

BARRIERS TO ACCESS AND UTILIZATION OF MATERNAL AND CHILD HEALTHCARE SERVICES AMONG TRIBAL MOTHERS IN KANCHIPURAM-A MIXED-METHOD STUDY

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ABSTRACT

Background: Maternal and child health (MCH) is a key indicator of the effectiveness of a healthcare system. Tribal populations in India experience disproportionately poor maternal and neonatal outcomes, with higher perinatal risks and lower immunization coverage compared to the national average. Socio-cultural practices, poverty, geographic isolation, limited awareness, and systemic barriers significantly hinder access to essential maternal and child healthcare services.

Objectives: To assess the maternal and child health profile of tribal mothers with under-five children in rural tribal areas of Kanchipuram district; to identify major barriers affecting access and utilization of maternal and newborn healthcare services; and to explore healthcare providers' perceptions regarding challenges faced by tribal mothers.

Methods: A community-based mixed-method study was conducted over three months (January 1–March 31, 2026) in Singadivakkam village, Kanchipuram. Seventy tribal mothers were selected using purposive sampling. Quantitative data were collected using a validated semi-structured questionnaire, while qualitative insights were obtained through one focus group discussion (n=7) and in-depth interviews with a Village Health Nurse and a Mid-Level Health Provider. Data were analyzed using descriptive statistics, chi-square test, independent t-test, and logistic regression. Thematic analysis, force field analysis, and trend analysis were performed for qualitative findings.

Results: Most participants were aged 23–25 years (50%) and had education up to 8th standard (50%). Although 100% reported early initiation of breastfeeding and full immunization of children, 40% did not receive postnatal home visits, and 20% practiced pre-lacteal feeding. Monthly income showed a borderline significant association with health service utilization ($\chi^2=7.82$, $p=0.05$). Key barriers identified included financial constraints, transportation difficulties, early marriage, illiteracy, misconceptions regarding vaccination, and limited access to higher referral centers. Facilitators included community health worker support, financial incentives, free transport services, and regular health education sessions.

Conclusion: Despite improvements in breastfeeding and immunization practices, tribal mothers continue to face socio-economic and systemic barriers to optimal maternal healthcare utilization. Strengthening culturally sensitive health education, improving transportation and referral systems, and enhancing community-based outreach services are essential to ensure equitable maternal and child health outcomes among tribal populations.

KEYWORDS: Tribal mothers, maternal health, child health, healthcare utilization, barriers, mixed-method study, Kanchipuram.

INTRODUCTION

Health is widely recognized as a fundamental human right and a key element for individual well-being and development. The World Health Organization highlights that health encompasses not only the absence of illness but also a state of complete physical, mental, and social well-being, emphasizing the necessity for accessible and equitable healthcare services for everyone. However, significant disparities in healthcare access and utilization persist in India, particularly affecting its most vulnerable groups. Among these, the tribal or Adivasi communities represent a substantial segment of the population that requires focused attention due to ongoing socio-economic and cultural disadvantages. India hosts the largest tribal population globally, comprising approximately 104 million individuals or 8.6% of the total national population, as per the 2011 Census data ¹. These indigenous groups are mainly located in geographically isolated and socioeconomically

disadvantaged regions, including forested and hilly areas, and frequently lack essential infrastructure, such as healthcare facilities. Despite specific government initiatives and constitutional safeguards, tribal communities continue to face poor health outcomes, insufficient healthcare coverage, and considerable obstacles to accessing services ².

Maternal and child health (MCH) serves as a vital measure of a nation's healthcare system's effectiveness. For tribal populations, maternal and neonatal health outcomes are particularly alarming. Research indicates that tribal women face disproportionately high perinatal risks, with a stillbirth rate of 11.77%, compared to 8.86% among non-tribal women, especially concerning preterm births. These disparities are exacerbated by various socio-cultural and systemic issues, including illiteracy, poverty, geographical barriers, and traditional beliefs, which hinder their access to and use of modern healthcare services. Immunization stands out as one of the most effective public health interventions. Vaccination is among the most impactful public health strategies for decreasing child mortality and morbidity. Nevertheless, the immunization rate for tribal children in India is only 56%, which is below the national average of 62%. This situation highlights systemic exclusion and reveals ongoing deficiencies in healthcare delivery within tribal areas ³. Factors such as lack of awareness, logistical obstacles, and skepticism towards modern medicine contribute to the reduced utilization of vital health services, including antenatal care, institutional deliveries, and postnatal care.

Health-seeking behavior is influenced by a complex interaction of factors including awareness, accessibility, affordability, acceptability, and availability ⁴. For tribal mothers, this behavior is molded by various elements such as social norms, gender roles, perceived quality of care, infrastructural shortcomings, and systemic neglect. Grasping these determinants is crucial for developing effective interventions that cater to their distinct requirements. Hence, this study was undertaken to evaluate the maternal and child health status of tribal mothers with children under the age of five in the rural tribal regions of Kanchipuram district ⁵. It aimed to identify the key barriers that prevent these mothers from accessing and utilizing essential maternal and newborn healthcare services. Additionally, the study sought to explore the perceptions of healthcare providers regarding the needs, challenges, and service gaps faced by tribal mothers in these communities, thereby providing a comprehensive understanding of the factors influencing maternal and child healthcare utilization in this vulnerable population.

Aims & Objectives

- To **Assess** the maternal and child health profile of tribal mothers of under 5 children in rural tribal areas of Kanchipuram.
- To **Identify** the major barriers preventing tribal mothers from accessing and utilizing maternal and new-born healthcare services.
- To **Examine** the perceptions of healthcare providers regarding the needs and challenges faced by tribal mothers.

MATERIALS AND METHODS

Place of the study: Rural tribal areas in Singadivakkam village, Kanchipuram

Study population: Tribal mothers of under 5 children.

Study period: 3 months(January 1 to March 31 ,2026)

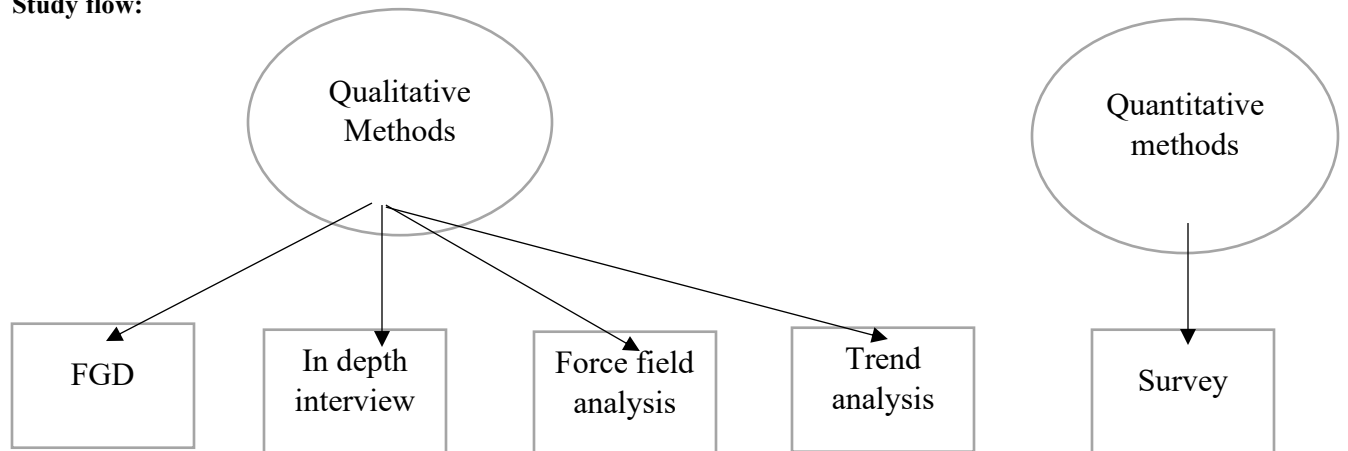
Study design: Mixed method study

Study instrument: A validated semi structured questionnaire was used for survey and interview guide used for FGD and in-depth interviews

Sample Size Calculation: The sample size was initially estimated at 70 based on an ANC service utilization prevalence of 80.8% reported by Jyoti Ghosal et al. (2024) in Health Research Policy and Systems. Assuming a 95% confidence level, 5% absolute precision, and an available population size of 100, the calculated minimum sample size was 70. A total of 70 mothers who met the inclusion criteria were included in the final analysis.

Sampling method: Purposive sampling.

Study flow:



Inclusion criteria:

- Tribal mothers, who were willing to participate were included in the study.
- Pregnant and lactating women were also included.

Exclusion criteria:

- Tribal mothers who were not willing to participate were excluded from the study.

Data collection procedure:

- **Qualitative Methods:** Focus group discussion(FGD)-7 tribal mothers, In-depth interviews with community health workers(1 VHN and 1 MLHP) to explore their perspectives and experiences. Force field analysis to identify the driving forces that encourage the utilization of maternal and child healthcare services and the restraining forces that hinder it. Trend analysis to identify and analyse trends in maternal and child healthcare utilization and home based newborn care practices.
- **Quantitative Methods:** Validated questionnaire to collect data on socio-demographic characteristics, healthcare utilization patterns, and perceived barriers

Data analysis: In this research, data analysis was conducted utilizing both descriptive and inferential statistical techniques tailored to the measurement scale of each variable. Categorical variables, including education, occupation, pregnancy outcomes, delivery locations, and immunization practices, were summarized through frequencies and percentages, with the Chi-square test employed to evaluate associations among selected variables. Quantitative variables such as age and total monthly income were examined using means and standard deviations to represent central tendency and variability. For specific variables like age at marriage, age at first marriage, birth weight, and the number of antenatal/postnatal visits, frequencies and percentages were computed, and logistic regression was utilized to ascertain the odds ratio and evaluate the relationship between factors such as age at marriage and pregnancy outcomes. This thorough methodology yielded both summary insights and inferential connections among the variables. For qualitative component, data was represented in charts for force field analysis and trend analysis, and thematic analysis was used to analyze the Focus Group Discussion and in-depth interview data.

Ethical consideration: Approval from the Institutional ethics committee of Karpaga Vinayaga Institute of Medical Sciences and Research Centre was obtained. Privacy and confidentiality of data was maintained.

RESULTS

Table.1 Socio-Demographic and Antenatal Care Characteristics of Study Participants (N = 72)

S. No	Study Variables	Frequency (N = 72)	%	S. No	Study Variables	Frequency (N = 72)	%
1	Education			7	Why did you not take treatment?		
	Illustrate	5	6.9		Costs too much	1	1.4
	Primary	41	56.9		Distance of health facility	23	31.9
	Secondary	19	26.4		Could not get away from family responsibilities	42	58.3

	Higher Secondary	7	9.7		Facility not open, Not aware	6	8.3
2	Occupation			8	Number of AN checkups in total or till date		
	Skilled	53	73.6		< 3	39	54.2
	Unskilled	19	26.4		> 3	33	45.8
3	Number of pregnancies till date(GPLA)			9	Registration month after confirmation of pregnancy		
	L1A0	43	59.7		1 week	5	6.9
	L1A1	3	4.2		2 months	57	79.2
	L2A0	24	33.3		3 months	7	9.7
	L2A1	2	2.8		4 months	3	4.2
4	With whom did you first register?			10	How many times did you receive AN care during this pregnancy?		
	ANM	4	5.6		One time	23	31.9
	AWW	1	1.4		Two time	24	33.3
	VHN	67	93.1		Three time	25	34.7
5	Number of AN checkups in total or till date			11	Monthly Income		
	< 3	39	54.2		< 7000	48	66.7
	> 3	33	45.8		> 7000	24	33.3
6	Age in years			12	Baby birth weight in kg		
	< 25	50	69.4		< 2.5	47	65.3
	> 25	22	30.6		> 2.5	25	34.7

The socio-demographic and antenatal care characteristics of the study participants (N = 72) reveal that more than half of the respondents had primary education (56.9%), followed by secondary education (26.4%), while a smaller proportion had higher secondary education (9.7%) and only 6.9% were illiterate. The majority of participants were engaged in skilled occupations (73.6%), whereas 26.4% were unskilled workers. In terms of age distribution, most of the women were below 25 years (69.4%), while 30.6% were above 25 years. With respect to monthly income, a significant proportion of respondents (66.7%) earned less than ₹7000, whereas 33.3% reported an income above ₹7000.

Regarding obstetric characteristics, the majority of participants were categorized as L1A0 (59.7%), followed by L2A0 (33.3%), while only a small percentage belonged to L1A1 (4.2%) and L2A1 (2.8%) groups. A considerable proportion of newborns had a birth weight of less than 2.5 kg (65.3%), while 34.7% weighed more than 2.5 kg. In terms of antenatal care utilization, most women registered with Village Health Nurses (93.1%), with only a few registering through ANMs (5.6%) and AWWs (1.4%). More than half of the participants (54.2%) had fewer than three antenatal check-ups, while 45.8% had more than three visits. The majority of women registered for antenatal care at around two months of pregnancy (79.2%), followed by three months (9.7%), one week (6.9%), and four months (4.2%). Regarding the number of antenatal care visits during pregnancy, 34.7% received care three times, 33.3% received care twice, and 31.9% received care only once.

Table. 2 Antenatal Care Practices, Supplementary Nutrition Utilization, and Place of Delivery among Study Participants

S.No	Study Parameters	Frequency (N = 72)	%
1	Did you give urine sample?		
	No	2	2.8
	Yes	70	97.2
2	Was blood sample taken for testing?		
	No	2	2.8
	Yes	70	97.2
3	Was abdomen examined?		
	No	2	2.8

	Yes	70	97.2
4	How many times did you get TT injection?		
	Two times	60	83.33
	Don't remember	12	16.67
5	How many days did you take tablets or syrup?		
	Till delivery	71	98.6
	Until delivery	1	1.4
6	Did you receive any supplementary nutrition kit from AWC during this pregnancy?		
	No	2	2.8
	Yes	70	97.2
7	Were you always able to get the kit from AWC?		
	No	7	9.7
	Yes	65	90.3
8	Where did you give birth?		
	Govt/Municipality hospital	16	22.2
	Home	5	6.9
	PHC	51	70.8

The assessment of antenatal and delivery care practices among the study participants (N = 72) indicates a high level of utilization of essential maternal health services. A vast majority of women reported having provided urine samples (97.2%), undergone blood testing (97.2%), and received abdominal examinations (97.2%) during their antenatal period, with only 2.8% not availing each of these services. Regarding immunization, most participants (83.33%) received two doses of tetanus toxoid (TT) injection, while 16.67% could not recall the number of doses received.

In terms of nutritional supplementation, an overwhelming majority of women (98.6%) reported taking iron and folic acid tablets or syrup until delivery, whereas only 1.4% reported otherwise. Similarly, 97.2% of the participants received supplementary nutrition kits from the Anganwadi Centre (AWC) during pregnancy, although 9.7% reported that they were not always able to access these kits, while 90.3% had consistent access. With respect to the place of delivery, the majority of women (70.8%) delivered at Primary Health Centres (PHCs), followed by 22.2% in government or municipality hospitals, and a small proportion (6.9%) at home. Overall, the findings demonstrate a high coverage of antenatal care services and institutional deliveries among the study population, although minor gaps remain in consistent access to supplementary nutrition and recall of immunization details.

Table. 3 Postnatal Care Practices, Breastfeeding Behaviours, and Immunization Status of Infants

S. No	Study Parameters	Frequency (N = 72)	%
1	How many visits did they make after delivery to check on you and the baby?		
	One time	12	16.7
	Two times	10	13.9
	Three times	21	29.2
	Four times	17	23.6
	Five times	12	16.7
2	How long after delivery did you breastfeed? Immediately/Hours/Days		
	Immediately	47	65.3
	After one hour	25	34.7
3	In the first 3 days after delivery, was the baby given anything to drink other than breast milk?		
	No	62	86.1

	Yes	10	13.9
4	How many months did you breastfeed?		
	< 1 year	12	16.7
	1 - 2 years	46	63.9
	> 2 years	14	19.4
5	Immunisation status of a recent live child?		
	Fully immunised	67	93.1
	Partially immunised	5	6.9
6	Where did baby receive most of his vaccination?		
	AW/ICDS centre	2	2.8
	Block PHC/ UHC/CHC/UFWC/Sub-centre	47	65.3
	Govt Municipality hospital/Dist. hospital	10	13.9
	Sub-centre, AW/ICDS centre	13	18.1

The postnatal care practices, breastfeeding behaviours, and immunization status among the study participants (N = 72) indicate a moderate level of postnatal service utilization and favourable child health practices. Regarding postnatal visits, the highest proportion of mothers (29.2%) reported receiving three visits after delivery, followed by four visits (23.6%). Equal proportions of respondents (16.7% each) reported receiving one visit and five visits, while 13.9% had only two visits, suggesting variability in postnatal care follow-up. With respect to breastfeeding initiation, a majority of mothers (65.3%) initiated breastfeeding immediately after delivery, whereas 34.7% started after one hour. In the first three days after delivery, most infants (86.1%) were exclusively given breast milk, while 13.9% received other substances, indicating that early exclusive breastfeeding practices were largely followed but not universal. In terms of breastfeeding duration, the majority of mothers (63.9%) breastfed their children for 1–2 years, while 19.4% continued beyond two years, and 16.7% breastfed for less than one year. This reflects generally adequate adherence to recommended breastfeeding duration. The immunization status of children was highly satisfactory, with 93.1% being fully immunized and only 6.9% partially immunized. Regarding the place of vaccination, most children (65.3%) received their immunizations from Block PHCs, UHCs, CHCs, UFWCs, or sub-centres. Additionally, 18.1% utilized a combination of sub-centres and Anganwadi/ICDS centres, while 13.9% received vaccinations from government or district hospitals, and only 2.8% relied solely on Anganwadi/ICDS centres.

Table. 4 The Association of Socio-Demographic Factors with Birth Weight and Immunization Status

Study Parameters	Baby birth weight in kg			Immunization status		
	< 2.5 (n = 24) %	> 2.5 (n = 48) %	P* Value	Fully (n = 67) %	Partially (n = 5) %	P* Value
Age in years						
< 25	20 (83.3)	30 (62.5)	0.043*	46 (68.7)	4 (80.0)	0.595
> 25	4 (16.7)	18 (37.5)		21 (31.3)	1 (20.0)	
Age at marriage						
< 21 years	19 (79.2)	34 (70.8)	0.449	50 (74.6)	3 (60.0)	0.474
> 21 Years	5 (20.8)	14 (29.2)		17 (25.4)	2 (40.0)	
Education						
Illustrate	0 (0.0)	5 (10.40)	0.154	5 (7.5)	0 (0.0)	0.208
Primary	12 (50.0)	29 (60.4)		40 (59.7)	1 (20.0)	
Secondary	8 (33.3)	11 (22.9)		16 (23.9)	3 (60.0)	
Higher Secondary	4 (16.7)	3 (6.3)		6 (9.0)	1 (20.0)	
Occupation						
Skilled	15 (62.5)	38 (79.2)	0.13	49 (73.1)	4 (80.0)	0.737

Unskilled	9 (37.5)	10 (20.8)		18 (56.9)	1 (20.0)	
Monthly Income						
< 6000	18 (75.0)	19 (39.6)	0.005*	35 (52.2)	2 (40.0)	0.597
> 6000	6 (25.0)	29 (60.4)		32 (47.8)	3 (60.0)	

* Chi-square test, P value < 0.05 considered significant

The association between selected socio-demographic variables and baby birth weight, as well as immunization status, was analyzed using appropriate statistical tests. The findings revealed that maternal age and monthly income had a statistically significant association with birth weight, while no variables showed a significant association with immunization status. With respect to maternal age, a significantly higher proportion of mothers aged below 25 years had babies with birth weight less than 2.5 kg (83.3%) compared to those aged above 25 years (16.7%), and this association was statistically significant ($p = 0.043$). In contrast, among mothers aged above 25 years, a greater proportion had babies with birth weight greater than 2.5 kg (37.5%), indicating that increasing maternal age may positively influence birth weight outcomes. Monthly income also showed a strong and statistically significant association with birth weight ($p = 0.005$). A majority of mothers with income less than ₹6000 had low birth weight babies (75.0%), whereas those with higher income (> ₹6000) predominantly had babies with normal birth weight (60.4%). This suggests that better economic status contributes to improved birth weight. However, other variables such as age at marriage ($p = 0.449$), education ($p = 0.154$), and occupation ($p = 0.13$) did not show any statistically significant association with birth weight, although some variations in distribution were observed. In terms of immunization status, none of the selected socio-demographic variables—including age ($p = 0.595$), age at marriage ($p = 0.474$), education ($p = 0.208$), occupation ($p = 0.737$), and monthly income ($p = 0.597$)—demonstrated a statistically significant association. Although minor differences were noted in proportions, these were not sufficient to establish any meaningful relationship.

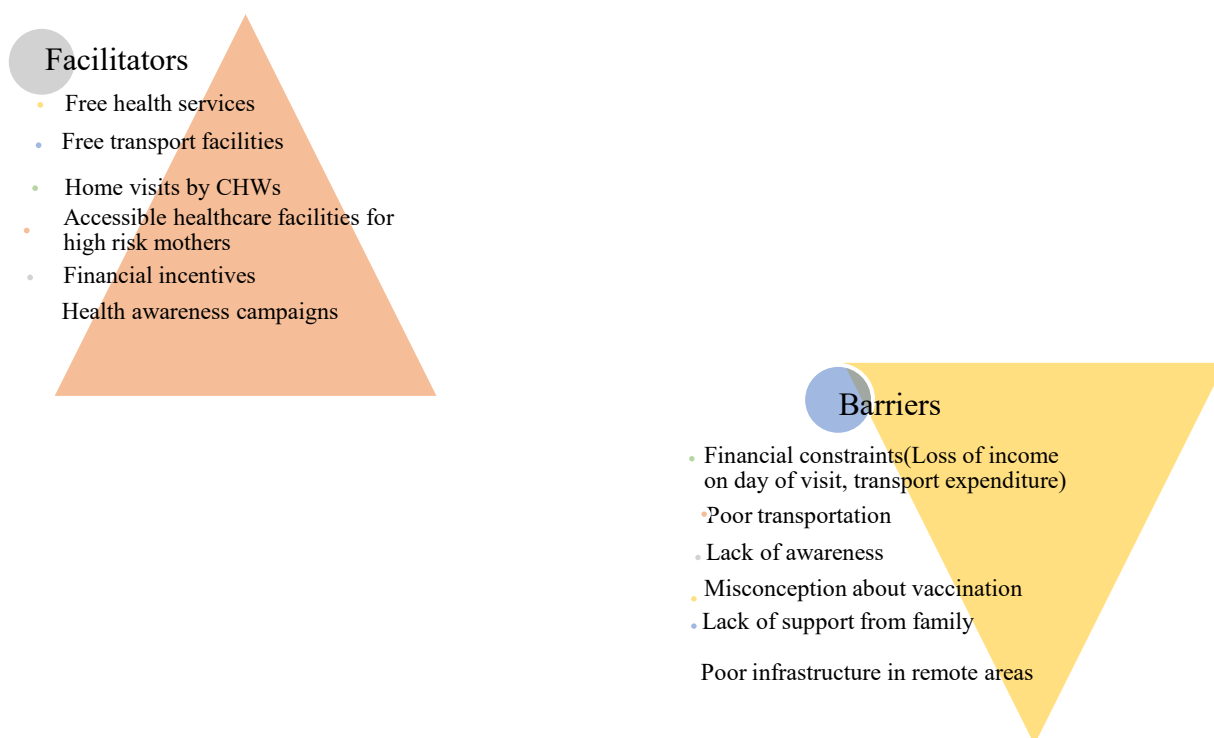
Table 5: Highlights from FDGs and In-depth interview

COMPONENT	QUOTE	IMPACT ON SOCIETY
Illiteracy & Occupational constraints	“Most of the women have only primary education, their major job being cutting trees in remote forest areas, staying in tents for days”.	This prevents them from coming for regular antenatal checkups.
Financial constraints	“Since most women belong to poor socio economic status, they skip visiting healthcare facilities in fear of loss of income per day and transportation costs.”	It is another factor why women tend to skip the routine antenatal checkups.
Teenage pregnancies	“Most tribal women get married at a very young age, thus becoming pregnant in teenage years”.	It imposes health risks on mother and child like premature births, low birth weight babies and STIs.
Lack of awareness	“The tribal women because of their lack of awareness, come at even 5 or 6 months for antenatal registration”.	Babies born to mothers who receive late or no prenatal care are more likely to be born with LBW, IUGR and other complications.
Misconception about vaccination	“Some mothers have a fear for vaccination, like it might harm the baby and causes fever and other problems.”	Unvaccinated babies are more susceptible to contract Vaccine preventable diseases and other infections.
Lack of transportation	“Travelling from areas which have very poor roads and connectivity, makes it very difficult to access healthcare facilities”.	Free transportation facilities provided from PHCs for mothers in very remote areas. Home visits also undertaken by CHWs.
Accessible healthcare facilities for managing high risk cases	“Only normal labor cases seen in block PHCs, even for LSCS, we’re asked to travel to long distances to avail healthcare”	The tribal mothers find it difficult for travelling to GH in other cities for management of high risk cases.
Health education and awareness	“Health awareness is given to us by the nurse and staffs, monthly once, which we find extremely useful.	Major tool for improved access to healthcare especially among marginalised populations.

	We are educated about breastfeeding, KMC, importance of institutional delivery.”	
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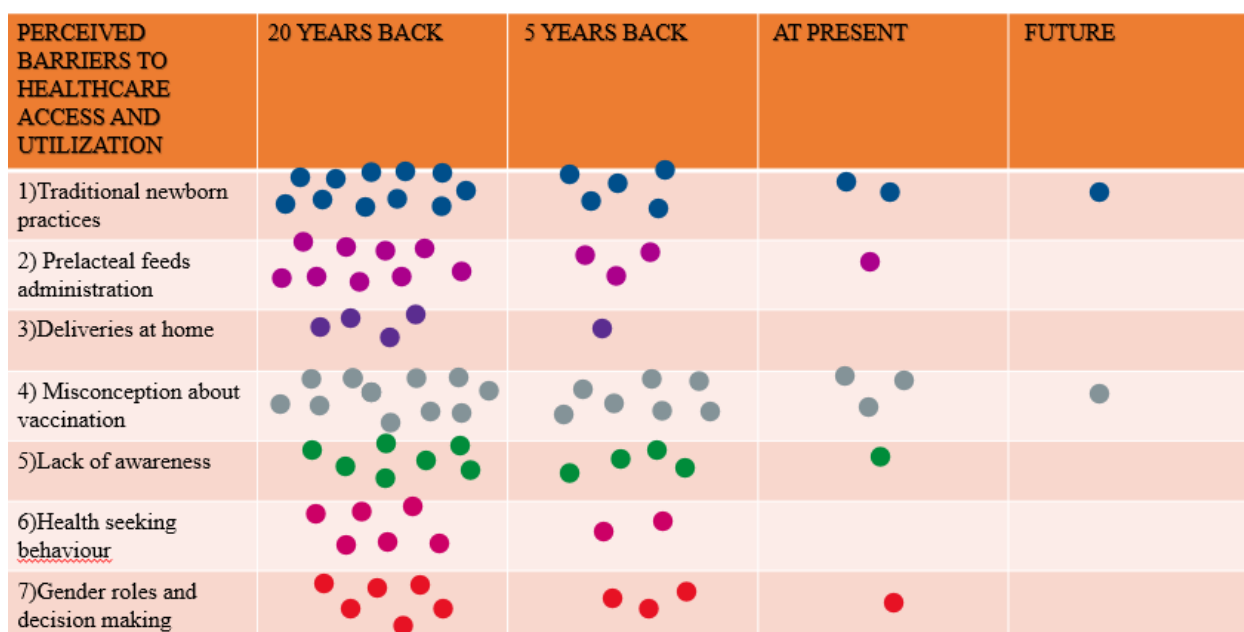
The table emphasizes significant socio-cultural and infrastructural obstacles impacting maternal health for tribal women. Factors such as illiteracy, job-related limitations, and financial hardships restrict access to regular antenatal care, while early pregnancies elevate the risk of negative maternal and neonatal outcomes. Additionally, a lack of knowledge and prevalent misconceptions regarding vaccinations further hinder timely healthcare and child well-being. Challenges in transportation and insufficient access to advanced medical facilities for high-risk cases impede prompt interventions. Nevertheless, regular health education provided by healthcare professionals is vital in enhancing awareness, fostering institutional deliveries, and promoting improved health-seeking behaviors within this marginalized community.

Fig 1: Force field analysis – Facilitators and Barriers of utilization of health care services among the study participants



The illustration depicts a Force Field Analysis that evaluates the factors facilitating and obstructing the use of maternal healthcare services among tribal women. On the left, the facilitators are represented within an upward-pointing triangle, denoting positive influences that enhance maternal health. These factors encompass complimentary health and transportation services, home visits by community health workers (CHWs), access to healthcare for high-risk mothers, financial incentives, and health education initiatives. Conversely, the right side features barriers illustrated in a downward-pointing triangle, representing negative forces that impede access. These obstacles include financial difficulties (such as income loss and travel expenses), inadequate transportation, lack of awareness, misconceptions regarding vaccinations, insufficient family support, and poor infrastructure in isolated regions. This balanced representation effectively conveys the conflicting forces that need to be addressed to enhance maternal health outcomes in underserved tribal populations.

Fig 2: Trend analysis of perceived barriers to healthcare access and utilization among study participants



The image illustrates a trend analysis regarding perceived obstacles to healthcare access and utilization across four distinct time frames: two decades ago, five years ago, the present, and future projections. It reveals a notable reduction in traditional barriers, including practices related to newborn care, the administration of prelacteal feeds, and home deliveries, signifying advancements in health awareness and the use of institutional healthcare. Although misconceptions surrounding vaccination and a lack of awareness have diminished, they remain persistent challenges anticipated to continue in the future. Additionally, issues such as inadequate health-seeking behavior and gender roles in decision-making, which were once significant barriers, have also shown a downward trend, yet still exist to some extent today. The analysis indicates a general enhancement in healthcare access and utilization over time, while underscoring the necessity for ongoing efforts to tackle remaining sociocultural and informational barriers, especially in the domains of immunization and gender-based decision-making.

DISCUSSION

This study's findings provide a detailed overview of the current maternal and child health practices among tribal women, illustrating a complex interaction of socio-demographic, cultural, and infrastructural elements. The majority of participants were aged 23 to 25 years, and many had low educational attainment, with 50% having only completed the 8th grade. This situation indicates an early onset of motherhood and a lack of health literacy, both of which negatively impact the use of maternal healthcare services. Research by Nair et al. and Borooah VK supports this observation, indicating that lower educational levels among tribal women are associated with a limited understanding of antenatal and postnatal care requirements, leading to reduced service utilization ^{6,7}. Economic challenges were also apparent, as half of the women participated in rural employment programs (MGNREGA), and 50% reported household incomes ranging from ₹4000 to ₹4999. This economic instability often results in inadequate healthcare-seeking behavior, as demonstrated in Patel et al.'s study in Gujarat, where women prioritized daily earnings over attending antenatal appointments or opting for institutional deliveries ⁸. The insufficient provision of postnatal care is alarming, with 40% of women not receiving any home visits, especially considering the critical nature of the postnatal phase. Research by Ghosh et al ⁹. in Jharkhand revealed similar neglect, attributed to overwhelmed frontline health workers and difficult access due to terrain. On a positive note, the study indicates that 100% of mothers initiated breastfeeding immediately after birth, and all children received full immunizations, aligning with recent NFHS-5 data that shows improvements in breastfeeding and immunization practices among tribal communities ¹⁰. Nevertheless, the continued practice of administering pre-lacteal feeds in 20% of cases highlights the enduring impact of traditional customs, a finding supported by Sahoo et al., who observed that community leaders and traditional beliefs often influence early infant feeding practices ¹¹. The Force Field Analysis provides critical insights into the dynamics of healthcare access in tribal regions. Facilitators such as community health workers (CHWs), financial incentives (e.g., JSY, JSSK), and outreach services have significantly contributed to the increase in institutional deliveries and immunization rates. Bhandari and Dutta highlighted the importance of Accredited Social Health Activists (ASHAs) in connecting tribal communities with health systems, thereby enhancing maternal health outcomes ¹². However, barriers including financial constraints, lack of transportation, gender-based decision-making limitations, and cultural misconceptions continue to impede optimal healthcare utilization. These challenges are not unique; Kumar and Mohanty have also reported similar issues in the tribal areas of Odisha, where the distance to health facilities and lack of family support deter women from seeking care ¹³. The gender aspect is particularly crucial, as patriarchal decision-making restricts

women's autonomy regarding health choices, a point emphasized by George and Iyer, who noted the impact of entrenched gender norms on health service utilization in tribal communities¹⁴. Furthermore, trend analysis indicates that while there has been a significant reduction in traditional and structural barriers over the last twenty years, sociocultural and informational challenges remain. These observations align with the findings of Raj et al., who pointed out that despite improvements in India's tribal maternal health indicators, systemic inequities and cultural insensitivity in healthcare delivery continue to pose substantial challenges¹⁵.

CONCLUSION

This research investigated the various obstacles hindering access to maternal and newborn healthcare for tribal mothers in Kanchipuram, uncovering considerable challenges linked to socio-cultural practices, economic difficulties, geographical remoteness, and deficiencies within the healthcare system. Although there have been advancements in certain areas such as breastfeeding and immunization, ongoing deficiencies in postnatal care and awareness underscore the necessity for focused interventions. Tackling these obstacles through community engagement, enhanced infrastructure, improved transportation, and culturally appropriate health education can greatly increase service utilization. Additionally, bolstering mobile health services and offering financial incentives will further encourage the pursuit of care. Ultimately, the execution of these strategies can result in better maternal and child health outcomes and promote sustained improvements in health equity among tribal populations.

Recommendations

- Develop culturally appropriate awareness initiatives and engage local leaders to dispel myths, encourage institutional deliveries, and foster health-seeking behaviors among tribal families.
- Allocate resources to upgrade healthcare facilities, bolster mobile health services, and enhance road connectivity to minimize geographic obstacles and ensure prompt access to maternal and newborn care.
- Establish or reinforce financial assistance programs and subsidies for transportation and healthcare expenses to mitigate economic barriers that impede the use of maternal health services.

Strengths

- The research concentrated on a vulnerable demographic, specifically tribal mothers, who are frequently overlooked in studies, thereby offering significant insights into their distinct healthcare obstacles.
- Comprehensive data gathering was conducted, analyzing various factors—socio-demographic, cultural, infrastructural, and health system-related—providing a thorough understanding of the challenges faced in accessing maternal and newborn healthcare.
- The study incorporated a temporal trend analysis, spanning two decades and projecting future trends, which enriched the findings by illustrating the evolution of barriers and aiding in the formulation of forward-thinking policy strategies.
- Furthermore, it not only pinpointed issues but also offered practical, context-relevant recommendations, such as the implementation of mobile health services and enhancements in road connectivity.

Limitations

- The research was limited by a small sample size and a narrow geographic focus, being restricted to tribal mothers in a single district (Kanchipuram), which may affect the applicability of the results to other tribal populations in different areas.
- Additionally, there is a potential for response bias, as the data relies on self-reported information, which may be influenced by social desirability or recall inaccuracies, particularly concerning topics like pre-lacteal feeding or experiences with home visits.
- Lastly, the study did not consider the perspectives of male decision-makers or frontline health workers, whose involvement is often crucial in shaping maternal health practices and service provision.

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