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RESEARCH ARTICLE

TO STUDY THE UTILIZATION OF ANTENATAL SERVICES AMONG THE PREGNANT WOMEN OF RURAL AMRITSAR : AN INTERVENTIONAL STUDY

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ABSTRACT

**Background:** Health status of women is one of the most serious social issues affecting the community particularly in developing countries. Women are more vulnerable during the reproductive period. If women remain healthy during the antenatal period, then this leads to a healthy newborn. Hence, intervention during antenatal period is essential.

**Objectives:** 1. To study the utilization of maternal health services. 2. To study the impact of interventions regarding the utilization of antenatal services.

**Material and Methods:** The study was conducted in village Naagkalan of Amritsar district from 1st January, 2014 to 31st December, 2014. This study included all the pregnant women of the village. Author filled in the predesigned and pretested questionnaire, containing questions regarding registration, antenatal checkups and utilization of services including IFA supplementation, Tetanus immunization etc.

**Results:** The antenatal registration before intervention it was 90% while after intervention almost 100% registration was done. 22.73% women still preferred to visit private practitioners. Even after intervention, IFA compliance rate was 82.88%.

**Conclusion:** This study found that although there has been considerable improvement after intervention in the utilization of antenatal care, these evidence based results can be further used for better delivery and utilization of maternal care services for the optimum health of the pregnant women.

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INTRODUCTION

Reproductive health is a crucial part of general health and a central feature of human development. This is a universal concern but is of special importance for women, particularly during the reproductive years. About 22.2% of the population in India is constituted by women of reproductive age group (15-44 years) making them a larger chunk of population. They comprise the vulnerable section due to risks connected with child bearing (Sundar, 2011). Globally each year approximately 358000 women die from the complications of pregnancy and childbirth, out of which 25% of deaths are contributed by

India alone. For every woman who dies from obstetric complications, many more suffer from injuries, infection and disabilities (WHO, 2010). Maternal care includes care during pregnancy and should begin from the early stages of pregnancy as a substantial portion of maternal deaths occur during pregnancy. Antenatal period provides an opportunity to educate the mother on various issues like diet, personal hygiene, avoidance of drugs and radiation, recognition of danger signs during pregnancy, mental preparation for child birth, delivery by skilled health care provider, child care and birth spacing which has clear cut impact on health of mother and infant survival as mothers with malnutrition, infections, and unregulated fertility tend to give birth to low birth weight babies (WHO 2003).

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If women remain healthy during the antenatal period, then this leads to a healthy newborn. Hence, intervention during antenatal period is essential.

## MATERIALS AND METHODS

An interventional study was conducted in village Naagkalan, Block Threawal of district Amritsar from 1<sup>st</sup> January 2014 to 31<sup>st</sup> December 2014. All the houses in the village were enlisted during house to house survey by the investigator and women who were found to be pregnant and going to deliver up to 31<sup>st</sup> December, 2014 were included in the study. After explaining the purpose of the study, written consent was taken from the pregnant women. Pre-designed and pre-tested questionnaires were filled in which were prepared in the vernacular language containing various components of antenatal care like early registration, antenatal examination, iron folic supplementation, tetanus immunization etc. The study was conducted in two phases and all the pregnant women were followed to have a complete contact for 9 months. In the first phase, complete information on socio-demographic profile and antenatal care was collected and utilisation of antenatal services was studied. Before the second phase, all the pregnant women were imparted one to one health education (intervention) about antenatal care through the pamphlet. Hb estimation of all pregnant women was done by Sahli's Method. In the second phase, the impact of the intervention was evaluated.

Statistical Analysis: The data was entered in MS Excel and analyzed in Epi Info 7.1.4 software.

## RESULTS

All the 111 pregnant women in the village were included in the study.

### Socio-demographic profile

The study showed that majority 87.39% of pregnant women were 18-29 years old and maximum 71.17% women belonged to upper lower class according to modified Kuppuswamy scale. 22.52% pregnant women were found to be illiterate. The mean age of marriage amongst pregnant women was  $21.02 \pm 2.67$  years while the mean age at first pregnancy was  $22.33 \pm 2.73$  years.

### Antenatal registration

Table 1 shows that antenatal registration among pregnant women was 90% before intervention while it was 99.10% after intervention. The study also revealed that before intervention, out of 100 pregnant women, 87 women had registered within first trimester while after intervention, majority 94 of 110 (85.45%) of pregnant mothers were registered within first trimester (Fig. 1). Only 1 woman did not register even after intervention.

Fig. 2 shows that majority 77.27% of mothers visited the government facilities while 22.73% women preferred to visit private practitioners.

### Antenatal examination

It was revealed from the present study (Table 2) that before intervention, body weight was recorded in only 74% while blood pressure levels were measured in only 79% pregnant women. Only, 69% of pregnant women had undergone abdominal check-ups, following intervention, all above antenatal checkups were conducted in all the pregnant women.

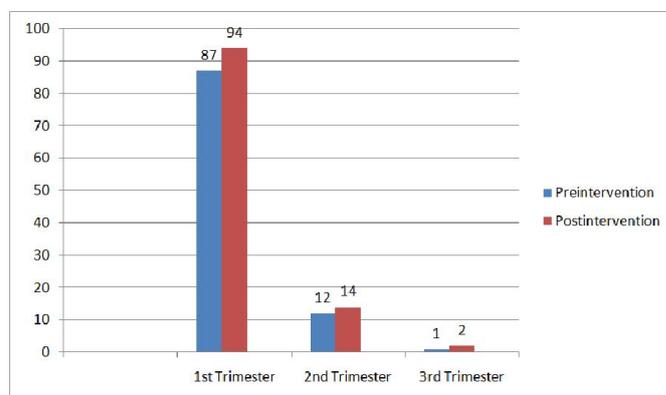
### Antenatal services

Out of 100 previously registered women, only 31% had taken IFA tablets but during the intervention, all the antenatal women were motivated to take IFA tablets. However, the compliance rate after intervention remained 82.88% (Table 3). Also, in the present study, 99.10% pregnant women received T.T immunization post-intervention (Table 4).

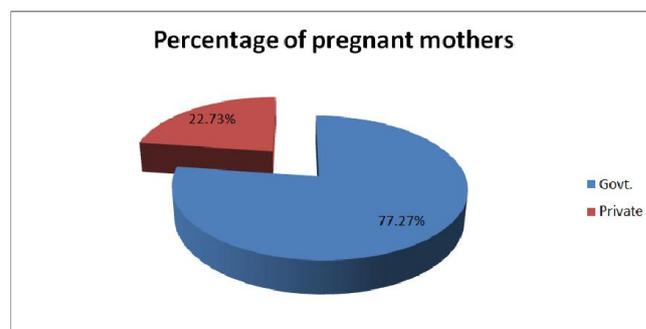
Laboratory tests: Before intervention, Haemoglobin levels were estimated only in 51% of women and in 77% urine test was done. Post-intervention, both the tests were done in almost 100% of antenatal women. (Table 4)

**Table 1. Distribution of pregnant women on the basis of antenatal registration before and after intervention (N=111)**

Antenatal Registration	Pre-intervention	Post-intervention
Yes	100 90.09%	110 99.10%
No	11 9.90%	1 0.90%
Total	111 100.00%	111 100.00%



**Fig. 1. Distribution of pregnant women on the basis of timing of antenatal registration before and after intervention (N=110)**



**Fig. 2. Distribution of pregnant women on the basis of place of antenatal registration (N=110)**

**Table 2. Distribution of pregnant women according to antenatal examination before and after intervention (N=111)**

Antenatal examination	Pre-intervention		Post-intervention	
Weight measured				
Yes				
No	74	74.00%	111	100.00%
Total	26	26.00%	0	0.00%
	100	100.00%	111	100.00%
B.P. recorded				
Yes	79	79.00%	111	100.00%
No	21	21.00%	0	0.00%
Total	100	100.00%	111	100.00%
Per-abdominal examination				
Yes				
No	69	69.00%	111	100.00%
Total	31	31.00%	0	0.00%
	100	100.00%	111	100.00%

**Table 3. Distribution of pregnant women according to IFA intake before and after intervention (N=111)**

IFA intake	Pre-intervention		Post-intervention	
Yes				
No	31	31.00%	92	82.88%
Total	69	69.00%	19	17.12%
	100	100.00%	111	100.00%

**Table 4. Distribution of pregnant women according to various laboratory tests before and after intervention (N=111)**

Lab tests	Pre-intervention		Post-intervention	
Hb estimation				
Yes	51	51.00%	111	100.00%
No	49	49.00%	0	0.00%
Total	100	100.00%	111	100.00%
Urine examination				
Yes				
No	77	77.00%	110	99.10%
Total	23	57.00%	1	0.90%
	100	100.00%	111	00.00%

## DISCUSSION

The present study revealed that before intervention, 90% of pregnant women had registered during the pregnancy. This is attributed to the fact that the village is located on the main road and there is presence of a subsidiary health centre (covers 10,000 population). But after intervention, almost all (99.10%) women were registered. However, one woman did not register even after intervention as she felt it unnecessary. The study also showed that prior to intervention, out of 100 women, 87 women had registered within first trimester, 12 during second and 1 woman during the third trimester. While after intervention, majority 94 of 110 (85.45%) of pregnant mothers got registered within first trimester. This in contrast to DLHS-3 (2007-08) where only 60.4 percent started antenatal care during the first trimester of pregnancy (Ministry of Health and Family Welfare, 2007).

Out of 110 antenatal women who had registered following intervention, 77.27% women visited government institutions for antenatal care while 22.73% still preferred to visit private practitioners. The reasons might be better facilities and more reliability on the private sector. This is in contrast to a study carried out in villages of Bathinda district of Punjab state

where it was found that 47.2% women went to private hospitals (Singh *et al.*, 1990).

The study also showed that before intervention, body weight was recorded in 74% of pregnant women while B.P was measured in 79% of women which is higher than National Health Survey-3 where less than two in three pregnant women received these services. Similarly, in 69% of pregnant women, per abdominal examination was performed which is in contrast to NFHS-3(2005-06) where less than three in four women had their abdomen examined (International Institute of Population of Sciences and Macro International, 2007). However, during the intervention, all the pregnant women were monitored for their weight, B.P and abdominal examination was conducted through regular house visits.

In the present study, only 31% pregnant women were taking IFA tablets before intervention. But during the intervention, all the antenatal women were educated about the importance of taking IFA tablets. However, only 92(82.88%) women consumed IFA tablets while 19 (17.12%) women did not consume IFA tablets even after intervention. This non-compliance may be due to unappealing taste and side effects of the tablets like gastrointestinal problems. These findings are similar to the study by Manas P Roy *et al.* (2013) which had suggested that receiving and consuming IFA tablets do not run side by side (Roy *et al.*, 2013). Post intervention, a total of 110 (99.10%) women received tetanus immunization, out of which 107 (96.4%) received two doses of tetanus toxoid vaccine. This is higher than the study conducted by Abhishek Singh *et al.* (2012) where 68% women had reported receiving two or more doses of tetanus toxoid (TT) vaccination (Singh *et al.*, 2012).

Regarding the laboratory tests performed in pregnancy, Hb estimation was done in only 51% of the antenatal women while urine tests were conducted in 77% of antenatal women. According to NFHS-3, less than two in three women got their urine and blood samples checked (International Institute of Population of Sciences and Macro International, 2007). But after intervention, these tests were done in almost all women. Thus, the study has revealed that the availability and utilization of antenatal services in this part of the country is better than the national averages. However, we have still not been able to achieve the set national targets and the Millennium Development Goals. So, if the pregnant women are empowered with the correct knowledge and proper antenatal interventions are done, then the pregnancy outcome can become more positive.

## Conclusion

This study found that although there has been considerable improvement after intervention in the utilization of antenatal care, these evidence based results can be further used for better delivery and utilization of maternal care services for the optimum health of the pregnant women.

## Recommendations

There is a need for dedication amongst the frontline health workers in the village particularly through regular home visits

of pregnant women to develop mutual confidence and remove prevailing misconceptions and other barriers of utilization of antenatal care services. Awareness should be also be generated among the community by holding mothers' meeting and through extensive IEC programs in the village which can do a lot in improving the quality of antenatal services.

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