

Original Research Article

Utilization of MCP card for enrichment of knowledge on antenatal care by mothers attending immunization clinic: a hospital based cross-sectional study

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ABSTRACT

Background: MCP card has been developed as a tool for families to learn, understand and follow positive practices for achieving good health of antenatal mothers and children. It serves as informative tool with pictorial contents for enrichment of mother's knowledge, which may be a determinant of their practice. The objectives of this study were to evaluate the perception among mothers about antenatal care from MCP card and to associate selected variables of interest with their knowledge.

Method: A cross-sectional study was conducted among 200 mothers attending immunization OPD of MKCG Medical College during June to August 2016. Data was obtained from them by pre-designed and pre-structured questionnaire.

Results: 86% have read the MCP card and understood it. Among them 10% have understood it pictorially, 62% have understood it both pictorially and literally. It was found that higher education, multiparity, early pregnancy registration, were statistically significantly associated with adequate knowledge ($p < 0.05$). About various aspects of antenatal care, 90% correctly stated that 2 injections of TT are given in pregnancy but only 12% could say that deworming is done after 3rd month of pregnancy. 86% correctly said bleeding as a danger sign but only 2% knew about pallor as a danger sign. 81% said contacting health worker as an arrangement for emergency labour but only 35% said that they would identify a hospital in advance.

Conclusion: This can be utilized as a tool of health education for counseling during ANC visit at village level in the Anganwadis.

Keywords: Antenatal care, MCP card, Perception

INTRODUCTION

Globally approximately 830 women deaths occur every day from preventable causes related to pregnancy and child birth. About 99% of all maternal deaths concentrated in developing countries. As decline in maternal deaths is possible by intervention, target under sustainable development goal is set to reduce the global maternal mortality ratio to less than 70 per 100000 births,

with no country having a maternal mortality rate of more than twice the global average.^{1,3}

Antenatal care along with family planning, skilled delivery care and emergency obstetric care are the key elements of the package of service aimed at improving maternal and newborn health. For this purpose, Reproductive and Child health programme was launched during 1997-1998. RCH Programme was integrated with

National rural and urban health mission, which helped to broaden its service outreach. For implementing RCH services, a joint Mother and Child Protection card (MCP card) was developed.²

The MCP card as a service tool was introduced on 1st April 2010. The MCP card is a tool for pregnant women, young mothers and family members to learn, understand and achieve good health practices. It helps families to know about various types of services which they should assess and utilise.³ MCP Card is used for documentation of service provided, information, education and communication, and mother and child tracking. It contains message and pictures related to child care and developmental milestones of children up to 3 years. It contains information about antenatal care, danger signs during pregnancy, preparation for home delivery and emergency labour, newborn care, details of immunization, growth chart and development milestones.⁴ Knowledge determine the practice. MCP card containing information literally as well as pictorially influences the behavior of pregnant women. It is kept with her throughout the period of pregnancy to guide her for protection of herself and her child as the name suggests. Throughout the antenatal period she has the scope of reading, understanding and utilizing the information contents given. As antenatal service determines the pregnancy outcome in majority cases, interest has been aroused to know on this aspect. With this background, this study was carried out with the objectives to evaluate the perception among mothers about antenatal care from MCP card and to associate selected variable of interest with their knowledge.

METHODS

It is a hospital based cross-sectional study conducted in immunization clinic of MKCG Medical College and Hospital. The study was undertaken from June to August 2016. The study population consists of the mothers having a child of 1-12 months of age, attending the immunization clinic during the study period. Mothers with <1-month child rarely accompanied their child to the immunization clinic, so were excluded from the study. Those mothers who didn't receive the MCP card and those who were not willing to participate were excluded from the study. Convenient sampling was done. 242 mothers fulfilled our inclusion criteria, out of which 42 mothers were excluded from the study (30 mothers didn't receive MCP card and 12 were not willing to participate in the study). So, the sample size obtained was 200.

Clearance was obtained from the institutional ethics committee. After explaining the objectives of the study, informed consent was taken from study participants. Data was collected using predesigned, pretested and semi structured questionnaire in local language. Socio-demographic variables and their awareness on various aspects of antenatal care received from MCP Card were assessed. Socioeconomic status was classified according

to BG Prasad Classification. Data was analysed by calculating rates and proportions. Chi square test was used to find the significance. Analysis was done using SPSS 20.0.

Scoring of knowledge was done. For every correct response, a score of 1 was given and for every incorrect response a score of 0 was given. Maximum and minimum score a person could obtain was 24 and 0 respectively. Adequate knowledge was defined as those getting a score of 12 and above (50% of total score). Inadequate knowledge was defined as getting a score of <12.

RESULTS

Out of 200 mothers 36% were aged between 25-29 years 34% were aged between 20-24 years. The mean age of mothers was 25.64±4.24 years. Teenage pregnancy was found in 8% mothers. 14% mothers were illiterate. Mothers belonging to rural areas were 53.4%. Most of the mothers belonged to type 2 and type 3 socio-economic status i.e. 33.5% and 38% respectively. Mothers living in joint family were 40% and 3-generation family were 34%. Multiparous mothers were more in number (54%) as compared to primiparous mothers (46%). Majority of the mothers (72%) have done registration within 3 months of pregnancy. Most of the mothers (74%) have received MCP card from anganwadi (Table 1).

Out of 200 mothers 28 (14%) mothers have never read the MCP card and 172 (86%) mothers have read the MCP card. Among them 10% have understood it pictorially, 12% have understood it literally and 62% have understood it both pictorially and literally (Figure 1).

80% women correctly stated that 1st trimester is the ideal time for antenatal registration. However only 48.5% women were aware of minimum 3 antenatal checkups. Measurement of BP and weight during every visit, blood and urine test during every visit, 180 IFA tablets and IFA to be started during 4th month of pregnancy were answered correctly by 83%, 37%, 47.5% and 48% of the sample respectively. Only 12% mothers knew about deworming done after 3rd month of pregnancy. But awareness about 2 TT injections given during pregnancy was found in 90% of the mothers. Awareness about extra 1/4th of normal food to be taken during pregnancy and family planning practices were found in 63% and 85% mothers respectively (Table 2).

Among the danger signs in pregnancy bleeding was most commonly perceived (86%) followed by pain abdomen (60%), non-rotation of baby (56%), breathlessness (46%), head reeling (44%) and rupture of membrane (42%). Only 2% were aware of pallor as danger sign. Mothers aware about convulsion, fever, excessive vomiting and pedal edema as danger sign was 22%, 26%, 32% and 34% respectively (Figure 2). When asked what preparation they would do in case they suddenly go in labour and an emergency arises; 81% said they would

contact health worker and 72% said they would arrange transport. However only 35% said they would identify hospital in advance (Figure 3).

Table 1: Socio-demographic profile of the respondents (n=200).

Variables	Frequency	Percentage (%)
Age of study subjects		
15-19 years	16	8
20-24 years	68	34
25-29 years	72	36
30-34 years	44	22
Educational status of mothers		
Illiterate	29	14.5
<10 th	88	44
10-12 th	69	34.5
Graduate and above	14	7
Residence		
Rural	107	53.4
Urban	93	46.5
Type of family		
Nuclear	52	26
Joint	80	40
3 generation	68	34
Socioeconomic status		
Class 1	33	16.5
Class 2	67	33.5
Class 3	76	38
Class 4	24	12
Parity		
Primipara	92	46
Multipara	108	54
Pregnancy registration		
<3 month	144	72
3-6 month	42	21
>6 month	14	7
MCP card received from		
Anganwadi	148	74
Hospital	52	26

Table 2: Awareness about routine antenatal care.

Various aspect of antenatal care (n=200)	Correct response
Period of antenatal registration (first trimester)	160 (80%)
Minimum number of antenatal check-ups (4 times)	97 (48.5%)
No. of times BP and weight should be measured during pregnancy (during every visit)	166 (83%)
No. of times blood and urine should be tested during pregnancy (during every visit)	74 (37%)
Minimum number of IFA tablets to be taken during pregnancy (180 tablets)	95 (47.5%)
When to start IFA during pregnancy (fourth month)	96 (48%)
No. of TT injection to be given during pregnancy (2 injections)	180 (90%)
When to do deworming during pregnancy (after third month)	24 (12%)
Amount of extra food that should be taken during pregnancy (one-fourth of normal)	126 (63%)
Awareness about types of family planning practices	170 (85%)

The scores were calculated and it was found that among 200 mothers 64 (32%) have inadequate knowledge & 136 (68%) have adequate knowledge. It was observed that mothers with higher education, multiparity, early

pregnancy registration were statistically significantly associated with adequate knowledge ($p < 0.05$). Age, place of residence, type of family and socioeconomic status had no significant association with adequate knowledge. 70%

mothers who received MCP card from anganwadi had adequate knowledge but there was no statistically

significant association (Table 3).

Table 3: Association of socio-demographic variables with knowledge of mothers.

Variables	Inadequate knowledge no. (%)	Adequate knowledge no. (%)	P value
Age			
15-19 years	10 (62.5%)	6 (37.5%)	0.13
20-24 years	25 (36.8%)	43 (63.2%)	
25-29 years	20 (27.8%)	52 (72.2%)	
30-34 years	9 (20.5%)	35 (79.5%)	
Educational status			
Illiterate	11 (37.9%)	18 (62.1%)	0.01 (<0.05)
< 10 th	38 (43.2%)	50 (56.8%)	
10-12 th	9 (13%)	60 (87%)	
Graduate and above	6 (42.9%)	8 (57.1%)	
Residence			
Rural	43 (40.2%)	64 (59.8%)	0.08
Urban	21 (22.6%)	72 (77.4%)	
Type of family			
Nuclear	14 (26.9%)	38 (73.1%)	0.517
Joint	29 (36.2%)	51 (63.8%)	
3 generation	21 (30.9%)	47 (69.1%)	
Socioeconomic status			
Class 1	10 (30.3%)	23 (69.7%)	0.991
Class 2	21 (31.3%)	46 (68.7%)	
Class 3	25 (32.9%)	51 (67.1%)	
Class 4	8 (33.3%)	16 (66.7%)	
Parity			
Primipara	43 (46.7%)	49 (53.3%)	0.000 (<0.001)
Multipara	21 (19.4%)	87 (80.6%)	
Pregnancy registration			
<3 month	39 (27.1%)	105 (72.9%)	0.011 (<0.05)
3-6 month	16 (38.1%)	26 (61.9%)	
>6 month	9 (64.3%)	5 (35.7%)	
MCP card received from			
Anganwadi	43 (29.1%)	105 (70.9%)	0.132
Hospital	21 (40.4%)	31 (59.6%)	

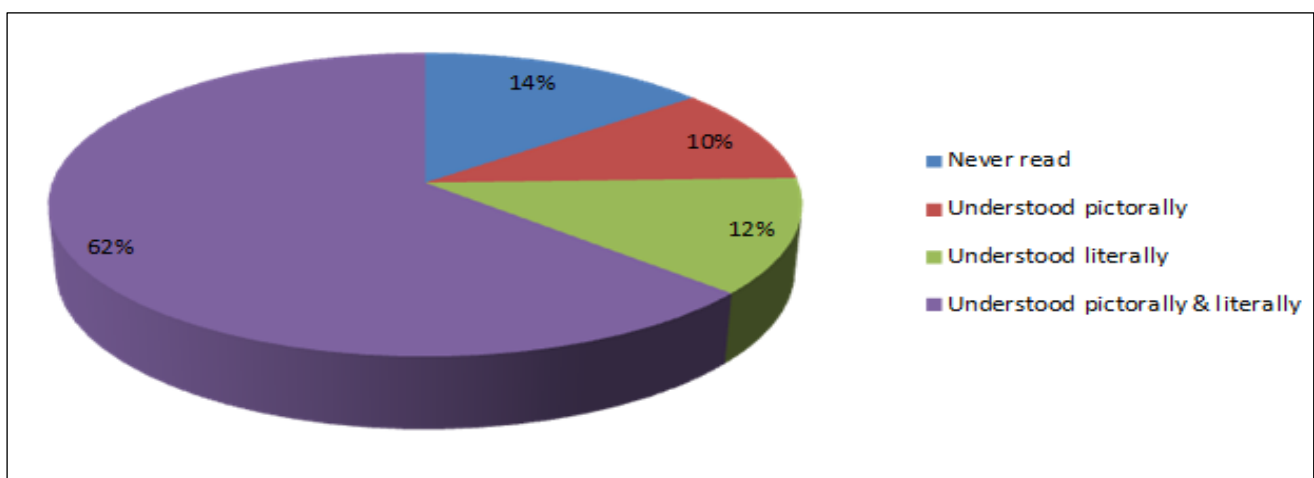


Figure 1: Mothers understanding MCP card (n = 200).

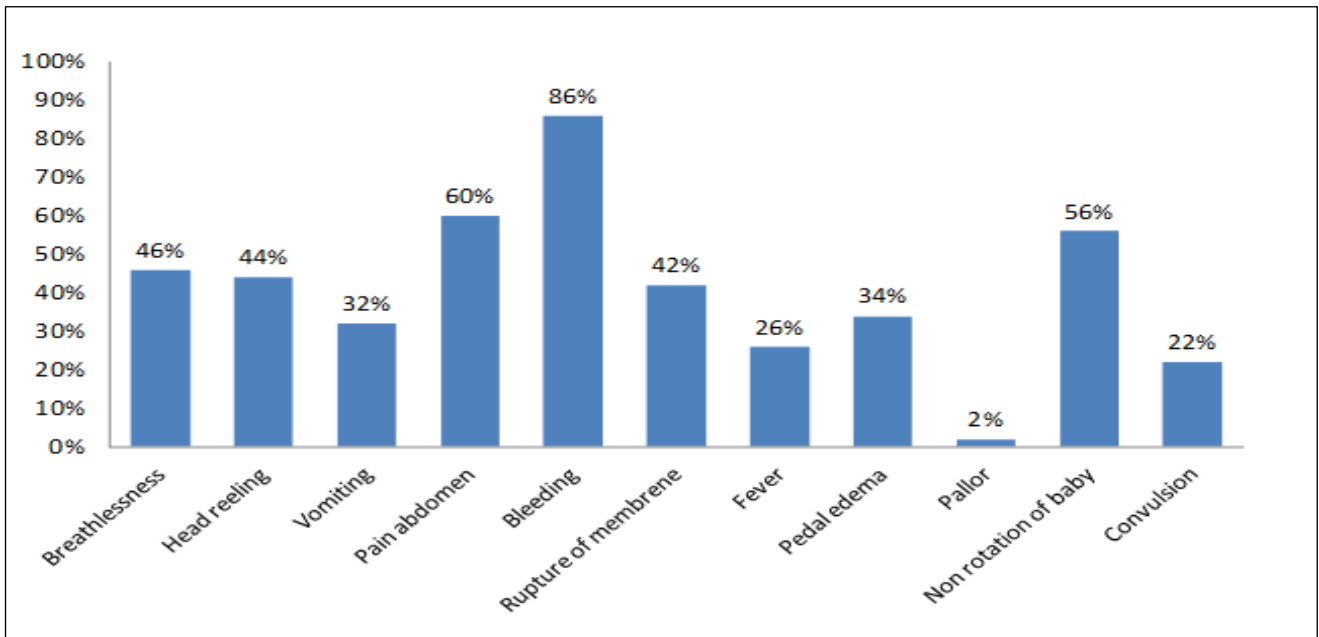


Figure 2: Awareness about danger signs of pregnancy.

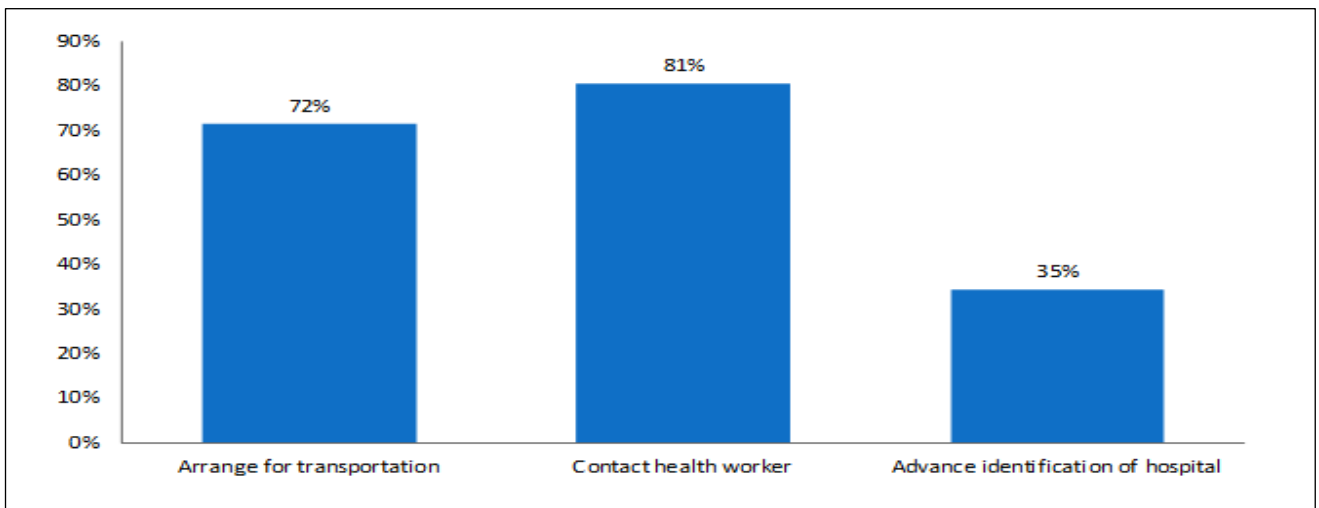


Figure 3: Awareness about preparation for emergency labor.

DISCUSSION

In this study 14% mothers have not read the MCP card even after having it with them throughout pregnancy and child birth, which shows the carelessness of mothers. 10% mothers have understood the MCP card pictorially, 12% have understood it literally and 62% have understood it both pictorially and literally.

This shows that most of the illiterate mothers have understood the card pictorially. Some of the mothers didn't possess the MCP card may be due to their nomadic nature or unawareness of service availability, so were excluded from this study. Awareness about antenatal registration in 1st trimester, BP and weight measurement

during every visit, 2 TT injections during pregnancy, type of family planning and extra 1/4th of normal food to be taken during pregnancy was observed in more than 50% mothers (80%, 83%, 90%, 85% and 63% respectively). Awareness about minimum 4 antenatal checkups, 180 IFA tablets to be taken during pregnancy, IFA to be started from 4th month of pregnancy and blood and urine test to be done during every visit was found to be low (i.e. 48.5%, 47.5%, 48% and 37% respectively). Only 12% of mothers were aware of deworming to be done after 3rd month of pregnancy. As per NFHS 4 mothers who had antenatal checkup in 1st trimester were 58.6%, mothers who had minimum 4 antenatal checkup were 51.2% and mothers who consumed IFA for >100 days when they were pregnant were 30.3%.⁵ In an ICMR task

force study conducted in 28 districts in rural India, awareness about antenatal registration was found to be low but awareness regarding TT injection and IFA tablets was found to be high.⁶ Results in this study regarding TT injection and IFA tablets was better than a study conducted by Laishram J et al in urban areas of Imphal, Manipur; but awareness regarding antenatal visits was higher in that study as compared to the present study.⁷ The findings of knowledge about antenatal care in this study is better than a study conducted by Gopalakrishnan S et al among rural pregnant women in Tamil Nadu.⁸ Better awareness regarding antenatal care in the present study may be due to pictorial component of the MCP card.

In the present study awareness about danger signs of pregnancy i.e. bleeding, pain abdomen, non-rotation of baby was found in more than 50% mothers (86%, 60% and 56% respectively). Awareness about breathlessness, head reeling, rupture of membrane, pedal edema, excessive vomiting, fever & convulsion as danger sign during pregnancy was low (i.e. 46%, 44%, 42%, 34%, 32%, 26% and 22% respectively). Only 2% were aware about pallor as a danger sign during pregnancy. Knowledge about danger signs in the present study is better than the findings in an ICMR task force study and a study conducted by Gopalakrishnan S et al in Tamil Nadu, where 26% of the study participants didn't know about a single danger sign.^{6,8} In another study by Elavarasan E et al 16% of the study participants were not aware about any danger sign during pregnancy.⁹ Only 41% mothers had knowledge about the danger signs of pregnancy in a study conducted by Murthy NMR et al in Karnataka.¹⁰ Several other studies from Tanzania, Ethiopia and Nepal also show poor knowledge about danger signs in contrast to the present study.¹¹⁻¹³ Knowledge about danger signs were low in comparison to knowledge about antenatal care in the present study, which may be due to the fact that pictorial component for danger signs were absent in the card.

In the present study awareness about preparation for emergency labour i.e. arrangement of transport and contacting health worker was better known by most of the mothers (72% and 81% respectively). Only 35% were aware about advance identification of hospital as a part of preparation for emergency labour. The results in the present study is better than the study conducted by Gopalakrishnan S et al and Elavarasan E et al where 52% and 40% of the study population respectively were not aware about any preparation for emergency labour.^{8,9}

In the present study educated mothers had significantly adequate knowledge. Other studies by Laishram J et al, Gopalakrishnan S et al and Elavarasan E et al also showed significant association of education with adequate knowledge.^{7,9} Whereas in a study by Murthy NMR et al it was found that education has no statistically significant impact on ANC utilisation.¹⁰ In the present study some illiterate mothers also had adequate

knowledge about antenatal care which may be due to the pictorial component of MCP card or due to their personal experience. Teenage pregnancy was found in 8% mothers, which is a serious concern. Most of the teenage mothers had inadequate knowledge about antenatal care. This may be due to the fact that those who got married earlier had less schooling than those who married later.

In the present study, multiparous mothers had significantly adequate knowledge. As multiparous women are already aware about pregnancy and its outcome so information given in the card is more penetrative and acceptable by this group. In contrast to the present study, parity was not found to be significantly associated with knowledge in the study by Laishram J et al.⁷ In the present study 72% mothers have done registration within 3 months of pregnancy, which is a positive indication. Early pregnancy registration was also found to be significantly associated with adequate knowledge, which may be due to possession of the MCP card with them for prolonged period. In the present study, most of the mothers (70%) who received MCP card from anganwadi had adequate knowledge but there was no statistically significant association. It may be due to the explanatory nature of the anganwadi worker living close to them or may be the anganwadi workers have counselled the mothers with the MCP card thoroughly.

Limitations of the present study were that it is a hospital based study and only part of the information of MCP card has been used for study purpose.

CONCLUSION

Most of the literate mothers were aware about different aspects of antenatal care given in MCP card and illiterate mothers have acquired some knowledge from pictorial component. Mothers registered by anganwadi worker better receives the information from MCP card. This implies that it is a better tool for health education by anganwadi worker at village level. MCP card will definitely influence their practice if properly explained to them by health personnel.

Recommendation

- The grass root level workers like anganwadi **worker**, ASHA and ANM should counsel mothers with the help of this important tool during ANC visit
- Mothers and family members should be insisted to read this card at anganwadi center and follow them for full utilization of the information.
- Other health education media should reinforce the idea of going through the information given in the MCP card.

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Ethical approval: The study was approved by the institutional ethics committee

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