the global health movement led by WHO and UNICEF emphasized the significance of the new approach in their global health reports (Cueto, 2004). This movement was concluded by the Alma-Ata conference in 1978 that called for Primary Health Care and Health for All by the year 2000. PHC was defined by the Alma-Ata declaration as "essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford" (WHO and UNICEF, 1978, Declaration of Alma-Ata: Section VI). PHC is based on the principles of equity, social justice, community participation, health promotion, appropriate use of resources and intersectoral action (Lawn *et al.*, 2008). PHC is people-centered by being comprehensive, continuous, person-centered, addressing determinants of ill-health and integrated health care (WHO, 2008).

When declared in 1978, the comprehensive PHC was considered as the means for improving health around the world, especially of the poor and the disadvantaged (Baum, 2003). However, the debates around the comprehensive PHC started immediately after the Alma-Ata declaration, and turned into the suggestion of an interim approach coined by Walsh and Warren in 1979 as Selective Primary Health Care (SPHC) (Walsh and Warren, 1979). The selection of diseases for control in the SPHC approach is based on prevalence, morbidity, mortality and feasibility of control including efficacy and cost (Walsh & Warren, 1979). Following this, there was an increased adoption and implementation of the SPHC which ignored the original vision (Baum, 2003), and aimed for quicker disease-specific outcomes that resulted in better health statistics, but disregarded most of aspects of the comprehensive PHC such as social justice, intersectoral action and health systems strengthening (Magnussen *et al.*, 2004). This approach was used by UNICEF to construct its Child Survival revolution implementing program of GOBI (growth monitoring, oral rehydration, breastfeeding and immunization), which was converted upon criticism into GOBI-FFF by adding food supplementation, female literacy, and family planning (Magnussen *et al.*, 2004). SPHC adopted a vertical approach to addressing or managing health problems in

developing countries, which means that they are ". . . focused, proactive, disease-specific interventions" (Sepulveda *et al.*, 2006: 2021).

In Egypt, the implementation of the PHC had its roots during the 1950s and the 1960s as an integrated model for tackling the social determinants of health by establishing an integrated rural community development scheme through a network of what was known as the collective units (Shukrallah, 1999). These units included a social affairs office, a school, an agricultural office and a health unit. However, this approach was gradually replaced by a more selective one that was linked with and implementing the global initiatives that adopt the SPHC approach such as the child survival programme of the UNICEF. The services provided by the PHC sector, which are preventive and curative, are provided through a wide range of urban and rural PHC units that cover most of Egypt making around 95% of the Egyptian population living within 5 km from a health facility (MOHP, *et al.* 2005). All the PHC services are funded through the government and provided through the government PHC units via the government health staff. The PHC has no relation with the health insurance system as they are two separate systems. Main services provided through the PHC units include general practitioner, pediatrics, antenatal care (ANC), vaccination and emergency. Some more specializations are added in PHC centers such as dermatology, ophthalmology and dentistry.

2.4. Health Sector Reform

2.4.1. Health Sector Reform in Developing Countries

Major changes in the economic policies of many of the developing countries have occurred during the 1980s and 1990s. These changes were imposed by the World Bank (WB) and the international monetary organizations such as the International Monetary Fund (IMF) within the overall umbrella of the Macroeconomic Adjustments Policies (MAPs) or Structural Adjustment Policies (SAPs) (Mohindra, 2008). These changes started to have a health component in the beginning of the 1990s, and the WB proposed strategies for health reform in its 1993 world development report (Investing in Health) (World Bank, 1993).

There were different definitions for Health Sector Reform (HSR). In the Americas, an international meeting convened in 1995 defined health sector reform as “a process aimed at introducing substantive changes into the different institutions of the health sector and the roles they perform, with a view to increasing equity in benefits, efficiency in management, and effectiveness in satisfying the health needs of the population” (PAHO/WHO, 2004). Moreover, it assures that “this process is dynamic, complex, and deliberate” and “it takes place within a given time frame and is based on conditions that make it necessary and workable.” (PAHO/WHO, 2004). Another definition by Cassels (1995) who defined HSR as “sustained, purposeful changes to improve the efficiency, equity, and effectiveness of the health sector.” (Cassels, 1995) Haran (1998) has outlined some goals for HSR such as “health gain, by curative and preventive care; equity, by fair distribution of benefits provided by society and the state; social care, by looking after those who cannot be cured; insurance, by protecting individuals and households against health care costs; and the national economy, by ensuring a healthy workforce.”

However different in many aspects, the health sector reforms (HSRs) were implementing a number of explicit policies, namely, financing reforms, decentralization and integrating competition into the health sector (McPake and Machray, 1997 in Mohindra, 2008). Debates around MAPs and HSR include mainly two main aspects; their impact on people's health, especially the poor, and how they affect the health care systems performance (Mohindra, 2008).

The HSR strategies were implemented across developing countries with different degrees. Mohindra (2008), in her survey of the literature on MAPs and HSR, has shown that the introduction of user fees to the public health systems, with its different synonyms of cost sharing, cost recovery or co-payments, has raised concerns regarding equity, has decreased utilization in some countries, has shown that demand for health care is price elastic, especially among the poor, and has not proven that it is the solution for the financial crises of the public health systems (Mohindra, 2008). As a result, some countries, such as Uganda, have stopped user fees and used the WB funds to finance the health budget (Burnham *et al.*, 2004 in Mohindra, 2008). As for the role of the private providers within the public health systems, there was no

evidence for increased efficiency, along with failure of the private sector to protect patients from improper care (Mohindra, 2008).

2.4.2. The Health Sector Reform Program in Egypt

Challenges facing Egypt health sector can be summarized into three main categories which are structure-related, finance-related and health status-related. Structure-related challenges can include inadequate quality of health services, lack of effective referral systems, biased services, both in quality and quantity, towards urban and lower Egypt at the expense of rural and upper Egypt, underutilization of the public curative care, and poor information and registration systems. Finance-related challenges can include high out-of-pocket expenditures on health (Nakhimovsky *et al.*, 2011), inadequate governmental funding (Nakhimovsky *et al.*, 2011), and weak incentives for the medical staff, especially in the public sector. Health status-related challenges can include poor maternal and child health inequitably distributed in rural, remote, and slum areas, high burden of Hepatitis C overall with increased prevalence among poor, rural, and low-education populations, high rates of undernutrition across wealth quintiles and geography, rising burden of NCDs, with higher prevalence of risk factors by gender and income, increasing prevalence of substance abuse and mental health issues, especially among youth and women, and high burden of disabilities especially among illiterate and rural populations (World Bank, 2015).

In order to address all these challenges facing the health system and the health status in Egypt, the health sector in Egypt has gone through different trials for change and improvements. However, with constraints of the politics and economy, these trials have faced many obstacles in dealing with the different challenges. The MOHP, beginning from the 1980s, in collaboration with a group of donors and aid institutions, started a series of projects toward a new reform for the health system. These projects, which started with a cost-recovery project and ended with a continuing health sector reform program (HSRP), adopted selectivity, co-payments and a bigger role for the private health providers as the chosen policies. Reforms proposed a shift in the role of MOH and the HIO away from direct service provision towards a role of financier and regulator (McEuen, 1997) (although these have not been fully accomplished to date).

In 1997, the MOHP declared the Health Sector Reform Program (HSRP) that has been supported by several development partners, including the World Bank, the United States Agency for International Development (USAID), and the European Commission (Partners for Health Reformplus, 2004). The announced objectives for this reform were increasing health insurance coverage and access to high-quality health services and improving health outcomes (El-Saharty *et al.*, 2010) through five guiding principles which are universality, quality, equity, efficiency and sustainability (World Bank, 2010). McEuen, (1997) has described the original six pillars of the HSRP that included restricting the share of the MOHP in the curative care and increasing their share in PHC with the introduction of cost recovery policies in both systems, strengthening MOHP role in PHC and identification of a package of essential health services, changing MOHP employment policy and ending guaranteed employment for all medical graduates, develop MOHP capacity in strategic planning and policy development, develop MOHP capacity in regulation, accreditation and quality assurance, and finally transforming the HIO into a purely financing body and expanding the social health insurance coverage.

The implementation of the HSRP started with the PHC sector. This was due to the fact that the maternal and child mortality rates are unacceptably high, and the PHC will be the main pathway for decreasing these rates (World Bank, 2004). The HSRP (the PHC part) was first piloted in the three Governorates; Alexandria, Menoufia and Sohag and then extended to Qena and Suez Governorates (World Bank, 2010). The process of HSRP in Egypt includes also the health insurance system aimed at full coverage for the Egyptian population with the new comprehensive social health insurance system (around 58% of the Egyptians are covered by the current health insurance system). The HIO was supposed to be the main part of the reform to achieve universality through extending the health insurance coverage (World Bank, 2010). However, to date, this part of the health sector reform has not started as it needs a legal framework which has not been passed in the parliament yet, in addition to the funding difficulties. It is envisioned that the new system will be the only government umbrella for provision of the curative health services through all types of government health facilities; the subscription will be family-based and the implementation will be geographical-based instead of the individual- and categorical-based current system and the implementation will be gradual.

2.4.3. The Family Health Model in Egypt: 1997 Onwards

On the other hand, the model chosen for the Egyptian HSRP to replace the PHC model, the FHM which was announced in 1997, included “the adoption of family medicine and a family health care model of service delivery, an explicit package of basic benefits, cost sharing by families, accreditation of health facilities based on quality standards, and financing reforms to separate health financing from provision of services by channeling government financing through a Family Health Fund (FHF) that would contract with and pay providers” (Gaumer & Rafeh, 2005: 3). Accordingly, financing the new system is depending on two main mechanisms which are the FHF and the co-payment system at the delivery point (World Bank, 2010). The FHF, which was established in 1999 at the governorate level, receives funds from the MOHP, the HIO for the insurers, the copayments and the funds from foreign funders such as the EC (World Bank, 2010). The FHF is the authority that contracts with and pays for different family health providers; public, private or NGOs (World Bank, 2010). The copayment mechanism includes one-off payment on opening the family file and then a copayment on each visit (World Bank, 2010).

The FHM is planned to be implemented through the family health units (FHUs) and the family health centers (FHCs) (formerly the PHC units and centers) with a catchment area of 1000-1200 families per doctor for the rural FHU and 4000 to 20000 families for the urban FHC (El Rabbat and Bossert, 2012). The units adopting the new model are supposed to have intensive training for their staff, infrastructure investment, along with implementing the registration system for the families to keep the medical records in the family folder, and the basic benefits package (BBP). In addition to the public facilities, the FHM is also implemented through private and non governmental organizations' health facilities which have also to be accredited in order to be contracted by the FHF (El-Saharty *et al.*, 2010). The FHM was first piloted in three governorates in 1999, and by May 2011, 3000 facilities were implementing the new FHM, of which 2,121, out of around 4,591 units, were fully accredited (El Rabbat & Bossert, 2012). The FHM will be linked with the new social health insurance system as it will be the first point of contact with the system.

The revision of the pilot phase of the FHM showed that, on the service provision side, there was improvement in both utilization and patient satisfaction in addition to increased satisfaction and productivity of the services provider (World Bank, 2004). However, the FHF has failed to be the autonomous body that is responsible for financing the FHM units and centers (World Bank, 2004). Due to multiple legislative and practical factors, the FHF was only receiving the funds from the EC and the MOHP for the administrative costs and paying the incentives for the providers based on a performance criteria, while the cost of the health services are coming directly to the units from the MOHP and the HIO, and the copayments are going directly from the providers to the MOHP and the HIO resulting in failure of separation of financing and provision as was envisioned (World Bank, 2004). Another important component of the copayment mechanism in the financing of the FHM is the exemption of the poor. This part was rarely implemented, and a great part of the providers and the community are not aware of its presence (World Bank, 2010).

Another aspect of the FHM was the pay for performance strategy. In 2001 the pay for performance system was introduced to the FHM in the five piloting governorates, with the aim of linking payments to results (El-Saharty *et al.*, 2010). Through the pay for performance, the facility receives incentives which are distributed to the staff on reaching pre-determined targets which was successful in increasing both providers and beneficiaries' satisfaction (El-Saharty *et al.*, 2010). Due to financial restrictions, the MOHP has decided to scale up the FHM without the pay for performance mechanism of incentives which carries the risk of losing the gains obtained through this strategy (El-Saharty *et al.*, 2010).

This review is showing that, while the HSRP has shown some temporary successes, there are many practical, economic and legislative constraints that necessitate more public discussions and debates to suggest and agree on the scenarios for the coming period that will include the implementation of the main component of the HSRP which is the social health insurance system.

2.5. Patient Satisfaction

2.5.1. Definition and Utilization of Patient Satisfaction

Patient satisfaction has become one of the essential tools for management and quality assurance. It can be defined as "the degree to which the patient's desired expectations, goals and/or preferences are met by the health care provider and/or service" (Debono and Travaglia, 2009: 5). In other words, it is the degree of congruency between a patient's expectations of ideal care and his/her perception of the real care he/she receives (Aragon and Gesell, 2003 in Ahmad and Siraj ud Din, 2010).

For health services provision, this becomes more important for several reasons. Gadallah *et al.* (2003) has shown that satisfied patients are more likely to maintain a regular relationship with the health service provider and follow their specified treatment plans. In addition, determining areas of dissatisfaction of patients can help in improving the delivery of services (Gadallah *et al.*, 2003). According to Wong and Haggerty (2013), patients are focusing on aspects of service delivery important for them when assessing the quality of care. Through participation in the process of measuring their satisfaction, patients can define good quality, can evaluate health care delivery and can tell about their experiences (Wong and Haggerty, 2013). This contribution of patients in the health services will eventually, through improved compliance and continuity of care, lead to better health outcomes (Ahmad and Siraj ud Din, 2010). Due to the difficulty in the prediction of patients' expectations, goals and preferences, presenting patients' point of view regarding health care is an ethical and professional imperative (Kravitz, 1998).

Patient satisfaction is an indicator of health care quality, illustrates patients' points of view, and has an influence on patients' decisions regarding where to seek treatment (Alshammari, 2014). It comprises a description of health care from the patient's perspective, identification of problems and suggestions for solutions and evaluation of the health care (Sitzia and Wood, 1997). Patient satisfaction is related to patient/people-centered health systems which are concerned with identifying and responding to people's needs and helping individuals to participate in decision making to improve their health (Irish Society for Quality and Safety in Health Care *et*

al., 2003). Patient satisfaction is one of the best means of assessing consultation, pattern of communication and interpersonal aspects of care (Al Qatari and Haran, 1999).

Patient satisfaction is required for measuring the effectiveness of health services, quality assurance and accreditation processes (NWT, 2012). It can be used to compare different health programmes and systems (Jackson *et al.*, 2001). As for HSR, patient satisfaction studies can help in identifying priorities and problems in the health care systems (Rudzik, 2003).

This is important from the PHC point of view where clients and communities need to be involved in identifying priorities in order to ensure that the service provision is appropriate. Many studies in different countries have discussed this issue with the aim of improving the health services provided. Examples of these studies that involve the PHC sector in Egypt; the study of Gadallah *et al.*, (2003) which compares the satisfaction of Egyptian patients towards PHC centers in lower and upper Egypt which have shown that most PHC users are females and around 33% of the participant were unsatisfied with the privacy issue in the consultation rooms; the study by Abdallah *et al.*, (2012) regarding mothers' satisfaction towards maternal and child health services in the MCH centers which showed that 82% saw that the MCH were accessible and that participants gave the services a 63% quality score; the study by Abdel-Rahman (2013) regarding maternal satisfaction towards childhood vaccinations in the PHC centers which shows high percentage of mothers' satisfaction (95%) towards this vital PHC service. Also, the Abdel-Latif (2013) qualitative study which compared accredited and non-accredited PHC centers and which showed that accreditation periods for all FHC have expired. The study found that there was more satisfaction towards the accredited centers in spite of the presence of common weaknesses in both accredited and non-accredited centers including shortage of medicines, poor equipment, outdated devices and demotivated health workers (Abdel-Latif, 2013).

Evaluation of health care is one of the most important aspects of patient satisfaction (Sitzia and Wood, 1997). In their review of literature, Sitzia and Wood (1997) have demonstrated the Donabedian's model of evaluating quality of care which consists of

structure, process and outcome. However, there were many problems in defining and measuring outcome as, for example, the problem in relating the observed outcomes to the process of care as most studies concerning patient satisfaction are observational (Sitzia and Wood, 1997). Evaluation of health care involves evaluation of specific treatments, evaluation of patterns of care for particular patient groups, evaluation of organizations, evaluation or comparing health systems or programmes, for example, different models of care delivery (Coulter, 1991 in Sitzia and Wood, 1997; Jackson *et al.*, 2001) or evaluating the quality of health care (Rubin *et al.*, 1993 in Jackson *et al.*, 2001).

2.5.2. Factors affecting patient satisfaction

Factors affecting patient satisfaction include patient expectations, age, illness, prior experience of satisfaction, patient-practitioner relationship, choice of service provider, gender, ethnicity, and socioeconomic status (Irish Society for Quality and Safety in Health care *et al.*, 2003). LeVois *et al.* (1981) have added the psychosocial factors such as “social desirability response bias” and “ingratiating response bias” to influence measurement of patient satisfaction (LeVois *et al.*, 1981 in Sitzia and Wood, 1997). In a review of literature related to the family physicians practice, Thiedke (2007) has grouped factors affecting patient satisfaction into patient-related, physician-related and system-related factors. Regarding patient-related factors, studies of patient satisfaction have showed that patient satisfaction increases with old age, being a member of a majority group, higher socio-economic status, and with controlled chronic diseases (Thiedke, 2007), while gender has no obvious effect, that is, there is no average difference in satisfaction with medical care between men and women (Thiedke, 2007; Weisman *et al.*, 2000). As for physician-related factors, patient satisfaction increases by improving the way physicians interact with patients through recognizing and addressing patient expectations, positive communication, relinquishing some of the control to the patients, realizing the importance of social and mental functions in addition to the physical one, increasing the time spent with patients, and wearing semiformal clothing, while the relation of technical skills to satisfaction was controversial (Thiedke, 2007). The system-related factors also contribute to patient satisfaction which increases with promptness and willingness to help by the clinical team, effective referrals and lastly the most important factor which

is the continuity of care where patients can see their own physicians over a long period of time (Thiedke, 2007). In addition, psychological disorders may also affect patient satisfaction as lower satisfaction was associated with psychological distress, depression and personality disorders (Jackson *et al.*, 2001). Studies concerning predictors of patient satisfaction have shown that they have explained only a small portion of satisfaction's variance, nearly always less than 20% (Jackson and Kroenke, 1997 in Jackson *et al.*, 2001). Bleich *et al.* (2009) have argued that people's satisfaction with the health system is more influenced by factors outside the health system than by their experience as patients which may indicate that the use of patient satisfaction as a foundation for quality improvement is of limited value which necessitates the implementation of more research on the social factors affecting satisfaction with the healthcare systems. Redfern and Norman (1990) recommended that quality health care must also incorporate considerations of equity, accessibility, acceptability, efficiency, effectiveness and appropriateness.

2.5.3. Approaches to Measuring Patient Satisfaction

Patient satisfaction studies have used a wide variety of tools such as focus groups, questionnaires/surveys, personal interviews, telephone interviews, public meeting/forum and case studies (Debono and Travaglia, 2009; Irish Society for Quality and Safety in Health Care *et al.*, 2003). Utilization of both qualitative and quantitative methods is recommended, but questionnaires/surveys are the most common tool utilized (Debono and Travaglia, 2009). Patient satisfaction studies usually use ratings which require a measure of care and a reflection of the respondent (Sitzia and Wood, 1997). However, the use of quantitative methods in measuring patient satisfaction is problematic as it requires valid, reliable and sensitive questionnaires, otherwise results will be uncertain (McKinley and Roberts, 2001).

The current study is using this approach for exploring the community perception towards the PHC services through the FHM, in addition to discussing the wider context of the HSR which is being implemented in Egyptian health system.

Chapter 3. Methods

3.1. Aim and Objectives

The aim of the current study was to determine the acceptability of the Family Health Model, which replaces Primary Health Care, as currently implemented in Wardan Village, Giza, Egypt.

Objectives of the current study were:

1. To determine the demographic, socioeconomic status and patient profile of the current users in Wardan Village, Giza, Egypt
2. To determine how the family health model has been implemented in Wardan Village, Giza, Egypt
3. To determine whether current users are aware of the transformation from the Primary Health Care to the Family Health Model
4. To determine the perceptions of the community members in an Egyptian rural area towards the transformation from Primary Health Care to Family Health Model, and how they perceive their access and quality of care to have been affected by the transformation
5. To determine how acceptable the Family Health Model is to the current users of the PHC/FHU
6. To document the current users' recommendations toward improving the implementation of the primary health care services
7. To explore the relation between the socioeconomic characteristics of the current users and awareness of the transformation, satisfaction with and acceptability of the Family Health Model
8. To explore the relation between the socioeconomic characteristics of the current users and the accessibility and quality of the Family Health Model

3.2 Study Design

The current study was a cross sectional survey utilizing a structured questionnaire that was used to determine the awareness and perception/satisfaction of the community members in an Egyptian rural area (Wardan village, Giza Governorate) towards the transformation from primary health care to family health model in addition to their recommendation to improve the quality of services provided by the PHC/FHU.

3.3. Setting

3.3.1. Wardan Village

The setting of the study was Wardan village in Giza Governorate. Wardan village is one of the villages of Imbaba District of Giza Governorate which is located to the west of Cairo. Wardan village is in the north of Giza Governorate, and has a population of around 45000 inhabitants. Agriculture, fishing, trading activities and some minor craft industries are the main jobs for the majority of Wardan's residents. There are a number of elementary schools, one high school and one technical school in Wardan.

The study was conducted in the PHC unit of Wardan, which was converted into a FHU in 2008. In addition to the PHC/FHU, there are some charity NGOs participating in the provision of health services in addition to a number of private clinics and HIO polyclinic. There are two government hospitals near to Wardan village: Imbaba Central Hospital, around 55 kilometers from the village, and Oseem Central Hospital, 40 kilometers from the village.

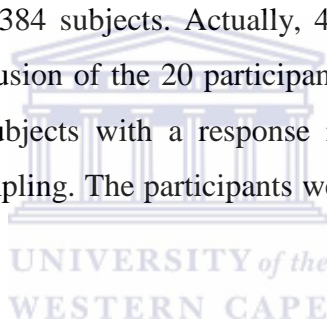
Wardan village has been chosen as the setting for the current study for two main reasons. Firstly, Wardan village is a typical Egyptian village with high unemployment, poverty and anecdotally deterioration of health services. Secondly, the Egyptian Association for Collective Rights, a local NGO that implements development activities, is present in the village and has good connections with the local community members. It has some joint activities with the organization which the

researcher works for, and this provides the researcher with an entry point to the village community and to clients attending the health services.

3.4. Sampling

The subjects of the current study were the adult community members of Wardan village who attended primary care facilities for services during the study period. Inclusion criteria included being an inhabitant of Wardan village, being an adult aged 18 years and above, and having at least one experience in dealing with the primary care facility. Estimated adults aged 18 years and above were around 27000.

The sample size was calculated by the Epi-info statistical programme (CDC, 2014) on the basis of an acceptability of 50%, an alpha of 5%, and a confidence level of 95% giving a required sample of 384 subjects. Actually, 410 subjects were approached, 377 responded, with the exclusion of the 20 participants of the pilot phase; the final included sample was 357 subjects with a response rate of 91.5%. The sampling strategy was convenience sampling. The participants were recruited as they exited the PHC unit.



3.5. Tool

A structured questionnaire (Appendix 1 and 2) was used in the current study. The questionnaire was developed by the researcher. It was designed in English, and was translated to Arabic to be used with the survey participants. There was back translation to ensure that the original meaning was retained. The questionnaire consisted of six main sections, namely, personal information which included demographic and socio-economic characteristics of participants, awareness regarding the ongoing transformation process, the perception and satisfaction toward this process, the actual status of implementation of the FHM, the acceptability of the implemented model and the recommendations for improving the health services.

3.6 Key Constructs

Patient satisfaction with health service can be defined as the degree of congruency between a patient's expectations of ideal care and his/her perception of the real care he/she receives (Aragon and Gesell, 2003 in Ahmad and Siraj ud Din, 2010), and is regarded as an assessment of its quality (Donabedian, 1980 in Dyer, *et al.*, 2016). In the structured questionnaire there were 8 questions to assess patient satisfaction. These questions are in the third section of the questionnaire (questions 14 to 21) and assess the satisfaction with buildings, equipment/supplies, types of services provided, staff, quality of services, drugs, fees and referral system. A scoring system was used to determine an overall satisfaction of the participants toward the FHU. For each question, there were three answers; satisfied, do not know and unsatisfied which were scored 2, 1, and 0 respectively. An average score over the 8 questions was then calculated, with a minimum of 0 and a maximum of 2.

Acceptability can be defined as "conformity to the wishes, desires and expectations of patients and responsible members of their families" (Donabedian, 2003 in Dyer, *et al.*, 2016), and it includes the service's legitimacy or social acceptability (Dyer, *et al.*, 2016). In the structured questionnaire there were 6 questions to assess acceptability. These questions were in the fifth section of the questionnaire (questions 31 to 36) and assess acceptability of accessibility, fees, meeting needs, quality, referral and drugs. A scoring system was used to determine an overall acceptability of the participants toward the FH model. For each question, there were two answers; acceptable and not acceptable which were scored 1 and 0 respectively. An average score over the 6 questions was then calculated, with a minimum of 0 and a maximum of 1.

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. . ." (Lohr, 1990 in Ransom *et al.*, 2008), and it has to be "safe, effective, efficient, timely, patient centered, and equitable" (IOM, 2001 in Ransom *et al.*, 2008). In this study, quality of care was measured from the perspective of the participants, that is, it was their perception of quality of care. It was assessed by directly asking participants in question number 38 about their opinion regarding the quality of health care provided by the FHU.

Accessibility is defined as the “degree to which individuals and groups are able to obtain needed services” (IOM, 1993 in Ransom *et al.*, 2008). In this study, accessibility of care was measured from the perspective of the participants, that is, it was their perception of accessibility of care. It was assessed by directly asking participants in question number 37 about their opinion regarding the accessibility of the services provided by the PHC/FHU.

3.7. Data Collection

Four research assistants, three females and one male with social sciences background, were trained on the necessary knowledge and skills needed to implement the questionnaire. The training of the research assistants on the study questionnaire was conducted over three days in the Egyptian Association for Collective Rights in Warden Village. The content of the training days included an introduction and explanation of the subject and the objectives of the study and the role of the research assistants. Furthermore, it included a detailed explanation of the questions of the study tool and interviewing the participants. This was followed by the implementation of the pilot study. The research assistants interviewed the study participants after they exited the PHC/FHU. The study was implemented during the second half of 2015.

3.8. Validity and Reliability

Face validity of the current study tool was strengthened by having the tool reviewed by the study supervisor and an Egyptian professor of community medicine who confirmed that the tool was measuring what it is supposed to measure. Content validity was strengthened by basing the tool on the content areas which are common to most patient satisfaction surveys.

Reliability of the current study was improved through forward and back translation of the questionnaire between English and Arabic. Reliability was further enhanced by implementing a pilot phase which included 20 respondents, for testing the applicability and the consistency of the study questionnaire along with checking for and removing ambiguity in the questions, and training research assistants in its use. According to the results of the pilot phase, minor modifications were made to the

wording of the questionnaire. The results of the pilot phase of the study were not added to the final study results.

3.9. Generalisability

The current study was intended to give a preliminary idea regarding the acceptability of the FHM in the rural Egyptian areas. Due to the similarity of the circumstances between the study site and many other rural areas in Egypt, the results may be indicative of patient satisfaction in similar sites which have implemented the FHM to the same extent. Also, the study was intended as an exploratory study to inform wider scale studies and policy makers.

3.10. Analysis

Data entry and statistical analysis were done using SPSS 20.0 (IBM, 2011) statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical variables, and means and standard deviations and medians and interquartile ranges for quantitative variables. Quantitative continuous data were compared using the non-parametric Mann-Whitney test, in case of comparing two groups, or Kruskal-Wallis test in case of comparing more than two groups. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. Statistical significance was considered at p-value <0.05.

Analyzing the open ended questions included thorough reading of the respondents' answers, picking up the emerging themes from the answers, formulating the emerging themes, revising the answers, refining and finalizing the themes, giving code numbers to the themes (categories), and coding the answers according to the final themes (categories).

3.11. Ethical Considerations

The approval of the UWC Ethics Committee for undertaking the study was obtained after an application for ethics was submitted to the committee. Participation in the current study was on total voluntary basis for the adults of Wardan village who received health services from the PHC/FHU. There was an information sheet explaining all details regarding the study including the benefits, the risks, and the voluntary basis for participation and assuring the confidentiality. This sheet was available in Arabic for the participants to read (Participant Information Sheet, Appendix 3 and 4). Also, there was an informed consent to be signed by those who agreed to participate in the study (Informed Consent, Appendix 5 and 6). There was no anticipated harm from this study and withdrawal was guaranteed at any time. The identities of the participants were kept confidential, the questionnaires were marked by a unique identifier number and no names will be used in any reports related to the study.

After finalization of the current study, the Egyptian Association for Collective Rights is planning to present the study results and recommendations to the relevant stakeholders to discuss them and investigate their applicability.

Chapter 4. Results

The results of the current study will be presented according to the main sections of the questionnaire which are: personal information which included demographic and socio-economic characteristics of participants, awareness regarding the ongoing transformation process, the perception and satisfaction toward this process, the actual status of implementation of the FHM, the acceptability of the implemented model and the recommendations for improving the health services. This will be followed by the relations between the different variables of the study. 410 individuals were approached, with the exclusion of the 20 participants of the pilot phase; the response rate will be 91.5%, i.e. 357 respondents of 390 approached.

Table 1: Socio-demographic characteristics of participants in the study sample (n=357)

	Frequency	Percent
Age:		
<30	161	45.1
30-<40	122	34.2
40+	74	20.7
Range	18.0-65.0	
Mean±SD	32.6±8.7	
Median	30.0	
Gender:		
Male	3	0.8
Female	354	99.2
Educational level:		
Illiterate	19	5.3
Read/write	18	5.0
Basic	84	23.5
Intermediate	114	31.9
University	122	34.2
Marital status:		
Single	6	1.7
Married	325	91.0
Divorced	11	3.1
Widow	15	4.2
Job status:		
Working	296	82.9
Not Working	61	17.1

Table (1) shows the socio-demographic characteristics of the study sample. It shows that half of the sample is less than 30 years old. Most of the sample is females (99.2%), married (91%), and working (82.9%). It also shows that illiteracy among participants is only (5.3%) and more than quarter of the sample (28.5%) can read and write or having only basic education and the around two thirds (66.1%) is either having intermediate or university education.

Table 2: Utilization of PHC/FHU services as reported by participants in the study sample (n=357)

	Frequency	Percent
Previously used PHC/FHU:		
No	4	1.1
Yes	353	98.9

Table 3: Duration of use and PHC/FHU services utilized by participants in the study sample (n=353)

	Frequency	Percent
Duration of use (years):		
<1	22	6.2
1-<5	149	42.2
5+	182	51.6
Range	0.0-45.0	
Mean±SD	7.0±7.1	
Median	5.00	
Services used:		
ANC	305	86.4
General practitioner	78	22.1
Vaccination	324	91.8
Pediatrics	134	38.0
Emergency	2	0.6
Total number of services used:		
Range	1.0-4.0	
Mean±SD	2.4±0.9	
Median	2.00	

Table (2) and table (3) illustrate the pattern of utilization of the PHC/FHU by the participants. It shows that half of the participants have used the unit for less than 5 years and for two types of health services only. The most used service was the vaccination (91.8%), followed by the ANC (86.4%), and then the pediatrics (38%), the GP (22.1%), and finally the least used service was the Emergency (0.6%).

Table 4: Awareness of transformation of PHC unit to family health unit (FHU) among participants (n=353)

	Frequency	Percent
Heard about transformation of PHC unit to family health unit		
No	298	84.4
Yes	55	15.6
Perception of this change (n=55): [@]		
Each family has a medical file	11	20.0
Provision of care to all family members	12	21.8
Availability of vaccines for family	1	1.8
Improvement of the quality of care	7	12.7
Emergency services	1	1.8
Follow-up of pregnant till labor and child care	1	1.8
Availability of new equipment and supplies	2	3.6
Noticed changes in the unit:		
No	216	61.2
Yes	137	38.8
Changes (n=137): [@]		
Buildings renewed	132	96.4
Adding new buildings	125	91.2
New equipment	51	37.2
More added services	1	0.7
Less services	133	97.1
Increased number of staff	134	97.8
Decreased number of staff	1	0.7
Better treatment by staff	103	75.2
Worse treatment by staff	7	5.1
Better quality of service	131	95.6
Worse quality of service	5	3.6
Increased drugs dispensed	113	82.5
Decreased drugs dispensed	19	13.9
Paying more fees for drugs	1	0.7
Paying less fees for drugs	108	78.8
Less lab tests	38	27.7
More lab tests	89	65.0
More lab fees	0	0.0
Less lab fees	122	89.1
Paying more fees for service	1	0.7
Paying less fees for service	135	98.5
Better referral services	33	24.1
Worse referral services	26	19.0
Other:		
Various specialties available	1	0.7
Emergency services	2	1.5
Dispensing subsidized formula (artificial milk for babies)	1	0.7

[@] Not mutually exclusive

Table (4) depicts the awareness of the study sample towards the change from PHC to the FHM. It shows that only 15.6% of the participants are aware of this change. The perception of the aware participants towards this change included different explanations. The most common explanations were; this change means "provision of care to all family members" (21.8%), followed by "each family has a medical file" (20%) and finally "improvement of the quality of care" (12.7%).

As for the changes noticed in the FHU, only 38.8% of the participants reported observing changes in the FHU. Most common reported changes were; paying less for the services (98.5%), increased number of staff (97.8%), less services (97.1%), renewing buildings (96.4%), better quality of service (95.6%), and adding new buildings (91.2%).



Table 5: Participants' satisfaction with the current family health unit (n=353)

	Satisfactory		Do not Know		Unsatisfactory		Score (max=2)				
	No.	%	No.	%	No.	%	Mean	SD	Median	Quartiles	
										1 st	3 rd
Buildings	282	79.9	0	0.0	71	20.1	1.60	0.80	2.00	2.00	2.00
Equipment/supplies	140	39.7	22	6.2	191	54.1	0.86	0.96	0.00	0.00	2.00
Types of services provided	338	95.8	1	0.3	14	4.0	1.92	0.39	2.00	2.00	2.00
Staff	318	90.1	0	0.0	35	9.9	1.80	0.60	2.00	2.00	2.00
Quality of services	331	93.8	2	0.6	20	5.7	1.88	0.47	2.00	2.00	2.00
Drugs	308	87.3	22	6.2	23	6.5	1.81	0.54	2.00	2.00	2.00
Fees	352	99.7	1	0.3	0	0.0	2.00	0.05	2.00	2.00	2.00
Referral system	120	34.0	180	51.0	53	15.0	1.19	0.67	1.00	1.00	2.00
Overall average score							1.61	0.36	1.63	1.50	1.88

Table (5) describes the participants' satisfaction with the different aspects of the current FHU. It shows that the most satisfying aspect of the FHU is the fees (99.7%) followed by the types of services provided (95.8%), while the least satisfying aspect is the referral (34%) followed by the equipment and supplies (39.7%). The overall average satisfaction is $80.5\% \pm 18\%$. (Score: 1.61 ± 0.36).

Table 6: Participants' satisfaction with the different health service providers (n=353)

Effectiveness of:	Satisfactory		Do not Know		Unsatisfactory		Score (max=2)				
	No.	%	No.	%	No.	%	Mean	SD	Median	Quartiles	
										1 st	3 rd
Old PHC unit	126	35.7	156	44.2	71	20.1	1.16	0.73	1.00	1.00	2.00
Other local governmental settings	302	85.6	5	1.4	46	13.0	1.73	0.68	2.00	2.00	2.00
Governmental settings in general	111	31.4	7	2.0	235	66.6	0.65	0.93	0.00	0.00	2.00
Local non-governmental settings	324	91.8	19	5.4	10	2.8	1.89	0.39	2.00	2.00	2.00

Table (6) illustrates the participants' satisfaction with the different health service providers. Satisfaction with the old PHC unit was low (35.7%), and it was higher for non-governmental than local governmental services (91.8% versus 85.6%). The governmental settings in general had a very low satisfaction (31.4%).

Table 7: Characteristics of the services provided to participants through implementation of the family health model (n=353)

	Frequency	Percent
Have a file in the family health unit:		
No	34	9.6
Yes	319	90.4
If Yes (n=319): Do staff use the file		
No	1	0.3
Yes	318	99.7
Dispensing drugs:		
Part from unit and part from outside	323	91.5
All from unit	24	6.8
All from outside	6	1.7
Laboratory services:		
Part in unit and part outside	254	72.0
All in unit	50	14.2
All outside	49	13.9
Had referral before:		
Referral was to hospitals	16	4.2
Referral was successful	16	100.0
	9	56.3

Table (7) illustrates the different aspects of the implementation of the FHM. Most participants (90.4%) reported having a medical file, and 99.7% of those said that the staff used the file when they visited the unit. Further, most participants (91.5%) reported accessing their medications in part from the unit and in part from external providers. The same pattern is repeated for the lab investigations (72%) but more participants accessing all investigations inside the unit (14.2% for the investigations and 6.8% for the medications). Very few participants reported having referral (4.2%) but this was successful in only around half of the cases (56.3%).

Table 8: Participants' acceptance of the family health model (n=353)

	Acceptable		Not acceptable		Score (max=1)				
	No.	%	No.	%	Mean	SD	Median	Quartiles	
								1 st	3 rd
Accessibility	347	98.3	6	1.7	0.98	0.13	1.00	1.00	1.00
Fees	353	100.0	0	0.0	1.00	0.00	1.00	1.00	1.00
Meeting family needs	307	87.0	46	13.0	0.87	0.34	1.00	1.00	1.00
Quality	340	96.3	13	3.7	0.96	0.19	1.00	1.00	1.00
Referral	171	48.4	129	36.5	0.57	0.50	1.00	0.00	1.00
Drugs	314	89.0	29	8.2	0.92	0.28	1.00	1.00	1.00
Overall average score (max=100)					88.26	16.78	100.00	83.33	100.00

Table (8) describes the participants' acceptance for the FHM. It reveals that the overall average acceptance of the FHM is 88.3%. It also shows that the most accepted aspect of the FHM is the fees (100%) followed by the accessibility of services provided (98.3%), and the quality (96.3%). The least accepted aspect is the referral (48.4%).

Table 9: Participants' perceptions regarding accessibility and quality of the services provided by the family health unit (n=353)

	Frequency	Percent
Think family health unit services are accessible:		
No	22	6.2
Yes	331	93.8
Suggestions for better accessibility:@		
24-hour service	48	13.6
Regular staff attendance	7	2.0
Acceptable fees	7	2.0
Renovation	17	4.8
Better treatment by staff	3	0.8
Respond to community needs	1	0.3
Emergency services	1	0.3
Think family health unit provides quality services:		
No	71	20.1
Yes	282	79.9
Suggestions for better quality:@		
Improvement of quality	25	7.1
Provision of all drugs	94	26.6
Improve setting to avoid referrals	11	3.1
Easy referral	36	10.2
Health/patient education	6	1.7
First aid/emergency services	2	0.6
More specialties	2	0.6

@Not mutually exclusive

Table (9) describes the participants' points of view regarding the accessibility of the FHU. It shows that most participants (93.8%) think that the unit is accessible. Main recommendations for improving the accessibility include 24-hour service (13.6) and renovation (4.8%). Regarding the quality of care, most participants (79.9%) think that family health unit provides quality services. Their suggestions for better quality included provisions of all drugs (26.6%), easy referral (10.2%) and more improvement of quality (7.1%).

Table 10: Participants' preferences of the setting to get service (n=353)

	Frequency	Percent
Prefer getting service at family health unit:		
No	192	54.4
Yes	161	45.6
Reasons:@		
Better care	4	1.9
Provide for all needs	29	13.8
New equipment	3	1.4
Good clinical examination	3	1.4
Availability of all specialties	48	22.9
According to patient illness	28	13.3
Lower costs	71	33.8
Good diagnosis	8	3.8
Working hours	16	7.6
Prefer getting service at other settings:		
No	129	36.5
Yes	224	63.5
Reasons:@		
Better care	81	18.9
New equipment	122	28.5
Good clinical examination	56	13.1
Availability of all specialties	57	13.3
According to patient illness	28	6.5
Lower costs	50	11.7
Good diagnosis	20	4.7
Provide for all needs	10	2.3
Overcrowding in family health centers	4	0.9

@Not mutually exclusive

Table (10) shows the preferences of the participants of the study for getting the health services. Slightly less than half of the participants (45.6%) prefer getting a service at family health unit. The reasons these participants mentioned to justify their choice include mainly lower costs of the service (33.8%), availability of specialties (22.9%), providing what they need (13.8%). Around two thirds of the participants (63.5%)

prefer getting health services at other settings. Their reasons include new equipment (28.5%), better care (18.9%), availability of all specialties (13.3%) and good clinical examination (13.1%).

Table 11: Participants' recommendations for improvement of the family health unit (n=353)

	Frequency	Percent
Recommendations for improvement:@		
Better clinical examination	38	10.8
Better care	40	11.3
More specialties	134	38.0
Operations/labor room	179	50.7
Incubators	24	6.8
Ambulance	123	34.8
Good diagnosis	16	4.5
Use of recent technology in diagnosis	124	35.1
More working hours	24	6.8
Follow-up	3	0.8
Availability of drugs	37	10.5
Health/patient education	5	1.4
Link to local hospitals	9	2.5
Better lab services	11	3.1
Better referral system	3	0.8
To be like centers affiliated to NGOs	12	3.4
Blood bank	22	6.2

@Not mutually exclusive

Table (11) illustrates the recommendations of the study participants for improving the family health unit. The most common recommendations suggest adding new services such as operations/labor room (50.7%), more specialties (38.0%), and use of recent technology in diagnosis (35.1%). Others include ambulance (34.8%), better care (11.3%), better clinical examination (10.8%), and availability of medications (10.5%).

Table 12: Relation between participants' awareness of the transformation of PHC unit to family health unit and their socio-demographic characteristics

	Aware				X ² test	p-value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	131	82.4	28	17.6	1.08	0.58
30-<40	104	85.2	18	14.8		
40+	63	87.5	9	12.5		
Gender:						
Male	0	0.0	3	100.0	Fisher	0.004*
Female	298	85.1	52	14.9		
Educational level:						
Illiterate	19	100.0	0	0.0	12.20	0.02*
Read/write	17	100.0	0	0.0		
Basic	74	89.2	9	10.8		
Intermediate	93	83.0	19	17.0		
University	95	77.9	27	22.1		
Marital status:						
Single	3	75.0	1	25.0	--	--
Married	276	84.9	49	15.1		
Divorced/widow	19	79.2	5	20.8		
Job status:						
Working	256	87.7	36	12.3	13.59	<0.001*
Unemployed	42	68.9	19	31.1		
Duration of use (years):						
<1	19	86.4	3	13.6	0.10	0.95
1-<5	125	83.9	24	16.1		
5+	154	84.6	28	15.4		

(*) Statistically significant at $p < 0.05$

(--) Test result not valid

Table (12) illustrates the relationship between the socio-demographic characteristics of the participants and their awareness with the transformation of the health unit. It reveals that there is significant difference in awareness of the change indicating that awareness is more among females ($p=0.004$), those having more education ($p=0.02$), and those with working status ($p<0.001$).

Table 13: Relation between participants' having a file in the family health unit and their socio-demographic characteristics

	Have a medical file				X ² test	p-value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	8	5.0	151	95.0	17.27	<0.001*
30-<40	10	8.2	112	91.8		
40+	16	22.2	56	77.8		
Gender:						
Male	2	66.7	1	33.3	Fisher	0.03*
Female	32	9.1	318	90.9		
Educational level:						
Illiterate	4	21.1	15	78.9	3.70	0.45
Read/write	1	5.9	16	94.1		
Basic	7	8.4	76	91.6		
Intermediate	12	10.7	100	89.3		
University	10	8.2	112	91.8		
Marital status:						
Single	2	50.0	2	50.0	38.85	<0.001*
Married	22	6.8	303	93.2		
Divorced/widow	10	41.7	14	58.3		
Job status:						
Working	22	7.5	270	92.5	8.54	0.003*
Unemployed	12	19.7	49	80.3		
Duration of use (years):						
<1	8	36.4	14	63.6	19.67	<0.001*
1-<5	10	6.7	139	93.3		
5+	16	8.8	166	91.2		

(*) Statistically significant at $p < 0.05$

Table (13) illustrates the relationship between the socio-demographic characteristics of the participants and their having a file in the health unit. It reveals that having a medical file is associated with young age ($p < 0.001$), females ($p = 0.03$), married or previously being married ($p < 0.001$), working participants ($p = 0.003$), and more years of utilization ($p < 0.001$).

Table 14: Relation between participants' perceptions of the accessibility of the family health unit services and their socio-demographic characteristics

	Accessible				X ² test	P- value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	13	8.2	146	91.8	1.91	0.38
30-<40	6	4.9	116	95.1		
40+	3	4.2	69	95.8		
Gender:						
Male	1	33.3	2	66.7	Fisher	0.18
Female	21	6.0	32.9	94.0		
Educational level:						
Illiterate	1	5.3	18	94.7	4.32	0.36
Read/write	1	5.9	16	94.1		
Basic	3	3.6	80	96.4		
Intermediate	5	4.5	107	95.5		
University	12	9.8	110	90.2		
Marital status:						
Single	0	0.0	4	100.0	0.47	0.79
Married	21	6.5	304	93.5		
Divorced/widow	1	4.2	23	95.8		
Job status:						
Working	17	5.8	275	94.2	Fisher	0.56
Unemployed	5	8.2	56	91.8		
Duration of use (years):						
<1	2	9.1	20	90.9	1.17	0.56
1-<5	7	4.7	142	95.3		
5+	13	7.1	169	92.9		

Table (14) illustrates the relationship between the socio-demographic characteristics of the participants and their perceptions of the accessibility of the health services in the family health unit. It shows that perceptions of the accessibility of the FHU were not significantly associated with socio-demographic characteristics.

Table 15: Relation between participants' perceptions upon the quality of the family health unit services and their socio-demographic characteristics

	Quality service				X ² test	p-value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	33	20.8	126	79.2	0.68	0.71
30-<40	26	21.3	96	78.7		
40+	12	16.7	60	83.3		
Gender:						
Male	2	66.7	1	33.3	Fisher	0.10
Female	69	19.7	281	99.6		
Educational level:						
Illiterate	3	15.8	16	84.2	3.66	0.45
Read/write	2	11.8	15	88.2		
Basic	15	18.1	68	81.9		
Intermediate	20	17.9	92	82.1		
University	31	25.4	91	74.6		
Marital status:						
Single	1	25.0	3	75.0	0.24	0.88
Married	66	20.3	259	79.7		
Divorced/widow	4	16.7	20	83.3		
Job status:						
Working	55	18.8	237	81.2	1.72	0.19
Unemployed	16	26.2	45	73.8		
Duration of use (years):						
<1	5	22.7	17	77.3	2.58	0.28
1-<5	24	16.1	125	83.9		
5+	42	23.1	140	76.9		

Table (15) illustrates the relationship between the socio-demographic characteristics of the participants and their perceptions upon the quality of the health services in the family health unit. It reveals that perceptions of the quality of the FHU were not significantly associated with the socio-demographic characteristics.

Table 16: Relation between participants' preference of getting service at the family health unit and their socio-demographic characteristics

	Prefer family health unit				X ² test	p-value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	103	64.8	56	35.2	21.55	<0.001*
30-<40	66	54.1	56	45.9		
40+	23	31.9	49	68.1		
Gender:						
Male	2	66.7	1	33.3	Fisher	1.00
Female	190	54.3	160	45.7		
Educational level:						
Illiterate	5	26.3	14	73.7	76.46	<0.001*
Read/write	2	11.8	15	88.2		
Basic	22	26.5	61	73.5		
Intermediate	66	58.9	46	41.1		
University	97	79.5	25	20.5		
Marital status:						
Single	0	0.0	4	100.0	4.83	0.09
Married	179	55.1	146	44.9		
Divorced/widow	13	54.2	11	45.8		
Job status:						
Working	146	50.0	146	50.0	13.13	<0.001*
Unemployed	46	75.4	15	24.6		
Duration of use (years):						
<1	12	54.5	10	45.5	9.61	0.008*
1-<5	95	63.8	54	36.2		
5+	85	46.7	97	53.3		

(*) Statistically significant at $p < 0.05$

Table (16) illustrates the relationship between the socio-demographic characteristics of the participants and their preference in getting the health services in the family health unit or in other facilities (private or NGO). It reveals that older respondents ($p < 0.001$), and those with less education ($p < 0.001$), working status ($p < 0.001$) and more years of utilization ($p = 0.008$) prefer getting health services at the FHU.

Table 17: Relation between participants' preference of getting service in another setting and their socio-demographic characteristics

	Prefer other settings				X ² test	p-value
	No		Yes			
	No.	%	No.	%		
Age:						
<30	44	27.7	115	72.3	20.23	<0.001*
30-<40	43	35.2	79	64.8		
40+	42	58.3	30	41.7		
Gender:						
Male	1	33.3	2	66.7	Fisher	1.00
Female	128	36.6	222	63.4		
Educational level:						
Illiterate	13	68.4	6	31.6	79.93	<0.001*
Read/write	12	70.6	5	29.4		
Basic	54	65.1	29	34.9		
Intermediate	36	32.1	76	67.9		
University	14	11.5	108	88.5		
Marital status:						
Single	2	50.0	2	50.0	0.63	0.73
Married	117	36.0	208	64.0		
Divorced/widow	10	41.7	14	58.3		
Job status:						
Working	118	40.4	174	59.6	10.90	0.001*
Unemployed	11	18.0	50	82.0		
Duration of use (years):						
<1	7	31.8	15	68.2	11.94	0.003*
1-<5	40	26.8	109	73.2		
5+	82	45.1	100	54.9		

(*) Statistically significant at $p < 0.05$

Table (17) illustrates the relationship between the socio-demographic characteristics of the participants and their preference in getting the health services in other settings than the family health unit. It reveals that younger respondents ($p < 0.001$), and those with more education ($p < 0.001$), unemployed status ($p = 0.001$) and less years of utilization ($p = 0.003$) prefer getting health services in other settings rather than the FHU.

Table 18: Relation between participants' scores of satisfaction with the family health unit and their socio-demographic characteristics

	Mean±SD	Median	Kruskal Wallis test	p-value
Age:				
<30	1.6±0.4	1.63	7.69	0.02*
30-<40	1.6±0.3	1.63		
40+	1.7±0.4	1.75		
Gender:				
Male	1.3±0.5	1.50	U=1.37	0.24
Female	1.6±0.4	1.63		
Educational level:				
Illiterate	1.7±0.2	1.75	24.79	<0.001*
Read/write	1.6±0.5	1.88		
Basic	1.7±0.4	1.75		
Intermediate	1.6±0.4	1.75		
University	1.5±0.3	1.50		
Marital status:				
Single	0.9±0.8	1.19	7.44	0.02*
Married	1.6±0.3	1.75		
Divorced/widow	1.5±0.5	1.69		
Job status:				
Working	1.6±0.4	1.75	U=7.34	0.007*
Unemployed	1.6±0.3	1.50		
Duration of use (years):				
<1	1.3±0.4	1.38	16.47	<0.001*
1-<5	1.7±0.3	1.75		
5+	1.7±0.3	1.75		

(*) Statistically significant at $p < 0.05$

(U) Mann-Whiney test

Table (18) illustrates the relationship between participants' scores of satisfaction with the family health unit and their socio-demographic characteristics. It reveals that more satisfaction is associated with older age ($p=0.02$), less education ($p<0.001$), being or was married ($p=0.02$), working status ($p=0.007$), and more years of using the units ($p<0.001$).

Table 19: Relation between participants' scores of acceptability of the family health model and their socio-demographic characteristics

	Mean±SD	Median	Kruskal Wallis test	p-value
Age:				
<30	88.1±17.5	100.00	4.32	0.12
30-<40	87.6±13.7	83.30		
40+	89.5±19.7	100.00		
Gender:				
Male	77.8±19.2	66.70	U=1.59	0.21
Female	88.3±16.8	100.00		
Educational level:				
Illiterate	90.2±14.1	100.00	28.65	<0.001*
Read/write	91.5±23.8	100.00		
Basic	90.7±17.2	100.00		
Intermediate	89.8±17.4	100.00		
University	84.4±14.5	83.30		
Marital status:				
Single	57.8±45.3	81.65	6.07	0.048*
Married	89.2±14.2	100.00		
Divorced/widow	83.6±26.9	91.65		
Job status:				
Working	88.7±17.6	100.00	U=8.02	0.005*
Unemployed	85.9±11.9	83.30		
Duration of use (years):				
<1	84.5±16.2	83.30	2.98	0.23
1-<5	90.3±12.8	100.00		
5+	89.0±14.5	100.00		

(*) Statistically significant at $p < 0.05$

(U) Mann-Whiney test

Table (19) illustrates the relation between participants' scores of acceptability of the family health model and their socio-demographic characteristics. It reveals that higher score of acceptability is associated with less education ($p < 0.001$), being or have been married ($p = 0.048$), and with working status ($p = 0.005$).

Table 20: Correlation matrix of satisfaction with and acceptability of the FHM scores and certain participants' characteristics

	Spearman's rank correlation coefficient	
	Satisfaction	Acceptance
Age	0.08	0.00
Education level	-.252**	-.254**
Years of service utilization	.150**	0.07

(**) Statistically significant at $p < 0.01$

Table (20) illustrates the correlation between age, educational level and years of service utilization of the participants and satisfaction and acceptance scores. It reveals that there is statistically significant negative correlation between level of education and satisfaction ($r = -.252$, $p < 0.01$), and acceptance ($r = -.254$, $p < 0.01$). Also, there is positive statistically significant correlation between years of service utilization and satisfaction ($r = .150$, $p < 0.01$).



Chapter 5. Discussion

5.1. Discussion

The aim of the current study was to determine the acceptability of the FHM that replaces PHC as currently implemented in Wardan Village, Giza, Egypt. This transformation is a part of the overall umbrella: health system reform in Egypt. The FHM is a cornerstone of the HSRP so it is highly important to explore people's satisfaction with and acceptability of the model.

Results of the study regarding the pattern of utilization of the PHC/FHU revealed that the main users of the PHC/FHU are the females and their children. Most of the sample is females (99.2%), married (91%), and working (82.9%). Investigating the educational level of the participants has showed that illiteracy among participants is only (5.3%) and more than quarter of the sample (28.5%) can read and write or having only basic education and the around two thirds (66.1%) is either having intermediate or university education. This predominance of women in utilizing the PHC/FHU has also been observed by other similar studies in Egypt - Gadallah, *et al.*, 2010. This refers, in part, to the notion that many Egyptians prefer the specialized doctor and not the GP. Metwally (2014) has shown that 53% of her study sample in urban PHC units and 23% in the rural settings, in Alexandria and Sohag Governorates of Egypt, preferred to be examined by a specialist. It may be that people in the study village equate PHC/FHU with services which are promoted strongly by the public sector, such as ANC, vaccinations and pediatrics, which are the same most used services by the participants in the current study (91.8% for vaccination, 86.4% for ANC, 38% for pediatrics), while men and women prefer to access specialists in private, or NGOs facilities (or, in the case of governmental employees, HIO polyclinics) for other services. The availability of specialist health services in Wardan village makes this possible. Another factor which potentially restricts men's use of the PHC/FHU is the limited working hours (early morning to shortly after noon) which overlaps with working hours (Gadallah *et al.*, 2003). However, working places, especially governmental ones in the rural areas, are more malleable with women allowing them to go to the unit during working hours whether for themselves or for

their children especially women who are breastfeeding their children as they have a one-hour daily legal break for breastfeeding during the 24 months following the birth of the child (Geneva Infant Feeding Association-GIFA, *et al.*, 2013).

The services provided through the current FHU, as perceived and reported by the participants regarding the types of services they used, are the basic health services which were provided through the PHC network of units and centers (ANC, vaccination, pediatrics, GP and Emergency). The range of provided health services through the PHC facility depends on many factors; for example, it increases when the facility is an urban center more than being a rural unit¹. Also, service increases with the availability of providing physicians whether they are general practitioners, family medicine physicians, dentists, dermatologists, or ophthalmologists. Sometimes, especially in rural areas and in Upper Egypt, even the main family physician or the general practitioner who is responsible for running the unit is not available which restricts to a great extent what the unit can offer. Another main factor playing a great role in the availability of physicians and subsequently the provided health services is the financial factor. When the physicians feel that they are adequately compensated they will be available at the unit, otherwise they will search for other work places, mainly the private facilities. The FHM tried to deal with this issue through some mechanisms such as the copayments and the pay for performance but both mechanisms did not continue the planned pathway and faced multiple difficulties (El Saharty *et al.*, 2010; World Bank, 2010).

Clients who participated in the current study had a low awareness of the transformation of the health unit to FHU in 2008. Only 15.6% of the participants were aware that the PHC unit had transformed to a FHU utilizing a FHM of service provision. The higher number that is aware of the transformation is among females ($p=0.004$), those having formal education ($p=0.02$), and those with working status ($p<0.001$). This may be because half of the sample indicated that they had used the health unit for less than 5 years, whereas the change had occurred 7 years before the implementation of the study. Another possible reason is that people are less concerned

¹The family health unit (FHU) is located in the rural areas with a catchment area of 1000-1200 families per doctor whereas the family health center (FHC) is an urban facility with a catchment area of 4000 to 20000 families (El Rabbat and Bossert, 2012).

with the model of services than they are with who runs the facility and what type of services it provides. In the study by Metwally (2014) which was implemented in two sites, urban and rural, the percentage of knowledge of the new system, the FHM, in the rural one was 28% which is higher than that of the current study but can be considered as a low percentage too. This percentage was increased in the urban site of the same study to 68% due to informing the patients about the new system by the staff of the unit (Metwally, 2014).

The current study revealed that the average total satisfaction with the PHC/FHU of the study participants was 80.5%. Comparing this with other studies showed that there are some variations among the users of the PHC units regarding the scores of overall satisfaction of the PHC unit whether reformed or not, accredited or not, in Egypt or in other countries. The FHU of the current study is considered reformed but not accredited. Polluste *et al.* (2004) have tested the acceptability and satisfaction of a new family doctor-led PHC system after five years of implementation of the reform in Estonia and found 87% satisfaction score with the family doctor. Salem (2010) found an overall satisfaction of 76.9% and 70.7% for urban and rural PHC units respectively in a province in Saudi Arabia. In a study conducted by Gadallah *et al.*, (2003) including primary health care centers in two sites in Egypt, the overall satisfaction with the health care provided was 97.7%. Gadallah *et al.*, (2010) has showed that overall patients' satisfaction for the reformed and accredited FHU was 94.8% compared with 72.7% for the non-reformed PHC units. Another study by Al Tehewy *et al.* (2009) concerning the contracted health units affiliated to the non-governmental organizations has shown that the overall patients' satisfaction regarding the accredited units was 90.4% compared to 79.5% for the non-accredited. Because of differences in settings, methodologies and tools used across these different studies it is not possible to do direct comparisons, though one may argue that these results suggest that the reformed health units get better appreciation and satisfaction than the old PHC ones, and this satisfaction increases when these units become accredited. Nevertheless, the relation between accreditation and satisfaction is controversial as some studies found positive relationship between accreditation and satisfaction and others did not whether in hospitals or in PHC units. A review done by Almasabi *et al.*, (2014) for patient satisfaction studies from different countries, such as Egypt, US, UK, France, Ireland, Saudi Arabia, Australia, found that the existing literature provides no clear evidence

that the accreditation improves satisfaction. This may refer to the notion that the accreditation is focusing on structure and process not the outcome making its target not visible to patients (Almasabi *et al.*, 2014).

The relationship between the sociodemographic characteristics of the participants and their overall satisfaction with the PHC/FHU was investigated by the current study. There was statistically significant difference indicating that more satisfaction is associated with older age ($p=0.02$), less education ($p<0.001$), being or was married ($p=0.02$), working status ($p=0.007$), and more years of using the unit ($p<0.001$). There is also a statistically significant negative correlation between satisfaction and level of education ($r=-.252$, $p<0.01$), and statistically significant positive correlation between satisfaction and years of utilization ($r=.150$, $p<0.01$). The relation of the overall satisfaction with the PHC unit and the sociodemographic characteristics showed some controversial results across different studies. AlSakkak *et al.*, (2008) showed statistically significant relation between the overall satisfaction and older age, and less education, but not with gender, marital status, and income or work status. Salem (2010) found significant high score of satisfaction with older age and non-employed in rural centers and significant less satisfaction with increased level of education. Gadallah *et al.*, (2003) found no association between overall satisfaction of the study participants and age, gender, educational level or type of service received. Also, Metwally (2014) found no relationship between level of satisfaction and gender, marital status or age. This discrepancy may be explained by the differences in sociodemographic characteristics of the participants in these studies, cultural differences, and the differences in the relationship between the local community and the health facility.

Regarding the satisfaction with the different health facilities, participants gave higher scores of satisfaction for the current FHU than the older PHC unit (80.5% and 35.7% respectively), a result supported by the findings of a similar World Bank study (2010). This result may refer, in part, to the notion that the process of transformation to the FHM requires implementation of some improvements such as training of the staff and infrastructure investment.

The implementation of the FHM in the PHC unit encompasses the adoption of the family medicine concept and family health care with its components such as the central role of the family medicine physician, effective referral system, intensive training for the staff, infrastructure investment, implementing the registration system for the families to keep the medical records in the family folder, the basic benefits package (BBP), and the co-payment mechanism. Most of the participants (90.4%) had a file in the unit with a statistical difference indicating that having a medical file is more among young age ($p<0.001$), females ($p=0.03$), married or previously being married ($p<0.001$), and working participants ($p=0.003$). The majority of the participants (91.5%) received their prescribed drugs partly from the unit and partly from outside pharmaceutical services. The same applied for the laboratory investigations, but with fewer clients (72.0%) needing to have their investigations supplemented by external providers. A breakdown of the components of services that clients were satisfied with shows that while there was high satisfaction with the fees (99.7%), types of services offered (95.8%), quality of services (93.8%), staff (90.1%) and drugs (87.3%), the least satisfying aspects were referral (34%), and equipment and supplies (39.7%) reflecting ineffective referral system and outdated or lack of equipment and supplies. Results of the other studies conducted in primary health care settings in Egypt since 2010 show comparable results with respect to types of services and staff (Gadallah *et al.*, 2010; El Gammal, 2014; Abd Allah *et al.*, 2012). While satisfaction with medication was high in this current study (87.3%) it has been more variable in the other studies with 63.7% satisfaction with the availability of drugs in the study by Gaddallah *et al.*, (2003) and only 25% satisfaction with the convenience of drugs in the MCH centers (Abd Allah *et al.*, 2012), Hussein and Eid (2014) found that (35-74%) of the participants in the study sites, which are two different cities and two different villages, are buying drugs from outside the units. Many factors affect the supply of medication to the PHC units, such as the MOHP budget allocation for medication, medication prices, the availability of locally produced drugs, and the availability of the foreign currency to import drugs. These factors, affecting the availability of drugs and subsequently participants' satisfaction, can vary considerably in each setting and during the time of implementation of these studies. Equipment gained a low satisfaction in the current study (39.7%) which is comparable with the result obtained by Metwally (2014) in the rural settings which is 43%, but less than the same study's result in the urban settings which is 78%.

In this current study, 93.8% of the participants said that they think family health unit services are accessible. There was no statistically significant difference between participants' groups regarding the satisfaction with the PHC/FHU accessibility. Nationally, 95% of the Egyptian population lives within 5 km from a health facility (MOHP, *et al.* 2005). Regarding services' fees, the participants of the current study gave the highest rate of satisfaction towards the fees (99.7%). This was the case with Gadallah *et al.*, (2003) and El Gammal (2014) where the satisfaction of fees was 93% and 97.9% respectively. Accessibility has been shown to differ across different countries: the study of Al Emadi *et al.*, (2009) concerning PHC units in Qatar showed a satisfaction score of 98.2%, while in Saudi Arabia, Salem (2010) has showed a satisfaction score of 64.5% for accessibility. This discrepancy reflects the differences between the local communities and the health care provision systems in these countries.

Participants' views regarding the quality of health services offered by the FHM was positive as 79.9% of the participants think that the FHU provides quality services. There is no significant difference among participants' sociodemographic groups regarding this result. Slightly less than half of the participants (45.6%) prefer getting health services at the FHU, mostly (33.8%) due to low costs. These participants tended to older ($p<0.001$), have less education ($p<0.001$), and more years of utilization ($p=0.008$). On the other hand, 63.5% of participants prefer getting health services at other settings, mostly (28.5%) due to better equipment. There is also statistical significant difference indicating that preferring getting service in other settings (NGO-affiliated or private) is more among young age ($p<0.001$), more education ($p<0.001$), unemployed status ($p=0.001$), less years of utilization ($p=0.003$).

The discrepancy between giving the PHC/FHU high quality score by most of participants and the choice of more than half of the participants other settings for getting health services could be explained by considering that, even if most of the participants express satisfaction with the unit, they also feel that it is used only for specific services: ANC, vaccinations and pediatrics. They therefore still the private and specialized settings for the other services.

Acceptability of the FHM among the participants of the current study is high at 88.3%. There was significant difference indicating higher score of acceptability with less education ($p<0.001$), being or have been married ($p=0.048$), and with working status ($p=0.005$). There is positive statistically significant correlation between acceptance, overall satisfaction ($r=.275$, $p<0.01$) and effectiveness of health services ($r=.242$, $p<0.01$). Also, there is negative statistically significant correlation between acceptance and educational level ($r=-.254$, $p<0.01$). The acceptance of the FHM in the current study is higher than that of Polluste *et al.* (2004) who measured the acceptability of the new family doctor based PHC system in Estonia and found 73% acceptance with, as the current study has showed, less acceptance with the higher education and more acceptance with the higher satisfaction. However, these comparisons should take into considerations the differences in settings, systems compared, methodologies and tools used.

In line with the different measures of satisfaction, participants' recommendations to improve the PHC/FHM included adding new services such as operations/labor room (50.7%), more specialties (38.0%), use of up-to-date technology in diagnosis (35.1%), and availability of ambulances (34.8%) which would improve referral. Surprisingly, recommendations to improve drugs were less prominent and ranked lower with better care (11.3%) and better clinical examination (10.8%). These recommendations support those obtained by Hussein and Eid (2014) in a study concerning the rural reformed PHC/FHM units in Menoufeya Governorate in Egypt, where the participants recommended availability of drugs at all times, more specialists, and availability of ultrasound and operation rooms. The top recommendations of the current study together with those of Hussein and Eid (2014) illustrate the participants' perspective towards the ways of improving the PHC/FHM facility which focus on high technology and technical aspects of the medical care rather than the principles of the PHC such as and the FHM. This suggests poor communication and disseminations of these concepts.

5.2. Limitations of this study

The cross sectional studies have limitations such as the difficulty in determination of the causal relationships. In addition, there may be a different situation if the cross

sectional study was implemented during a different timeframe (Levin, 2006). Studies concerned with patient satisfactions have also limitations such as being concerned with management agendas for health care, biased towards concerns of the health care providers rather than those of the patients and finally the patients are hardly involved in determination of the subjects included in the studies (Sitzia and Wood, 1997).

Moreover, there are limitations in using patients and not a representative community-based sample as this is limiting the chance of the contribution of the community members who did not use the service during the study timeframe which may cause selection bias. This was observed in the predominance of female participants in the current study as they, with their children, constitute the main utilizers of the PHC/FHU which has led to a weak representation of the male community members' perspective towards the different issues of the study.



Chapter 6. Conclusion and Recommendations

6.1. Conclusion

The FHM has achieved successes when implemented but encountered some difficulties that has limited the gains and interfered with some of its aspects.

The current study has shown that the FHU has gained a high score of satisfaction and acceptability by the study participants, although the awareness of the community members participated in the current study to the transformation of the health unit to FHU was low. The participants who prefer getting their health services at the PHC/FHU are the old, with less education and have more years of utilization of the unit services. While the participants prefer getting their health services at other settings are the young with more education and less years of utilization of the unit services.

Most of the study participants think that the FHU provides quality services. However, it is likely that the participants, who are mostly women, consider the health unit for specific health services only and, like men, prefer to use the non-governmental services for the rest of their health needs. In the same time, the participants asked for more specialized physicians and operation rooms, which is counter the principles of the PHC and FHM, which suggests poor communication and disseminations of these concepts.

6.2. Recommendations

Based on the results of the current study, the following recommendations could be drawn:

- In order to support the implementation of the family health model, the Primary Health Care and Family Health Model concepts should be continually communicated, disseminated and discussed among the local community members whether through the governmental or the non-governmental bodies.

- Engagement of the civil society with the studies and debates concerning the HSRP in Egypt and its components such as the FHM and the social health insurance system which will give different perspectives regarding the ongoing HSRP and help in better implementation.
- Development/activation of the PHC/FHU services to attract more utilizers, especially men, by giving more attention to men's health issues such as the chronic diseases, and by extending clinics' working times to the afternoon period so as to increase accessibility for men.
- Improving the referral system between the PHC/FHU and the other governmental health services, such as the district hospital, as it is an essential component of the FHM.
- The health authorities should guarantee continuous and timely supply of the PHC/FHU with the necessary equipment and drugs.
- The PHC/FHU authorities should seek for accrediting the unit which will require more investment in the different items of the unit in addition to training the staff, which, most probably, will lead to better quality of provided health care.
- Continuing implementation of patient satisfaction surveys, preferably at yearly basis by the unit authorities, to monitor the implementation and the improvement of the health services provided by the PHC/FHU.

Further recommended studies include implementation of large scale studies that include different types of health facilities, community members, in addition to the health services' providers in different settings that can include qualitative component, in order to gain more in-depth evaluation and explore other aspects of the process of implementation of the family health model.

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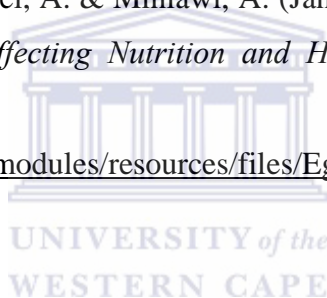
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Annex 1: Questionnaire

Respondent No.:					
Date:					
Personal Information/Demographic Data					
1. Name:					
2. Age:					
3. Sex:	Male <input type="checkbox"/>		Female <input type="checkbox"/>		
4. Education:	Illiterate (Do not read & write) <input type="checkbox"/>	Literate (Read and write) <input type="checkbox"/>	Primary/ Preparatory <input type="checkbox"/>	Secondary (Intermediate) <input type="checkbox"/>	University/ Higher <input type="checkbox"/>
5. Marital Status:		Single <input type="checkbox"/>	Married <input type="checkbox"/>	Divorced <input type="checkbox"/>	Widowed <input type="checkbox"/>
6. Work:	Employed <input type="checkbox"/>		Do not work <input type="checkbox"/>		
Awareness					
7. Have you dealt with the PHC/Family Health Unit before?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<i>If yes, please answer the following questions:</i>					
8. For approximate how many years have you been attending this facility?					
9. What kind of services have you received?			General practitioner <input type="checkbox"/>		ANC <input type="checkbox"/>
			Pediatric <input type="checkbox"/>	Vaccination <input type="checkbox"/>	
			Other <input type="checkbox"/> Specify		
10. Have you heard that the PHC unit has become a family health unit?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
11. What do you understand by this?					
12. Did you recognize any changes that had happened in the unit since this change (2008)/during the last few years?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
13. If yes: what changes have you recognized that they occurred?					
<input type="checkbox"/> Changes in the structure of the unit (e.g., renewing of the building, more clinics..) ...please mention					

<input type="checkbox"/> Changes in the facilities and equipment of the unit (e.g., more or modern equipment)...please mention		
<input type="checkbox"/> Changes in the components/package of the health services (e.g., more or less health services provided...please mention		
<input type="checkbox"/> Changes in the health personnel (e.g., more or less working personnel, better delivery of services..) . . . please mention		
<input type="checkbox"/> Changes in the quality of services (e.g., better or worse quality of services) . . . please mention		
<input type="checkbox"/> Changes in the drug prescription and dispensing (e.g., more or less medications dispensed from the unit, more or less fees...)...please mention		
<input type="checkbox"/> Changes in the laboratory services (e.g., more or less investigations, more or less fees...)...please mention		
<input type="checkbox"/> Changes in the user fees (e.g., more or less fees for the services)...please mention		
<input type="checkbox"/> Changes in the referral system (e.g., more effective referral system)...please mention		
<input type="checkbox"/> Other (specify)		

Satisfaction

Please rate whether, in your opinion, the following items of the PHC/Family Health unit since this change (2008)/during the last few years are satisfactory or not:

14. The structure/buildings of the unit	Satisfactory	Unsatisfactory	Do not Know	
15. The supplies and equipment	Satisfactory	Unsatisfactory	Do not Know	
16. The components/package of services	Satisfactory	Unsatisfactory	Do not Know	
17. The personnel	Satisfactory	Unsatisfactory	Do not Know	
18. The quality of services	Satisfactory	Unsatisfactory	Do not Know	
19. The drug prescription and dispensing	Satisfactory	Unsatisfactory	Do not Know	
20. The user fees	Satisfactory	Unsatisfactory	Do not Know	
21. The referral system	Satisfactory	Unsatisfactory	Do not Know	
Generally, what is your perception/satisfaction regarding the following:				
22. The old PHC unit	Satisfactory	Unsatisfactory	Do not Know	

23. The governmental health services in your village/area	Satisfactory	Unsatisfactory	Do not Know	
24. The governmental health services in general	Satisfactory	Unsatisfactory	Do not Know	
25. The other non-governmental health services (private/NGOs) in your village/area	Satisfactory	Unsatisfactory	Do not Know	
Implementation				
26. Does your family have a folder in the FHU?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
27. If yes: Does the FHU staff use your family folder when you or one of your family members visits the FHU?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
28. What about the prescribed medications:	All dispensed from the FHU <input type="checkbox"/>	Some from the unit and some from outside pharmacies <input type="checkbox"/>		
		All from outside pharmacies <input type="checkbox"/>		
29. Regarding the needed investigations	All performed at the FHU <input type="checkbox"/>	Some at the unit and some at the outside labs <input type="checkbox"/>		
		All at outside labs <input type="checkbox"/>		
30. Have you been referred before by the physician of the FHU? If yes: to where has he/she referred you? And did it work?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
Acceptability				
31. In your experience, do you feel that the accessibility of the services provided by the current FHU is acceptable?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
32. Are the fees for the services provided by the current FHU acceptable?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
33. Is the current FHU package of health services acceptable and adequate for your family needs?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
34. Is the quality of services provided by the current FHU acceptable?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
35. Is the referral system of the current FHU effective and acceptable?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
36. Are the medications prescribed by the current FHU physicians available at the unit and acceptable?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
37. What do you think regarding the accessibility of services provided by the PHC/FHU? Does it need modifications/suggestions for improvement?				

38. What do you think regarding the quality of health services provided by the PHC/FHU? Does it need modifications/suggestions for improvement?		
39. In case you or one of your family members need health services, do you prefer to have it at the PHC/FHU or at other facilities (private or NGO)? Please justify your answer		
<i>Recommendations</i>		
40. What would have improved your experience of the care you received at the PHC/FHU?		



Annex 2: Questionnaire (Arabic)

استمارة الاستبيان

رقم المشترك:				
التاريخ:				
البيانات الشخصية				
1. الاسم:				
2. العمر:				
3. النوع: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى				
4. التعليم: <input type="checkbox"/> لا يقرأ ولا يكتب <input type="checkbox"/> يقرأ ويكتب <input type="checkbox"/> ابتدائي / إعدادي <input type="checkbox"/> ثانوي <input type="checkbox"/> جامعي أو أعلى				
5. الحالة الاجتماعية: <input type="checkbox"/> أعزب <input type="checkbox"/> متزوج <input type="checkbox"/> مطلق <input type="checkbox"/> أرمل				
6. العمل: <input type="checkbox"/> يعمل <input type="checkbox"/> لا يعمل				
الوعي بالتغيير في الوحدة الصحية				
7. هل تلقيت خدمة صحية من وحدة الرعاية الصحية الأولية / وحدة طب الأسرة؟ <input type="checkbox"/> نعم <input type="checkbox"/> لا				
في حالة الإجابة بنعم، الرجاء إجابة الأسئلة التالية:				
8. لمدة كم من السنوات تتلقى خدمات صحية من هذه الوحدة؟				
9. ما نوع الخدمات الصحية التي تتلقاها من الوحدة؟				
<input type="checkbox"/> رعاية حمل <input type="checkbox"/> ممارسة عام <input type="checkbox"/> أطفال <input type="checkbox"/> تطعيمات <input type="checkbox"/> أخرى تذكر				
10. هل سمعت أن وحدة الرعاية الصحية الأولية قد أصبحت وحدة طب الأسرة؟ <input type="checkbox"/> نعم <input type="checkbox"/> لا				
11. ما الذي تفهمه من ذلك؟				
12. هل لاحظت أية تغييرات في الوحدة منذ حدوث هذا التغيير (2008) / أو خلال الأعوام القليلة الماضية؟ <input type="checkbox"/> نعم <input type="checkbox"/> لا				
13. في حالة الإجابة بنعم: ما هي التغييرات التي لاحظت حدوثها؟				
تغييرات في مباني الوحدة (مثل تجديد المبنى، أو إضافة عيادات جديدة . الخ) الرجاء ذكر هذه التغييرات				

		تغييرات في المعدات والأجهزة (مثل استخدام أجهزة حديثة) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في مجموعة أو أنواع الخدمات الصحية التي تقدمها الوحدة (مثل تقديم خدمات صحية أقل أو أكثر مما كان يقدم من قبل) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في العاملين بالوحدة (مثل زيادة أو نقصان عدد العاملين بالوحدة، أو أداء أفضل من العاملين) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في جودة الخدمات الصحية المقدمة من الوحدة (مثل تحسن أو سوء جودة الخدمات الصحية المقدمة من الوحدة) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في وصف وصرف الأدوية من الوحدة (مثل زيادة أو نقص الأدوية المنصرفة من الوحدة، أو دفع رسوم أكثر أو أقل) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في الخدمات المقدمة من معمل الوحدة (مثل عمل فحوصات أقل أو أكثر، أو دفع رسوم أكثر أو أقل) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في الرسوم في مقابل الحصول على الخدمة من الوحدة (دفع رسوم أكثر أو أقل) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات في نظام التحويل للخدمات الصحية الأخرى (مثل نظام تحويل أكثر كفاءة) <input type="checkbox"/> الرجاء ذكر هذه التغييرات		
		تغييرات أخرى <input type="checkbox"/> تذكر		
الرضى عن الوحدة الصحية				
الرجاء تقدير، من وجهة نظرك، ما إذا كانت بنود الوحدة الصحية التالية، منذ حدوث هذا التغيير (2008) / أو خلال السنوات الماضية، مرضية لك أم لا:				
14. مباني الوحدة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>	
15. المعدات والأجهزة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>	
16. مجموعة الخدمات الصحية المقدمة من الوحدة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>	

17. العاملون بالوحدة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
18. جودة الخدمات الصحية المقدمة من الوحدة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
19. وصف وصرف الأدوية	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
20. رسوم الخدمة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
21. نظام التحويل	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
بصفة عامة، ما هي وجهة نظرك فيما يلي:			
22. وحدة الرعاية الصحية الأولية القديمة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
23. الخدمات الصحية الحكومية في قرينك	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
24. الخدمات الصحية الحكومية عامة	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
25. الخدمات الصحية غير الحكومية الأخرى (الخاصة أو الجمعيات الأهلية) في قرينك	مرضي <input type="checkbox"/>	غير مرضي <input type="checkbox"/>	لا أعرف <input type="checkbox"/>
التنفيذ الفعلي لنموذج طب الأسرة			
26. هل لدى أسرتك ملف في وحدة طب الأسرة؟	نعم <input type="checkbox"/>	لا <input type="checkbox"/>	
27. في حالة الإجابة بنعم: هل يقوم العاملون بالوحدة باستخدام الملف عند قيامك أنت أو أحد أفراد أسرتك بزيارة الوحدة؟	نعم <input type="checkbox"/>	لا <input type="checkbox"/>	
28. كيف تحصل على الأدوية الموصوفة من الوحدة؟	يتم صرف بعض الأدوية من الوحدة والباقي من الصيدليات الخارجية <input type="checkbox"/> يتم شراء كل الأدوية الموصوفة من الصيدليات الخارجية <input type="checkbox"/>		
29. كيف تقوم بعمل التحاليل المطلوبة في معمل الوحدة والباقي في المعامل الخارجية؟	يتم عمل بعض التحاليل المطلوبة في معمل الوحدة والباقي في المعامل الخارجية <input type="checkbox"/> يتم عمل كل التحاليل المطلوبة في المعامل الخارجية <input type="checkbox"/>		
30. هل تم تحويلك إلى خدمة صحية أخرى (مستشفى مثلاً) بواسطة طبيب الوحدة؟	نعم <input type="checkbox"/>	لا <input type="checkbox"/>	
إذا كانت الإجابة بنعم: إلى أين تم تحويلك؟ وهل نجح التحويل؟			
القبول بنموذج طب الأسرة			
31. من واقع خبرتك في التعامل مع الوحدة، هل تعتقد أن الخدمات المقدمة من وحدة طب الأسرة مقبولة؟	نعم <input type="checkbox"/>	لا <input type="checkbox"/>	
32. هل الرسوم المطلوبة مقابل الخدمة المقدمة من وحدة طب الأسرة تعتبر مقبولة من الجميع؟	نعم <input type="checkbox"/>	لا <input type="checkbox"/>	

	<input type="checkbox"/> لا	<input type="checkbox"/> نعم	33. هل مجموعة الخدمات المقدمة من وحدة طب الأسرة مقبولة وتلبي احتياجات أسرته؟
	<input type="checkbox"/> لا	<input type="checkbox"/> نعم	34. هل الخدمات المقدمة من الوحدة ذات جودة مقبولة؟
	<input type="checkbox"/> لا	<input type="checkbox"/> نعم	35. هل نظام التحويل من وحدة طب الأسرة إلى الخدمات الصحية الأخرى يعتبر نظاماً فعالاً ومقبولاً؟
	<input type="checkbox"/> لا	<input type="checkbox"/> نعم	36. هل الأدوية التي قام طبيب الوحدة بوصفها متوافرة بالوحدة ومقبولة؟
			37. ما الذي تعتقده فيما يخص إتاحة الخدمات المقدمة بواسطة وحدة طب الأسرة؟ هل تحتاج إلى تعديل/مقترحات للتحسين؟
			38. ما الذي تعتقده فيما يخص جودة الخدمات المقدمة من وحدة طب الأسرة؟ هل تحتاج إلى تعديل/مقترحات للتحسين؟
			39. في حالة ما إذا احتجت أنت أو أحد أفراد أسرته خدمة صحية، هل تفضل الذهاب إلى وحدة طب الأسرة أم إلى خدمات صحية أخرى (خاصة أو تتبع جمعيات أهلية)؟ الرجاء الشرح وذكر الأسباب
التوصيات			
			40. ما الذي كان يمكن أن يجعل تجربة حصولك على الخدمة الصحية من وحدة طب الأسرة أفضل؟

Appendix 3: Participant Information Sheet



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Tel: 021- 959 2809, Fax: 021- 959 2872

INFORMATION SHEET

Project Title: The acceptability of the Family Health Model, that replaces Primary Health Care, as currently implemented in Wardan Village, Giza, Egypt

What is this study about?

This is a research project being conducted by Yasser Ebeid at the University of the Western Cape. We are inviting you to participate in this research project because you are one of Wardan Village adult inhabitants. The purpose of this research project is to determine the acceptability of the Family Health Model, which replaces Primary Health Care, as currently implemented in Wardan Village in order to understand the community perception toward this transformation and the newly implemented model.

What will I be asked to do if I agree to participate?

You will be asked to answer some questions concerning some personal information, awareness regarding the ongoing transformation process, the perception toward this process, the implementation of the Family Health Model, the acceptability and the recommendations for improving the health services. Each interview will last approximately 10-15 minutes. All the information collected will be treated with

respect and will be used to support dialogue on how to improve the services at the Family Health Unit.

Would my participation in this study be kept confidential?

Your personal information will be kept confidential. To protect your confidentiality, we will keep identities of the participants confidential; the questionnaires will be marked by a unique identifier number.

If we write a report or article about this research project, your identity will be fully protected.

What are the risks of this research?

There may be potential mild harm that might affect respondents such as taking up their time, inconveniencing them or causing distress. If this happens, the research assistants will refer the affected respondents to health and psychological counseling at the Egyptian Association for Collective Rights.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about the acceptability of the Family Health Model, which replaces Primary Health Care, as currently implemented in Wardan Village. We hope that, in the future, other people might benefit from this study through improved understanding of the community perception toward this transformation process and the newly implemented model which will support the dialogue on how to improve the services at the Family Health Unit.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

If the questions cause any distress, the research assistants will refer to health and psychological counseling at the Egyptian Association for Collective Rights.

What if I have questions?

This research is being conducted by Dr. Yasser Ebeid, School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact Dr. Yasser Ebeid at: the Egyptian Association for Collective Rights, Wardan Village, Imbaba District, Giza Governorate, Tel: 01221493192, email: y_ebeid@yahoo.com.

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Director:

Prof Helene Schneider
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Dean of the Faculty of Community and Health Sciences:

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This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.



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استمارة المعلومات الخاصة بالدراسة

عنوان الدراسة: مدى القبول بنموذج طب الأسرة الذي حل محل نموذج الرعاية الصحية الأولية كما هو مطبق في قرية وردان، الجيزة، مصر



ما هي هذه الدراسة؟

هي مشروع بحثي يجريه ياسر عبيد ويتبع جامعة الكاب الغربية بجنوب أفريقيا. نحن ندعوك للمشاركة في هذا المشروع البحثي لأنك أحد السكان البالغين في قرية وردان. والغرض من هذا المشروع البحثي هو تحديد مدى قبول نموذج طب الأسرة، الذي حل محل الرعاية الصحية الأولية، كما ينفذ حاليا في قرية وردان من أجل فهم مدى رضى المجتمع نحو هذا التحول ونحو النموذج الجديد الذي يتم تنفيذه.

ما الذي يمكن أن يطلب مني القيام به إذا أنا وافقت على المشاركة؟

سوف يطلب منك أن تجيب على بعض الأسئلة المتعلقة ببعض المعلومات الشخصية، والوعي فيما يتعلق بعملية التحول الجارية، والرضى تجاه هذه العملية، ورأيك في تنفيذ نموذج طب الأسرة، والقبول بالنموذج الجديد، والتوصيات لتحسين الخدمات الصحية المقدمة. كل مقابلة سوف تدوم حوالي 10-15 دقيقة. سيتم التعامل مع جميع المعلومات التي تم جمعها بكل الاحترام، وسيتم استخدامها لدعم الحوار حول كيفية تحسين الخدمات في وحدة طب الأسرة.

هل ستبقى مشاركتي في هذه الدراسة سرية؟

سيتم الاحتفاظ بالمعلومات الشخصية الخاصة بك سرية. ولحماية خصوصيتك، سوف تكون هويات المشاركين سرية. سوف يتم تعريف الاستبيانات عن طريق أكواد رقمية. وفي حالة كتابة تقرير أو مقالة حول هذا المشروع البحثي، فإن الهوية الخاصة بك سوف تكون محمية بشكل كامل.

ما هي مخاطر هذا البحث؟

قد يكون هناك ضرر محتمل خفيف والذي قد يؤثر على المشاركين مثل شغل وقتهم، أو التسبب في بعض الإزعاج أو الضيق. إذا حدث هذا، فإن مساعدتي البحث سوف يقومون بتحويل المشاركين المتضررين للاستشارة الصحية والنفسية في الجمعية المصرية للحقوق الجماعية.

ما هي فوائد هذا البحث؟

لم يتم تصميم هذا البحث لمساعدتك شخصياً، ولكن النتائج قد تساعد الباحث على معرفة المزيد حول مدى قبول نموذج طب الأسرة، الذي يحل محل الرعاية الصحية الأولية، كما ينفذ حالياً في قرية وردان. كما نأمل أنه، في المستقبل، قد يستفيد أشخاص آخرون من هذه الدراسة من خلال تحسين فهم مدى رضى المجتمع تجاه عملية التحول هذه، ونحو النموذج الجديد الذي يتم تنفيذه، الأمر الذي سوف يدعم الحوار حول كيفية تحسين الخدمات في وحدة طب الأسرة.

هل يجب أن أكون مشاركاً في هذا البحث، وهل يمكن أن أتوقف عن المشاركة في أي وقت؟

مشاركتكم في هذا البحث هي طوعية تماماً. ومن الممكن أن تختار عدم المشاركة على الإطلاق. إذا قررت المشاركة في هذا البحث، من الممكن أن تتوقف عن المشاركة في أي وقت. إذا قررت عدم المشاركة في هذه الدراسة أو إذا توقفت عن المشاركة في أي وقت، سوف لا يتم إلحاق الضرر بك، ولن تفقد أي من المزايا التي كنت مؤهلاً لها.

هل تتوفر المساعدة في حالة ما إذا تأثرت سلباً من خلال المشاركة في هذه الدراسة؟

إذا كانت الأسئلة تسبب أي إزعاج، فإن مساعدتي البحث سوف يقومون بتحويل المشاركين المتضررين للاستشارة الصحية والنفسية في الجمعية المصرية للحقوق الجماعية.

ماذا لو كان لدي أسئلة؟

يجري هذا البحث الدكتور ياسر عبيد، كلية الصحة العامة في جامعة الكاب الغربية بجنوب أفريقيا. إذا كان لديك أي أسئلة حول الدراسة البحثية نفسها، يرجى الاتصال بالدكتور ياسر عبيد في: الجمعية المصرية للحقوق الجماعية، قرية وردان، منطقة إمبابة بمحافظة الجيزة، هاتف: 01221493192 أو البريد الإلكتروني: y_ebeid@yahoo.com

إذا كان لديك أي أسئلة بخصوص هذه الدراسة وحقوقك كمشارك في البحث أو إذا كنت ترغب في الإبلاغ عن أي مشاكل لديك ذات الصلة بالدراسة، يرجى الاتصال ب:

مدير قسم الصحة العامة:

البروفيسور هيلين شنايدر

Director:

Prof Helene Schneider

School of Public Health

University of the Western Cape

Private Bag X17

Bellville 7535

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عميد كلية العلوم الصحية والمجتمع:

البروفيسور خوسيه فرانتر

Dean of the Faculty of Community and Health Sciences:

Prof Jose Frantz

University of the Western Cape

Private Bag X17

Bellville 7535

jfrantz@uwc.ac.za



UNIVERSITY of the

تمت الموافقة على هذا البحث من قبل اللجنة العليا للبحوث ولجنة أخلاق البحوث التابعة لجامعة الكاب الغربية
بجنوب أفريقيا.

Appendix 5: Informed Consent



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School of Public Health

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Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

Consent Form

The acceptability of the Family Health Model, that replaces Primary Health Care, as
currently implemented in Wardan Village, Giza, Egypt

Participant's agreement

I have been informed about the purpose of the study, and what my participation involves. I also understand that I can withdraw from the study at any time, without having to give a reason and that the study is voluntary. I also understand that my name will not be used in any reports. I understand that I will be treated with respect and that the information I provide will be used respectively for research purposes and health services improvement.

Researcher's agreement

I shall treat you and all the information collected during the research with respect. Your name will not be used in any reports. The contents will be used for the purposes referred to above, but may be used for published or unpublished research at a later stage without further consent. Any change from this agreement will be renegotiated with you. (Yasser Ebeid, Tel/Fax: 01221493192, email: y_ebeid@yahoo.com)

Participant's Signature: _____ Date: _____

Interviewer's Signature: _____ Date: _____

Appendix 6: Informed Consent (Arabic)



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Africa
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استمارة القبول بالمشاركة في دراسة:

مدى القبول بنموذج طب الأسرة، الذي حل محل الرعاية الصحية الأساسية، كما هو مطبق حالياً في قرية وردان بالجيزة

موافقة المشارك

لقد تم إخباري بالغرض من الدراسة وما الذي ستتضمنه مشاركتي فيها. كما أنني على علم بأن المشاركة في الدراسة هي مشاركة تطوعية، وأني يمكن أن أنسحب من الدراسة في أي وقت دون إعطاء أسباب. كما أنني أيضاً على دراية بأن اسمي لن يستخدم في أية تقارير عن الدراسة. أيضاً فإنني أفهم أنه ستم معاملتي باحترام، وأن جميع الآراء والمعلومات التي أدلي بها سوف يتم استخدامها في الأغراض البحثية، ومن أجل تحسين الخدمات الصحية.

موافقة الباحث

سوف أقوم بالتعامل معك ومع كل الآراء والمعلومات التي سوف يتم جمعها خلال تلك الدراسة بكل احترام. لن يتم استخدام اسمك في أية تقارير عن الدراسة. سوف يتم استخدام محتويات الدراسة في الأغراض المذكورة سابقاً. قد يتم استخدام محتويات الدراسة من أجل عمل أبحاث في وقت لاحق يتم أو لا يتم نشرها، وذلك من دون الحصول على موافقة أخرى على ذلك. أية تغييرات على هذا الاتفاق سوف تتم بعد الاتفاق معك. (د. ياسر عبيد. تليفون: 01221493192 بريد إلكتروني: y_ebeid@yahoo.com).

توقيع المشارك: _____ التاريخ: _____

توقيع الباحث: _____ التاريخ: _____