

An Analytical Study on Women's Knowledge and Utilization of RMNCH+A Program Services in Rural Communities

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Received: 06 May 2024 / Revised: 05 Jun 2024 / Accepted: 08 Aug 2024

ABSTRACT

Background: The RMNCH+A plan is based on the continuum of care idea and is designed holistically, concentrating on the strategic lifecycle approach and including all interventions targeted at maternal, newborn, child, adolescent, and reproductive health and nutrition under a large canopy. Utilization is crucial because it expands our understanding of the factors that influence fertility, child health outcomes, and life expectancy. Lowering MMR levels is also expected to benefit society and the survival of children.

Methods: A structured knowledge questionnaire and checklist were used to evaluate the knowledge of 100 women living in rural regions of Badami taluk, Bagalkot, Karnataka, namely in Kelavadi, Hangaragi, Layadagundi, Nagara S P, and Kotnalli. The sample was selected by non-probability random sampling. Both descriptive and inferential statistics were used to analyze the data.

Results: The majority (73%) of women had adequate knowledge of the RMNCH+A program, 27% had moderate knowledge, and none had inadequate knowledge. However, only 46% of women properly utilized RMNCH+A services, while 54% did not. A significant positive correlation was observed between knowledge and service utilization. Knowledge had a significant association with selected socio-demographic variables, but no significant association was found between utilization and socio-demographic factors.

Conclusion: The overall study findings depicted that the knowledge & utilization of RMNCH+A programme services impact socio-demographic variables among women. The findings reveal that knowledge impacts on utilization of RMNCH+A programme services among women.

Key-words: Assess, Knowledge, Utilization, RMNCH+A programme services, Rural areas & Socio-demographic variables

INTRODUCTION

Improving maternal and child health is crucial for achieving national health goals, including those outlined in the National Health Mission (NHM) and SDG Goal 3. The Government of India adopted the RMNCH+A framework in 2013, which focuses on reducing mortality and morbidity among women and children.^[1]

“Reproductive, Maternal, Newborn, Child and Adolescent's Health” (RMNCAH) is one such approach under the “continuum of care” concept, being characterized by a more holistic scope. The design, implementation, monitoring and evaluation phases of health interventions are modified accordingly.^[2]

Women who are pregnant or giving birth (both during the intrapartum and postpartum phases) are the target populations for RMNCAH programs. Neonates or newborns (birth to 28 days of age), babies (from birth to one year of age), Children between the ages of one year and five (12 months to 60 months), children between the ages of five and ten, Teenagers (ages 10 to 19), Pregnant and postpartum women who are of reproductive age

How to cite this article

Ashwini B, Kamala KN, Natekar DS. An Analytical Study on Women's Knowledge and Utilization of RMNCH+A Program Services in Rural Communities. SSR Inst Int J Life Sci., 2025; 11(1): 6627-6634.



Access this article online

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(15–49 years) are not covered. End all types of malnutrition by 2030, including meeting the globally agreed-upon goals for stunting and wasting in children under five by 2025. Additionally, attend to the nutritional requirements of teenage girls, pregnant women, and nursing mothers. The intermediate goal is to decrease [3] The necessity of placing women, children, and adolescents at the centre of programs is becoming more widely recognised.[4] Improved maternal health care services can lower maternal deaths and promote good maternal health. Maternal mortality and morbidity are still high in India, despite the existence of governmental initiatives to enhance maternal and child health. There are several reasons for this, but one of the most significant is the underutilisation or postponement of maternal healthcare services, particularly among the impoverished in rural areas and urban slums, who may not be aware of or have limited access to healthcare facilities [5]. Over 80 percent of health services are provided by the Ministry of Health (MOH). With varying health staff and services for the basic RMNCH services, many countries have distinct delivery approaches and service packages [6]

In India, 60% of the total population consists of females in the reproductive age group (15-44 years) and children below 5 years of age. Pregnancy is a crucial event in a woman's life and requires special attention from the time of conception to the postnatal period. India has a well-established infrastructure for delivering Maternal and Child Health (MCH) services in the community. This infrastructure includes subcenters, primary health centers (PHCs), community health centers, district hospitals, state medical college hospitals, and other public and private sector hospitals Subcenters cater to a population of 5000, PHCs serve a population of 30,000, and community health centers are responsible for overseeing 3-4 PHCs (Singh, 1997).[7]

The integration of reproductive health into national plans and programs, as well as universal access to family planning, information, and education, are all examples of sexual and reproductive health care services. Achieve universal access to high-quality, necessary healthcare services, medications, and immunisations for everyone, along with financial risk protection.[8] The two main pillars of the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) strategic approach are currently newborn and child health. Therefore,

having a qualified healthcare professional present during labour is a crucial life-saving measure for both mothers and babies. It serves as a gauge of healthcare utilisation as well as the effectiveness of the healthcare system and its capacity to offer sufficient coverage for childbirth [9]

Pregnant women's survival and well-being are also influenced by broader socioeconomic determinants of health. These elements include, among others, culture, education, and economic circumstances.[10] The following are some free service guarantees at public health facilities: Karnataka Mathrushree scheme, Karnataka Mathrupoorna Yojana, Karnataka Thai Bhagya, Karnataka Bhagya Laxmi scheme, Janani Shishu Suraksha Karyakram (JSSK), Janani Suraksha Yojana (JSY), Pradhan Mantri Matru Vandana Yojana (PMMVY), and The Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA).[11]

MATERIALS AND METHODS

The awareness and usage of RMNCH+A program services by women living in rural regions of Bagalakot district, Karnataka, were evaluated using a descriptive survey approach. A systematic open-ended knowledge questionnaire was utilised to gather the data, and a checklist was used to gauge knowledge and utilisation. Descriptive and inferential statistics were employed to organise and analyse the findings.

Study design- A descriptive survey approach was used to assess the knowledge and utilization of RMNCH+A programme services among women.

Setting of the study- The research was carried out among the women in the age group of 18-45 years residing at Badami taluk of Kelavadi, Hangaragi, Layadagundi, Nagara S P & Kotnalli rural areas of Bagalkot district, Karnataka.

Participants- In the present study participants were the women in the age group of 18-45 years The sample consisted of 100 women. They were selected using a non-probability convenient sampling technique.

Instruments- The study was conducted using a structured open-ended knowledge questionnaire and checklist. Information was gathered through the interview schedule using a structured knowledge questionnaire. It comprises 32 elements to assess knowledge and a checklist for utilization of RMNCH+A

programme services. They were multiple-choice, open-ended questionnaires. Each item was given a score of 0,1,2 and 3.

Description of data collection instruments

Part 1: Socio-demographic variables- Comprising 13 items to assess the socio-demographic variables of women.

Part 2: Structured questionnaire to assess the knowledge of RMNCH+A programme services among women- There were 32 items to assess the knowledge of RMNCH+A programme services.

PART III – Checklist for Utilization Of RMNCH+A Programme Services- This includes 18 items to the benefits and utilization of RMNCH+A programme services.

Data collection procedures- The primary study was carried out among women aged 18 to 45 who lived in the rural areas of Badami taluk of Kelavadi, Hangaragi, Layadagundi, Nagaral SP, and Kotnalli in the Bagalkot district of Karnataka, India, between June 16 and July 25, 2024. The women's interview schedule provided the data. The study's purpose was conveyed to participants and formal authorisation was secured from the nursing institution's principal before subject enrolment and data collection. They were questioned in Kannada and other languages that they could comprehend.

Variable under study- Study variable- the study variable for the present study was knowledge and utilization of women.

Sociodemographic Factors- Age, women's educational attainment, the husband's level of education, the women's and husband's occupations, religion, monthly income of the family, Marital life (marriage duration), kind of family, total number of children, Nutrition, family's ration card, informational source about the services offered by the RMNCH+A program.

Statistical Analysis- Inductive statistics were used to statistically analyse the collected data in light of the study's goals. The study participants' answers were compiled into a master sheet. The demographic data was analysed using frequencies and percentages. As inferential statistics, the mean and standard deviation

were employed. The relationship between insomnia scores and specific sociodemographic characteristics of primigravida and multigravida women was examined using the Chi-Square test.

Ethical Approval- A certificate of ethical permission was obtained from the ethical committee of the institution and written consent was taken from each participant.

RESULTS

In this study, the majority 46% of the women belong to the age group of 18-24 years. The majority 65% of the women had completed their high school & higher secondary education. The majority 75% of the women husbands completed their high school & higher secondary education. The majority 35% of the women were homemakers. The majority 47% of the women husbands were self-employed/business. The majority 78% of the women belong to the Hindu religion. The majority 42% of the women's family monthly income is rupees 10,001-20,000. The majority 48% of the women 5-8 years duration of marriage. The majority 50% of the women were living in nuclear families. The majority 42% of the women had one child. The majority 64% of the women had mixed dietary patterns. The majority 92% of the women had BPL cards of the family. The majority 69% of the women got information regarding RMNCH+A programme services from health workers.

Table 1 shows that the percentage-wise distribution of women in scores reveals that out of 100 women, the highest percentage (73%) found with adequate knowledge, respondents (27%) noticed with moderate knowledge, and no one had inadequate knowledge regarding RMNCH+A programme services. The mean percentage observed was 24.85 for overall knowledge with $SD \pm 2.43$.

Table 2 describes the frequency and percentage-wise distribution of women according to their utilization scores of RMNCH+A programme services revealing that out of 100 women, the highest percentage (54%) found with not utilized RMNCH+A programme services and respondents (46%) properly utilized RMNCH+A programme services. The mean score of utilization was 14.63 with an SD of 2.19 the utilization was graded as per mean and Standard deviation as Utilized properly (score range 15-18), and not utilized properly (score range of 0-14).

Table 1: Distribution of women based on their knowledge score regarding RMNCH+A programme services.

Knowledge category	Score range	Frequency	Percentage
Adequate knowledge	24-32	73	73%
Moderate knowledge	12-23	27	27%
Inadequate knowledge	0-11	00	00%

Table 2: Distribution Of Women Based on Utilization Score of RMNCH+A Programme Services.

Utilization	Score range	Frequency	Percentage
Not Utilized Properly	0-14	54	54%
Utilized Properly	15-18	46	46%

Table 3 shows a correlation between knowledge and utilization, there is a positive correlation ($r=0.80$) between knowledge and utilization of RMNCH+A programme services among women.

Table 3: To determine the correlation between knowledge and utilization of RMNCH+A programme services among women

Characteristic	Mean	SD	r-value	Remark
Knowledge	24.85	2.43	0.80	Positive correlation
Utilization	14.63	2.19		

Table 4 shows that the calculated chi-square computed between the knowledge score regarding RMNCH+A programme services and selected demographic variables of women was significant. Hence, it is concluded that there was a significant association between knowledge scores regarding RMNCH+A programme services and selected socio-demographic variables of women.

Table 4: Association Between Knowledge Score Regarding RMNCH+A Programme Services with Selected Socio-Demographic Variables of Women.

Variable	DF	Calculated value	Table value	p-value	Remark
Age	3	11.69	7.82	0.008 [□]	Significant
Educational Status of women	3	9.7	7.82	0.021 [□]	Significant
Husband Educational Status	3	13.58	7.82	0.003 [□]	Significant
Occupation of women	3	9.87	9.49	0.042 [□]	Significant
Husband Occupational status	4	7.76	9.49	0.100	Not Significant
Religion	3	2.86	7.82	0.413	Not Significant
Family Monthly Income	3	10.25	7.82	0.016 [□]	Significant

in Rupees					
Duration Of Marriage in Years	3	16.31	7.82	0.001 [□]	Significant
Type Of Family	2	9.16	5.99	0.010 [□]	Significant
Number Of Children	3	8.71	7.82	0.033 [□]	Significant
Diet	1	0.7	3.84	0.400	Not Significant
Ration Card of The Family	1	0.02	3.84	0.887	Not Significant
Source Of Information Regarding RMNCH+A Program Activities	3	7.48	7.82	0.058	Not Significant

$\alpha=0.05$; Df -Degree of freedom

Table 5 shows that the calculated chi-square computed between the utilization scores of RMNCH+A programme services and selected demographic variables of women was not significant. Hence, it is concluded that there was

no significant association between utilization scores of RMNCH+A programme services and selected socio-demographic variables of women.

Table 5: Association Between Utilization of RMNCH+A Programme Score with Selected Socio-Demographic Variables of Women

Variable	DF	Calculated value	Table value	p-value
Age	3	2.54	7.82	0.458
Educational Status	3	1.06	7.82	0.786
Husband Education Status	3	2.25	7.82	0.522
Occupation	4	8.42	9.49	0.077
Husband Occupation	4	0.14	9.49	0.997
Religion	3	1.44	7.82	0.696
Family Monthly Income in Rupees	3	3.86	7.82	0.277
Duration Of Marriage in Years	3	5.09	7.82	0.165
Type Of Family	2	1.58	5.99	0.453
Number Of Children	3	1.49	7.82	0.684
Diet	1	0.02	3.84	0.887
Ration Card of The Family	1	0.1	3.84	0.751
Source Of Information Regarding RMNCH+A Program Activities	3	0.63	7.82	0.889

$\alpha=0.05$; Df -Degree of freedom; p-value=Not Significant

DISCUSSION

The finding of this study discusses the major findings and reviews the findings from the results of other studies. The present study was conducted to find out the level of knowledge and utilization of RMNCH+A programme services among women residing at Kelavadi, Hangaragi, Layadagundi, Nagara S P & Kotnalli rural areas of Badami taluk, Bagalkot district, Karnataka. To achieve the objectives of the study, the descriptive survey research design was adopted. A sample of 100 women was selected using a non-probability convenient sampling technique. Percentage-wise distribution of women according to their age in years reveals that, out of 100 women, the majority of 46% were in the age group of 18-24 years, 32% were in the 25-31 years, 14% were in the 32-39 years and 8% were in the 39-45 years. It reveals that the majority 46% of the women belong to the age group of 18-24 years.

The findings of the study were like the study conducted by Bagg *et al.* [12], to assess the knowledge and utilization of MCH services among mothers in Dhava village, Jodhpur, Rajasthan. The majority of 56 (70%) participants were in the age group of less than 30 years. Percentage-wise distribution of women according to their educational status of women reveals that, out of 100 women, the majority 65% have pursued High school & Higher secondary education, 18% have pursued Degree & above education, 15% have pursued Primary school education, and 2% have not pursued any education / Illiterate. It reveals that the majority 65% of the women had completed their high school & higher secondary education. The findings of the study were like the study conducted by Okafor *et al.* [13], Knowledge, accessibility, and utilization of insecticide-treated nets among pregnant women in a selected hospital in Southeast Nigeria. Many women had completed higher secondary education. Percentage-wise distribution of women according to their religion reveals that, out of 100 women, the majority percentage (78%) belonged to Hindu, 15% belonged to Muslim, 5% belonged to Christian and 2% belonged to other religions. It reveals the majority 78% of the women belong to the Hindu religion.

The findings of the study were like the study conducted by Goud *et al.* [14], to assess the utilization of maternal health care services in rural field practice areas of VIMS, Ballari. Most 82.9% participants were Hindu. The findings

of the study were contradictory to the study conducted by Mustafa *et al.* [15] to assess the Knowledge Attitude and Practice Regarding Maternal Health Care Services at Ali Raza Abad, Lahore. The majority 100% of the participants were Muslims. Percentage-wise distribution of women according to their dietary pattern reveals that, out of 100 women, the majority 64% followed mixed dietary patterns, and 36% followed vegetarian dietary patterns. It reveals the majority 64% of the women had mixed dietary patterns. The findings of the study were like the study conducted by Bashir *et al.* [16] to assess the Knowledge, Attitude, and Practice on Antenatal Care Among Pregnant Women and its Association with Sociodemographic Factors: A Hospital-Based Study in Bengaluru, Karnataka. The majority 97.75% followed a mixed dietary pattern.

The percentage-wise distribution of women's knowledge scores reveals that out of 100 women, the highest percentage were (73%) found with adequate knowledge, (27%) with moderate knowledge, and no one had inadequate knowledge regarding RMNCH+A programme services. The results of the present study are inconsistent and do not support the study conducted by Bashir *et al.* [16] to assess the Knowledge, Attitude, and Practice on Antenatal Care Among Pregnant Women and its Association with Sociodemographic Factors: A Hospital-Based Study at Bengaluru, Karnataka. Most 96% had average knowledge. [16]

Percentage-wise distribution of women's utilization of RMNCH+A programme services scores reveals that out of the 100 women's highest percentage, 54% were not utilized properly, and 46% utilized RMNCH+A programme services. The results of the present study are inconsistent and not supported by the study conducted by Ghimire *et al.* [17] to assess the Maternal health services utilization among mothers at Mahankal Rural Municipality, Lalitpur, Nepal. Good utilization of maternal health service 98(55%). Correlation between knowledge and utilization, there is a positive correlation ($r=0.80$) between knowledge and utilization of RMNCH+A programme services among women. The results of the present study are inconsistent and not supported by the study conducted by Chandrakar *et al.* [18] to assess the Knowledge & Utilization of Community Health Care Services related to Maternal & Child Health by Mothers in Uttai village in Durg District, Chhattisgarh. Correlations between the knowledge and utilization of MCH service

were not statistically significant ($r= 0.422$). There is a significant association between knowledge regarding RMNCH+A programme services and selected socio-demographic variables of women sociodemographic variables are age, educational status of women, husband educational status, occupation of women, family monthly income, duration of marriage in years, type of family and number of children. There is no significant association between knowledge regarding RMNCH+A programme services for sociodemographic variables such as husband occupational status, religion, diet, ration card of the family, and source of information regarding RMNCH+A programme services

The study's results were like those of a study by Kaur *et al.* [19] that evaluated prenatal women's knowledge of the maternal and child health services that were available. results about the correlation between a knowledge score and a few chosen sociodemographic factors. The father's education (0.008 & $df=5$) at the $p<0.05$ level and per capita income (0.003 & $df=04$) at the $p<0.05$ level were shown to be strongly correlated with the knowledge score. Other demographic factors such as age, religion, residential area, occupation (father), occupation (self), monthly family income, and educational status (self) did not correlate with knowledge scores. Certain sociodemographic characteristics of women do not significantly correlate with the use of RMNCH+A program services. The study's results were like those of a study by Singh *et al.* [20] to evaluate the maternal health service utilisation pattern and related characteristics in the aspirational region of Haryana, India. Sociodemographic factors such as occupation $\chi^2=1.26$, $df=1$, $p=0.262$, husband occupation $\chi^2=2.59$, $df=1$, $p=0.107$, and family type $\chi^2=1.41$, $df=1$, $p=0.235$ do not significantly correlate with the use of MCH services.

CONCLUSIONS

The study is helpful to assess knowledge and utilization of RMNCH+A programme services among women in the age group of 18-45 years residing at Badami taluk of Kelavadi, Hangaragi, Layadagundi, Nagaral S P & Kotnalli rural areas of Bagalkot district, Karnataka. The overall study findings revealed that the Correlation between knowledge and utilization, there is a positive correlation ($r=0.80$) between knowledge and utilization of RMNCH+A programme services among women.

LIMITATIONS

There are restrictions on generalisation because the study was limited to women at healthcare facilities. The study's sample size was restricted to 100, which limited the statistical conclusions that could be drawn from the findings. The data was gathered using a standardised questionnaire, which prevented the respondents from giving sufficient details on their familiarity with and usage of the services offered by the RMNCH+A program.

ACKNOWLEDGMENTS

We appreciate the helpful recommendations from the anonymous referees. There aren't enough words to convey how grateful I am to those helping hands, but my heart is full.

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