COMPARISON OF EFFECT OF ANTENATAL CARE AMONG BOOKED AND UN-BOOKED PATIENTS WITH MEANS OF MEASUREMENT OF HEMOGLOBIN LEVEL

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Abstract:
Pregnancy is one of the most important period in the life of a woman. Antenatal care is shown to result in better outcomes. Poor care is associated with a variety of problems.
Objective: To determine the effect of booking by measurement of hemoglobin levels at term among booked and un-booked patients.
Study design: Case Control Observational Study
Place and Duration: Department of Obstetrics and Gynecology of Services Hospital, Lahore from August to October 2017.
Material and Methods: After approval from ethical board, 100 cases were included in our study. Cases were divided into two groups of 50. Group A included BOOKED patients. Group B included UNBOOKED patients. All patients had been admitted for delivery. Informed consent for inclusion in study was taken from all patients. We took a specimen of blood for the estimation of patient hemoglobin levels. A level of 10.5 g/dL was taken as cut off with patients having hemoglobin less than this level being considered anemic. Percentage of anemic in both groups was estimated and stratification was done
Results: A 100 cases were included in the study. 50 patients were booked and 50 un-booked. Over all Incidence of anemia was found out to be 49%. Prevalence of anemic patients was more in un-booked patients. Percentage of anemic patients in group A was 34 %(17 of 50 patients). Percentage of anemic patients in group B was 64% (32 of 50 %). P was 0.002 which showed a significant difference. Illiteracy and low socioeconomic status were found to be strongly related with anemic patients.
Conclusion: Booked patients have a significant improvement in maternal outcomes. Poor outcomes are more common in illiterate and low socioeconomic class.
Key words: *Booking Status, Pregnancy outcomes, Anemia*

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INTRODUCTION:

Pregnancy is one of the most important period in the life of a woman with the outcome and health during this stage having a lasting impact not just on the life of the mother but the fetus as well [1]. Maternal mortality and morbidity is a universal problem among third world countries. Provision of antenatal care is a major target of maternal health care providers. However due to lack of awareness, lack of education and lack of resources third world countries like ours are still lagging behind.

A pregnant woman is said to have been 'booked' or have appropriate antenatal care (ANC) if she attended at least four antenatal visits and received among other things tetanus immunization [2]. Booking status has been recognized as one of the main factors in reduction of maternal morbidity. Antenatal care provides early assessment and monitoring. This helps to improve obstetric outcomes especially in the underprivileged segments of society. Lack of booking is associated with higher levels of perinatal morbidity and mortality. However a large number of pregnant females fail to receive antenatal care due to a variety of reasons [3,4].

Globally, anemia is one of the most common nutritional deficiency diseases. Anemia during pregnancy contributes to maternal morbidity and mortality, as well as to low birthweight. It is common due to inadequate dietary intake and exuberated by the increased stress due to demands of the fetus and maternal blood volume expansion during pregnancy [5].

The aim of our study is to compare the effect of booking status on maternal health during pregnancy by taking patient hemoglobin level as indicator of maternal health.

MATERIAL AND METHODOLOGY:

This clinical prospective study in booked and un-booked pregnant mothers was carried out at Department of Obstetrics and Gynecology of Services Hospital, Lahore. Services Hospital is a tertiary care hospital and is one of the largest hospitals in the province of Punjab, Pakistan receiving patients from all over province of Punjab. After approval from ethical board, we included 100 cases in our study. Cases were divided into two groups of 50. Group A included BOOKED patients. Group B included UNBOOKED patients. All patients had been admitted for delivery. Informed consent for inclusion in study was taken from all patients. We took a specimen of blood for the estimation of patient hemoglobin levels. A level of 10.5 g/dL was taken as cut off with patients having hemoglobin less than this level being considered anemic. Percentage of anemic in both groups was estimated and stratification was done. The study was carried out from August to October 2017.

RESULTS:

50 booked and 50 un-booked patients were included in the study. Group A was comprised of booked patients. Group B comprised of un-booked patients. Mean age of group A patients was 26.12 years. Mean age of group B patients was 28.74.

All patients underwent blood sampling and determination of blood hemoglobin levels. A level of 10.5 g/dl was taken as anemic. The total prevalence of anemia in our study was 49% (49 out of 100). Percentage of anemic patients in group A was 34 %(17 of 50 patients). Percentage of anemic patients in group B was 64% (32 of 50 %). Value of P was calculated to be 0.002, which showed a significant difference between the two groups. When stratification was done it was seen that the most significant factors were illiteracy and low socio-economic status. (Results summarized in table).

Table 1 ANEMIC PATIENTS*

Hb Level		Group A Booked	Group B Un booked
>10.5 NOT Anemic	51	33 (66%)	18(36%)
<10.5 Anemic	49	17(34%)	32(64%)
TOTAL		50	50

*Hemoglobin level <10.5 was taken as anemic
Total patients = n= 100

Table 2
2X2 TABLE

Status	Anemic		
	Yes	No	
Booked	17	33	P= 0.002
Unbooked	32	18	

P= 0.002 and difference is significant

Table 3
Stratification of anemic patients in both groups

GROUP A		GROUP B
EDUCATION LEVEL		
17.64 % (3 OF 17)	ILITERATE	31.25% (10 OF 32)
82.36%	LITERATE	68.75%
SOCIO-ECONOMIC STATUS		
52.94% (9 OF 17)	LOW	84.37% (27 OF 32)
47.05%	MIDDLE	12.5%
PREGNANCY STATUS		
47.05% (8 OF 17)	PRIMy GRAVIDA	43.75% (14 OF 32)
52.94%	MULTIPLE PREGNANCIES	56.25%

DISCUSSION:

Motherhood is one of the most wonderful and joyous time during the life of a woman. Proper care during this period can produce a very satisfying experience and health child and mother. However inaccessibility or poor healthcare during this period is associated with increased maternal morbidity and mortality as well as adverse effect on the outcome of the pregnancy. Emphasis on maternal health care is increasingly being done in our country.

Prevalence of anemia among pregnant women in our study was 49%. The prevalence of anemia among pregnant women in other developing countries ranges from 35% to 81% [6,7]. Our study shows that there was a significant difference between the outcomes in two groups. Booking status having a significant effect in reduction of anemia. WHO recommends antenatal care as one of the interventions with an objective to decrease maternal and perinatal fatalities and recommends a minimum of four visits for a satisfactory level of antenatal care [8].

In our study we didn't find any significant age difference between the two groups. This could be explained by the fact that most of our patients were from an urban area. Another study from Pakistan found similar results [9].

Similarly there was no significant difference in gravida status of the two groups. Almost similar percentage of patients were prima gravida in both groups. This is contrast with other studies which found varying results [10,11].

When stratification among anemic patients was done among both groups it was seen that illiterate un-booked patients had a significant risk of anemia. Similarly low socio-economic patients was a significant in both groups but more so in the un-booked patients. Similar findings were also noted by other researchers [12-14].

The limitation of our study was that it was a small study. A larger study with a bigger sample size should be carried out to further elaborate the results. On the basis of the results it is recommended that efforts to increase booked pregnancy should be taken especially among the low socio-economic status mothers who are most likely to be effected.

CONCLUSION:

On the basis of these findings we conclude that booking status has a significant effect on the outcome of health. Low socio-economic status and education level are also associated with the poor health and booking status.

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