

Quality of Primary Health Care Services Within The Framework of The National Accreditation Program

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Abstract: Accreditation program (AP) has the objective of supporting the quality of primary health care (PHC) services, within the Health Sector Reform/family medicine (FM) domain. Accreditation program is implemented in Family Health Units that represent a shift from fragmented vertical PHC services, into comprehensive, integrated and continuous services. In 2000, AP has been initiated in Egypt in selected primary health care facilities. The study aims at identification of strengths and challenges regarding the quality standards of resources and process as well as efficiency (output) of the accredited versus non-accredited rural facilities. The study is an operations research quasi-experimental/ time series analysis- test and control group design. A convenient sample of three accredited family health units (AFHUs) and a control group of three non-accredited rural health units (NRHUs) located in a purposively selected health district in 6th October governorate. Observation quality checklist (2007 & 2008) and spread sheet to report service statistics data 2005-2008 had been used. Quality standards as well as PHC services output indicators had been calculated. Findings showed that AFHUs achieved 81% of the standard quality score versus 79% for the NRHUs. Output indicators delineated non-observed differences in service efficiency regarding immunization, maternal care services and family planning. There are remaining challenges in both types of facilities related to antenatal and postnatal care. It is concluded that both the AFHUs and NRHUs are working according to vertical program momentum, with limited response to the quality dimension related to the continuity of care.

Key words: Primary health care, accreditation, quality, Health sector reform, continuity of care, operations research

INTRODUCTION

Egypt has extensive network of Primary Health Care (PHC) facilities in both urban and rural areas, with great concern to provide all people with quality PHC services (MOHP, 1997). In Egypt, PHC has demonstrated success in achieving improvements in health status indicators, due to the introduction of different quality vertical programs/projects (El-Zanaty *et al.*, 2006). To maximize the use of the country and community resources, personnel, equipment and supplies; accreditation program began in Egypt in 2000, as an important component of health sector reform (HSR) to provide more comprehensive health services in the PHC facilities and then it expanded to hospitals (MOHP, 2002).

Health care organization accreditation is an independent comprehensive systematic and periodic assessment of all the aspects of patient care in a health care organization to verify that they meet a set of core predetermined standards designed to improve the quality of care (Rafah N., 2001) Thus, the Ministry of Health and Population (MOHP) has direct responsibility for setting standards, coordinating and monitoring the accreditation activities (MOHP, 2002).

While the current health reform - accreditation program is expanding to cover PHC facilities, reliable health system research studies are urgently needed. This to answer whether the accredited PHC facilities has demonstrated positive changes in quality of PHC services compared with the non-accredited facilities to detect the learned lessons for continuous upgrading the accreditation program.

Study Objectives:

The study aims at assessment of the differences in resources, management of resources (process) and output of the accredited PHC facilities versus the non-accredited facilities before and after the implementation of the accreditation program.

Methodology:

Hypothesis:

Accredited PHC facilities compared with non-accredited facilities fulfill the quality standards indicated by availability of resources and proper management of resources as well as could show progressive improvement in service output over time.

Study Setting:

Rural health units in one of the health districts located in 6th October governorate

Study Design:

The study is an operations research study, post-intervention evaluation, quasi-experimental using time series design technique for test and control groups.

Sample Size and Sampling Technique:

One health district in 6th October governorate had been selected randomly. A convenient sample of three accredited rural family health units (ARFHUs) that have been included in the accreditation program in 2006 represented the study group. A control group included three non-accredited rural health units (NRHUs), but located in the same district and have a similar size of population served as the study group.

Data Collection:

The data collection instruments included observation quality checklist and spread sheet for recoding service PHC statistics covering the period 2005-2008. The service statistics for year 2005 represented the situation before implementation of the accreditation program. The information derived from the observation checklist and service statistic after 2005 represents the situation overtime after implementation of the accreditation program.

The observation checklist was used to estimate and compare the commitment of the six studied rural health units to the required quality standards. This checklist was prepared and tested by the research team with reference to MOHP, 1998 and El-Zanaty *et al.*, 2005. Certain modifications were done to suit the purpose of the study. the checklist is composed of 265 elements focusing on health services resources, health unit work environment, infection control, laboratory services, pharmacy services, outpatient services, referral services, ANC and postnatal care services, natal care services, FP services, well-baby care services (WBCS), sick-baby care services, immunization services and health office services. The sum score of this list totaled 265.

Data Analysis:

The quality checklist data 2007 and 2008 were entered into the computer excel program. Simple statistics were used to calculate the percent achievement of the total quality scores and service item scores (14 items). The spread sheet data 2005-2008 had been submitted to mathematical calculation of some crucial service output indicators particularly those related to the Basic Benefit Package services. These indicators were 31 (5 for ANC, natal and postnatal care services, 3 for FP services, 6 for immunization services, 6 for sick-baby care services, 4 for WBCS and 7 for referral services).

Ethical Considerations:

The study proposal and data collection instruments had been revised and approved by the staff members in National Research Center and Public Health Department, Faculty of Medicine, Cairo University, as well as the MOHP at the central level, health directorate and health district. Consent from service providers was received for allowing the investigators to complete the checklist and spread sheet for the service statistics output.

Results:

Table (1) illustrates the average percent achievement of the standard quality score value for three *ARFHUs* versus three *NRHUs* in 2007 and 2008. As depicted from the table the *ARFHUs* had higher percent achievement in the total quality score (81%), than *NRHUs* (77% in 2007 and 79% in 2008) and continued this level of achievement throughout 2007-2008. Yet, the *ARFHUs* quality level exceeds the *NRHUs* by only two percent points. For the *ARFHUs* quality items could be categorized into three groups according to potential for improvement over time: first group of service items that has positive potential for improvement e.g. lab services, second group of services that have challenges for continuous improvement e.g. pharmacy services and third group that has static level of quality as those related to maternal and child health. It is obvious also that service items included in vertical programs as family planning, had achieved 100% score in the *NRHUs* versus 97% in the *ARFHUs*. The quality of the Well-baby care services level in the *NRHUs* exceeded that in the *AFHUs* by twelve percent points. The quality of the immunization services was kept overtime at 94% for both the accredited and non-accredited facilities. Fulfillment the quality of the referral regarding the protocol including

criteria of referral, facilities for referral and follow up of referred cases was achieved by 80% in the AFHUs versus 73% of the NRHUs in 2008.

It is obvious from the table that, despite the quality score of the accredited facilities was 81% in 2007, there was no initiatives to improve the quality score in year 2008, which remained at the same level of 81%.

Table 1: The average percent achievement of the standard quality score value for three ARFHUs versus three NRHUs in 2007 and 2008.

| Service Item | The standard checklist score value | The percent achieved score values of the ARFHUs | | The percent achieved score values of the NRHUs | |
|--|------------------------------------|---|---------|--|---------|
| | | In 2007 | In 2008 | In 2007 | In 2008 |
| | | % | % | % | % |
| 1- Health Services Resources | 16 | 67.0 | 63.0 | 48.0 | 48.0 |
| 2- Health Unit Work Environment | 12 | 89.0 | 92.0 | 72.0 | 75.0 |
| 3- Infection Control | 11 | 91.0 | 91.0 | 91.0 | 88.0 |
| 4- Laboratory Services | 38 | 70.0 | 74.0 | 71.0 | 72.0 |
| 5- Pharmacy Services | 34 | 65.0 | 59.0 | 66.0 | 65.0 |
| 6- Outpatient Services | 7 | 91.0 | 91.0 | 71.0 | 81.0 |
| 7- Referral Services | 15 | 78.0 | 80.0 | 78.0 | 73.0 |
| 8- Antenatal and Postnatal Care Services | 28 | 96.0 | 96.0 | 87.0 | 91.0 |
| 9- Natal Care Services | 13 | 82.0 | 82.0 | 62.0 | 77.0 |
| 10- Family Planning Services | 13 | 97.0 | 97.0 | 100.0 | 100.0 |
| 11- Well-baby Care Services | 9 | 70.0 | 70.0 | 82.0 | 82.0 |
| 12- Sick-baby Care Services | 8 | 96.0 | 96.0 | 88.0 | 88.0 |
| 13- Immunization Services | 39 | 94.0 | 94.0 | 94.0 | 94.0 |
| 14- Health Office Services | 22 | 74.0 | 74.0 | 77.0 | 77.0 |
| Total Score | 265 | 81.0 | 81.0 | 77.0 | 79.0 |

Figure (1) shows that in both the ARFHU and NRHUs the physician serves more than 2000 families and the nurse serves more than 700 families, on the average.

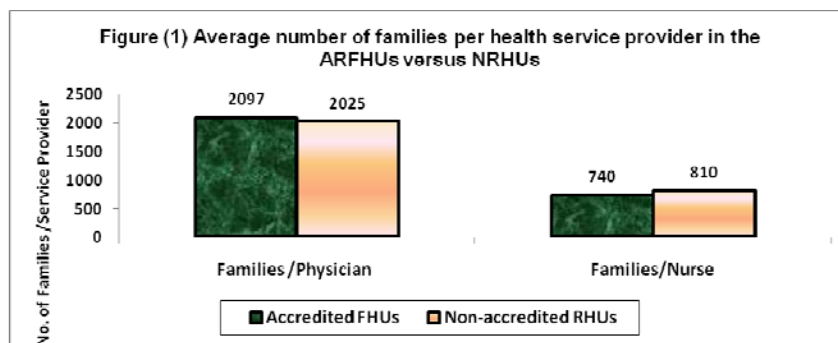


Fig. 1: Average number of families per health service provider in the ARFHUs versus NRHUs.

Table (2) shows that, throughout the period 2005-2008, both the accredited and the non-accredited facilities succeeded in achieving complete (100%) coverage with seven compulsory vaccinates to infants. However, there was a tendency for reporting decrease in the percent coverage of mothers with Tetanus Toxoid (TT) vaccine), in the AFHUs and NRHUs.

Figure (2) delineates information about the trend in utilization pattern of the antenatal care (ANC) services in the AFHUs and NRHUs. The indicator used is ANC represents the ratio between the numbers of mothers registered for ANC services in a certain time period to the number of live births within the catchment area of the health facility in the same time period. This indicator is a proxy indicator to percent of births whose mothers received ANC in a certain time period. As depicted from the figure, throughout 4 years 2005-2008, the trend in ANC coverage was decreasing in both AFHUs and NRHUs from 100% to less than 70%.

The trend in the average number of postpartum home visits conducted by the PHC facility nurse per birth within the catchment area of the AFHUs and NRHUs 2005-2008 is illustrated in Figure (3). It is obvious from the trend line that efficiency of NRHUs postpartum home visits is increasing, but it shows decrease in case of AFHUs.

The performance of PHC facilities in well-baby care services (WBCS) as growth monitoring of infants is illustrated in figure (4). The indicator used is the percent of infants who have child file with recoded growth monitoring curve to total live births in the same year and within the catchment areas of the ARFHUs and NRHUs. It is noticeable from the figure that NRHUs reported higher level of achievement during 2007-2008 and reach to 96% coverage for well-baby care services in 2008. The improvement of performance of ARFHUs was only during 2008, with 80% level of well-baby care coverage.

Table 2: Immunization services output indicators in the ARFHUs versus NRHUs (2005 - 2008).

| Immunization Coverage Indicators | 2005 | 2006 | 2007 | 2008 |
|--|-------|-------|-------|-------|
| | % | % | % | % |
| 1- Coverage of pregnant mothers with tetanus toxoid | | | | |
| • ARFHUs | 74.0 | 58.0 | 44.0 | 38.0 |
| • NRHUs | NA | 59.0 | 65.0 | 30.0 |
| 2- Coverage of infants in the first three months of life with BCG vaccine | | | | |
| • ARFHUs | 109.0 | 99.0 | 105.0 | 102.0 |
| • NRHUs | NA | 113.0 | 110.0 | 104.0 |
| 3- Coverage of infants at 2 nd , 4 th and 6 th months of life with DPT vaccine | | | | |
| • ARFHUs | 99.0 | 102.0 | 98.0 | 100.0 |
| • NRHUs | NA | 100.0 | 106.0 | 102.0 |
| 4- Coverage of infants at 2 nd , 4 th and 6 th months of life with HB vaccine | | | | |
| • ARFHUs | 99.0 | 102.0 | 98.0 | 100.0 |
| • NRHUs | NA | 100.0 | 106.0 | 102.0 |
| 5- Coverage of infants at 2 nd , 4 th and 6 th months of life with oral Polio vaccine | | | | |
| • ARFHUs | 123.0 | 100.0 | 94.0 | 104.0 |
| • NRHUs | NA | 98.0 | 102.0 | 99.0 |
| 6- Coverage of infants 9-12 months of life with Measles vaccine | | | | |
| • ARFHUs | 123.0 | 100.0 | 94.0 | 103.0 |
| • NRHUs | NA | 98.0 | 102.0 | 98.0 |

NA: not available.

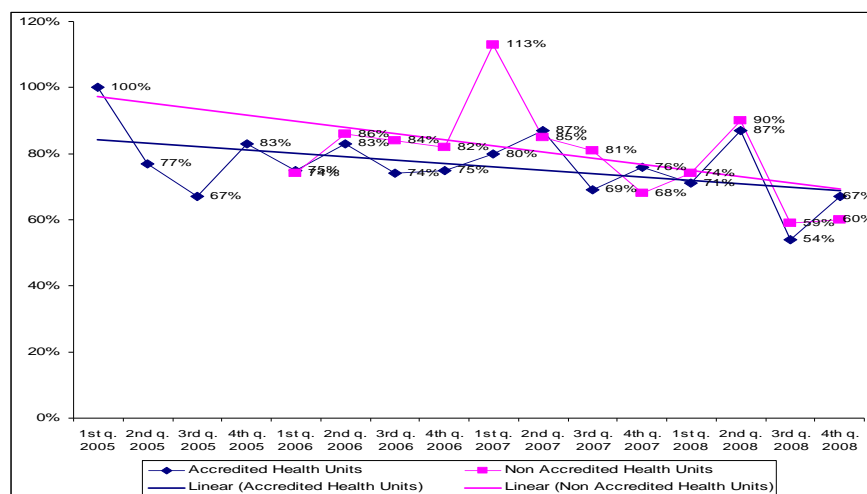


Fig. 2: Trend in ANC coverage rate in the ARFHUs versus NRHUs (2005 - 2008).

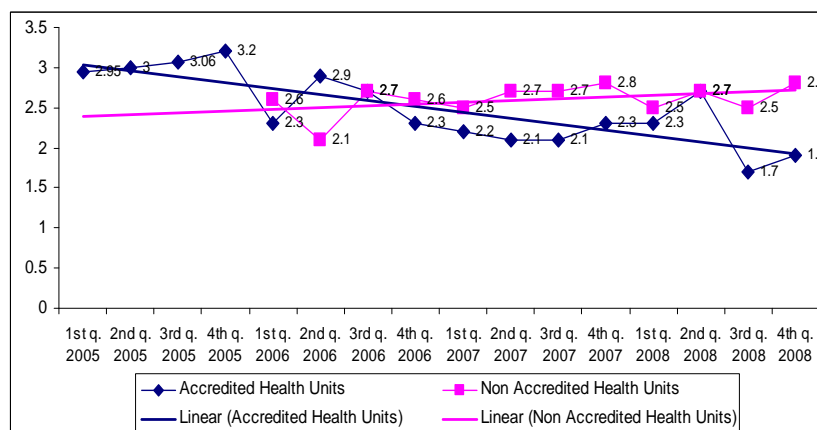


Fig. 3: Average number of postpartum home visits/ live birth in the ARFHUs versus NRHUs (2005 - 2008).

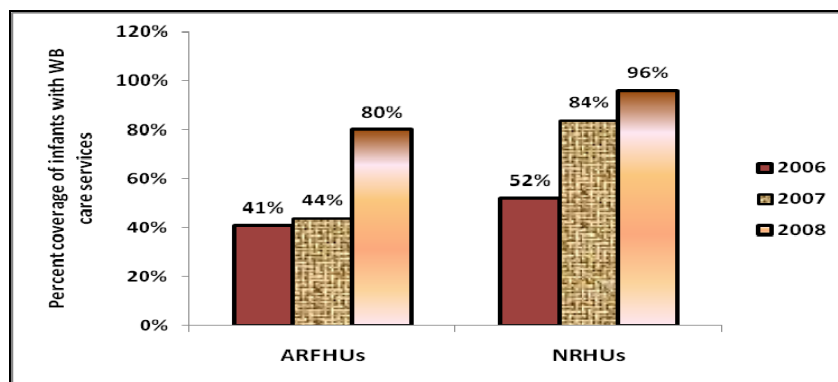


Fig. 4: Percent coverage of infants with WBCS in the ARFHUs versus NRHUs (2006 - 2008).

Discussion:

The study addresses very important issues in the strategies of health systems reform, which adopt accreditation of health facilities for continuous quality improvement. Such reform is confronted with the transition from PHC-fragmented vertical programs into integrated, comprehensive family-oriented programs. Despite the study describes the situation in health facilities, they reflect policy and programmatic issues related to PHC services. The findings reflect almost no change in performance after accreditation and there is no sensible difference between accredited and non-accredited facilities. Such situation could be generalized for almost of the PHC facilities included in the health reform program (El-Zanaty *et al.*, 2008). The issue of transition not only influenced the health facilities included in the accreditation program, but also the non-accredited facilities which did not yet reached the self-reliance after phasing out of the foreign financial support of the vertical programs (El-Zanaty *et al.*, 2008 and Abdel-Razik M.S. *et al.*, 2008). Such situation has its negative impact on the PHC outcome indicators as demonstrated by EDHS 2005 and 2008. The Egypt Demographic and Health Survey (EDHS), 2005 and 2008 (El-Zanaty *et al.*, 2008 and Abdel-Razik M.S. *et al.*, 2008) document showed that Family Planning (FP) program did not show any progress between 2005 and 2008 with contraceptive prevalence rates were 59.2% in 2005 and 60.3% in 2008 (MOHP, 1998). The contribution of the governmental health sector as a source of FP method did not show much changes i.e. 62% in 2005 and 60% in 2008. The National Population Council, declared that the crude birth rate had increased from 25.5/1000 population in 2005 to be 25.8/1000 in 2006. Additionally, the contraceptive coverage rate had shown decrease from 56% in 2002 to be 53% in 2007. This decrease in contraceptive coverage rate was obvious in the Health Sector Reform Program (HSRP) pilot governorates (Abdel-Razik M.S. *et al.*, 2008)

The observed decrease in the maternal service output in the studied facilities could explain the situation of the outcome indicators at the national level. Despite the minimal increase in the percent of births five years prior to the EDHS, whose mothers received ANC from 70% in 2005 (El-Zanaty *et al.*, 2008) to 74% in 2008 (Abdel-Razik M.S., *et al.*, 2008), the percent contribution of the governmental health sector had shown decrease from 22% to 19% and continuation of the private practice sector to have the upper hand in this service to be 48% and 55% for the corresponding periods. Despite the increase in the percent of deliveries conducted in health facilities from 65% in 2005 to 72% in 2008, the governmental health sector contribution was minimum as reported as 25% in 2005 and 27% in 2008 (El-Zanaty *et al.*, 2005 and EDHS, 2008).

The indicator that reflects lack of integrated services at the studied PHC facilities was the gap between the percent of mothers received TT (less than 40%) and the percent of mothers received ANC services (more than 60%). The reverse is observed at the community level. Although the appreciable contribution of the governmental health sector in coverage of the pregnant women with TT immunization, more than 70% versus less than 10% contribution of the private sector, the governmental sector failed to ensure cross referral between PHC services i.e. immunization, ANC and natal care (El-Zanaty *et al.*, 2005 and EDHS, 2008). EDHS survey in 2005 and 2008 affirmed that less than 5% of women who received TT are told about ANC.

Post natal care is a weak point in maternal care services. Only 30% of mothers had received post natal care (EDHS 2008). This problem has different facets as reported by El-Rafie *et al.*, 2002. The current study showed that accreditation did not submit a practical solution to the shortage in postnatal care home visits. This could be interpreted as failure of establishing continuity of care for those receiving ANC in the same facility.

The Ministry of Health and Population (MOHP) and United Nations Fund for Population Agency (UNFPA), (2008) study of the impact of the Family Practice Model (FPM) on utilization of PHC/ Reproductive Health (RH) services had shown “no change” in utilization pattern and there are challenges within the management system at both district and facility level to keep sustainable financial and institutional support to quality PHC services (El-Zanaty *et al.*, 2008).

The current study provided a keystone to portray quantitatively the comparison between the ARFHUs and NRHUs regarding the quality of services. This comparison has been focused towards observation of quality standards guided by the checklist (total 265 items) and utilization pattern/ service statistics. Such methodological approach is dealing with the issue concerned with “introduction, injecting, upgrading” of the currently working PHC facilities, with the HSRP-accreditation strategies, to measure the ability of such strategies to “make a difference” or “change” at the operational level. However, having the accredited facilities with less than 100% quality score for two consecutive years (2007 and 2008) indicates inability of the accreditation program to have dynamic response to quality assurance and its negative impact on utilization pattern of the PHC facilities in rural areas.

The study findings is going in accordance with (El-Zanaty *et al.*, 2006) document, as the current study proved that health services resources and pharmacy services were the two unique checklist components that achieved the lowest score values in the checklist.

The strategy of motivating facilities to get accreditation, without enough financial support, creates unfair opportunities for different facilities. Facilities, which have good infrastructure, have more chance to be accredited. Consequently, if the MOH is planning to achieve accreditation to all PHC facilities, the ones which have good infrastructure will join the program and the hard core-facilities with unfavorable situation continue to be a challenge. (El-Zanaty *et al.*, 2008) document found that one of the pilot FHM facility in Alex had achieved accreditation early in the project, but lost accreditation within few years due to collapse of the health facility’s building.

Unexpectedly, the current study showed that though not yet accredited and though having relatively less resources, the percent average achieved score values of the NRHUs, were close to those of the ARFHUs in half of the fourteen components of the standard checklist used. These seven components included FP, immunization, health office, Lab., infection control, pharmacy and referral services. This situation contradicts what is documented in the MOHP-HSRP documents e.g. satisfying the accredited facilities with essential drugs. It could be observed from the document published by (MOHP, 2004) that HSRP policies and regulations include the availability of the essential drug list (EDL) where medications should be available at both the Family Health Units (FHUs) in a continuous basis. Seventy eight types of drugs at the FHU level could cover the need to provide different health services. Additionally, Gaumer and Rafah, 2005 document mentioned that according to HSRP, facilities will need re-accreditation every two years, which is important for those facilities to guarantee their client flow and increase their incentives through maintaining their contract with the Family Health Fund (FHF). This will guarantee at least a minimum threshold quality of service delivery and it provides an incentive for improvement. The FHUs have to send to FHF the money they collect (enrollment fees and co-payments). The FHF would return 40 percent to the FHU for supplies, special equipment for continuous quality improvement. The remaining 60 percent would be retained by FHF for provider payments as incentives.

The HSRP assume that accreditation, being a continuous quality improvement intervention, could increase the number/ volume of PHC services and consequently increase the health facility revenue. However, the study provided information that contradicts this hypothesis. Service statistics had shown that, there is no difference in the utilization pattern of ARFHUs and NRHUs. Studies conducted in Egypt (MOHP, 2005-a) showed that there is an open-ended market-based system and the MOH facilities, which represent the governmental sector has fixed quota/ segment of clients to be served irrespective to interventions to improve quality through accreditation. For example expenditure on health is distributed as governmental (35%), households (51%), Health Insurance Organization (HIO) (6%), firms (5%) and donors (3%) according to 1995/96 and 2001 expenditure surveys (MOHP, 2005-b).

The regulations set by HSRP, did not show specific impact on the accredited facilities. The fluctuation in the ANC coverage that could reach 100% indicates that both the ARFHUs and NRHUs have the potential to cover all pregnant women- within the catchment area- with ANC services. However, this efficiency level was not maintained. There is decline in the average number of postpartum home visits/ birth from three visits to two visits.

The study concluded that the transition from primary health care-fragmented vertical programs into integrated FPM/ accreditation programs, has not demonstrated substantial positive impact on the quality of PHC services.

Strengths of the study is related to focusing on the health services in the rural area, which a priority area for Egypt to ensure equity and equality to access to quality PHC services. The study had used two important sources of data that are related to each other: the quality standard as derived from the checklist and service output. Accordingly, the study provided evidence that having high score in the quality item could have positive impact in increasing the utilization of service e.g. well-baby care in NRHUs. Additionally, using proxy indicator (derived from services statistics), that could be compared with the outcome indicators (derived from community-based surveys) at the national level. This approach helps out in prediction of health programs’ performance at the operational level for timely decision making. Discussion of the findings had considered similar studies conducted in Egypt that came to the same conclusion. Thus the study conclusion could be

generalized. Moreover, findings of this study would help the relevant accreditation bodies who are interested in assessing and granting accreditation as governments, staff, patient organizations, NGOs targeting health care, stakeholders of companies providing health care services and the general public.

The limitations of the study are related to the situation that management information system in all PHC facilities is working according to vertical programs. The current MIS system does not help in measuring indicators related to system quality as integrated services (receiving more than one service during one visit) and continuity of care (receiving ANC, natal care, PNC, FP, immunization, etc. from the same facility at the family level).

The study recommended that proper monitoring of the accredited PHC facilities is pivotal due to the relation between quality of service and utilization pattern. Ensuring that the PHC facilities fulfill the quality standers should be done at shorter periods to ensure commitments to standards overtime.

REFERENCES

- Abdel-Razik, M.S., R.A. Abdel-Hai and H.I. Ibrahim, 2008. Reasons for Reduction of Contraceptive Coverage Rate by Distributed FP Contraceptive Methods in Egypt. National Population Council and Cairo University.
- Egypt Demographic and Health Survey, 2008. El-Zanaty F and Way A. Ministry of Health, USAID, Unicef, March 2009.
- El-Rafie M., M. Hassan and M. Ghobashi, 2003. Improving the utilization of postpartum care services: an intervention study. Faculty of Medicine, Cairo University, Public Health Department and National Population Council.
- El-Zanaty and Associates and National Population Council/Research Management Unit (NPC/RMU) ,(2006): Population Program Sustainability in Light of the Phasing out of Foreign Funds. NPC/RMU.
- El-Zanaty and Associates and United, 2008. Nations Population Fund Agency (UNFPA), Study on Reproductive Health Impact of Family Health Model pilots in Egypt. Final Report.
- El-Zanaty and Associates, 2005. Egypt Demographic Health Survey. MOHP, National Population Council and MACRO.
- El-Zanaty and Associates, MOHP and ORC Macro, 2005. Service Provision Assessment Survey 2004.
- Gaumer G. and N. Rafeh, 2005. Strengthening Egypt's Health Sector Reform Program: Pilot Activities in Suez. Partners for Health Reform plus (PHRplus) and United States Agency for International Development (USAID). Abt Associates Inc., Bethesda, Maryland. www.phrplus.org/pubs, accessed in May 2009.
- Ministry, of Health and Population (MOHP), 1997. Egypt Health Sector Reform Program. www.MOHP.org, accessed in May 2009.
- Ministry, of Health and Population (MOHP), 1998. Guideline for Quality Assurance of PHC. Version 1. MOHP-PHC directorate, EMRO and SIF. (Arabic).
- Ministry, of Health and Population (MOHP), 2004. Essential Drug List (Chapter 4): Family Health Facility Implementation Manual. Version 2. MOHP-COTSP.
- Ministry, of Health and Population (MOHP), 2005a. Egypt Health System Profile. HSRP.
- Ministry, of Health and Population (MOHP), 2005b. Health Reform between Theory and Practice (Arabic). MOHP-COTSP.
- Ministry, of Health and Population, (MOHP), 2002. Overview of Accreditation Program, Family Health Facility Implementation Manual (Final Draft). COTSP, Vol. 1. www.MOHP.org, accessed in May 2007.
- Rafeh, N., 2001. Accreditation of Primary Health Care Facilities in Egypt: Program Policies and Procedures, Technical Report 65, Partnerships for Health Reform. Abt Associates Inc., Bethesda, Maryland. www.phrproject.com, accessed in May 2007.