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FAMILY PLANNING AND ITS KNOWLEDGE, ATTITUDE, PRACTICE (KAP) AND BARRIERS AMONG TEA COMMUNITY, ASSAM: MIXED METHOD RESEARCH STUDY

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ABSTRACT

Background: Family planning is an essential component of reproductive health that contributes to maternal and child health improvement, prevention of unintended pregnancies, and women's empowerment. Although India has achieved significant progress in family planning services, marginalized communities such as tea garden populations continue to experience challenges due to low literacy, socioeconomic disadvantages, limited access to healthcare services, and sociocultural barriers. The present study aimed to assess the knowledge, attitude, practice (KAP), and barriers related to family planning among women of reproductive age in the tea community of Assam.

Methods: An evaluative research approach with an exploratory sequential mixed-method research design was adopted. The study was conducted among women aged 15–49 years residing in selected tea estates of four districts of Assam, namely Golaghat, Nagaon, Kamrup, and Dibrugarh. A total of 300 women were selected for the quantitative phase using a random sampling technique, and 20 women were purposively selected for the qualitative phase. Data were collected using three tools: a demographic proforma, a structured KAP questionnaire on family planning, and a semi-structured questionnaire to explore barriers related to family planning practices. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were analyzed using thematic analysis.

Results: The findings revealed that 82.7% of women had heard about family planning; however, only 33.3% were aware of available family planning services in their community. Knowledge regarding contraceptive methods varied, with condoms (100%), oral contraceptive pills (80%), sterilization (80%), and intrauterine devices (74%) being the most commonly known methods, whereas awareness regarding injectable contraceptives (6.7%) and emergency contraception (31%) was limited. Overall, 59% of women had inadequate knowledge, 32.3% had moderate knowledge, and only 8.7% had adequate knowledge regarding family planning. Regarding attitude, 60% of women demonstrated a favourable attitude, while 40% had an unfavourable attitude. Despite awareness and positive attitudes, 75% of women reported poor family planning practices. Qualitative findings revealed major barriers including inadequate knowledge, family influence, accessibility issues, affordability concerns, financial burden, and health-related reasons affecting contraceptive decision-making.

Conclusion: The study highlights a significant gap between awareness, attitude, and actual practice of family planning among women in the tea community of Assam. Although many women expressed acceptance of family planning, inadequate knowledge, socioeconomic constraints, limited-service awareness, and family-related influences continue to affect contraceptive utilization. Strengthening reproductive health education, improving accessibility of family planning services, enhancing counselling by healthcare workers, and involving family members and men in reproductive decision-making are essential strategies to improve family planning practices among this vulnerable population.

KEYWORDS: Family planning, Knowledge, Attitude, Practice, Barriers, Tea community, Assam, Women of reproductive age.

INTRODUCTION

Family planning (FP) is a fundamental component of reproductive health and a key strategy for improving maternal, newborn, and child health outcomes. It enables individuals and couples to determine the number and spacing of their children through the use of contraceptive methods and informed reproductive choices. Effective family planning contributes to reducing unintended pregnancies, unsafe abortions, maternal mortality, infant mortality, and population pressure while promoting women's empowerment and socioeconomic development. The World Health Organization (WHO) recognizes family planning as a basic human right and an essential element of achieving universal health coverage and the Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health and Well-being) and SDG 5 (Gender Equality) (World Health Organization [WHO], 2023).

Globally, approximately 874 million women of reproductive age are using modern contraceptive methods. However, millions of women who wish to delay or avoid pregnancy still have an unmet need for contraception due to barriers such as limited access to health services, lack of awareness, cultural beliefs, gender inequality, fear of side effects, and misconceptions regarding contraceptive methods (United Nations, 2022). These barriers are more pronounced among socioeconomically disadvantaged and marginalized populations, particularly in low- and middle-income countries.

India has made significant progress in promoting family planning through national initiatives such as the National Family Welfare Programme and Mission Parivar Vikas. According to the National Family Health Survey (NFHS-5, 2019–21), the country's total fertility rate has declined to 2.0 children per woman, and the modern contraceptive prevalence rate among currently married women has increased to 56.5%. Nevertheless, regional disparities persist, especially among tribal communities, tea garden workers, and other marginalized groups, where contraceptive use remains suboptimal and unmet need continues to be a public health concern (International Institute for Population Sciences [IIPS] & ICF, 2021).

Assam, one of the northeastern states of India, is home to a large tea plantation workforce, commonly known as the tea community or tea tribes. The tea community comprises descendants of tribal populations brought by the British during the colonial period from present-day Jharkhand, Odisha, Chhattisgarh, and neighboring states to work in tea plantations. Despite contributing significantly to Assam's economy, these communities remain socioeconomically disadvantaged, with limited educational attainment, poor living conditions, inadequate healthcare access, and persistent health inequalities (Government of Assam, 2022). Such vulnerabilities influence reproductive health behaviors, including the utilization of family planning services.

Knowledge, Attitude, and Practice (KAP) studies are widely used to assess awareness, beliefs, and behaviors related to health interventions. Knowledge reflects awareness and understanding of family planning methods, attitude refers to beliefs and perceptions that influence acceptance or rejection of contraception, and practice denotes the actual utilization of contraceptive methods. Evaluating KAP provides valuable insights into existing gaps and helps identify factors affecting contraceptive uptake. Previous studies conducted in different regions of India have reported that although awareness of contraception is relatively high, the actual practice remains considerably lower due to misconceptions, fear of side effects, religious and cultural influences, opposition from spouses or family members, gender norms, and inadequate counseling by healthcare providers (Srivastava et al., 2017; Eliason et al., 2014).

Among marginalized populations such as the tea community in Assam, research exploring family planning remains limited. Existing evidence suggests that low literacy levels, poverty, early marriage, high fertility preferences, limited autonomy among women, inadequate health infrastructure, and poor accessibility to reproductive health services contribute to lower contraceptive utilization. Cultural beliefs, myths surrounding contraceptive methods, and inadequate involvement of men in reproductive decision-making further act as barriers to family planning adoption. Understanding these barriers within the tea community is essential for designing culturally appropriate interventions and strengthening reproductive health services.

An exploratory study assessing the knowledge, attitudes, practices, and barriers regarding family planning among the tea community in Assam is therefore necessary. Such a study would provide evidence on existing levels of awareness, prevailing perceptions, contraceptive practices, and the sociocultural and health system factors influencing family planning utilization. The findings can support policymakers, public health professionals, and healthcare providers in developing targeted educational strategies, improving accessibility of family planning services, and addressing community-specific barriers. Ultimately, enhancing family planning acceptance among the tea community can contribute to improved maternal and child health outcomes, reproductive rights, and overall community well-being.

METHODS AND MATERIALS

An **evaluative research approach** was adopted to assess the knowledge, attitude, practice (KAP), and barriers related to family planning among women of the tea community in Assam. The total sample size for the quantitative phase, **300 women of reproductive age (15–49 years)** were selected using **Random Sampling Technique** and **20 women were purposively** selected for qualitative phase from the chosen tea estates. The study was conducted in selected tea estates of four districts of Assam: **Golaghat, Nagaon, Kamrup, and Dibrugarh**. An **Exploratory Sequential Research Design**, a mixed-method research design was used into two distinct phases.

Phase I (Quantitative Phase): A structured questionnaire was administered to assess the knowledge, attitude, and practices regarding family planning among women of reproductive age.

Phase II (Qualitative Phase): A semi-structured questionnaire/interview guide were used to explore the barriers influencing the acceptance and utilization of family planning methods. The qualitative findings were providing an in-depth understanding of the challenges identified during the quantitative phase.

RESULTS AND DISCUSSION

Socio-demographic profiles

The present study showed that the majority of women (53%) were in the age group of 23–29 years, 52% had no formal education, 63.3% had a monthly family income of less than ₹15,000, 60% belonged to nuclear families, 78.3% were tea estate workers, 51.7% were married between 23 and 29 years of age, 73.3% were Christians, and 55.3% had more than two children. These findings are consistent with previous studies conducted among tea garden communities in Assam, which reported that women workers generally have low educational attainment, low household income, and poor socioeconomic conditions. High illiteracy, low wages, and early or young-age marriage remain common characteristics of tea garden populations.

The findings are also supported by the National Family Health Survey (NFHS-5), which reported that women from socioeconomically disadvantaged rural communities are more likely to have lower educational levels, lower household income, and higher parity than the general population.

Recent literature on women tea workers in Assam similarly highlights that tea plantation workers are predominantly economically disadvantaged, with limited educational opportunities, poor living conditions, and restricted access to health services, all of which influence maternal and reproductive health outcomes.

Awareness of Family planning (KAP)

The present study found that **82.7% of women had heard the term "family planning,"** whereas only **33.3% were aware of the availability of family planning services in their community.** (Table-1) This finding is comparable with the **National Family Health Survey (NFHS-5, 2019–21)**, which reported that awareness of family planning methods among married women in India is almost universal; however, awareness and utilization of available public family planning services remain lower among women from rural and socioeconomically disadvantaged populations (International Institute for Population Sciences [IIPS] & ICF, 2021).

Table 1: Knowledge regarding family planning and family planning Services

Items	Frequency (f)	Percentage (%)
Aware about the term "family planning"	248	82.7
Aware of any family planning services available in your community	100	33.3

Similarly, **Srivastava et al. (2020)** reported that although most women had heard about family planning, their knowledge regarding government family planning services and access to contraceptive counselling was inadequate, particularly among women with low educational status and poor socioeconomic conditions.

In contrast, **Wondim et al. (2020)** conducted a study in Ethiopia and found that more than 70% of women were aware of the availability of family planning services in nearby health facilities, which is considerably higher than the 33.3% observed in the present study. The difference may be attributed to variations in health education programmes, accessibility of services, and community outreach.

The present study also demonstrated that **100% of women knew about condoms, 80% knew about oral contraceptive pills and sterilization, and 74% were aware of intrauterine devices (IUDs).** However, awareness regarding **injectable contraceptives (6.7%) and emergency contraception (31%)** was poor. (Table-2) These findings agree with **NFHS-5**, which reported that female sterilization, condoms, and oral pills are the best-known contraceptive methods in India, whereas knowledge of emergency contraception and injectable contraceptives is comparatively lower (IIPS & ICF, 2021).

Table 2: Knowledge of methods of family planning and uses

Items		Methods		Uses	
		f	%	f	%
Condoms		300	100	258	86
Birth control pills		240	80	100	40
Sterilization		240	80	60	2
Injectable contraceptives		20	6.7	0	0
Intrauterine devices (IUD)		222	74	68	22.7

Emergency contraception		93	31	45	15

A similar pattern was reported by **Singh et al. (2022)**, who found that condoms and oral contraceptive pills were the most recognized methods among reproductive-age women, while awareness regarding injectable contraceptives and emergency contraceptive pills was significantly lower.
Conversely, **Tesfaye et al. (2021)** reported substantially higher awareness of injectable contraceptives among Ethiopian women because injectable methods are one of the most widely promoted contraceptives in that setting. This contrasts with the present findings, where only 6.7% of women were aware of injectable contraceptives.
Regarding the **overall level of knowledge**, the present study found that **59% of women had inadequate knowledge**, **32.3% had moderate knowledge**, and only **8.7% had adequate knowledge**. (Table-3) These findings are supported by **Kumar et al. (2021)**, who reported that inadequate knowledge regarding family planning was common among women with lower educational status and rural residence. Similarly, **Gupta et al. (2020)** observed that poor educational attainment and limited exposure to health information significantly influenced women's knowledge regarding contraception.

Table 3: Level of Knowledge

Level of Knowledge	Frequency (f)	Percentage (%)	Mean	SD
Adequate (15-20)	26	8.7	7.15	±2.26
Moderate (8-14)	97	32.3		
Inadequate (0-7)	177	59.0		

However, **Alene et al. (2022)** reported that the majority of women possessed good knowledge regarding family planning, which contrasts with the present study. This difference may be due to better literacy rates, stronger family planning programmes, and greater access to reproductive health services in the study area.
The present study revealed that **180(60%) of women had a favourable attitude towards family planning whereas 120(0%) revealed non favourable attitude.** (Table-4) This finding is consistent with **Mekonnen et al. (2020)**, who found that although knowledge levels were inadequate, most women expressed a positive attitude towards family planning and believed that contraceptive use improves maternal and child health.

Table 4: Level of Attitude

Level of Attitude	Frequency(f)	Percentage (%)
Favorable (<8)	180	60
Non favorable (>8)	120	40

Similarly, **NFHS-5** indicates that acceptance of family planning has increased over time despite persisting gaps in knowledge and service utilization (IIPS & ICF, 2021).
The present study further showed that **75% of women had poor family planning practices.** (Table-5) This finding is supported by **Begum et al. (2021)**, who found low contraceptive utilization among tea garden and rural women despite awareness of family planning methods. Poor utilization was associated with limited access to services, misconceptions, family influence, and inadequate counselling.

Table 5: Level of Attitude

Level of Attitude	Frequency(f)	Percentage (%)
Favorable (<8)	180	60
Non favorable (>8)	120	40

Likewise, **United Nations Population Fund (UNFPA, 2022)** emphasized that women from disadvantaged communities continue to face barriers in translating knowledge into contraceptive practice because of socioeconomic inequalities, inadequate health infrastructure, cultural beliefs, and gender-related factors.
In contrast, **NFHS-5** reported that the national contraceptive prevalence rate among currently married women in India has increased to **67%**, indicating better contraceptive practice at the national level than observed in the

present study (IIPS & ICF, 2021). This discrepancy may be explained by the unique socioeconomic challenges faced by women in tea estate communities, including poor access to reproductive health services and lower educational attainment.

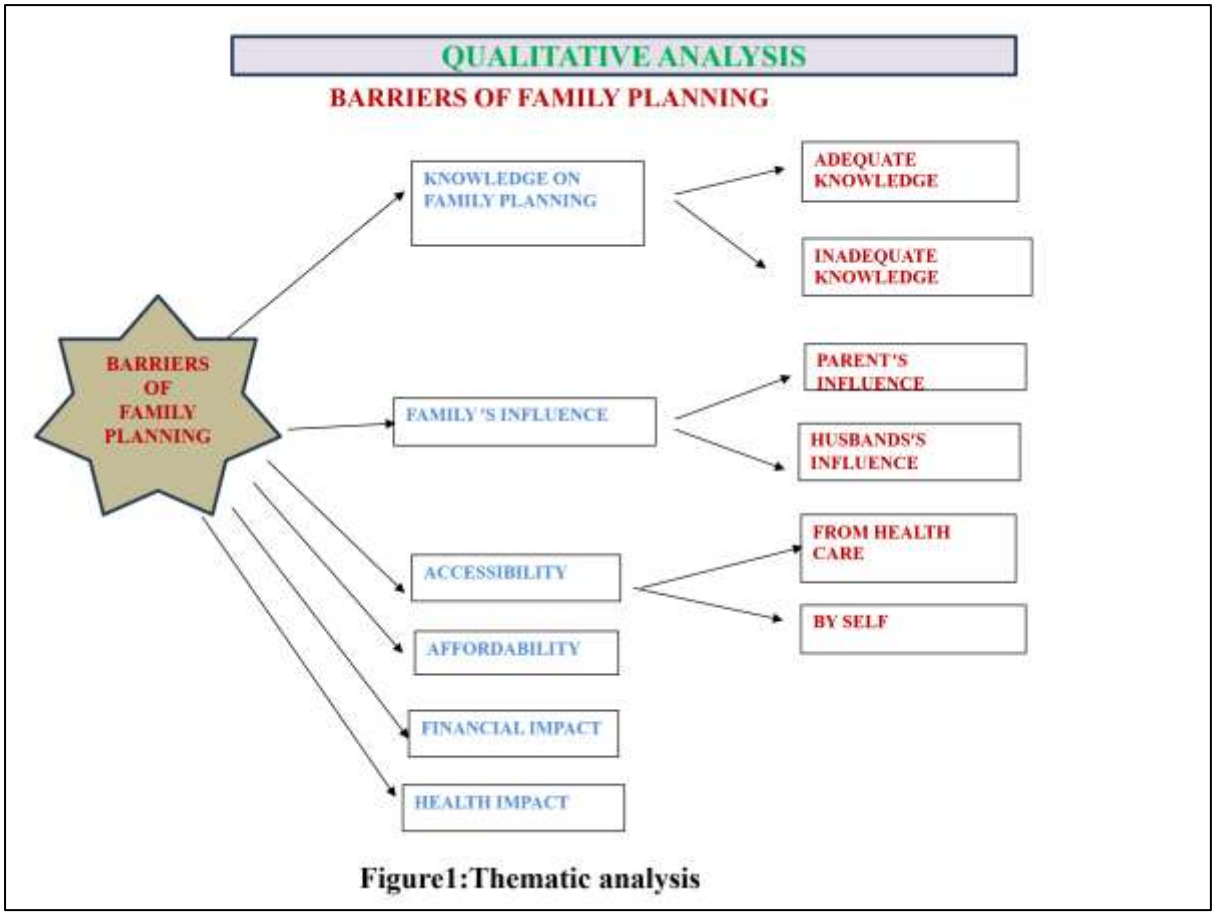

Figure1:Thematic analysis

Theme 1: Knowledge on family planning

Sub-theme: Adequate knowledge

When asked about family planning, the participants demonstrated adequate knowledge on the topic. Some described it as limiting the number of children in a family, while others associated it with taking contraceptive pills to prevent pregnancy.

R-1: After having 2 kids we can stop having kids.
R-2: Family Planning is using of tablets to prevent pregnancy.
R-3: After 3 children the doctor closes the womb to avoid pregnancy.
R-6: Yes, I know about family planning
R-10: Using of condoms also helps to avoid unwanted pregnancy.
R-12: "In the hospital they can even put copper T to avoid pregnancy which can be removed we they want to become pregnancy again but when they sure they don't want child anymore they can completely close the womb."

Sub-theme: Inadequate knowledge

While some participants demonstrated inadequate knowledge about family planning, they instead preferred pregnancy termination over the use of contraceptive methods.

R-11: I don't know much about it.
R-15: If the mother becomes pregnant and they don't want the child, they can wash the baby to stop the pregnancy.

Theme II: Family's influence

Sub-theme: Husband's influence

Some of the participants revealed that they have full support from their husband. Their husbands supported them in the decision of having no more children in the family.

R-3: My husband is very supportive
R-5: I was very sick during my first pregnancy so my husband don't want to us to have kids
R-7: My husband is also aware about family planning and supports me
R-8: We don't have enough for two children so my husband also agrees we should not have more children.
R-10: At first my husband wanted to have more than two children but after our daughter's birth he said we shouldn't have any more children.

Sub-theme: Parent's influence
Some of the participants demonstrated that their in-laws are very supportive when its about family planning, even their in-laws were the one who first introduced them the contraceptive pills while some said that their father-in-law was not happy with her decision of tubectomy.
R-1: My in-laws are supportive about having using family planning methods and not having more than 2 children
R-2: My mother-in-law was the first to introduce me about contraceptive tablets.
R-15: My father-in-law want to have a grandson so he is not happy about my tubectomy.
R-12: My mother scolded me when our second son was born just 1 year after our first baby girl was born.

Theme III: Accessibility
The participants have expressed availability of family planning methods in CHCs and Hospitals which they collect from ASHAs and Anganwadi Workers while others used to buy from the local pharmacies.
Sub-theme: From health care
R-1: ASHA use to supply the tablets.
R-3: We can get from Anganwadi.
R-13: Our CHC does the closing of the womb after delivery if we already have two children.
R-5: In our tea garden hospital, they give free of cost.
Sub-theme: By self
R-9: My husband uses to buy it for me from the pharmacy.
R-13: I buy the tablets by myself

Theme IV: Affordability
Many Participants expressed it's very expensive to buy the contraceptive pills.
R-10: It's very expensive to buy tablets again and again so after our second child I closed the womb.
R-2: Tablets are expensive so I have used a copper T.

Theme V: Financial impact
The participants expressed why they chose contraceptive methods. They revealed that it is financial burden for them to have more than 2 children in the family as they have to see after many kids, their education, health and even the foods.
***R-6**: "It's very difficult to feed more than two children"*
***R-8**: "My husband is a daily wager so it is difficult to feed more children"*
***R-9:** "Nowadays education is so expensive so we are only going to have one more kid as we already have one."*
***R-7**: "Our one and only daughter have a poor health and we have to focus on her health all the time so, I am using copper T to avoid pregnancy for the timing we can't afford right now."*
***R-12**: "I have permanently closed my womb as we already have two children and we want our children to study in English medium school."*

Theme VI: Health impact
Some of the participants also expressed that they didn't chose to have more children because of their health. They said if mother's health is not good, they shouldn't go for more children as it will only increase the suffering of family as well as the children in the family.
***R-13** – "If the mother's health is not good enough, they should not have more children"*
***R- 5** – "my health is not good I don't want to have children because they will also not good health"*
***R-9** – "Mothers who don't have good health should go for too many children only to increase the child and family's sufferings"*

CONCLUSIONS
Family planning remains an essential component of reproductive health and sustainable development. Although India has made substantial progress in improving contraceptive awareness and accessibility, disparities continue to exist among marginalized populations such as the tea community in Assam. Exploring the knowledge, attitudes, practices, and barriers related to family planning within this community will provide important insights into the factors influencing contraceptive use. The findings of this study will help identify existing gaps in awareness and service utilization and support the development of culturally appropriate interventions, health education programmes, and policy initiatives aimed at improving reproductive health outcomes and promoting informed family planning decisions among the tea community.

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