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Original Research Article

Knowledge and attitude towards birth spacing and copper T usage among women of reproductive age group

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ABSTRACT

Background: Birth spacing is the time interval between two births. Short birth intervals or inter-pregnancy intervals are associated with negative maternal health outcomes as well as negative perinatal, neonatal, and infant health outcomes. Safety effective methods of contraception such as copper T-380 A, have allowed many women around the world to avoid the health risks of unwanted pregnancy and have provided for the spacing of pregnancies. The objective of the present study was to assess the level of knowledge and attitude towards birth spacing and copper-T usage among women of reproductive age group and to determine the relationship between knowledge and attitude towards birth spacing and copper T usage among women.
Methods: This study was conducted at a tertiary care hospital in Ludhiana from March to December 2022. The research included 150 women who met the following criteria: they were of reproductive age, married, had at least one child, and consented to participate in the study.
Results: The study found that 66.7% of the women had an average level of knowledge about birth spacing, while 59.3% had an average level of knowledge regarding the use of copper T. Additionally, 82.7% of the women exhibited a positive attitude towards both births spacing and the use of copper-T.
Conclusions: Despite the majority of women demonstrating good knowledge and a positive attitude towards birth spacing and copper T usage, most were not utilizing any birth spacing methods at the time of data collection. To address this gap, it is crucial to enhance awareness about birth spacing and encourage the adoption of at least one method. This can help prevent unplanned, untimely, and high-risk pregnancies.

Keywords: Knowledge, Attitude, Birth spacing, Copper T, Contraception

INTRODUCTION

The health of families and communities is no doubt, tied to the health of women. The illness or death of a woman has serious and far-reaching consequences for the health of her children, family, and the community.[1] Individuals and couples should consider health risks and benefits along with other circumstances such as their age, fecundity, fertility aspirations, access to health services, child-rearing support, social and economic circumstances, and personal preferences in making choices for the timing of the next pregnancy.[2] Short birth spacing or inter-pregnancy intervals are associated with negative maternal health outcomes as well as negative perinatal, neonatal, and infant health outcomes.[3] The recommendation for spacing after a live birth before attempting the next pregnancy is at least 24 months and after an abortion or miscarriage is at least six months to reduce the risk of adverse maternal, peri-natal, and infant outcomes.[4] There are several methods women and men may choose to avoid an unplanned pregnancy during healthy birth spacing. All of the methods are reversible and allow the woman to resume

trying to get pregnant after the healthy 18-month birth spacing period.[5] Safety-effective methods of contraception, such as the copper T-380A, have allowed many women around the world to avoid the health risks of unwanted pregnancy and have provided for the spacing of pregnancies.[6] This has contributed to improvements in infant and child survival. Thus, the copper T-380A is an extremely effective, safe, long-lasting, rapidly reversible method of contraception that does not interfere with intercourse, is not subject to forgetfulness, and once inserted, is not subject to changes in medical supply or access to healthcare.

METHODS

Study population and site

This cross-sectional study spanned from March to December 2022 and focused on 150 reproductive age group women who were visiting Dayanand medical college and hospital, Ludhiana, Punjab. The objectives and the duration of their involvement were explained to the participants. Women of the reproductive age group who were married; consented to participate in the study and had at least one child been included in study. Women who had opted for permanent sterilization method were excluded.

Tools

Baseline Performa

It consisted of age, religion, educational status of both woman and her husband, occupation, type of family, socioeconomic status, number of children, duration of marriage, and use of birth spacing methods.

Structured knowledge questionnaire

The structured knowledge questionnaire was developed with 20 multiple-choice questions on birth spacing methods and copper T usage. The score ranged from 0 to 20 and was interpreted as good, average, and below average. The prepared tool was submitted to experts for content validation and suggestions were inculcated in the final tool. Split half method was used to measure the internal consistency of the tool. Karl-Pearson's correlation depicted that the tool is reliable, (r=0.73).

Five-point Likert scale

Five-point Likert scale was used to assess the attitude of women towards birth spacing and Cu T usage.

Data collection process

Data was collected from 1st September to 30th September, 2022 by investigators through self-report (pen and paper) method. It took an average of 15-20 minutes on one subject. Before the data collection, permission to conduct the study was taken from the concerned authorities. The investigator explained about the study and assured the confidentiality of the collected information. Informed written consent was obtained from the subjects. First, baseline information was collected and then subjects were asked to fill out structured questionnaire and Likert scale.

Statistical analysis

The collected data were coded and summarized in a master data sheet using an Excel spreadsheet. Data analysis was performed using descriptive and inferential statistics with the statistical program SPSS 26.0 version. Frequency, percentage, mean, standard deviation, and range were calculated in descriptive statistics. The level of significance was considered as a $p<0.05$.

RESULTS

Study population

A total number of 150 women participated in the study. Interviewed women's characteristics in terms of age, religion, occupation, type of family, spouse education, socioeconomic status, number of children, and previous birth spacing method used were recorded. The majority of the women were in the age group 29-39 years (52.7%), were Hindu (54%), non-working (80%), and married to a secondary pass person (38.7%). The mean±SD age of the women was 33.82±06.71 years (Table 1).

Knowledge about birth spacing and copper T

Most of the women who participated in the study had an average knowledge regarding both birth spacing (66.7%) and copper T usage (59.3%) highlighting the continued importance and impact of community health initiatives in urban settings (Table 2).

Attitude

Of the total number of women, 124 (82.7%) had a positive attitude and very few, 26 (17.3%) had a negative attitude towards birth spacing and copper T usage (Table 3). Maximum knowledge score=20, max. attitude score=90, min. knowledge score=0 and min, attitude score=18.

The correlation between knowledge and attitude regarding birth spacing and copper T usage.

The positive weak correlation between knowledge and attitude was significant at the significant at the $p<0.05$ ($p=0.048$) (Table 4 and Figure 1).

Table 5 depicts association of knowledge and attitude regarding birth spacing and Cu T usage among women of reproductive age group with selected socio-demographic variables. Educational status of woman, educational status of her spouse, woman's working status, socio-economic status, and previous history of using birth spacing method had significant association at $p<0.05$.

Table 1: Study group characteristics, n=150.

Sociodemographic characteristics	N (%)
Age (in years)	
18-28	35 (23.3)
29-39	79 (52.7)
≥40	36 (24.0)
Religion	
Hindu	81 (54.0)
Sikh	62 (41.3)
Muslim	03 (2.0)
Christian	04 (2.7)
Educational status	
Elementary	59 (39.4)
Secondary	53 (35.3)
Senior secondary	18 (12.0)
Graduation and above	20 (13.3)
Occupation	
Non-working	120 (80.0)
Working	30 (20.0)
If working, then specify	
Skilled	12 (8.0)
Non- skilled	10 (6.7)
Professional	08 (5.3)
Educational status of husband	
Illiterate	03 (2.0)
Elementary	44 (29.3)
Secondary	58 (38.7)
Senior secondary	23 (15.3)
Graduation and above	22 (14.7)
Type of family	
Nuclear	85 (56.7)
Joint	63 (42.0)
Extended	02 (1.3)
Socio-economic status	
Upper class	02 (1.3)
Upper middle class	22 (15.3)
Lower middle class	83 (55.3)
Upper lower class	31 (20.7)
Lower class	11 (7.3)
Duration of marriage (in years)	
1-5	41 (27.3)
6-10	42 (28.0)
>10	67 (44.7)
Number of children	
1	60 (40.0)
2	57 (38.0)
≥3	33 (22.0)
Previous birth spacing method used	
No	109 (72.7)
Yes	41 (27.3)
If yes, then specify, (n=41)	
Condoms	29 (19.3)
Oral pills	08 (5.3)
Copper-T	04 (2.7)

Mean age 33.82±06.71 (in years).

Table 2: Knowledge about birth spacing and copper T, n=150.

Level of knowledge	N (%)	Mean±SD
For birth spacing		
Good	07 (4.7)	2.24±0.526
Average	100 (66.7)	
Below average	43 (28.7)	
For copper-T usage		
Good	26 (17.3)	2.06±0.637
Average	89 (59.3)	
Below average	35 (23.3)	

Table 3: Attitude, n=150.

Attitude	Criteria	N (%)
Positive	56-90	82.7
Negative	18-55	17.3

Max. attitude score is 90 and minimum attitude score is 18.

Table 4: Correlation of knowledge and attitude of women of reproductive age group regarding birth spacing and copper-T usage, n=150.

Components	Mean±SD	Mean%	R	P value
Knowledge	8.4±2.94	42	0.37	0.048*
Attitude	60.9±6.33	67.6		

NS non-significant at p>0.05, *significant at p<0.05.

Table 5: Association of knowledge and attitude towards birth spacing and copper-T usage among women of reproductive age group with selected socio-demographic variables, n=150.

Sociodemographic variables	N	Knowledge score		Attitude score	
		Mean±SD	F/t, P value	Mean±SD	F/t, P value
Age (in years)					
18-28	35	08.54±2.95	F=0.06 p=0.933^{NS}	59.7±47.00	F=0.750 P=0.474^{NS}
29-39	79	08.54±2.92		61.25±5.91	
≥40	36	08.33±3.04		61.22±6.59	
Religion					
Hindu	81	08.23±2.75	F=0.624 P=0.601^{NS}	60.38±6.15	F=0.951 P=0.418^{NS}
Sikh	62	08.87±3.21		61.70±6.33	
Muslim	03	07.66±3.78		62.33±9.07	
Christian	04	08.50±1.73		57.50±8.69	
Educational status					
Elementary	59	07.94±3.33	F=3.517 P=0.017*	59.88±6.12	F=3.782 P=0.012*
Secondary	53	08.39±2.54		59.96±6.15	
Senior secondary	18	08.50±1.94		63.16±5.82	
Graduation and above	20	10.35±2.87		64.30±6.60	
Working status					
Non-working	120	08.30±2.78	F=6.047 P=0.001*	60.21±6.15	F=6.490 P=0.000*
Working	30				
If working, then specify (n=30)					
Skilled worker	12	07.00±2.33		60.08±6.37	
Non-skilled worker	10	09.90±3.07		63.10±5.06	
Professional	08	11.87±3.39		69.50±3.70	
Educational status of husband					
Illiterate	03	08.66±4.72	F=0.021 P=0.021*	54.33±3.78	F=3.587 P=0.008*
Elementary	44	07.95±3.04		59.54±5.64	
Secondary	58	08.22±2.82		60.65±6.02	
Senior secondary	23	08.34±2.34		61.26±6.75	
Graduation and above	22	10.40±2.87		64.72±6.81	

Continued.

Sociodemographic variables	N	Knowledge score		Attitude score	
		Mean±SD	F/t, P value	Mean±SD	F/t, P value
Type of family					
Nuclear	85	08.38±2.95	F=2.744 P=0.068^{NS}	60.67±6.86	F=0.155 P=0.856^{NS}
Joint	63	08.77±2.84		61.22±5.68	
Extended	02	04.00±2.82		60.00±2.82	
Socio-economic status					
Upper class	02	10.00±2.82	F=5.473 P=0.000*	72.00±4.24	F=3.099 P=0.018*
Upper middle class	23	10.78±2.92		63.34±7.32	
Lower middle class	83	08.32±2.94		60.07±5.89	
Upper lower class	31	07.54±2.30		60.16±6.22	
Lower class	11	07.36±02.29		62.00±5.51	
Duration of marriage (in years)					
1-5	41	08.09±3.09	F=2.172 P=0.118^{NS}	60.75±6.84	F=0.014 p=0.986^{NS}
6-10	42	08.00±2.63		60.97±5.91	
>10	67	09.04±2.97		60.92±6.33	
Number of children					
1	60	08.23±3.00	F=0.664 P=0.516^{NS}	60.45±7.02	F=0.248 P=0.780^{NS}
2	57	08.84±2.86		61.24±5.80	
≤3	33	08.36±2.98		61.09±6.03	
Previous history of using birth spacing method					
No	109	8.47±2.83		60.51±6.00	
Yes	41				
If yes, then specify, (n=41)					
Condoms	29	08.58±3.34	F=1.574 P=0.198^{NS}	60.24±6.91	F=3.776 P=0.012*
Oral pills	08	07.12±2.53		63.87±4.94	
Copper T	04	11.00±2.94		70.00±7.07	

*Significant at p<0.05 df=148 (for t-test), NS-Non-significant at p>0.05, df=149 (for F-test),

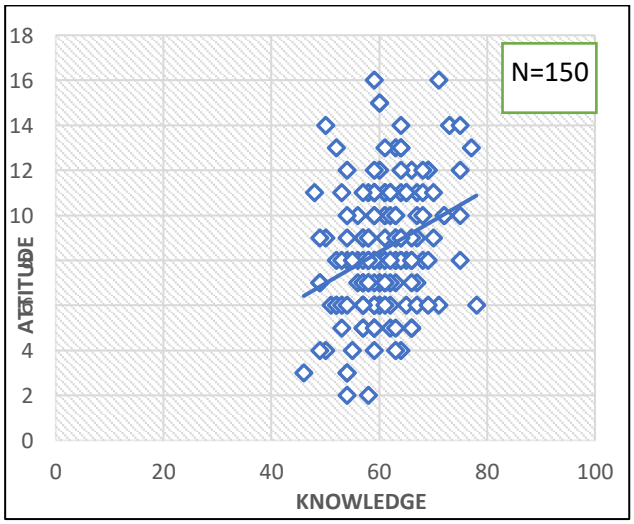

Figure 1: Scatter diagram showing the relationship between knowledge and attitude regarding birth spacing and copper T usage.

DISCUSSION

The increasing growth of the population has become an urgent global issue. Current trends in family planning in India indicate a high level of knowledge about contraceptives among eligible couples; however, acceptance remains low, particularly for spacing methods.[7]

The study findings indicate that only 9.3% demonstrated a good level of knowledge, while 63.3% had average knowledge, and 27.3% fell below the average. Sociodemographic data revealed that over half (52.7%) of these women were aged between 29-39 years and 54% belonged to Hindu religion. Regarding education, a considerable number (39.4%) of women have only elementary education, and notable 80% were not working. Eeducational background of their husbands shows that 38.7% have attained a secondary level of education. Family structure analysis indicates that 56.7% of the women come from nuclear families. Additionally, 44.7% of these women have been married for over 10 years, and 40% have one child. Importantly, a significant majority (72.7%) were not using any birth control measures.

The results were supported by the study of Agaya et al in which the baseline characteristics showed that 36.6% of subjects were in the age group of 32-38 years, 41.9% were Hindus and 65.6% were educated up to senior secondary class. The findings also revealed that majority of the subjects (78%) were not using birth spacing method at the time of data collection.[8] The findings are also similar with study by Sujita et al and Rupinder et al.[9,10]

This study finding was lower than the result of the study conducted in Northwest Ethiopia by Aklil which shows that 66.4% of the participants had good knowledge regarding birth spacing.[11]

According to the current study, 82.7% of women had a positive attitude towards birth spacing and copper T usage. The findings are similar in the study by Nagamala et al and Whitaker.[12,13]

The results of the current study indicated a positive correlation between women's knowledge and attitudes toward birth spacing and their use of copper T which is statistical significance at the $p<0.05$ level. This finding is consistent with a study conducted by Limabenla.[14]

The average knowledge level indicates that many women may lack crucial information, which could affect their decision-making. A limited sample size in our study may not fully represent the broader population, impacting the generalizability of the findings. The study may not account for cultural beliefs and practices that influence attitudes toward contraceptive methods. A similar study can be done on a larger scale and different settings which may help in developing a more refined and clearer conclusion.

CONCLUSION

Majority of women of reproductive age group had average level of knowledge and had a positive attitude towards birth spacing and copper T usage. To improve the acceptance and use of birth spacing and copper T methods, a comprehensive approach is essential. Adjust strategies based on feedback and outcomes to continuously improve outreach and education efforts. Data from various studies can be used to identify areas with low contraceptive use and target those areas with focused interventions.

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