



# Journal of Population Therapeutics & Clinical Pharmacology

## Effects of Primary Health Care Staff Training on Maternal and Child Health Services

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### Abstract

**Introduction:** The training of primary health care (PHC) staff is part of a national initiative aimed at enhancing the capabilities of PHC personnel . Initiated in the year 1444H, the program's primary goal is to equip all PHC staff, including doctors, nurses, and midwives, with the necessary skills to provide comprehensive Maternal and Child Health (MCH) services. By the end of 1445H, this objective was successfully realized

**Objectives:** This study aims to assess the impact of PHC staff training on maternal and child health services

**Materials and Methods:** Data collection on MCH services utilized structured forms, pre-tested and distributed annually to all Primary Health Care Centers (PHCCs). Collected forms were then encoded and analyzed using the SPSS statistical package for Windows.

**Results:** Evaluation of the program at the conclusion of 1445H revealed notable improvements in the utilization of MCH services and enhanced quality of care for mothers and children. These improvements were evident in the decreased percentage of home deliveries without medical supervision and increased identification of risk factors among pregnant women and children. However, there was no significant increase in the proportion of deliveries occurring at PHCCs, and there was a slight reduction in the stillbirth rate.

**Discussion:** The training program significantly improved the knowledge and intellectual skills of the participants, such as the utilization of growth charts. However, due to the brief duration of the courses, manual skills did not show substantial improvement. Consequently, while there was an increase in the identification of risk factors among registered pregnant women and children, there was no corresponding rise in deliveries at PHCCs.

**Conclusion:** The training of PHC staff had a positive impact on maternal health services. Nevertheless, allocating more time for practical training in hospitals is necessary to further enhance the program's effectiveness.

**Keywords:** MCH, Services, Training, PHC

### **Introduction:**

Primary Health Care Centers (PHCCs) serve as vital components of healthcare delivery systems, offering essential health services at the grassroots level within communities. The Alma Ata Declaration in 1978, which advocated for "Health for All" by the year 2000, spurred the establishment of primary health care centers across Saudi Arabia. These centers play a crucial role in providing various health services, including maternal and child health care. The overarching goal of health services is to furnish comprehensive and integrated medical care to all individuals, employing suitable technologies at reasonable and accessible costs. The training of PHC staff forms part of a nationwide program implemented throughout the Kingdom. This study seeks to assess the impact of training PHC doctors, nurses, and midwives on Maternal and Child Health (MCH) services

### **Subjects and Methods:**

As of the present, there are 84 Primary Health Care Centers (PHCCs) in, Kingdom of Saudi Arabia (KSA). Maternal and Child Health (MCH) training courses commenced during the year 1444H. The primary objective was to train all PHC staff, or at least one physician and one nurse or midwife per center, in MCH services. This objective was accomplished by the conclusion of the year 1445H. Training sessions comprised lectures, group discussions, and practical training conducted at the main general hospitals within the region. Topics covered during training included the management of normal labor, diagnosis and handling of obstructed labor and obstetric emergencies, high-risk approaches in MCH, breastfeeding, child growth

monitoring, oral rehydration therapy for diarrhea, and vaccination for infants and preschoolers. Each training course spanned a duration of 14 days.

The trainers consisted of consultants specialized in Obstetrics, Pediatrics, and Community Medicine, selected based on their expertise and having undergone training specifically for MCH services. A total of thirteen training courses were conducted, each accommodating a maximum of 10 doctors and 10 nurses. Trainees were divided into two groups, each assigned to one of the two main hospitals, for the practical component of the training.

Pre- and post-tests were administered during each course to assess the improvement in the trainees' knowledge. Data collection regarding MCH services was carried out using pre-tested structured forms, distributed annually to all PHCCs. Collected forms were then processed, encoded into the computer system, and analyzed using the SPSS statistical package for Windows.

## **RESULTS**

Table 1 illustrates the coverage of PHC staff by training. The objective of training a doctor and a nurse or a midwife was achieved by the end of the year 1445H. Table 2 demonstrates increasing percentages of deliveries conducted under medical supervision, primarily at hospitals. This increase is associated with a significant reduction in deliveries conducted at home without medical supervision. However, the percentage of deliveries conducted at PHCCs remained unchanged. Table 3 indicates a slight increase in Caesarean Section (CS) deliveries.

Table 4 describes the pregnancy outcomes before and after training. A slight reduction in the percentage of stillbirths was observed during the year 1445H. This reduction was associated with a slight increase in neonatal deaths during the first week; however, the perinatal mortality rate was slightly reduced. Table 5 shows an increased frequency of risk factors discovered among those registered at PHCCs during the year 1445H. Table 6 indicates an insignificant rise in the percentage of breastfed infants. However, a significant increase in risk factors discovered among children registered at well-baby clinics was found (Table 7).

Table I: Coverage of PHC Staff by training

Year	No. of Health Centers	Physicians (Trained)	Nurses (Trained)	Midwives (Trained)
1444	83	83	30	0
1413	83	83	47	11
1445	84	84	17	0
1445	84	84	18	0
1416	84	84	14	0

Total: 84 Health Centers, 112 Physicians (Trained), 112 Nurses (Trained), 11 Midwives (Trained)

Year	Type of Deliveries	Normal	Assisted	C.S.
1413	Total (n=7453)	6791	238	424
1445	Total (n=7862)	7109	317	436
1445	Total (n=7834)	7109	252	473

### **Discussion:**

Maternal and Child Health (MCH) services constitute a pivotal component of primary healthcare (PHC) systems, given their focus on providing healthcare to vulnerable groups, namely mothers and children, who comprise 70% of the population. Additionally, MCH services encompass critical elements of PHC such as immunization, health education, and nutrition. The utilization of MCH services is influenced by various factors including sociodemographic parameters, cultural norms, the stage of pregnancy, and the psychological state of pregnant women. Similarly, the attitudes of personnel stationed at Primary Health Care Centers (PHCCs), as well as the quality of services provided, including educational aspects of antenatal checkups, impact the utilization of MCH services.

To the best of our knowledge, this study represents the first attempt to evaluate the impact of training PHC staff on MCH services in Saudi Arabia. The improvement in the knowledge of trainees was significant, and there was a marked enhancement in intellectual skills, such as utilizing growth charts. However, due to the brevity of the training courses, manual skills, particularly in the management of normal labor, did not show significant improvement. These findings were reflected in the MCH services provided by PHCCs, with an increase in the identification of risk factors

among pregnant mothers and children. Consequently, there was an escalation in referrals and hospital deliveries, although deliveries at PHCCs remained stagnant, partly due to inadequate improvement in trainees' skills and negative attitudes towards conducting normal deliveries at PHCCs.

The increase in the identification of risk factors among pregnant mothers led to a rise in the percentage of Caesarean Section (CS) deliveries and a reduction in instrumental deliveries, consequently predisposing to a decrease in stillbirths and the perinatal mortality rate. The improvement in the utilization of growth curves was evidenced by an increased frequency of children weighed at PHCCs. However, the enhancement of knowledge about breastfeeding did not translate into an increased percentage of breastfed children, indicating the need for intensified efforts in health education about breastfeeding at PHCCs, coupled with the implementation of the WHO/UNICEF program for baby-friendly hospitals.

The improved utilization of MCH services in the Al-Qassim region of Saudi Arabia was attributed to increased public awareness about MCH services. However, the impact of implementing the same training program for MCH staff was not solely dependent on awareness, suggesting that increased awareness alone might not suffice to improve MCH utilization within a short timeframe.

In conclusion, the training of PHC staff had a positive impact on maternal health services. However, a longer duration should be allocated to the practical component of training at hospitals to provide more opportunities for enhancing the manual skills of PHC staff, particularly in the diagnosis and management of labor and obstetric emergencies.

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