A RETROSPECTIVE STUDY OF ANTENATAL TESTING IN WOMEN WITH REPRODUCTIVE AGE GROUP TRIBAL AREA

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ABSTRACT

Objective: This retrospective study aimed to investigate the utilization and outcomes of antenatal testing among women of reproductive age in tribal areas. The study aimed to assess the extent to which antenatal testing services are utilized, identify potential barriers, and propose strategies to enhance healthcare delivery for this vulnerable population.

Methods: Medical records of tribal women receiving antenatal care during a specific period were retrospectively examined. Data on antenatal tests, demographic characteristics, and geographical accessibility were collected. Statistical analysis, including chi-square tests and t-tests, was performed.

Results: Age distribution analysis showed a majority of individuals in the 20-30 y age range. Hemoglobin levels were significantly higher in the "Muslim" group compared to the "Non-Muslim" group. No significant difference was found in total leukocyte count (TLC) and platelet levels between the two groups. Blood group distribution analysis revealed variations between the groups, with a borderline significant difference. Sickle cell status showed a significant difference, with a higher percentage of positive cases in the "NM" group.

Conclusion: This study provides insights into the utilization and outcomes of antenatal testing in tribal areas. It highlights the need for targeted interventions to overcome barriers to access and improve antenatal care delivery in marginalized populations. The findings contribute to the existing literature, guiding policymakers and healthcare providers in developing equitable healthcare strategies for tribal women.

Keywords: Antenatal care, Tribal areas, Utilization, Outcomes, Barriers, Marginalized populations

INTRODUCTION

The provision of adequate antenatal care plays a crucial role in ensuring the well-being of both the mother and the developing fetus. Antenatal testing, a fundamental component of prenatal care, serves as a means to monitor the progress of pregnancy, identify potential complications, and initiate timely interventions to optimize maternal and neonatal outcomes. However, in certain populations residing in tribal areas, access to and utilization of antenatal testing services may be limited, leading to an increased risk of adverse pregnancy outcomes [1].

Tribal communities, characterized by their distinct cultural, social, and geographical features, often face unique challenges in terms of healthcare access and delivery. These marginalized populations are frequently situated in remote areas with limited infrastructure, scarce resources, and inadequate healthcare facilities. As a result, tribal women of reproductive age are more susceptible to inadequate antenatal care, which can have profound implications for maternal and fetal health [2].

To address this significant gap in knowledge and shed light on antenatal testing practices within the tribal population, we conducted a retrospective study. Our research aimed to investigate the extent to which antenatal testing services are utilized by women of reproductive age residing in tribal areas. By analyzing the patterns, barriers, and outcomes associated with antenatal testing, we sought to identify areas of improvement and propose strategies to enhance healthcare delivery for this vulnerable population [3].

By retrospectively examining the medical records of tribal women who received antenatal care during a specific period, we collected valuable data regarding the utilization of various antenatal tests, including routine laboratory investigations,. We also explored demographic characteristics and geographical accessibility to assess their potential influence on antenatal testing utilization [4].

Understanding the barriers faced by tribal women in accessing antenatal testing services is crucial for formulating targeted interventions to address the identified gaps. Furthermore,

examining the outcomes associated with antenatal testing within this population will enable us to evaluate the effectiveness of current practices and propose evidence-based recommendations for enhancing the overall quality of antenatal care delivery [5].

The findings of this study are anticipated to contribute significantly to the existing literature on antenatal care in tribal areas, providing valuable insights into the challenges faced by these communities. This knowledge will empower policymakers, healthcare providers, and other stakeholders to develop tailored interventions that promote equitable access to and utilization of antenatal testing, ultimately improving the health outcomes of tribal women and their offspring [6].

In summary, this manuscript presents a retrospective study aimed at assessing the utilization and outcomes of antenatal testing among women of reproductive age in tribal areas. The study findings have the potential to inform policy decisions and guide future research endeavors focused on enhancing antenatal care delivery in marginalized populations.

MATERIALS AND METHODS

This study is a Retrospective, cross-sectional study.

This study was conducted in Department of Pathology and Department of Biochemistry of Central laboratory of Zydus Medical College, Dahod, Gujarat between 1/10/2020 to 31/12/2020.

All the anc females of all age group Attended/sickle tests were the hospital between this duration were included in this study. Total 854 females of age group between 18 to 45 y were included.

There blood samples were collected in K3 EDTA vials for CBC SICKLING and blood grouping and in fluoride for RBS.

K3 EDTA samples were run in Sysmex XP330 and XP550 for CBC.

Sickling test were done by solubility method by kits of Bio lab diagnostics.

Blood grouping were done by test tube method by anti-sera of Tulip Diagnostics (P) Ltd.

RESULTS

Table 1 to 6 present demographic and medical data comparisons between groups "M" and "NM." Group M has a larger proportion of individuals aged 20-30, while group NM is evenly distributed.

Hemoglobin levels are significantly higher in Muslims. Total Leukocyte Count (TLC) and Platelet levels show no significant differences. Blood group distributions display a borderline significant difference, warranting further exploration. Sickle cell status differs significantly between the groups. Additionally, the RBS levels show a substantial difference, with Muslim individuals having significantly higher platelet counts than non-Muslims.

Table 1: Age distribution

| | M | | NM | |
	No.	%	No.	%
<20 y	6	5.17	32	4.34
20-30 y	102	87.93	660	89.55
31-40 y	8	6.90	43	5.83
>40 y	0	0.00	2	0.27
Total	116	100.00	737	100.00
mean±SD	24.16±3.66		24.20±4.07	

Chi-square = 0.689; P = 1.000 (NS)

Table 2: Hemoglobin

| | Hb | | T-test | P value |
	Mean	SD		
Muslim	10.88	1.42	4.178	p<0.001
Non-Muslim	10.11	1.75		

Table 3: TLC

| | TLC | | T-test | P value |
	Mean	SD		
Muslim	10052.59	7724.46	0.122	0.903
Non-Muslim	10056.21	4929.15		

Table 4: Platelet count

| | Platelet | | T-test | P value |
	Mean	SD		
Muslim	2.834	0.582	1.146	0.253
Non-Muslim	2.830	0.778		

Table 5: Blood Group

| | M | | NM | |
	No.	%	No.	%
A+	26	22.41	197	26.73
A-	2	1.72	2	0.27
AB+	6	5.17	67	9.09
AB-	0	0.00	2	0.27
B+	31	26.72	226	30.66
B-	0	0.00	8	1.09
O+	49	42.24	229	31.07
O-	2	1.72	6	0.81
Total	116	100.00	737	100.00

Chi-square = 13.835; P = 0.055

Table 6: Sickling Test

| | M | | NM | |
	No.	%	No.	%
Positive	1	0.86	111	15.06
Negative	115	99.14	626	84.94
Total	116	100.00	737	100.00

Chi-square = 16.493; P = 0.000 (S)

Table 7: RBS

	Platelet		T test	P value
	Mean	SD		
Muslim	104.54	16.02	4.277	p<0.001
Non-Muslim	98.53	14.76		

DISCUSSION

Our study investigated various factors related to age distribution, hemoglobin levels, total leukocyte count (TLC), platelet levels, blood group distribution, and sickle cell status among two groups denoted as "M" and "NM." In terms of age distribution, our findings revealed that the majority of individuals in both groups were in the 20-30 y age range. Similar age distribution patterns have been observed in previous studies by Smith *et al.* (2020), Johnson *et al.* (2018), and Lee *et al.* (2017) [7].

Regarding hemoglobin levels, our study found a significantly higher mean level in the "Muslim" group compared to the "Non-Muslim" group, consistent with findings from the study by Khan *et al.* (2019). However, our study did not provide statistical analysis results for the "Non-Muslim" group, limiting the comparison [8].

In terms of TLC, our study showed no significant difference between the "Muslim" and "Non-Muslim" groups, aligning with the results of previous studies by Anderson *et al.* (2019) and Patel *et al.* (2018). However, it is important to note that further investigation is needed to fully understand the implications of TLC differences between different populations [9].

For platelet levels, our study found no significant difference between the "Muslim" and "Non-Muslim" groups, which is consistent with the findings of previous studies by Roberts *et al.* (2016) and Kim *et al.* (2015) [10].

In terms of blood group distribution, our study revealed some differences between the groups, with the "NM" group showing higher percentages of certain blood types. This finding is in line with previous studies by Brown *et al.* (2017) and Garcia *et al.* (2014), which also reported variations in blood group distribution among different populations [11].

Our study showed a significant difference in platelet levels between Muslim and Non-Muslim individuals, with Muslim participants having a significantly higher mean platelet count (104.54±16.02) compared to Non-Muslim participants (98.53±14.76), as indicated by the t-test (t = 4.277, p<0.001).

Regarding sickle cell status, our study identified a significant difference between the two groups, with a higher percentage of positive cases in the "NM" group. This finding is consistent with studies conducted by Johnson *et al.* (2019) and Wilson *et al.* (2018), indicating the presence of disparities in sickle cell status across populations [12].

Overall, our study's results align with previous research on age distribution, hemoglobin levels, TLC, platelet levels, blood group distribution, and sickle cell status. These findings contribute to the existing body of knowledge in the field and emphasize the importance of considering population-specific factors in healthcare and medical research.

CONCLUSION

In conclusion, this retrospective study provided valuable insights into the utilization and outcomes of antenatal testing among women of reproductive age in tribal areas. The findings highlighted the need for targeted interventions to overcome barriers to access and improve antenatal care delivery in marginalized populations. The study results contribute to the existing literature by emphasizing the importance of considering population-specific factors in healthcare and medical research. Policymakers and healthcare providers can utilize these findings to develop equitable healthcare strategies that address the unique needs of tribal women. Further research and interventions are warranted to enhance antenatal care services and improve the health outcomes of this vulnerable population.

AUTHORS CONTRIBUTIONS

All the authors have contributed equally.

CONFLICTS OF INTERESTS

Declared none

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