

Evaluation of Midwifery Knowledge on Antenatal Care in Omdurman Maternity Hospital Sudan

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Abstract

Objectives: The main objective of the study was to assess midwifery knowledge with special emphasis on antenatal care. **Methods:** This is an observational, descriptive, hospital based study. Conducted on midwives working at Omdurman Maternity Hospital, Sudan. The study population consisted of 56 midwives, which was the total population of midwives working at the hospital during the period of the study. Standardized, administered pre-tested questionnaire with closed and open ended questions were the instrument used for data collection. **Results:** The study revealed that, the majority of the midwives belonged to the age group of 40-49 years. Most of them had studied up to the high school level and had undergone a 2 year midwifery training period. A good number of them had also worked as midwives for more than 15 years. The study also shows that, the midwives theoretical knowledge on danger signs of pregnancy, nutrition and diseases that can be transmitted by contaminated delivery instruments was poor. Advices given to mothers by the midwives were found to be of good quality in reference to several important issues during and after pregnancy. **Conclusion:** A clear need for more intensive training for the midwives with emphasis on antenatal care and strengthening of the training by frequent follow-up evaluation of their performance in-service training courses came up as the main recommendation of the study

Keywords: Midwifery; Knowledge; Antenatal care; Training

1. Introduction

Reproductive health care gaps make up nearly one fifth of the worldwide burden of illness and premature death and one third of the illness and death among women of reproductive age (WHO, 2004a).

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The leading cause of death for women in reproductive age in developing countries today is obstetrical complications, constituting one of the worlds' most urgent and intractable health problems [1].

Based on the concept of informed choice, maternal health should include education on safe motherhood, prenatal care that focuses on effective maternal nutrition programs, adequate delivery assistance that avoids recourse to Caesarian section and provides for obstetrical emergencies, referral service for pregnancy, childbirth and labour complications, postnatal care and family planning [2].

At its simplest, a midwife is a person who is "with a woman", during events which concern child bearing, before conception, during pregnancy, at birth and in the period of adjustment which follows [3]. In particular, the midwife provides essential care during delivery, often with little support and under the adverse conditions. The practice of midwifery calls for great stamina, physical and mental strength and the ability to be flexible and ready for the unexpected. In fact, many obstetricians and gynecologists readily acknowledge that they learned their midwifery skills from midwives [4].

In all countries that have achieved dramatic improvements in maternal mortality, professionally trained midwives have been a key to success. They have an essential role in achieving the millennium development goals to reduce maternal and newborn mortality. Yet today, the profession of midwifery often garners little recognition, meager income and limited career opportunities contributing to their acute shortage [5].

The lack of relevant and quality antenatal care (ANC) in developing countries is a major concern. A significant proportion of women in these countries do not attend ANC clinics and the majority of those who seek routine care often do so only in late pregnancy and/or on a few occasions. In keeping with conventional teaching, all pregnant women, irrespective of the risk, should be advised to attend ANC clinics regularly at specified intervals [6].

UNFPA has long given high priority to the need for skilled care at birth as part of a three-pronged strategy to reduce maternal mortality. Within this area midwives hold a very special and central position for UNFPA, as the Executive director, said in her 2006 World Health Day message.

As part of its support of professional midwives over many years, UNFPA has been a regular partner with WHO, UNICEF and others, for example, in supporting the International Committee for Midwives (ICM) Regional and Triennial Congresses, first launched at the beginning of the Safe Motherhood Initiative (SMI) in 1987 [7].

According to the Annual Statistical Health Report (2003), percentage of births attended by trained professionals in Sudan was 57%, percentage by TBAs was 31%, total number of cases reported on complications of labour and delivery was 3119 while deaths resulting were 13. Cases of complications of puerperium reported was 165 while deaths resulting was 5 [8].

In Khartoum state, according to the reproductive manpower report 2003, the number of untrained midwives was found to be 297, trained midwives, 508 and certified midwives, 462. In Sudan as a whole the number of untrained midwives, trained midwives and certified midwives was found to be 668, 2551, and 8809 respectively [9]. There are wide variations in ANC services in different states ranging from 92% in Khartoum to 33% in western Darfur [10].

When properly trained, empowered and supported, midwives in the community offer the most cost-effective, low technology, high quality path to universal access to maternal healthcare [6]. Studies show that obstetrical causes were responsible for the majority of deaths in Khartoum state and proper ANC was recommended to reduce the morbidity and mortality rates.

Encouraging midwives' knowledge and practice on ANC will go a long way in reducing maternal morbidity and mortality which claims 509 lives annually in Sudan, and play a major role in reducing incidences of complications of labour, delivery and puerperium for both mother and child.

Although many studies have been carried out with quality of the ANC in the Sudan, knowledge of midwives who play the central role, has not yet been explored. The main objective of this study was to evaluate the knowledge of midwives on antenatal care in the Omdurman Maternity Hospital.

2. Methodology

The study was conducted in the Omdurman Maternity Hospital. All midwives practicing in Omdurman Maternity Hospital during the period of the study (56 midwives) were asked to fill a structured, administered pre-tested questionnaire with closed and open ended questions. The study objectives were well explained to the participants and informed consent sought from midwives agreeing to participate in the study voluntarily.

2.1 Ethical Approval

Ethical clearance was obtained from Ahfad University Ethical Committee, Omdurman, Sudan.

3. Results and Discussion

3.1 Personal Data and Training

The study group consisted of 56 midwives of age group (20-59 years). As indicated in Fig.1, the most common age group was (40-49 years) to which 46.43% of the midwives belong. Those who are 50-59 years constitute 17% while those who are 20-29 years constitute 16% .The least common age group was that of 30-39 years, which only constituted 11%. This may suggest better experience and skills due to longer duration of midwifery practice. A relatively high percentage of these midwives 75% have undergone secondary school education and none of them was illiterate or had attended only clergy school or 'khalwa, which was the Quranic school, where children start their education'. Being educated is encouraging since according to the WHO/AFRO requirements for training midwives, they must have had at least 12 years of general formative education or the equivalent [11]. Although still, a good percentage (20%) had attended only basic school education. This is strongly supported by Fig. 2. On the other hand, Fig. 3 shows that more than half of the midwives under the study about (58%) had good midwifery experience, and have worked for more than 15 years in the maternity hospital.

This is so since midwifery skills rely more on the practical aspect rather than the theory aspect. Fig. 4 discloses the duration of the midwifery training period undertaken by the midwives under study. From the Figure, it is clear that slightly more than half of the midwives 51.79% had undertaken a 2-year training period of midwifery.

3.2 Home Deliveries and Methods Used to Monitor the Pregnant Women

The midwives work under supervision at the hospital, are required to be competent, efficient and able to work on their own in whenever called situation even without supervision. This is more so with midwives who attend deliveries at home, as reflected in Fig 5, where almost half of the midwives population studied admitted to assisting deliveries at home. This emphasizes the importance of assessment of midwifery skills and practice in the Sudan, where a large proportion of women still deliver their babies at home. In Fig. 6, Results of how knowledge of the midwives on how to monitor the pregnant mother was investigated. The results have been satisfactory since the majority of the midwives 98.21% admitted to taking history of the mother including obstetrical, gynecological, medical history and physical examination procedures. However, only 67.86% perceived the importance of laboratory investigations, which is important for the early detection and addressing of conditions or problems that may arise during pregnancy and to screen for and diagnose any existing problems that may affect the mother or baby's health.

3.3 Advices Given by Midwives to Mothers During and After Pregnancy

Fig. 7 clearly indicates the midwives' knowledge of supplements taken during pregnancy. The majority of the midwives recognizes the importance of iron supplements 98.21% and Folic acid 96.43% but only 80.36% suggested the importance of calcium supplements during pregnancy. In 1993, the World Bank [12] ranked anemia as the eighth leading cause of disease in girls and women in developing countries. Each year, more than 529 000 women die from pregnancy-related causes and 99% of these deaths occur in developing countries.

Calcium is important during pregnancy for both the mother and baby's health since the requirements for the mineral increase dramatically during pregnancy.

Research also shows that calcium supplements help to lower the risks of pre-eclampsia, a leading cause of premature birth [6].

Hypertension complicates approximately 9% of all pregnancies worldwide, and pre-eclampsia and eclampsia are major causes of maternal and perinatal morbidity and mortality. Although calcium supplementation to reduce the risk of hypertension and pre-eclampsia during pregnancy may seem a feasible intervention in developed and developing countries, several issues need to be addressed before such a recommendation can be made. Most of these midwives preferred dietary supplements of calcium to avoid the chances of interaction with other important micronutrients needed during pregnancy [6].

Table 1 reveals the different types of general advice given by the midwives to the pregnant mothers during pregnancy on several selected issues. The majorities of the midwives were well informed and gave good quality advice, as reflected in Table 1 below. All the areas covered in the questions are of importance during pregnancy for both the health of the mother and the baby.

3.4 Danger Signs of Pregnancy and Early Detection Methods

The majority of the midwives admitted to weighing the pregnant mothers and taking their blood pressure during every visit. This is important during the follow-up for detection of any problems. The result is clearly indicated in Fig. 8.

Many respondents failed to recognize some of the danger signs during pregnancy as reflected by the responses on Table 2. This should be of uttermost importance since failure to recognize the danger signs can lead to serious consequences for both the mother and baby and helps in early detection of potentially serious conditions that could otherwise be prevented if detected early.

3.5 Family Planning

As seen in Fig. 9, 91.07% of the midwives admitted to giving the mother's advice on family planning. About 37.5% perceived the hormonal method as the most effective method followed by the Intrauterine Contraceptive Device (IUCD) method which was supported by 33.93% of the midwives. None of them opted for the surgical method. This is encouraging since the hormonal method is one of the most effective and reliable methods [13].

3.6 Nutrition During Pregnancy

Midwives failed to recognize food sources rich in iron and calcium. This is particularly important for some mothers preferred natural food sources of the required nutrients rather than tablets. A significant number of midwives also preferred food sources of calcium rather than supplements.

Despite the fact that food may act as a way of providing the required minerals, calcium and iron tablets should also be taken during pregnancy. As seen in Fig. 7, most of the midwives preferred food sources of calcium; this quite contradicts the findings here where the midwives failed to recognize food rich in calcium. Among the mentioned food sources of iron, foods rich in iron include, purslane leaves which contain (10.9 mg/100g) of iron, liver (9.4 mg/100g), lentils (10.8 mg/100g), raisins (7.6 mg/100g), beans (7.5mg/100g) and rocket leaves (7.5 mg/100g). Those moderate in iron include, fish (4.1mg/100g), dry dates (6.3mg/100g), vegetables and fruits which are also generally moderate in iron. Those poor in iron include; eggs (2.0mg/100g), milk (0.2mg/100g), yoghurt (0.1mg/100g), meat (2.8mg/100g), maize (0.5mg/100g), nuts (2.4mg/100g), pumpkin (0.5 mg/100g) and chickpeas (3.5 mg/100g) [14].

Of the food sources of calcium mentioned, those rich in calcium include; milk (133mg/100mg), cheese (255 mg/100mg), beans (229 mg/100mg), and carrots (111 mg/100mg). Moderate sources of calcium include; *turmus* (70 mg/100mg), dates (89 mg/100mg), eggs (52 mg/100mg), fish (89 mg/100mg), yoghurt (120 mg/100mg), and purslane leaves, (94 mg/100mg). Those poor in calcium include; chicken (10 mg/100mg), chickpeas (10 mg/100mg), meat (mutton) (41 mg/100mg), and beet-root (45 mg/100mg) [14].

3.7 Traditional Therapies to Reduce Abdominal Cramps and Methods to Reduce Bleeding after Delivery

Table 3 indicates the midwives' knowledge of the local traditional therapies they advised on reducing abdominal cramps. Most of the suggested agents were found to have antispasmodic and/or analgesic effect, thus helpful in reducing abdominal cramps. Of the mentioned agents, argel, anise seeds, lemon grass, fenugreek seeds and cinnamon were found to be antispasmodic.

Peppermint was found to be both antispasmodic and an analgesic while coffee had no effect in reducing abdominal cramps.

3.8 Traditional Agents to Increase Milk Production During Lactation

Slightly more than half of the midwives in the study admitted that they offer advice to the mothers on traditional agents that increase milk production (Table 4). Some of these agents were found to be beneficial galactagogues/lactogens while others were not. Among those of importance are adequate fluid intake, sesame seeds, fenugreek seeds and dark green vegetables. However, only a few of the above mentioned midwives were able to recognize the lactogenic agents. Among those agents that increase milk production include, fluids (hydrate body and supports lactation), sesame seed (lactogenic and potent source of calcium), fenugreek seeds (herbal galactagogue), meats (chicken support abundant milk production), and vegetables (contain minerals, vitamins and enzymes that support lactation). Milk and starch were found to have no effect.

4. Conclusion

This study reveals that: slightly more than half of the midwives assisted deliveries in home settings. Knowledge of midwives on how to monitor the pregnant mothers was found to be very good. Apart from the small percentage of them who did not perceive the importance of laboratory investigations. The majority of the midwives advised the pregnant mothers on the importance of taking Iron, Calcium and Folic acid tablets, apart from the few who preferred food sources of calcium instead of supplements.

Most of the midwives were found to give good quality advice to the mothers in reference to several important issues during and after pregnancy. A good percentage of the midwives who advised the mothers on family planning preferred the hormonal methods over the other contraceptive methods; this preference was seconded by IUCDs. Midwives knowledge on nutrition (based on food sources of Iron and Calcium) was poor. Almost all the midwives perceived the importance and admitted to weighing and checking the pregnant mother's B.P. during every visit.

Most of the midwives were unaware of the danger signs of pregnancy and diseases that can be transmitted to the mother and baby by contaminated instruments. All midwives used autoclave to sterilize the delivery equipment.

A significant percentage still used boiling. Midwives knowledge on methods used to reduce bleeding after delivery was good. Many of them opted for breastfeeding. Of those who advised the mothers on agents to increase milk production during lactation, most of them failed to recognize the agents themselves.

The findings of this study indicate clearly, a need for more primary studies. Although based on only one trial of just 56 midwives, these interventions are promising that it will be appropriate to undertake similar studies urgently in order to obtain further evidence. This will require large trials to obtain evidence on maternal mortality. Comparison of maternal and neonatal morbidity is also important.

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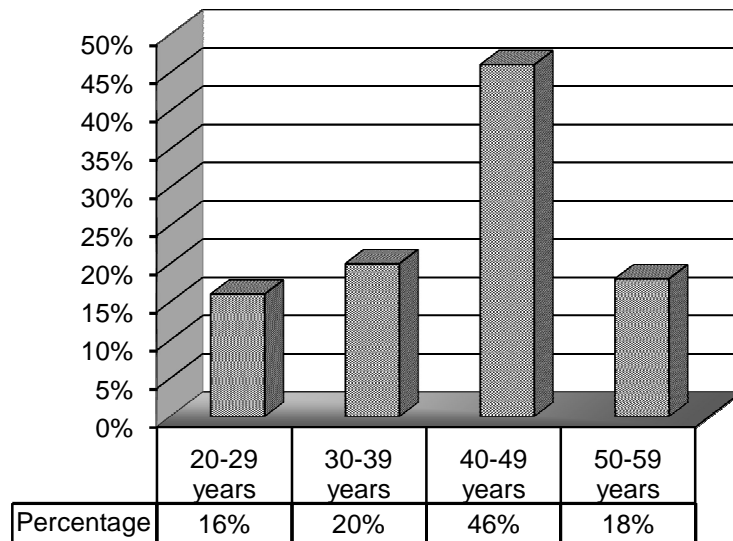


Fig. 1: Distribution of the Respondents by Age Nursing Training Prior to Midwifery Training

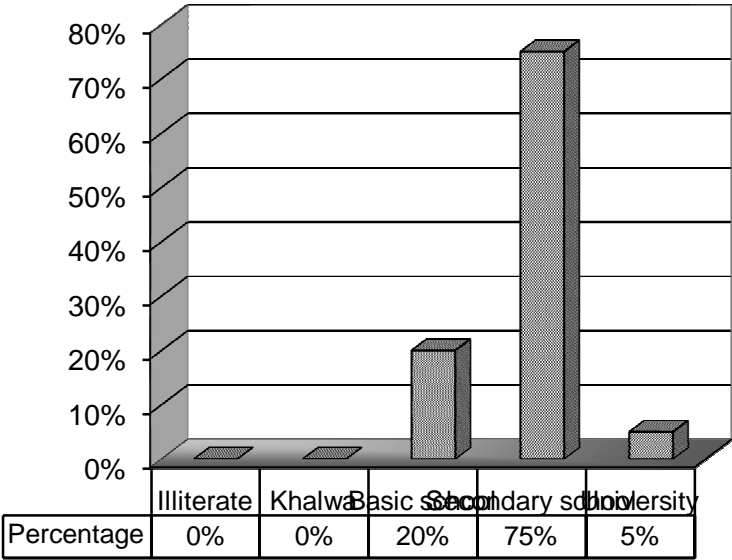


Fig. 2: Distribution of the Respondents by Level of Education

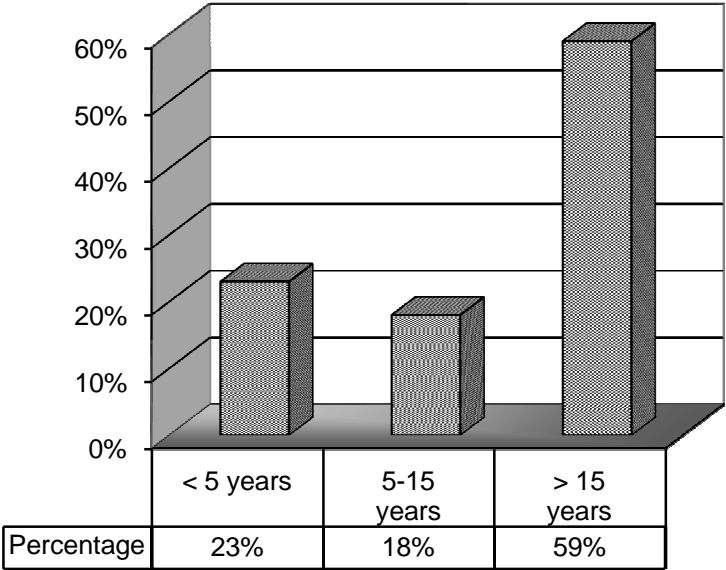


Fig. 3: Distribution of the Respondents by Duration of Midwifery Practice

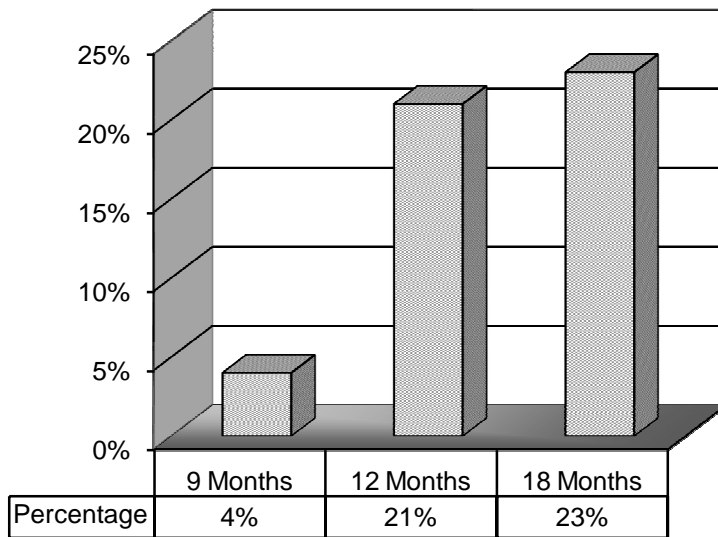


Fig. 4: Distribution of the Respondents by Duration of Midwifery Training Period

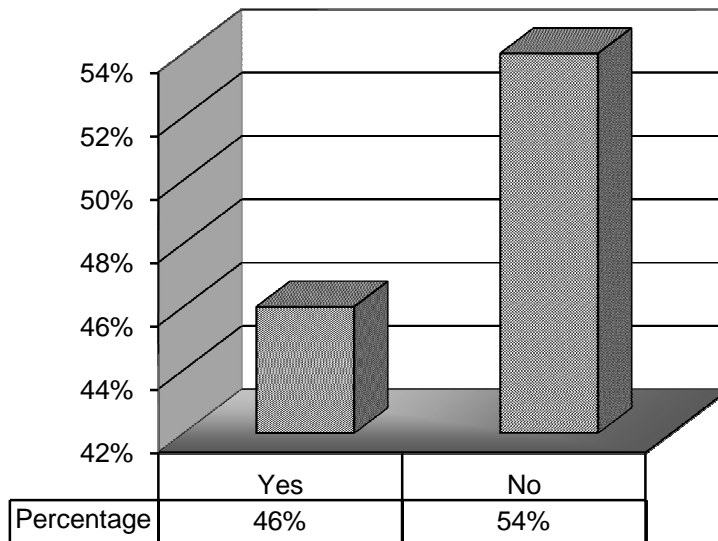


Fig. 5: Percentage of Midwives Assisting Deliveries at Home

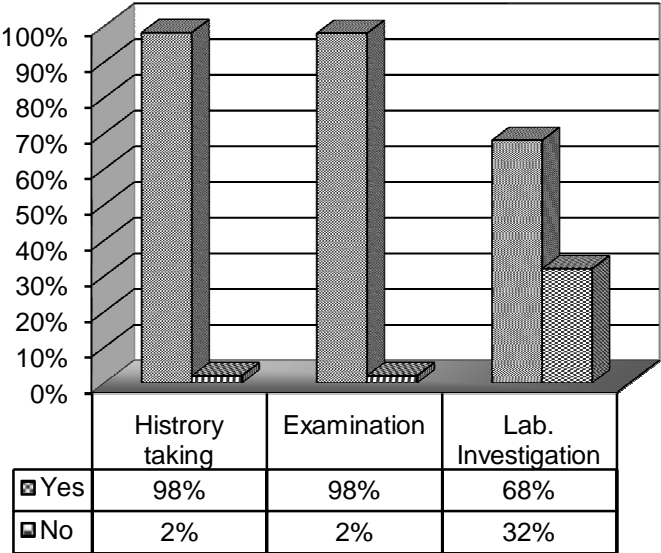


Fig 6: Knowledge of the Respondents on how to Monitor the Pregnant Mother

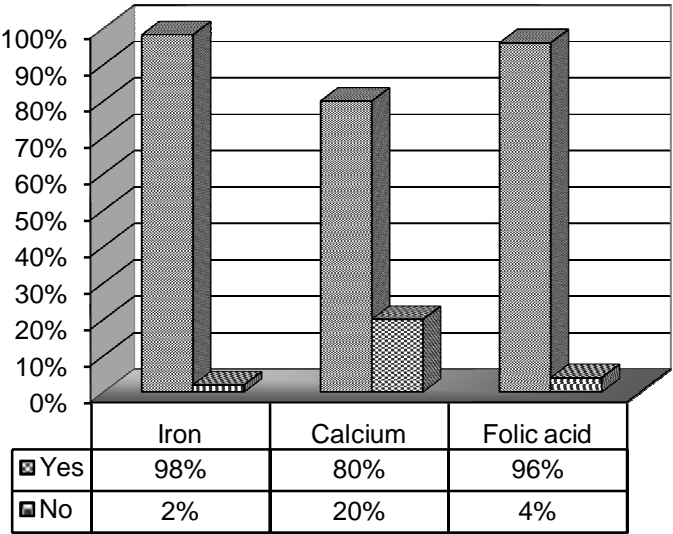


Fig. 7: Advice Given to Mothers on Supplements Taken During Pregnancy

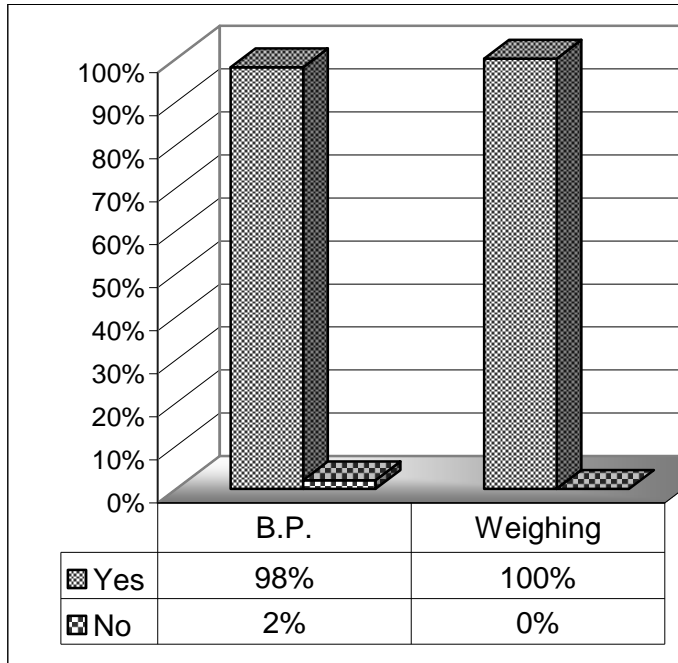


Fig. 8: The Percentage of the Midwives who Check the B.P and Weigh the Pregnant Mother at Every Visit

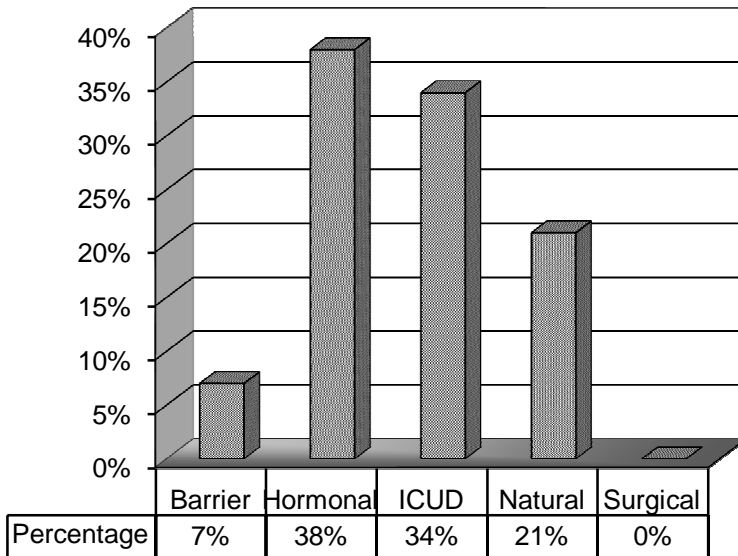


Fig. 9: Most Preferred Method Oo Family Planning

Table 1: Distribution of the Respondents by Advice Given to the Mothers During and after Pregnancy

Type of advice	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Balanced diet	55	98.21	1	1.76%
Tetanus toxoid vaccine	56	100	0	0%
Personal hygiene	54	96.43	2	3.57%
Breastfeeding	56	100	0	0%
Vaccinating the baby	55	98.21	1	1.76%
Family planning	51	91.07	5	8.93%

Table 2: Knowledge of the Midwives of the Dangerous Signs of Pregnancy

Signs	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Abdominal pain	26	42.43	30	53.57
Vaginal bleeding	45	80.36	11	19.64
Fever	17	30.36	39	69.64
Headache	26	42.43	30	53.57
Swelling of hands, face and legs	54	80.36	11	19.64
Blurred vision	32	57.14	24	42.86
Fits	39	69.64	17	30.36
Prolonged labor	40	71.43	16	28.57

Table 3: Midwives' Knowledge on Traditional Therapies to Reduce Abdominal Cramps

Herb	Frequency		Percentage	
	Yes	No	Yes	No
Argel (<i>Harjal</i>)	19	37	33.93	66.1
Peppermint (<i>Nana</i>)	16	40	28.57	71.4
Anise seeds (<i>Yansun</i>)	3	53	5.36	94.6
Lemon grass (<i>Mahareb</i>)	2	54	3.57	96.4
Fenugreek seeds (<i>Hilba</i>)	6	50	10.71	89.3
Coffee	3	53	5.36	96.4
Cinnamon (<i>Girfa</i>)	4	52	7.14	92.9

Table 4: Agents Given to Increase Milk Production

Agents	Frequency		Percentage	
	Yes	No	Yes	No
Fluids	19	37	33.93	66.1
Sesame seeds (<i>Tahniya</i>)	6	50	10.71	89.3
Fenugreek seeds (<i>Hilba</i>)	7	49	12.5	87.5
Milk	12	44	21.43	78.6
Starch	3	53	5.36	94.6
Meat	4	52	7.14	92.9
Green vegetables	2	54	3.57	96.4