

Examining the impact of socioeconomic and demographic factors on women's health: A survey-based study of menstrual hygiene, pregnancy, and postpregnancy care in the Gonds Tribe of Sonbhadra, Uttar Pradesh

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ABSTRACT

Introduction: The Gonds tribe, indigenous to the Sonbhadra region in Uttar Pradesh, India, faces unique challenges and disparities in women's health, particularly in the domains of menstrual health, pregnancy, and postpregnancy care. This study aims to shed light on the demographic patterns of these critical aspects of women's health among the Gonds tribe, providing valuable insights for healthcare interventions and policy development. **Aim:** This study explores the demographic and socioeconomic factors affecting Gond women's health, focusing on menstrual hygiene and life stages before, during, and after pregnancy. **Methodology:** We collected data on menstruation wellness behaviors, pregnancy experiences, and postpregnancy care by conducting an extensive survey among Gonds women in the Sonbhadra area. In addition, focus groups and qualitative interviews were used to acquire greater knowledge of the socioeconomic and social factors impacting these health-distinctive characteristics. **Result:** The Chi-square test shows no significant link between age group and menstrual hygiene product use. Young women (under 18) mostly use cotton cloth (56%). Women aged 18–49 prefer cotton cloth (53.2%). Women 50+ use cotton cloth (43.2%), cotton (29.7%), and sanitary napkins (27%). Marital status affects product use and cycle regularity. Cultural beliefs and education influence healthcare decisions. Menstrual hygiene mainly involves cotton cloth (45%) and cotton (26.1%). **Conclusion:** In conclusion, our analysis uncovers key insights: Marital status, healthcare access, education, cultural beliefs, and reproductive health practices influence community healthcare decisions. These findings inform tailored interventions to enhance health outcomes and equity.

Keywords: Gonds tribe, healthcare interventions, menstrual health, postpregnancy care, pregnancy, women's health

Introduction

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The Gonds represent one of India's largest tribal communities, predominantly inhabiting regions spanning Madhya Pradesh, Telangana, Maharashtra, Bihar, and Uttar Pradesh.^[1] Their historical legacy traces back to the establishment of the Chanda

Received: 03-04-2024

Revised: 31-05-2024

Accepted: 07-06-2024

Published: 18-10-2024

Access this article online

Quick Response Code:



Website:
<http://journals.lww.com/JFMPC>

DOI:
10.4103/jfmprc.jfmprc_555_24

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How to cite this article: Singh S, Sharma P, Singh RR, Tripathi SK, Yadav PK. Examining the impact of socioeconomic and demographic factors on women's health: A survey-based study of menstrual hygiene, pregnancy, and postpregnancy care in the Gonds Tribe of Sonbhadra, Uttar Pradesh. J Family Med Prim Care 2024;13:4663-70.

kingdom in 1200 AD, marking a significant chapter in their narrative.^[2] Throughout history, the Gonds exhibited resilience, spearheading revolts and actively contributing to India's struggle for independence against British colonialism.^[3] Their cultural heritage boasts remarkable art, architecture, governance, and empire-building achievements.^[4] Central to their religious beliefs is the revered Parsa Pen. Notably, Gond women hold esteemed societal positions, mirroring the respect accorded to their male counterparts. Engaged in multifaceted roles both within and outside their households, Gond women contribute significantly to their community's fabric and vitality.^[5]

Women's health is a vital aspect of public health and expansion, and establishing successful healthcare treatments and policies requires an awareness of the particular difficulties that each

community faces.^[6] The Gonds tribe, who live in the Sonbhadra area of Uttar Pradesh, India [Figure 1a and b], are the subject of this research, which explores the demographic trends of women's health with an emphasis on menstruation health, pregnancy, and postpartum care.^[7] The health experiences of the Gonds, an Indigenous tribe with a cultural heritage that is distinctive, are influenced by aspects that are connected to their low socioeconomic situation and are culturally peculiar. The Gonds tribe in Sonbhadra, Uttar Pradesh, faces significant menstrual hygiene, pregnancy, and postpregnancy challenges due to limited healthcare access, inadequate sanitation, and cultural taboos. Improved education, healthcare infrastructure, and community engagement are essential to address these issues and enhance health outcomes for women in this community.^[8,9] This research aims to shed light on these critical aspects of women's

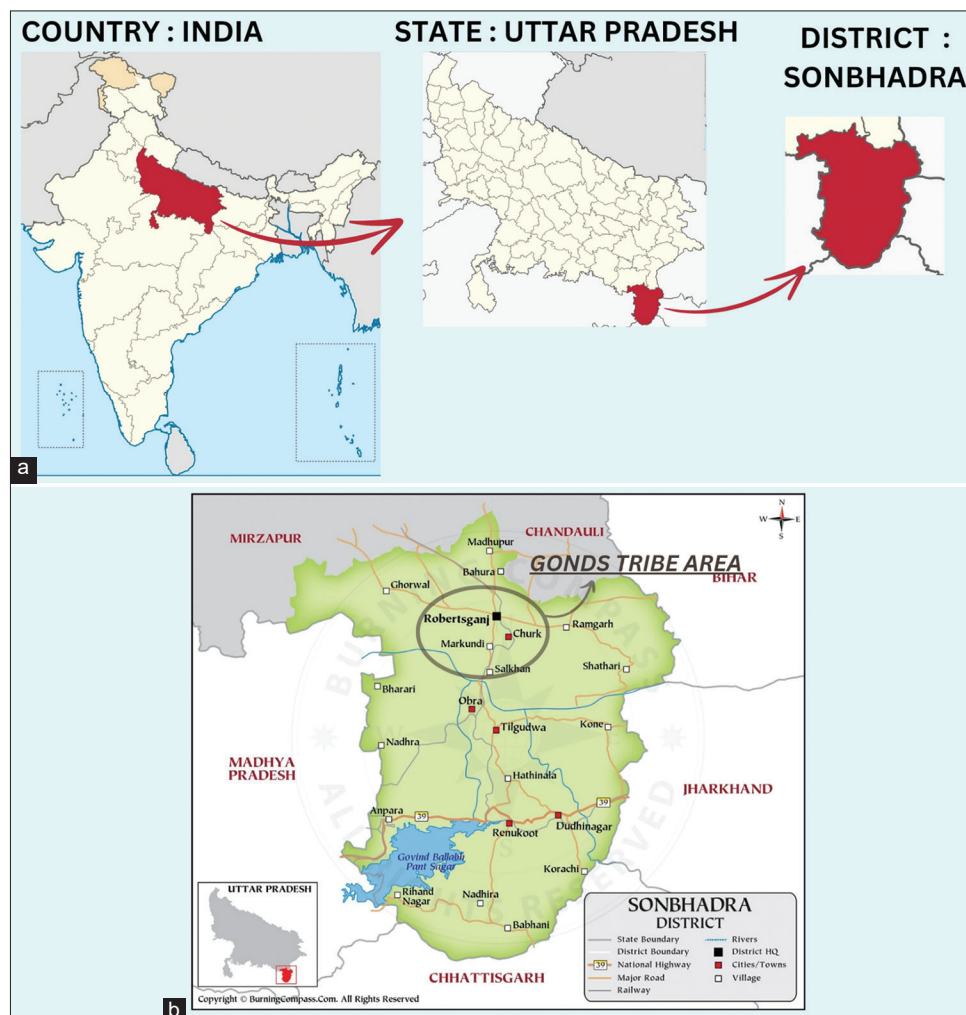


Figure 1: This map a and b depicts the geographical location of the Gond tribe within India, specifically in the state of Uttar Pradesh, district of Sonbhadra.

health within the Gonds tribe, providing valuable insights that can guide healthcare initiatives and policies tailored to their unique needs. Sonbhadra, Uttar Pradesh's Gond Tribe, is one of the largest indigenous communities in India; the Gonds are mostly found in the mountainous and densely forested regions of central

India [Figure 1a and b].^[10] The Gonds comprise a significant percentage of the native population in the Uttar Pradesh district of Sonbhadra. With their language, traditions, and rituals that have been passed down through the ages, the Gonds have a rich cultural legacy.^[10,11] Their distinctive way of life is strongly

Table 1: Socioeconomic and demographic variables

Demographic Variable	Frequency	Percent
Marital Status		
Married	149	59.6
Not Married	56	22.5
Widow	30	12
Divorced	15	6
Total	250	100
Availability of Healthcare Services in The Community		
High	51	20.4
Less	142	56.8
Moderate	57	22.8
Total	250	100
Education level		
Illiterate	198	79.1
Literate	52	20.9
Total	250	100
Influence of cultural beliefs on healthcare decisions		
Yes	158	63.2
No	92	36.8
Total	250	100

Table 2: Mensural Hygiene Variable

Mensural Hygiene Variable	Frequency	Percent
Menstrual cycle regularity		
Not Started	16	6.4
Menopause	21	8.4
Regular	178	71.2
irregular	35	14.0
Total	250	100
Menstrual cycle length		
3	30	12
4	66	26.4
5	69	27.6
6	57	22.8
7	20	8
8	6	2.4
9	2	0.8
Total	250	100
Menstrual Pain Severity		
2	3	1.2
3	16	6.4
4	20	8.0
5	36	14.4
6	50	20
7	41	16.4
8	48	19.2
9	25	10.0
10	11	4.4
Total	250	100
Menstrual Hygiene products		
Cotton	75	30
Cotton cloth	130	52
Sanitary Napkins	45	18
Total	250	100

linked to the environment, and they make their living mostly from forest products and agriculture.^[12] The Gonds frequently

suffer from socioeconomic marginalization, with limited access to economic opportunities, healthcare, and education, despite their significant cultural variety and contribution to Indian civilization.^[13] Globally, women's health is essential to public health, and based on their sociocultural background, women may encounter a broad range of experiences and difficulties.^[14] Critical aspects of women's health include menstruation, pregnancy, and postpartum care, which affect not just the individual women but also their families and communities.^[15] To ensure adequate utilization of healthcare facilities and enhance health outcomes, it is imperative to comprehend the demographic trends of the above characteristics.^[16] The Gonds tribe faces particular difficulties in these areas, much like many other indigenous and underprivileged tribes, which calls for focused research and care.^[17] Menstruation is a normal and physiological process for women, but when access to hygienic products, cultural norms, and cleanliness is not enough, it can cause many problems.^[18] These difficulties can be made harsher for women of the Gonds tribe by customs, outdated understanding of period hygiene, and limited access to menstruation supplies.^[19] To fill these gaps and ensure that women's experiences are respected, well maintained, and powerful, it is imperative to investigate the demographic trends of menstruation health among the Gonds tribe.^[20] One of a woman's most important life stages, pregnancy, necessitates appropriate healthcare for the mother and the unborn child.^[21] Due to socioeconomic conditions and their distant location, the Gonds tribe in Sonbhadra may face pregnancy-related challenges such as poor nutrition, restricted access to prenatal care, and an increased risk of problems. It is crucial to comprehend the demographic trends of pregnancy experiences in this community to customize healthcare treatments that are sensitive to cultural differences and meet the unique requirements of Gonds women during this crucial time.^[22] The Gonds tribe is one of several groups with limited opportunities that frequently overlook postpregnancy care. Both the mother's and the newborn's health depend on proper postpartum care, and neglecting this time can result in several wellness issues. Within the Gonds tribe, cultural norms, a sparse healthcare system, and financial limitations all impact postpartum care. To identify areas for improvement and develop measures to guarantee that Gond's mothers and their newborns receive the care they require, it is imperative to analyze the demographic trends of postpregnancy care within this community. This study is important from multiple perspectives. First of all, analyzing the demographic trends of menstruation health, pregnancy, and postpregnancy care within an indigenous tribal population in India contributes to the larger field of women's health. In doing so, it addresses the gap in the literature and provides light on the particular difficulties that the Gonds tribe faces. Furthermore, this research holds practical significance as it can contribute to facilitating the development of healthcare policies and programs that are sensitive to cultural differences and specifically targeted at the Gonds community, therefore enhancing the health and overall well-being of Gonds women and their families. In the final least, this study supports international initiatives that support fair access to healthcare for all people, irrespective of their socioeconomic or cultural origins.

Table 3: Pregnancy-Related Variable

Pregnancy-Related Variable	Frequency	Percent
Age at first pregnancy		
18	1	0.4
19	28	11.2
20	33	13.6
21	41	16.4
22	82	32.6
23	34	13.6
24	16	6.4
25	5	2.0
26	6	2.4
27	2	0.8
28	1	0.4
Total	250	100
Pregnancy complication		
Nausea	75	30
No Issue	69	27.6
Bleeding	26	10.4
High Blood Pressure	36	14.4
Anemia	20	8
Diabetes	16	6.4
Preterm labor	8	3.2
Total	250	100
Type of Delivery		
Vaginal	207	82.8
Cesarean	43	17.2
Total	250	100
ANC visit		
Irregular	149	59.6
If needed	51	20.4
Regular	50	20.0
Total	250	100
Birth Outcome		
Live Birth	195	78
Still Birth	55	22
Total	250	100
Postnatal care visits		
Irregular	155	62
Regular	47	18.8
If needed	48	19.2
Total	250	100
Breastfeeding Practices		
Yes	201	80.4
No	49	19.6
Total	250	100
Contraceptive Use		
Irregular	80	32.0
Regular	66	26.4
If needed	74	29.6
Not yet	30	12.0
Total	250	100

Methodology

The study focuses on women's health among the Gonda tribe in Sonbhadra district, Uttar Pradesh. The target population for this study includes women from the Gonda tribe residing in

Sonbhadra district, Uttar Pradesh. A simple random sampling design was used to collect the data.

Data collection

A detailed questionnaire was developed through an extensive literature review on women's health issues, and a desired sample size of 250 female participants was collected.

Inclusion criteria

1. Female participants aged 15 to 60 years.
2. Must be residents of the Gonds tribe in Sonbhadra, Uttar Pradesh.
3. Willing and able to provide informed consent.
4. Willing to share personal health information related to menstrual hygiene, pregnancy, and postpregnancy care.
5. Able to understand and communicate in the local language or dialect.

Exclusion criteria

1. Women who are not part of the Gonds tribe or not residing in Sonbhadra, Uttar Pradesh.
2. Women younger than 15 years.
3. Unable or unwilling to provide informed consent.
4. Women with severe mental or physical health conditions that prevent them from participating in the survey.
5. Participants who do not provide complete or reliable responses to the survey questions.

Sample size

$$n = \frac{Z^2 p (1 - p)}{d^2}$$

where n represents the required sample size, z is the statistic corresponding to the level of confidence, p denotes the expected proportion, and d signifies the margin of error; we calculated the sample size. Employing a 95% level of confidence and a 6.2% margin of error, considering the expected female ratio p = 50% in the Gonda Tribe of Uttar Pradesh, the derived sample size is 250.

Statistical analysis

Statistical analysis was conducted using SPSS software. Descriptive statistics were used to summarize the demographic characteristics of the respondents. Inferential statistics, such as Chi-square tests, were employed to identify patterns and associations between different health variables and socioeconomic variables.

Result

The demographic analysis revealed that a majority of the respondents, 59.6%, were married, while 22.5% were not married, 12% were widows, and 6% were divorced. Regarding the availability of healthcare services in the community, 56.8% of participants reported that services were less available, 22.8% rated availability as moderate, and 20.4% rated it as

high. In terms of education level, a significant majority of the participants, 79.1%, were illiterate, while 20.9% were literate. When examining the influence of cultural beliefs on healthcare decisions, 63.2% of the respondents indicated that cultural beliefs did influence their decisions, whereas 36.8% said they did not [Table 1]. The demographic analysis revealed that a majority of the respondents, 59.6%, were married, while 22.5% were not married, 12% were widows, and 6% were divorced. Regarding the availability of healthcare services in the community, 56.8% of participants reported that services were less available, 22.8% rated availability as moderate, and 20.4% rated it as high. In terms of education level, a significant majority of the participants, 79.1%, were illiterate, while 20.9% were literate. When examining the influence of cultural beliefs on healthcare decisions, 63.2% of the respondents indicated that cultural beliefs did influence their decisions, whereas 36.8% said they did not. For age at first pregnancy, the distribution was as follows: 32.6% of participants were 22 years old, 16.4% were 21 years old, 13.6% were 20 years old, another 13.6% were 23 years old, 11.2% were 19 years old, 6.4% were 24 years old, 2.4% were 26 years old, 2% were 25 years old, 0.8% were 27 years old, and 0.4% were 18 or 28 years old. Concerning pregnancy complications, 30% of respondents experienced nausea, 27.6% reported no issues, 14.4% had high blood pressure, 10.4% had bleeding, 8% had anemia, 6.4% had diabetes, and 3.2% had preterm labor. In terms of delivery type, 82.8% had vaginal deliveries, while 17.2% had cesarean sections. Antenatal care (ANC) visits were irregular for 59.6% of participants, 20.4% attended if needed, and 20% had regular visits. Regarding birth outcomes, 78% of respondents had live births, and 22% had stillbirths. Postnatal care visits were irregular for 62% of participants, 19.2% attended if needed, and 18.8% had regular visits. Breastfeeding practices showed that 80.4% of mothers breastfed their babies, while 19.6% did not. Finally, contraceptive use was irregular for 32% of participants, 29.6% used it if needed, 26.4% used it regularly, and 12% had not yet used contraceptives. The Chi-square test indicates no significant association between age group and menstrual hygiene product use. Young women (less than 18) predominantly use cotton cloth (56%), while the use of sanitary napkins is lower (20%). The majority of women aged 18 to 49 use cotton cloth (53.2%), with a notable percentage using cotton (30.9%). Women aged 50 and above show a balanced use of cotton (29.7%), cotton

cloth (43.2%), and sanitary napkins (27%) [Tables 2 and 3]. The Chi-square value of 284.634 with a significant *P* value indicates a strong association between age groups and menstrual cycle regularity with younger women (less than 18) primarily not having started their cycles, women aged 18 to 49 mostly having regular cycles, and women aged 50 and above predominantly being in menopause [Table 4]. Married women predominantly use cotton cloth (56.4%), with significant use of cotton (22.1%) and sanitary napkins (21.5%). Women not married also show a high use of cotton cloth (51.8%) and cotton (33.9%). Widowed and divorced women show varying patterns, with widows using cotton (46.7%) and cotton cloth (40%) and divorced women predominantly using cotton (60%). The Chi-square test indicates a significant association between marital status and menstrual hygiene product use. The Chi-square value of 96.033 with a significant *P* value indicates a strong association between marital status and menstrual cycle regularity. Married women are mostly experiencing regular menstrual cycles, with a small percentage in menopause or having irregular cycles. Women not-married have a higher proportion of not-started cycles and regular cycles. Widowed women have a significant percentage in menopause, with a balance between regular and irregular cycles [Table 5]. There is no significant difference in cultural beliefs on healthcare decisions between illiterate and literate women, with a Chi-square value of 0.002. There is a significant difference in the regularity of postnatal care visits based on education level. Literate women are more likely to have regular postnatal care visits compared to illiterate women, as indicated by the significant Chi-square value of 6.049. There is no significant difference in the choice of menstrual hygiene products between illiterate and literate women, as indicated by the nonsignificant Chi-square value of 3.696. Both groups show similar usage patterns of cotton, cotton cloth, and sanitary napkins [Table 6]. There is a significant difference in the influence of cultural beliefs on healthcare decisions between those who had vaginal deliveries and those who had cesarean deliveries. Specifically, women who had stillbirths were more likely to have had vaginal deliveries (94.5%) compared to cesarean deliveries (5.5%). This suggests that cultural beliefs may play a role in the type of delivery chosen, particularly in cases of stillbirths. There is no significant difference in breastfeeding practices between those who had vaginal deliveries and those who had cesarean deliveries, as indicated by the nonsignificant

Table 4: Association between the Age Group and Menstrual Hygiene

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Age Group	Less than 18	18 to 49	50 and above	Total	χ^2
Menstrual Hygiene products					
Cotton	6 (24)	14 (56)	5 (20)	25 (100)	3.186
Cotton Cloth	58 (30.9)	100 (53.2)	30 (16)	188 (100)	
Sanitary Napkins	11 (29.7)	16 (43.2)	10 (27)	37 (100)	
Total	75 (30)	130 (52)	45 (18)	250 (100)	
Menstrual Cycle Regularity					
Not Started	16 (64)	0 (0)	0 (0)	16 (6.4)	284.634**
Menopause	0 (0)	0 (0)	21 (56.76)	21 (8.4)	
Regular	7 (28)	158 (84.04)	13 (35.14)	178 (71.2)	
Regular	2 (8)	30 (15.96)	3 (8.11)	35 (14)	
Total	25 (100)	188 (100)	37 (100)	250 (100)	

Table 5: Association between the Marital Status and Menstrual Hygiene

Marital Status	Married	Not Married	Widow	Divorced	Total	χ^2
Menstrual Hygiene products						
Cotton	33 (22.1)	19 (33.9)	14 (46.7)	9 (60)	75 (30)	15.876*
Cotton Cloth	84 (56.4)	29 (51.8)	12 (40)	5 (33.3)	130 (52)	
Sanitary Napkins	32 (21.5)	8 (14.3)	4 (13.3)	1 (6.7)	45 (18)	
Total	149 (100)	56 (100)	30 (100)	15 (100)	250 (100)	
Menstrual Cycle Regularity						
Not Started	1 (0.7)	15 (26.8)	0 (0)	0 (0)	16 (6.4)	96.033*
Menopause	9 (6.0)	0 (0)	12 (40)	0 (0)	21 (8.4)	
Regular	119 (79.9)	34 (60.7)	13 (43.3)	12 (80)	178 (71.2)	
Regular	20 (13.4)	7 (12.5)	5 (16.7)	3 (20)	35 (14)	
Total	149 (100)	56 (100)	30 (100)	15 (100)	250 (100)	

Chi-square value of 0.440. Both groups show similar rates of breastfeeding, indicating that the type of delivery does not significantly impact breastfeeding practices [Table 7].

Discussion

The results of this study provide a comprehensive overview of the participants' demographic characteristics, menstrual hygiene practices, and pregnancy-related experiences. The demographic analysis revealed that a significant majority of respondents were married, which is consistent with other studies indicating high marriage rates in similar settings (UNICEF, 2019).^[23] The reported availability of healthcare services as predominantly low suggests systemic issues in healthcare provision that need addressing (WHO, 2019). Access to healthcare is critical as limited availability can negatively impact health outcomes, particularly for women who require regular maternal and reproductive health services.^[24] Menstrual hygiene practices showed a predominant use of cotton cloth, especially among younger and married women. This aligns with findings from other research indicating economic constraints and limited access to sanitary products as common reasons for the use of less hygienic materials (Sommer *et al.*, 2016).^[25] The significant association between age and menstrual cycle regularity, where younger women had not started their cycles and older women were predominantly in menopause, highlights the importance of providing age-appropriate reproductive health education (UNFPA, 2013–2014).^[26] Pregnancy-related variables revealed common complications such as nausea and high blood pressure, with a majority of deliveries being vaginal. The high rate of irregular antenatal care (ANC) visits (59.6%) is concerning as regular ANC is crucial for monitoring and ensuring maternal and fetal health (Carroli *et al.*, 2001).^[27] Postnatal care practices and breastfeeding rates were generally positive, with a majority of mothers engaging in breastfeeding. However, the irregularity of postnatal care visits, particularly among illiterate women, highlights a gap in continuous maternal care. This finding aligns with the significant association between education level and regular postnatal care visits, indicating that improving literacy could enhance healthcare utilization (Victora *et al.*, 2016).^[28] Contraceptive use patterns showed a mix of regular, irregular, and conditional use, with a notable proportion not yet using

Table 6: Association between the Marital Status and Menstrual Hygiene

Education Level	Illiterate	Literate	Total	χ^2
Influence of cultural beliefs on healthcare decisions				
Yes	125 (79.1)	33 (20.9)	158 (100)	0.002
No	73 (79.3)	19 (20.7)	92 (100)	
Total	198 (79.2)	52 (20.8)	250 (100)	
Postnatal Care Visits				
Irregular	102 (84.3)	19 (15.7)	121 (100)	6.049*
Regular	18 (64.3)	10 (35.7)	28 (100)	
If needed	34 (82.9)	7 (17.1)	41 (100)	
Total	154 (81.1)	36 (18.9)	190 (100)	
Menstrual Hygiene products				
Cotton	60 (30.3)	15 (28.8)	75 (30.0)	3.696
Cotton Cloth	107 (54.0)	23 (44.2)	130 (52.0)	
Sanitary Napkins	31 (15.7)	14 (26.9)	45 (18)	
Total	198 (100)	52 (100)	250 (100)	

Table 7: Association between the Type of Delivery and Breastfeeding Practices

Type of Delivery	Vaginal	Cesarean	Total	χ^2
Influence of cultural beliefs on healthcare decisions				
Live Birth	155 (79.5)	40 (20.5)	195 (100)	6.830**
Still Birth	52 (94.5)	3 (5.5)	55 (100)	
Total	207 (82.8)	43 (17.2)	250 (100)	
Breastfeeding Practices				
Yes	168 (83.6)	33 (16.4)	201 (100)	0.440
No	39 (79.6)	10 (20.4)	49 (100)	
Total	207 (82.8)	43 (17.2)	250 (100)	

contraceptives. This reflects varying levels of awareness and acceptance of family planning methods, potentially influenced by cultural beliefs and education levels (Cleland *et al.*, 2012).^[29] A study by Kumar *et al.*^[30] found that 81.7% of 584 respondents practiced good menstrual hygiene. The study showed a significant positive correlation between good menstrual hygiene practices, higher education (AOR = 9.3), and higher socioeconomic status (AOR = 9.27). A similar study by Goel *et al.*^[31] found the mean age of women was 26.53 ± 0.295 years. While 88.3% had

good knowledge about menstrual hygiene, only 32.3% had a positive attitude. Over two-thirds used sanitary pads. Knowledge was significantly associated with marital status ($P = 0.034$) and occupation ($P = 0.046$), while attitude was significantly linked to socioeconomic status ($P = 0.001$). A study by Anand *et al.*^[32] found that only 15% of Indian women used sanitary pads or locally prepared napkins during menstruation. Nonuse of hygienic methods was linked to higher rates of RTIs and vaginal discharge, with increased odds of RTI (OR = 1.046, $P < 0.001$, CI = 1.021–1.071) and vaginal discharge (OR = 1.303, $P < 0.001$, CI = 1.266–1.341). A study by Chen *et al.*^[33] found that 387 women (40.6%) had cesarean deliveries and 567 (59.4%) had vaginal deliveries. The exclusive breastfeeding rates at 1, 3, and 6 months were 80.2%, 67.4%, and 21.5%. Cesarean delivery was associated with lower breastfeeding rates, increased formula use in hospitals, delayed breastfeeding initiation, and shorter breastfeeding duration (HR = 1.40, 95% CI [1.06, 1.84]).

Conclusion

In conclusion, our comprehensive analysis of socioeconomic, demographic, menstrual hygiene, and pregnancy-related characteristics has unveiled significant insights within the studied population. Marital status, healthcare availability, education level, cultural beliefs, and reproductive health practices are all key influencers of healthcare decisions and behaviors in the community. The prevalence of marriage underscores its potential impact on healthcare choices, while challenges in accessing healthcare resources highlight the urgent need for improved infrastructure. Illiteracy rates accentuate disparities in education access, affecting health literacy and healthcare-seeking behaviors. Cultural beliefs necessitate culturally sensitive interventions, and analysis of menstrual hygiene practices reveals both traditional methods' prevalence and barriers to modern products, emphasizing the necessity for accessible options. Insights into pregnancy-related variables stress the importance of targeted reproductive health education and comprehensive antenatal care. Although vaginal deliveries predominate, the incidence of stillbirths signals the demand for enhanced prenatal and perinatal services. Overall, these findings form the basis for tailored interventions and policies to promote reproductive health, reduce disparities, and enhance maternal and child health outcomes in the community, fostering a healthier and more equitable future for all.

Recommendations and prevention strategies

To address menstrual hygiene, pregnancy, and postpregnancy issues in the Gonds tribe, it is essential to educate on menstrual health, provide affordable sanitary products, and improve sanitation facilities. Increasing antenatal care access, offering nutritional support, and training healthcare providers are crucial for pregnancy care. Promoting postnatal care, addressing maternal health issues, and enhancing infant care are vital for postpregnancy. Community engagement involving leaders, empowering women, and fostering Government–NGO collaboration are also key strategies.

Ethical considerations

Throughout the research process, ethical principles such as informed consent, confidentiality, and respect for participants' autonomy were upheld. Measures were taken to ensure the anonymity of participants and the confidentiality of their responses.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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