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Original Research Article

Effectiveness of a health education intervention on utilization of maternity benefit schemes among tribal pregnant women: a quasi-experimental study

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ABSTRACT

Background: Recognizing the pivotal role mothers play in society, government in India, have implemented various schemes and initiatives aimed at supporting maternal health and well-being. Main objective was to evaluate effectiveness of health promotion intervention through community mobilization with women groups facilitated by ASHAs and ANMs on utilization maternity benefit schemes of the government and to find out the reasons for non-utilization of maternity benefit schemes of the government.
Methods: This was a quasi-experimental study design undertaken to evaluate educational intervention package among schedule tribe pregnant women to improve utilization of maternity benefit schemes in Chittoor District of Andhra Pradesh state in south India. A baseline household survey with the help of a semi structured questionnaire was conducted in both intervention group (n=109) and control group (n=119). An educational intervention was implemented. Data was analysed using SPSS Version 26.0.
Results: In the end-line survey, there was improvement in utilization of government maternity benefit schemes among tribal pregnant women with respect to programmes/schemes like Ayushman Bharat, JSY, JSSK, PMSMA, Anemia Mukt Bharat, 102 (Thallibidda Express) and the various reasons reported by them for non-utilization of services were lack of awareness, no bank account, no Aadhar cards etc.
Conclusions: To improve awareness and utilization of health services provided under various maternity benefit schemes, health education should be imparted on regular basis to mothers. For this ASHA, ANM and medical officers should be motivated to educate as they work closely with the community.

Keywords: Interventional study, Maternity benefit schemes, Pregnant women, Utilization

INTRODUCTION

Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period. Each stage should be a positive experience, ensuring women good health and well-being. Although important progress has been made in the last two decades, about 287 000 women died during and following pregnancy and childbirth in 2020.Most maternal deaths are preventable with timely management by a skilled health professional working in a supportive environment. Ending preventable maternal death must remain at the top of the global agenda. At the same time, simply surviving pregnancy and childbirth can never be the marker of successful maternal health care. It is critical to expand efforts reducing maternal injury and disability to promote health and well-being.[1] The sustainable development goals have set ambitious health-related targets for mothers under the umbrella of

Universal Health Coverage by 2030. Addressing quality of care will be fundamental in reducing maternal and newborn mortality and achieving the health-related SDG targets.[2] Total estimated annual maternal deaths declined from 33800 maternal deaths in 2016 to 25,220 deaths in 2020.[3] This remarkable pace of decline can be attributed to the government of India schemes aimed at improving maternal health.[4] Government of India has several initiatives to provide financial and medical support to all pregnant women including women belonging to economically weaker sections during their pregnancy and delivery in Government hospitals.[5] These economically weaker sections are tribal population who constitutes 8.6% of the country's population. 40.6% ST population lived below the poverty line as against 20.5% of the non-tribal population. 65% of tribal women in the 15-49 years age group suffer from anemia.[6]

In India, the tribal habitations are scattered across large areas with poor access to basic health necessities. Therefore, it is observed that tribal people have remained marginal, with poor health, unmet needs and a poor population: provider ratio. The various factors attributed to poor tribal health outcomes in India are habitat, difficult terrain, ecologically variable niches, illiteracy, poverty, isolation, superstition and deforestation.[7] Recognizing the pivotal role mothers play in society, government in India, have implemented various schemes and initiatives aimed at supporting maternal health and well-being. From financial assistance to healthcare services, these schemes are designed to alleviate the burdens mothers face and ensure the well-being of both mothers and their children8This study is a part of the research project conducted which is funded by ICMR.

Objectives

To study the socio-demographic characteristics among the pregnant scheduled tribe women. To evaluate effectiveness of health promotion intervention through community mobilization with women groups facilitated by ASHAs and ANMs on utilization maternity benefit schemes of the government. To find out the reasons for non-utilization of maternity benefit schemes of the government.

METHODS

Study design

It was a quasi-experimental study.

Stages of study design

Phase-1: baseline data collection and analysis, development of intervention from 24 July 2022 to 16 October 2022.

Phase-2: intervention development and implementation from 01 November 2022 to 03 April 2023.

Phase-3: post intervention assessment from 01 May 2023 to 15 June 2023.

Study setting

The study was conducted in Chittoor District of Andhra Pradesh state in south India.

Study population

Study was conducted among pregnant women from scheduled tribes.

Sample size and sampling technique

Chittoor District of Andhra Pradesh state in south India has three revenue divisions which include Chittoor, Tirupati and Madanapalle divisions respectively (the details are given in flow chart). Among the three revenue divisions in Chittoor district, Chittoor division has 20 Mandals and 28 PHCs, Tirupati division has 15 Mandals and 21 PHCs and Madanapalli division has 31 Mandals and 53 PHCs. From each of these three revenue divisions, total 23 PHCs, in these 23 PHC areas, total habitations are 176 (Figure 1).

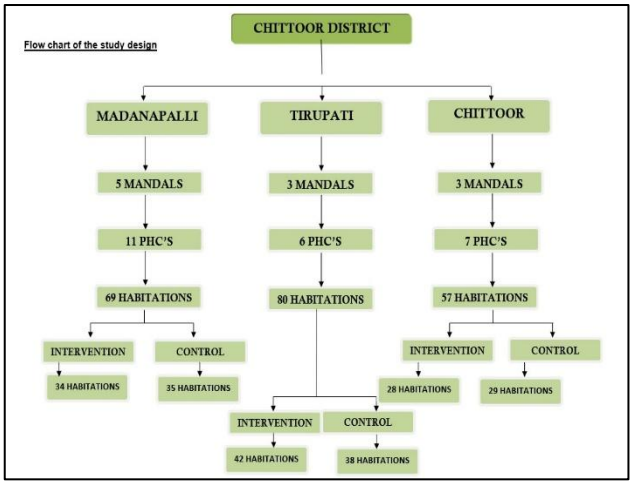

Figure 1: Sampling strategy.

In these habitations, households with pregnant women were identified and data was collected with the help of structured questionnaire from them by interview technique after taking informed consent from them. Total sample size was 228. Out of this 109 were in intervention arm and 119 were in control arm.

Inclusion criteria

Tribal pregnant women who gave consent.

Exclusion criteria

Those who were not willing to participate.

Data collection procedure

A baseline household survey was carried out among pregnant women. Validated survey instrument included a semi structured questionnaire to assess women's utilization of maternity benefit schemes. Survey was conducted in all households (in both intervention and control group of ST habitations) of selected 24 PHCs. in 12 ST habitations (one largest populated ST inhabitation among intervention group of habitations of selected PHC) from 12 PHCs (12 PHCs are randomly selected from 24 PHCs selected for the study) where 1 pregnant woman, from each ST habitation was interviewed.

Study instrument: Proforma included

Socio-demographic Proforma included information of socio-demographic characteristics of tribal pregnant women like their age, occupation, educational status, type of house, family members, type of family, type of tribe, monthly family income, socio-economic status etc.

Second Proforma included questions to collect information about utilization of maternity benefit schemes. The same proforma was used for collecting post-intervention data.

Intervention

Educational intervention package was developed using resource material available by the government of India to bring about awareness and behavioural change among pregnant women regarding Government maternity benefit health services and schemes and how to utilize them. Topics addressed in providing education were regarding government MCH programmes and schemes in detail and their utilization.

After the validation of the intervention package, it was translated in local language which was used as an educational tool to impart the health education intervention.

10 group meetings were conducted to provide health educations which were monthly twice for the period of 8 months. To impart education, picture cards, hand-outs, white board, educational videos, role plays and skits were used.

Statistical analysis

Data was entered in the Microsoft Excel sheet and was analysed using IBM SPSS version 26 was used to calculate statistics. Descriptive statistics was used in the form of frequencies and proportions for categorical data, mean and standard deviation for continuous data. Mc Nemer test was used compare the difference between two paired proportions. Z test was used to compare the difference between two proportions of end-line utilization practices between intervention and control groups.

Ethical consideration

Ethical approval was obtained from the institutional ethics committee vide EC file no.: 134 X/11/13/2022-IEC112 dated December 6, 2022.

Survey was conducted after approval was obtained from the district authorities. Written permission was obtained from medical officers of primary health centre. Permission was obtained from local community representatives to work with ASHAs and to collect data in their areas. Written informed consent was obtained from each mother. Verbal consent was obtained before interview and confidentiality of tribal pregnant women was ensured.

RESULTS

As shown in Table 1, socio-demographic details of the tribal pregnant women in both the arms. Out of the total 228, 109 were in intervention arm and 119 were in control arm. Majority of them were homemakers and were doing unskilled work and were illiterates, belonged to nuclear type of family in both the arms. Majority of the pregnant women belonged to Yanadi tribe residing in poor housing conditions like hut, kaccha house and majority of them were young in the age group of 18-34 years. Majority of them were belonged to lower middle class as per Udai Pareekh scale in both the arms.

As shown in Table 2, we found that at baseline survey, only 29.4% of pregnant women were utilizing the services of Ayushman Bharat Programme. But post intervention, utilization of Ayushman Bharat Programme was found to increase from 29.4% to 85.3%.

45% of pregnant women were utilizing the services of Janani Suraksha Yojana (JSY) as well as Janani Shishu Suraksha Karyakramam (JSSK) services before intervention. But post intervention, utilization of services of both JSY and JSSK was increased to 63% and 66.4% respectively.

We found improvement in utilization of services under Pradhan Mantri Surakshit Abhiyan (PMSMA) scheme from 74.3% in baseline survey to 94.5% in the endline survey.

While with respect to the services of Pradhan Mantri Matru Vandana Yojana (PMMVY), it was found in baseline survey, that about 78% of pregnant women were utilizing the services 96.3% pregnant women were utilizing the YSR Sampurna Poshana Scheme in the baseline survey. We found improvement in utilization of services of Anemia Mukt Bharat programme (AMB) from 69.7% at baseline to 90.8% at endline survey among pregnant women.

Table 1: Socio-demographic characteristics of the tribal pregnant women.

Variables	Intervention group (n=109) (%)	Control group (n=119) (%)	Total 228
Age group (years)			
<20	15 (13.8)	20 (16.8)	35 (15.4)
20-30	86 (81.7)	97 (78.9)	183 (80.3)
>30	05 (4.5)	05 (4.3)	10 (4.4)
Occupation			
Housewife	62 (56.9)	62(52.1)	124(54.4)
Unskilled	43 (39.4)	51 (42.6)	94 (41.2)
Skilled	0 (0)	01 (0.8)	1 (0.4)
Govt. Job	0 (0)	01 (0.8)	1 (0.4)
Private job	1 (0.9)	01 (0.8)	2 (0.8)
Anganwadi helper	1 (0.9)	0 (0)	1 (0.4)
Semi professional	2 (1.8)	3 (2.5)	5 (2.2)
Education			
Illiterate	37 (33.9)	31 (26.1)	68 (29.8)
Primary school	20 (18.3)	22 (18.5)	42 (18.4)
Middle school	15 (13.8)	19 (16.0)	34 (14.9)
High school	22 (5.9)	29 (24.4)	51 (22.4)
Intermediate	08 (7.3)	10 (8.4)	18 (7.9)
Graduate	07 (6.4)	07 (5.9)	14 (6.1)
Postgraduate	0 (0)	01 (0.8)	1 (0.4)
Type of family			
Nuclear	93 (85.3)	93 (78.2)	186 (81.6)
Non nuclear	16 (14.7)	26 (21.8)	42 (18.4)
Type of housing			
No house	06 (5.5)	09 (7.6)	15 (6.6)
Hut	33 (30.3)	38 (31.9)	71 (31.1)
Kutcha	01 (0.9)	01 (0.8)	02 (0.8)
Pucca	68 (62.4)	69 (57.9)	137 (60.1)
Mixed type of house	01 (0.9)	02 (1.6)	03 (1.3)
Socio-economic status (Udai Pareekh revised scale)			
Upper	0 (0)	0 (0)	0 (0)
Upper middle	02 (1.8)	03 (2.5)	5 (2.2)
Middle	25 (22.9)	33 (27.7)	58 (25.4)
Lower middle	81 (74.3)	83 (69.7)	164 (71.9)
Lower	01 (0.9)	0 (0)	01 (0.4)
Type of Tribe			
Yanadi	85 (77.9)	93 (78.1)	178 (78.1)
Yerukula	02 (1.8)	06 (5.0)	08 (3.5)
Nakkala	0 (0)	02 (1.8)	02 (0.8)
Sugali	22 (20.3)	18 (15.1)	40 (17.6)

Also we found improvement in utilization of emergency ambulance services like 104 medical helpline services from 88.1% at baseline survey to 92.7% at endline survey. We found more than 90% utilization of emergency ambulance services like 102 Thalli Bidda Express services (94.5 %), 108 emergency response services (93.6 %) at the baseline survey.

As shown in Table 3, it was found that, all the pregnant women visited to Aanganwadi centre at least once while 42 women were visiting daily once and 61 women responded that they were visiting weekly once while 125 women were visiting monthly once.

At baseline survey, we found that pregnant women were visiting Anganwadi centre for various services like health check-up (4.5%), for supplementary nutrition (47.8%), for food and IFA supplementation (45.9%), treatment of minor ailments (1.8%), health and nutrition education (0.9%) services etc. Post intervention, there was significant improvement in utilization of services like supplementary nutrition from 47.8% to 95.4% and for

IFA supplementation from 45.9% to 53.2%. But no one was availing immunization, vitamin A supplementation services from Aanganwadi as these services are available at PHC.

Table 2: Utilization of maternity benefit schemes by tribal pregnant women.

Variables	Base line (%)		End line (%)	
Services	**Intervention group**	**Control group**	**Intervention group**	**Control group**
Ayushman Bharat Programme	32 (29.4)	36 (30.3)	93 (85.3) *	62 (52.1)
JSY	49 (45.0)	94 (78.9)	94 (86.2) *	75 (63.0) *
JSSK	50 (45.9)	93 (78.1)	101 (92.7) *	79 (66.4)
PMSMA	81 (74.3)	103 (86.5)	103 (94.5)*	83 (69.7)*
PMMVY	85 (78.0)	83 (69.8)	81 (74.3)	64 (53.8)*
YSR Sampurna poshana	105 (96.3)	109 (91.6)	106 (97.2)	106 (89.1)
Anemia Mukt Bharat	76 (69.7)	109 (91.6)	99 (90.8)*	80 (67.2)*
102 (Thallibidda Express)	103 (94.5)	108 (90.7)	94 (86.2)*	87 (73.1)*
104 (medical help line)	96 (88.1)	109 (91.5)	101 (92.7)	82 (68.9)*
108 (emergency response services)	102 (93.6)	115 (96.6)	100 (91.7)	88 (73.9)*

*Significant.

Table 3: Utilization of Anganwadi services among scheduled tribe pregnant women.

Variables	Base line		End line	
Services	**Intervention group (%)**	**Control group (%)**	**Intervention group (%)**	**Control group (%)**
Visit to Aanganwadi centre at least once	109 (100.0)	119 (100.0)	106 (97.2)	103 (86.6) *
Frequency of visits to Anganwadi centre				
Daily	23 (21.1)	19 (16.0)	31 (28.4)	31 (26.1) *
Weekly once	27 (24.8)	34 (28.5)	10 (9.2) *	13 (10.9)*
Monthly once	59 (54.1)	66 (55.5)	66 (60.6)	60 (54.4)
Reasons for visiting Anganwadi centre				
Health check up	5 (4.5)	9 (7.6)	0 (0)*	2 (1.7)*
Supplementary nutrition	52 (47.8)	62 52.1)	104 (95.4)*	98 (82.4)*
Complete meal to pregnant women along with IFA supplementation	50 (45.9)	38 (32.0)	58 (53.2)	82 (68.9)*
Immunization	0 (0.0)	4 (3.4)	6 (5.5)*	3 (2.5)
Vitamin A	0 (0.0)	3 (2.5)	1 (0.9)	0 (0)
Treatment of minor ailments	2 (1.8)	2 (1.6)	0 (0)	0 (0)
Health and nutrition education	1 (0.9)	1 (0.8)	0 (0)	2 (1.7)

*Significant.

As shown in Table 4, 61.8% pregnant women were not utilizing health services provided under Ayushman Bharat Programme scheme and the various reasons for their non-utilization were found to be lack of awareness among them and some women responded that this scheme is not utilized by them as their pregnancy was first one.

It was found in baseline survey that 24.2% women did not utilize JSY and JSSK scheme. The various reasons reported by them for non-utilization of the services were lack of awareness of these schemes and some reported that they have registered in this scheme but they didn't get any amount as they were pregnant and they said they will get the benefits of the services after the delivery while some women reported that they do not have bank account (Table 4).

8.7% women did not utilize PMSMA (Pradhan Mantri Surakshit Matriva Abhiyan) programme. Reasons reported by them for non-utilization were lack of Awareness. Some reported that they were going for health checkups for private hospitals and some reported that they don't have bank account.

30.2% women didn't utilize the services of PMMVY (Pradhana Mantri Matru Vandana Yojana and the various reasons reported for non-utilization were lack of awareness, some reported ASHA worker did not make them aware of this scheme, some reported that amount was not credited for them while some women reported that as they don't have bank account, so they didn't utilize this scheme. Some replied only Rs 2000 amount was credited in their bank account. They didn't get the

amount as this scheme is utilized after the delivery, some said they don't have Aadhar card.

7.0% women reported that as they were not registered in Anganwadi Centre. Also due to long distance to Anganwadi centre, they were not utilizing this scheme.

Only 10.0% women reported that they were not utilizing Anemia Mukt Bharat scheme and the reasons reported for non-utilization were lack of awareness. Some responded that they didn't get any services from PHC, only iron tablets they received.

Table 4: Reasons for non-utilization of health services under maternity benefit schemes among tribal pregnant women.

Schemes	Frequency	Percent	Reasons reported by tribal pregnant women
1.Ayushman Bharat Programme:	141	61.8	1. Don't know about this scheme 2. This scheme is not utilized because of first pregnancy
2.JSY (Janani Suraksha Yogana)	55	24.2	1. This scheme has been utilized after the delivery 2. Don't know about this scheme 3. I Have registered in this scheme but I didn't get any amount because I am pregnant 4. I Don't have bank account
3.JSSK (Janani Shishu Suraksha Karyakramam)	55	24.2	1. I Don't know 2. I Don't have bank account 3. I Have registered in this scheme but I dint get any amount because I am pregnant
4.PMSMA (Pradhan Mantri Surakshit Matriva Abhiyan)	20	8.7	1. Don't know about this scheme 2. Only we are going to checkups for private hospital 3. I don't have bank account
5.PMMVY (Pradhana Mantri Matru Vandana Yojana)	66	30.2	1. Not aware about the scheme 2. ASHA worker didn't make us aware of government schemes 3. Amount not credited 4. I don't have bank account, so I didn't utilize this scheme 5. Only 2000 Amount have been credited in my Account 6. I didn't get the amount 7. This Scheme has been utilized after the delivery 8. I don't have Aadhar card
6. YSR Sampoorna Poshana	16	7.0	1.Not registered in Anganwadi Centre 2.Long distance to Anganwadi Centre
7. Anaemia Mukt Bharat	23	10.0	1. Lack of awareness 2. Didn't get any services from PHC, only Iron tablets are taken
8. 102 (Thalli Bidda Express)	18	7.8	1. Don't know about 102 services 2. Long distance to our village 3. We are having own vehicle
9. 104 (medical help line)	22	9.6	1. PHC is available near to our village 2. Don't know about 104 services 3. Long distance to our village 4. My family members not accepting for 104 services, hence we have not used this scheme. Don't know about 104 services

It was observed that18(7.8%) women were not utilizing the 102 (Thalli Bidda Express) services and the various reasons reported by them were lack of awareness, use of own vehicle and long distance to their village etc.

22 (9.6%) women reported reasons for their non-utilization of 104 (medical help line) services were lack of awareness, location of PHC nearby their houses while some women reported due to long distance to their village, they didn't utilize the services.

Only 9 (4.0%) were not utilizing 108 emergency response services and reasons reported by women were lack of awareness, long distance to their village, non-availability of proper roads and some replied even though they were aware they didn't utilize these services.

DISCUSSION

In this study, we found that only 29.4% of pregnant women were utilizing the services of Ayushman Bharat Programme while 61.8% tribal pregnant women were not

utilizing health services provided under Ayushman Bharat Programme scheme and the various reasons for their non-utilization were found to be lack of awareness among them while some responded that as their pregnancy was first one, they didn't avail the services. But it was observed that post intervention, of services of Ayushman Bharat Programme was improved from 29.4% to 85.3%.

Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Health Mission and the objective is to reduce maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.[9] whereas Janani Shishu Suraksha Karyakram (JSSK) entitles all pregnant women coming to government institutional facility with free and cashless delivery, free c-section, free drugs, diagnostics, free diet during hospital stay and free transport.[10]

In present study, it was observed that, 45% of pregnant women were utilizing the services of JSY and JSSK before intervention. But post intervention, utilization of services of both JSY and JSSK was increased to 63% and 66.4% respectively.

JSY services utilization in present study is much higher than a study by Angadi et al where only 57% of mothers had utilized JSY services and almost similar findings were observed by Manjula et al (56%) and Vidya et al study (43%).[11-13]

With respect to JSSK, Unnikrishnan et al reported in their study that all the participants (100%) had taken up the benefits of JSSK while a study by Manjula et al and Vidya et al study only 22% and 10.4% of mothers utilized JSSK respectively which is much lower utilization than our study.[12-14]

It was found in baseline survey that 24.2% women did not utilize JSY and JSSK scheme. The various reasons reported by them for the non- utilization of the services were lack of awareness of scheme and some reported that they have registered in this scheme but they didn't get any amount as they were pregnant and they said they will get the benefits of the services after the delivery while some women reported that they do not have bank account.

The Pradhan Mantri Surakshit Abhiyan (PMSMA)scheme aims to provide assured comprehensive and quality antenatal care, free of cost, universally to all pregnant women on the 9th of every month. PMSMA guarantees a minimum package of antenatal care services to women in their 2nd/3rd trimesters of pregnancy at designed government health facilities.[15]

We found in baseline survey that 74.3% of pregnant women availed the benefits under Pradhan Mantri Surakshit Abhiyan (PMSMA) scheme. On the contrary to this, a study by De et al and a study by Sinha et al showed that 54.24% and 32% of the mothers availed antenatal services under the scheme respectively.[16,17]

In present study reasons for non-utilization of services of this PMSMA scheme by 8.7% of pregnant women reported were lack of awareness. Some reported that they were going for health checkups for private hospitals and some reported that they don't have bank account. In the endline survey, improvement in utilization of services was found (94.5%).

In present study, it was found in baseline survey that about 78% of pregnant women were utilizing the services of Pradhan Mantri Matru Vandana Yojana (PMMVY) while 66 (30.2%) didn't utilize the services of this scheme and the various reasons reported by them were lack of awareness, some reported Asha worker did not make them aware of government schemes, some reported amount was not credited in their bank account and some women had no account in the bank so, they didn't utilize this scheme. Some women responded that this scheme has been utilized after the delivery and some said they don't have Aadhar card.

A study by Sekher et al undertaken to assess the implementation of PMMVY in three states of India-Assam, Bihar and Maharashtra revealed that utilization of PMMVY was poor due to poor awareness about the scheme, apart from documents and bank related issues, the other reasons which were restricting many women from availing the scheme were early marriages, seasonal migration of women for work, late ANC registration, etc.[18]

Poshan Abhiyaan is India's flagship programme to improve nutritional outcomes for children, adolescent girls, pregnant women and lactating mothers.[19]

Under the YSR Sampoorna Poshana Plus Scheme**,** hot cooked mid-day meals and take-home rations are provided to the beneficiaries. The enrolment of beneficiaries is done as per the data collected by the Anganwadi workers.[20]

In this study, 96.3% pregnant women were utilizing the scheme and remaining 4.7 were not availing the benefit of this scheme as they were not registered in Anganwadi Centre due to long distance to Anganwadi Centre.

Anemia Mukt Bharat aims to reduce the prevalence of anemia among pregnant women and the main intervention is prophylactic iron and folic acid supplementation.[21]

In this study, we found improvement in utilization of services of Anemia Mukt Bharat programme (AMB) from 69.7% at baseline to 90.8% at endline survey among pregnant women. Similarly, Joe et al study revealed that, after the launch of AMB strategy, the iron and folic acid (IFA) supplementation coverage between 2017-18 and 2019-20 has increased for pregnant women from 78% to

90%; across all states in India.[22] 23 (10.0%) pregnant women who were not utilizing this scheme and the reason reported by them were lack of awareness. A study by Sedlander et al showed that at the policy level, frontline health workers distribute iron supplements to pregnant women only and do not follow up on adherence.[23]

With respect to utilization of emergency ambulance services, we found improvement in utilization of these emergency services like 104 medical helpline services from 88.1% at baseline survey to 92.7% at endline.

We found that more than 90% utilization of emergency ambulance services like 102 Thalli Bidda Express services (94.5%), 108 emergency response services (93.6%) at the baseline survey. On the contrary to this, Manjula et al[12] reported that, only 56% of mothers had utilized 108 ambulance services.[12] Similarly, a study by Saravanakumar et al revealed that, only 17% have availed 108 services and 16 % availed 102 services.[24] A higher proportion of respondents did not avail the services as they were not aware of the services used for maternity purpose and other reasons reported by them were vehicle delay in arrival (17.6%), prestige issue (14.8%), preferred private hospital delivery (14.8%), easy access to PHC (9.8%), use of own vehicles (8.8%), use of others vehicles available nearby (7.6%), fear about 108 (4%), admitted before expected date of delivery at time of scan/ANC visit (3.4%) and some preferred private ambulance (2.4%) respectively.

In present study, only small proportion of pregnant women didn't avail emergency ambulance services and reasons reported by them for non- utilization were similar to the various reasons reported in a study by Saravanakumar et al and Manjula et al like lack of awareness, some responded that PHC is near to their village, use of own vehicle, non-availability of proper roads.[12,24]

In present study, it was found that, all the women visited to Aanganwadi centre at least once. 42 women were visiting daily once, 61 women were visiting weekly once and 125 women monthly once.

At baseline survey, we found that pregnant women were visiting Anganwadi centre for various services like health check-up (4.5%) and for supplementary nutrition (47.8%), for food and IFA supplementation (45.9%), treatment of minor ailments (1.8%), health and nutrition education (0.9%) etc. Post intervention, there was significant improvement in utilization of services like supplementary nutrition from 47.8% to 95.4% and for IFA supplementation from 45.9% to 53.2%. Angadi et al study and a study by Vidya et al revealed that 68% and 65% of mothers had utilized Anganwadi nutrition supplementation respectively while a study by Unnikrishnan et al reported that majority of the study subjects availed the benefits of ICDS (97.95%).[13,14,18] No one was availing services like immunization, vitamin A supplementation from Aanganwadi as these services are available at PHC.

The study was done in a tribal area and in a single centre, may limit the generalizability of findings to other population and other areas. Also, all the information provided by the mothers were self-reported and hence there can reporting bias for some information.

CONCLUSION

Utilization of government schemes for maternal health was found to increase among tribal antenatal women post intervention with respect to schemes like Ayushman Bharat, JSY, JSSK, PMSMA, Anemia Mukt Bharat, 102 (Thallibidda Express).

This study showed that health education improves utilization of government schemes among mothers. For this ASHA, ANM and medical officers should be motivated to educate as they work closely with the community.

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Ethical approval: The study was approved by the Institutional Ethics Committee vide EC file no.: 134 X/11/13/2022-IEC112 dated December 6, 2022

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