

## **A CROSS SECTIONAL STUDY ON UTILISATION OF MATERNAL HEALTH CARE SERVICES IN THE RURAL AREA OF KANCHIPURAM DISTRICT, TAMILNADU**

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### **ABSTRACT**

#### **Background:**

The present study was carried out to know the factors associated with the utilization of maternal health services.

#### **Objectives:**

To study the utilisation of Maternal health care services in the rural area of Kanchipuram district, Tamil Nadu

#### **Methodology:**

The study was among 303 mothers in Padappai, Kanchipuram, The data regarding the utilisation were obtained using a pre -tested, semi-structured questionnaire.

#### **Result:**

In this study the antenatal care among the study participants was significantly associated with age of the study participants, education, occupation and socio-economic status of the study participants.

#### **Conclusion:**

Strengthening of awareness regarding the maternal health care services and its importance of reducing the maternal mortality and morbidity is still required in rural area of Tamil Nadu.

### **Keywords**

Maternal mortality, antenatal care, intrapartum care, postnatal care, utilisation, rural area.

### **Introduction**

The term "maternal and child health" refers to the promotive, preventive, curative and rehabilitative health care offered to mothers and children. It includes the sub-areas of maternal health, child health, family planning, school health, handicapped children, adolescence, and health aspects of care of children in special settings such as day care. 1 Mothers and children approximately form 71. 14% of the total population in any developed country. In India women of child bearing age (15- 45 years) constitute 32.2% of the total population. By virtue of their numbers, mothers form major consumers of the health care services. They not only form a large group but they comprise the vulnerable or special risk groups. The risk is associated with pregnancy, child birth and post-natal period. Promoting women's health improves not only individual health but also the health of the family, community and the nation. Hence women acquire a special place in the community. 1-3

A number of programs have been launched by the Government of India for the welfare of women belonging to reproductive age group, but still significant reduction in maternal mortality and morbidity has not been achieved yet. The highest maternal mortality ratios can be witnessed in India. India accounts for approximately 20% of all the maternal deaths globally. 2

Majority of maternal deaths can be prevented through appropriate maternal health services during antenatal, natal and post-natal period. The quality of care and accessibility to ANC is more important. As per the NFHS - 4 data in Tamil Nadu, 43. 8% of mothers in rural area received full ANC. Similarly, 73. 8% mothers in rural area received full P NC. 3 Though the percentage of hospital deliveries is increasing gradually, it is not only the hospital delivery,

the duration of stay in hospital after delivery is also important. The importance of this is to detect and treat the immediate post - natal complications.

The reasons for non-utilization of maternal health services could be due to various social, cultural and economic factors. Women's education, birth order and standard of living index also influences in choosing the health care facility. Early marriages, social pressure to bear children early, malnutrition, ignorance, illiteracy, customs, lack of awareness, lack of health services, hostile behavior of health staff etc. are the other contributing factors. 5-7

However, as the utilization of maternal health care ultimately comes down to the community level in which women live, it is of key importance to pay attention to the perspective of the women themselves. Hence, understanding of these factors at the community level is required. If these factors are correctly identified, then the program efforts can be concentrated to increase the acceptance/utilization rates. Therefore, keeping this in view, this study was conducted to assess the determinants of utilization, reasons of non - utilization in the rural area and also to find out the measures to gear up the utilization of maternal health services.

## **MATERIALS AND METHODS**

### **STUDY DESIGN :**

This study is a cross – sectional study .

### **STUDY AREA:**

This study was conducted in a rural field practice area of SreeBalaji Medical College and Hospital, Padappai, Kanchipuram District. It is situated at a distance of 13Kms. from Tambaram on the Kanchipuram Highways with a population of 21187, among which 10,370 were females and mothers who delivered in the past two years were 2124.

### **STUDY POPULATION:**

The mothers of children of age group less than 2 years old at the time of interview were the study population.

### **INCLUSION CRITERIA:**

The inclusion criteria for the study were the mother of the children less than 2 years of age at the time of interview. Mothers of the children less than 2 years old, who were the resident of particular area for a minimum period of 6 months.

### **EXCLUSION CRITERIA:**

Mothers with more than 2 years old children and were not a resident of particular area for a minimum period of 6 months were excluded from the study.

Those who did not give consent to participate in the study, were excluded from the study.

### **SAMPLING METHOD:**

A community based cross-sectional study was carried out during June, 2017 to May, 2018 in the rural area of Kanchipuram Dist., Padappai, which consists of 21187 population in which 10370 were females. From the Maternal and Child Healthcare Register available with the local health authority, a complete list of mothers, who have delivered in the past two years was prepared which was 2124. The study subjects as per our sample size 303 were collected by a simple random technique using computer generated random number table.

### DATA COLLECTION PERIOD:

Data was collected from the study participants for a period of 3 months from 2 n d November 2017 to 31 s t January 2018.

### STATISTICAL ANALYSIS:

The statistical analysis of data was done using descriptive and analytical statistics. The descriptive statistics analysed were presented as frequency distribution and percentage. The analytical statistics used were Chi – square and Confidence Interval. The association of occupational hazards with health problems was assessed. P value < 0.05 was considered as statistically significant value. Data was entered in Microsoft excel and analysed using the software SPSS, version 22 software.

### RESULTS

The study was undertaken in Padappai, Kanchipuram district, a rural field practice area undertaken by Department of Community medicine, SreeBalaji Medical College and Hospital, Chrompet, Chennai. The study population consisted of all the mother of the children of age group less than 2 years old and also who were the resident of particular area atleast for a minimum period of 6 months or more. A total 303 mothers were constituted as study population as per our inclusion criteria.

**Table1: Frequency distribution of socio demographic characteristics of study participants**

Socio-demographic data	Frequency (n)	Percentage (%)
<b>Age (mean=26.7±3)</b>		
≤20	01	0.3
21-25	117	38.6
26-30	140	46.2
>30	45	14.9
<b>Age at marriage (mean=21.3±3)</b>		
≤20	139	45.9
21-25	150	49.5
26-30	12	4.0
>30	2	0.7
<b>Age at first pregnancy (mean=23.1±2)</b>		
≤20	56	18.5
21-25	190	62.7
26-30	56	18.5
>30	01	0.3
<b>Religion</b>		
Hindu	242	79.9
Muslim	30	9.9
Christian	31	10.2
<b>Education status</b>		

Illiterate	03	1.0
Primary	04	1.3
Middle	15	5.0
High school	56	18.5
Higher secondary	113	37.3
Graduate and above	112	36.9
<b>Occupation</b>		
Housewife	220	72.6
Working	83	27.4
<b>Type of family</b>		
Joint family	183	39.6
Nuclear family	120	60.4
<b>Education of their spouse</b>		
Illiterate	02	0.7
Primary	17	5.6
Middle	62	20.5
High school	65	21.5
Higher secondary	70	23.1
Graduate and above	87	28.7
<b>Consanguinity of marriage</b>		
Consanguineous	64	21.1
Non- consanguineous	239	78.9
<b>Occupation of spouse</b>		
Government	12	4.0
Private	112	37.0
Business	98	32.3
Agriculture	60	19.8
Daily wager	19	6.3
Not working	02	0.7
<b>Socio-economic status*</b>		
Class I (6574&above)	16	5.3
Class II (3287-6573)	153	50.5
Class III (1972-3286)	129	42.6
Class IV (986-1971)	05	1.7

Table 1 shows distribution of respondents based on the socio-demographic factors. It was observed that only 1 (0.3%) participants belongs to the age group less than or equal to 20 and 45 (14.9%) of the study participants were more than 30 years of age group. As per the age at marriage, it is observed that majority of the study participants lies in the age group 21-25 of 150(49.5%) and the least participants is 2(0.7%) belongs to the age group more than 30. 139(45.9%) belongs to the age group less than or equal to 20 and 12 (4.0) participants were lies in the age group 26 -30. In case of age at first pregnancy, 56 (18.5%) of study participants belong to the age group less than or equal to 20. The maximum number of study participants of 190 (62.7%) had their first pregnancy at the age 21-25. 56(18.5%) of study participants lies in age

group of 26-30. Only 1 (0.3%) of the participant for married more than 30 year among our total study participants. The distribution of study population as per their religion shows majority of the them 80% were Hindus. Of 10% of the study population were Muslims and another 10% belongs to Christians.

**Table 2: Distribution of the study participants as per their nearby health care facility**

Nearby health care	Frequency (N)	Percentage (%)
Government PHC/sub centre	246	81.2
Government hospital	26	8.6
Private hospital	31	10.2
Total	303	100.0

**Figure 1: PERCENTAGE OF MOTHERS WHO RECEIVED FULL ANC**

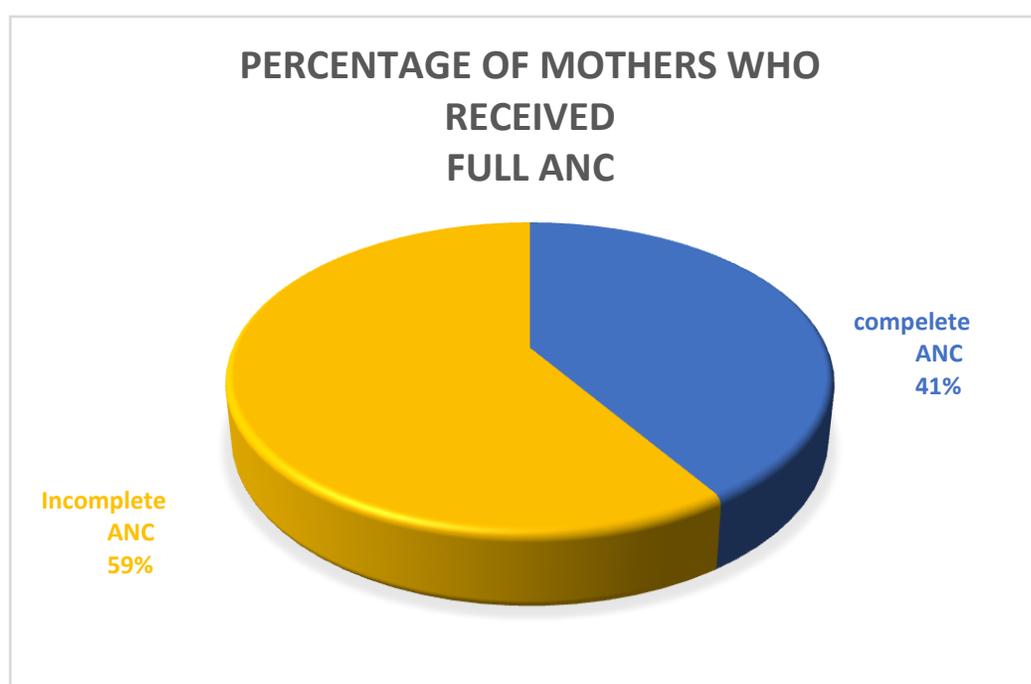
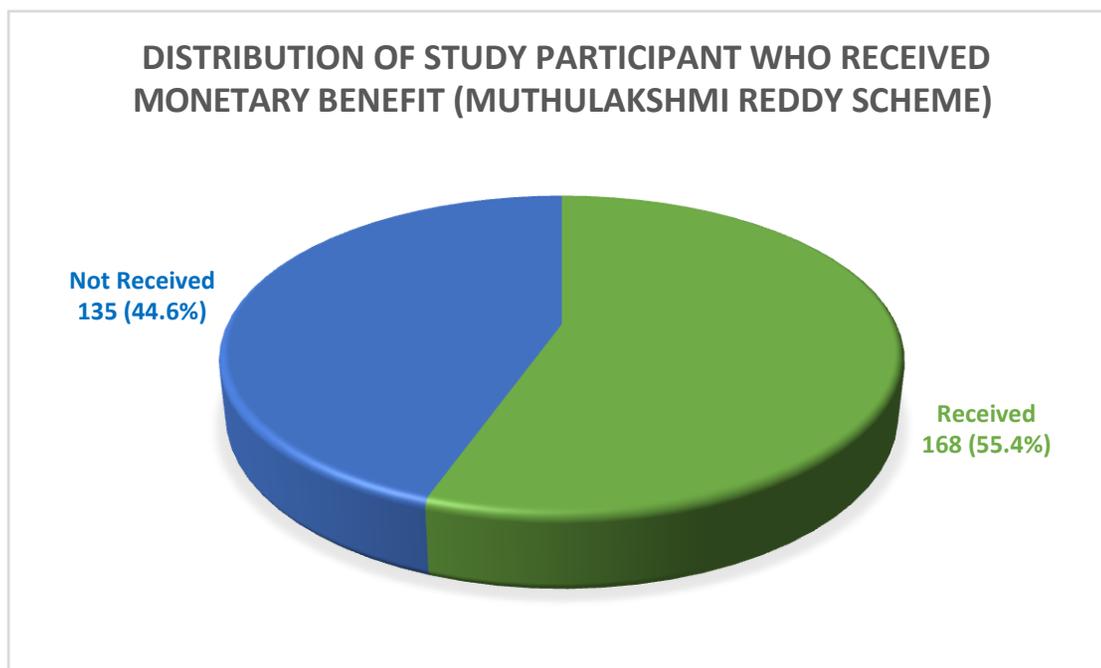


Table 2 shows proportion of study participants as per their nearby health care facility they visit. 81.2 % of our study participants visit Government PHC/sub centres. Only 10.2% visits private institutions for their health problems.

The above pie chart exhibits the percentage of mothers who received full ANC (4 antenatal visits, 100 IFA tablets, 2 doses TT injections). 59% of our study participants had received complete ANC and 41% had received incomplete ANC.

**Figure 2: DISTRIBUTION OF STUDY PARTICIPANT**



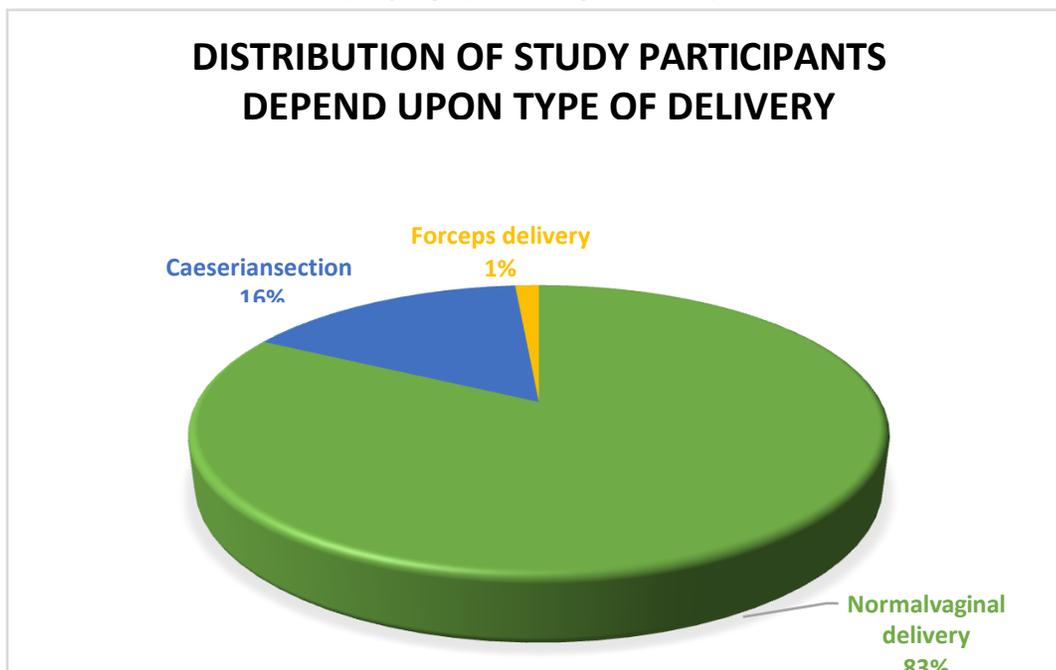
The above figure states the distribution of study participants based on those who received monetary benefit (Muthulaskhmireddy scheme) which is given in Tamil Nadu for pregnancy. Among 303 participants 55.4% had received monetary benefit and 44.6% of the study participants had not received the monetary benefit.

**Table 3: Distribution of participants as per the person who conducted delivery**

Person who conducted delivery	Frequency (N)	Percentage (%)
Doctor	300	99
Nurse	3	01
Total	303	100

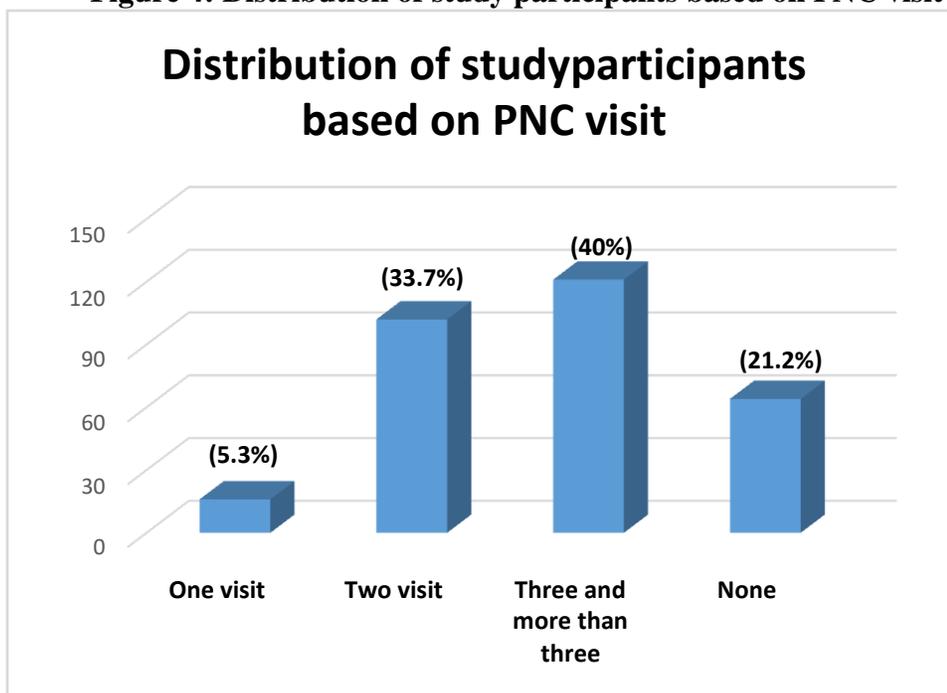
The table 3 shows distribution of study participants based on the person who conducted delivery during their last pregnancy. Majority of 99% of delivery were conducted by doctors, only one percent of delivery were conducted by nurse of total study population.

**Figure 3: DISTRIBUTION OF STUDY PARTICIPANTS DEPEND UPON TYPE OF DELIVERY**



The above pie chart depicts that the type of delivery underwent by our study participants during their previous pregnancy. In which 83% of them had normal vaginal delivery. 16% and 1% of study participants had caesarean section and forceps delivery respectively among the total study participants.

**Figure 4: Distribution of study participants based on PNC visit**



The above figure exhibits the distribution of study participants depend upon the PNC visit they had during their last pregnancy. 40% of the individuals had three and more than three visits. 5.3% of study populations had only one visit among total population. Still 21.2% of study populations had not any of the post-natal visit during their previous pregnancy.

**Table 4: Association between socio-economic status and monetary benefit (Muthulakshmi Reddy scheme) acquired.**

Socio-economic status of the participants	Monetary benefit (Muthulakshmi Reddy scheme)		Total
	Received N(%)	Not received N(%)	
CLASS I (6574 & above)	7 (2.3%)	9 (2.9%)	16 (5.2%)
CLASS II (3827-6573)	82 (27.06%)	71 (23.4%)	153 (50.4%)
CLASS III (1972-3286)	76 (25.08%)	53 (17.4%)	129 (42.5%)
CLASS IV (986-1971)	3 (0.9%)	2 (0.6%)	5 (1.5%)
Total	168 (55.44%)	135 (44.55%)	303 (300%)

\* $\chi^2 = 1.76$ , d.f =3; p value = 0.62

The above table shows the association between socio - economic status and monetary benefit they acquired. The majority of the study participants who received monetary benefit were belong to CLASS II which is 50.4% among which 27.06% had received monetary benefit and 23.4% had not received among the total study participant. It was not statistically significant.

## DISCUSSION

The objectives of the present studies are to study the utilisation of Maternal health care services in the rural area, to assess the association between demographic status and maternal health care services and to assess the factors influencing their utilisation of Maternal health care services in the rural area.8 Though numerous studies were done over the past decade on the maternal health care services, yet there is scanty literature o nutilisatio n of maternal health c are services in the rural area of Tamil Nadu. In this study the majority of the study populatio n i. e., 46. 2% lies in the age group between 26 -30, 38. 6% b elonging to the age group 21- 25 years of age. And 0.3% and 14. 9% belongs to the age gro up  $\leq 20$  and  $>30$  years respectively.

In our study most of the study particip ants i. e., 49. 5% got married between the age of 21 - 25 years of age and least number of the particip ants of 0.7% got married after 30 years of the age. In the stud y by Hemantmahajan et al 9 80% got married within 21 years of age. This d ifference in age at marriage may be d ue to the geographical d ifference of the study area. In this study, 62. 7% had their firstpregnanc y between the age group 21- 25 years of the age of the total study population. In the study b yKakati R et al 10-13, on the contrary most of the study p artic ip ants of 49. 7% were in the age group between 26- 30years of age. This d ifferenc e may be due to age at marriage and study area.

The monetary b enefitwhic h the particip ants acquired in this study was Dr. Muthulakshmi Reddy scheme. Accord ing to this scheme, monetary b enefit is given to the poor woman of

Rs. 12000 in three instalments and for two deliveries only. The receipt of the application should be done at the time of registration itself and 1st instalment of Rs. 4000/- to be released in the 4th month of pregnancy. The 2nd instalment of Rs. 4000/- will be given to the mother after delivery and should be in government institutions. The 3rd instalment of Rs. 4000/- will be given to the mother on completion of third dose of DPT, Hepatitis -B and Polio/Pentavalent vaccine to child.<sup>14</sup> In this study the monetary benefit utilisation is influenced by education status of the participants and occupation of the spouse of the study participants. 64 of 95. 3%. Among them 72. 8% had their delivery at government institutions. This majority may be due to awareness regarding the complications during the pregnancy, post-natal care and monetary benefit acquirement among the study participants<sup>15-17</sup>

In our study, the socio-economic status of the study participants also influences the type of delivery. Majority of the study participants of 50.4% were belong to the socio-economic status CLASS II category in which 39.9% had normal vaginal delivery and 10.5% had caesarean section. This majority may be due to proper utilisation of complete ANC services during the ante natal period of the pregnancy.<sup>18</sup>

In this study, the complete PNC care had been influenced by age at marriage of the study participants. Majority of the participants of belong to age group >20 had received more PNC care when compared to other age groups. Similarly, in the study by Neeta et al 54 65.2% had received complete PNC in the age group >20 years of age.<sup>19-21</sup> This variation is due to the elderly marriage which leads to more aware regarding the pregnancy when compared to early age of married individuals. Whatever the place of delivery, the utilisation of complete PNC should be emphasis to the mothers by the health care worker in order to prevent the complications and reduced the infant mortality and morbidity rate.

## CONCLUSION

This cross-sectional study assessed the utilisation of maternal health care services and associated factors which influence the utilisation of maternal health care services in the rural area of Kancheepuram district. Majority of the study participants in the present study were in the age group 26- 30 years and were Hindu by religion. 50% were married at age group of 21- 25 years and had their first pregnancy at the same age group of 62. 5%. Then 38% of study participants studied up to higher secondary and most of them are housewives.

It was a happy note that majority of the mother had registered their pregnancy mostly in Government institutions. 59% of respondents received full ante natal care. The prime factor responsible for not utilising the full ANC was because of change in the mandatory ante natal visits from three to four. Majority of mother had institutional delivery of 75% which was lower than DLHS -4 of Tamil Nadu ( 98. 9%).

On the whole, the situation in the present study does not appear to be very dismal, but there is a lot of scope for improvement of services, which would lead to improvement of the status of maternal health ultimately ensuring a healthy mother and child. Thus, government and other concerned agencies should also make efforts to develop between general community-based education program so that women can have better understand gravity of maternity health care services and able to take proper measures recognizing that only healthy mother can give a healthy child and a healthy family.

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**Ethical approval:** The study was approved by the Institutional Ethics Committee

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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