



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

INTERNATIONAL JOURNAL  
OF CURRENT RESEARCH

International Journal of Current Research

Vol. 16, Issue, 04, pp. 27825-27828, April, 2024

DOI: <https://doi.org/10.24941/ijcr.47064.04.2024>

## RESEARCH ARTICLE

### A STUDY ON USAGE OF SPACING METHODS BY REPRODUCTIVE WOMEN USING HEALTH BELIEF MODEL

Dr. Kalyani, P., Dr. Hemalatha, P., Dr. Yashoda Lakshmi, A.V. and \*Dr. Ramu, P.

Department of Community Medicine, Viswabharathi Medical College and General Hospital

#### ARTICLE INFO

##### Article History:

Received 20<sup>th</sup> January, 2024

Received in revised form

19<sup>th</sup> February, 2024

Accepted 15<sup>th</sup> March, 2024

Published online 25<sup>th</sup> April, 2024

##### Key words:

Spacing Methods, Reproductive Women, Health Belief Model.

\*Corresponding author: Dr. Ramu, P.

Copyright©2024, Kalyani et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Dr. Kalyani, P., Dr. Hemalatha, P., Dr. Yashoda Lakshmi, A.V. and Dr. Ramu, P. 2024. "A study on usage of spacing methods by reproductive women using health belief model." *International Journal of Current Research*, 16, (04), 27825-27828.

#### ABSTRACT

**Background:** India is the second most populous country of the world. Though the Government of India was the first to launch family welfare program in 1952, there still exists a great challenge for unmet needs of family planning and especially there is a need for the desired attitudinal & behavior changes among women for the use of spacing methods. **Objective:** To assess the knowledge regarding family planning, and the current practice of spacing methods among the participants of the study and to identify the factors predicting the use of spacing methods using health belief model. **Materials and Methods:** This study was carried out over a period of 2 months (September-October) using a pre-structured questionnaire based on health belief model among reproductive women aged 15-45y in rural field practice area of pyalaturthy and urban area Gayathri estates with a total of 100 respondents. **Statistical Analysis:** Data were entered in MS Excel and analyzed in SPSS version 22 using Mann Whitney test with P value <0.05 considered as statistically significant. **Results:** Majority of the respondents were within the age group of 20-24 years. Though most of the women have heard about spacing methods, a greater proportion of the respondents were not using any contraceptive. However, a handful of the respondents who used contraceptive methods were using only IUD (16% in rural area & 12% in urban area). Self efficacy for practicing spacing methods was found to be significantly higher for urban women compared to rural women.

## INTRODUCTION

India is the second most populous country of the world. Due to the impact of population growth on quality of healthcare service, education, welfare, immigration and other socioeconomic issues, governments in different countries put in place various rules and regulations to modify population elements. The overall policy observed in all population strategies focuses on establishing a balance between population and the available resources.(1). In April 1976 India formed its first "National Population Policy" and it was modified in 1977. National population policy 2000 is the latest in this series (2). According to studies by John Hopkins University, extensive use of family planning programs in developing countries may save some 58 million lives annually. It is estimated that currently 10.5 million children and 450 thousand mothers expire in developing countries (3). Furthermore, one woman dies every minute in the world as a result of pregnancy or its associated complications. In addition, some 80 million women encounter unwanted or unplanned pregnancy every year, among which 20 million are at risk of miscarriage, and 68000 expire (4). As per NFHS-3, prevalence of contraception in India is 56.3%.

Although contraceptive methods are available for free through the public health system at the village level, promotion of spacing methods is not considered important by health workers. Studies suggest that providers tend to focus their counseling on limiting methods and find it challenging to counsel young couples about spacing methods.(5-9) In addition, the lack of decision-making power about contraceptive use among young women makes providers view this counseling as futile (8, 9). Consequently, the interpregnancy interval has remained short. The median birth interval in India is 31 months; it is only 25 months for women aged 15-19 years (10). Cognitive parameters play a pivotal role in shaping health behaviors (11). The health Model (HBM) has been used extensively to assess health-related beliefs regarding protective behaviors. It is a cognitive model attempting to identify patterns of health behaviors (12). HBM consists of six components namely perceived susceptibility, severity, barriers, benefits, cue to action, self efficacy. There is limited knowledge on factors influencing contraceptive behavior. So the current study aims at assessing knowledge on spacing methods and to identify factors influencing contraceptive behavior among reproductive women

## MATERIALS AND METHODS

A cross-sectional survey was carried out among reproductive women for a period of two months during September-October of 2023 in pyalaturthi, rural field practice area of Viswabharathi Medical College and urban area Gayathri estates of Kurnool town.

### Inclusion criteria:

- Both unmarried & married women.
- Women aged between 15 and 45 years.
- Women who have not yet adopted permanent methods of contraception.
- Willing to give consent.

### Exclusion criteria

- Women who are currently pregnant or trying to become pregnant.
- Not willing to give consent.

**Sampling Procedure:** In urban area, Gayathri estates five streets were randomly selected and in each street 10 households were randomly sampled upto a sample size of 50. In rural area, similarly, sample size of 50 is taken following same sampling procedure.

**Data collection:** Data were collected using a structured questionnaire which was interviewer-administered to respondents. The questionnaire comprised of questions on socio-demographic characteristics, knowledge of contraception, attitude of respondents towards contraception, utilization of contraceptives among respondents and questions on HBM constructs which include factors favoring & inhibiting the usage of spacing methods like non contraceptive benefits, side effects, opposition from family,(perceived benefits, susceptibility, barriers),reasons for using spacing methods(cue to action) and questions on self efficacy.

**Data analysis:** Data was entered in MS Excel and analyzed in SPSS version 22 using Mann Whitney test with P value <0.05 considered as statistically significant.

## RESULTS

A total of 100 questionnaires were analyzed and among them 50 were from Pyalaturthi and 50 were from Gayathri estates.

**Table 1. sociodemographic characters of participants**

variable	Rural(n=50)	Urban(n=50)
<b>Age</b>		
15-19	2(4%)	1(2%)
20-25	30(60%)	25(50%)
26-29	15(30%)	23(46%)
30-35	3(6%)	1(2%)
<b>Religion</b>		
Hindu	42(84%)	43(86%)
Christian	6(12%)	3(6%)
Muslim	2(4%)	4(8%)
<b>Marital status</b>		
Married	46(92%)	42(84%)
Unmarried	4(8%)	8(16%)

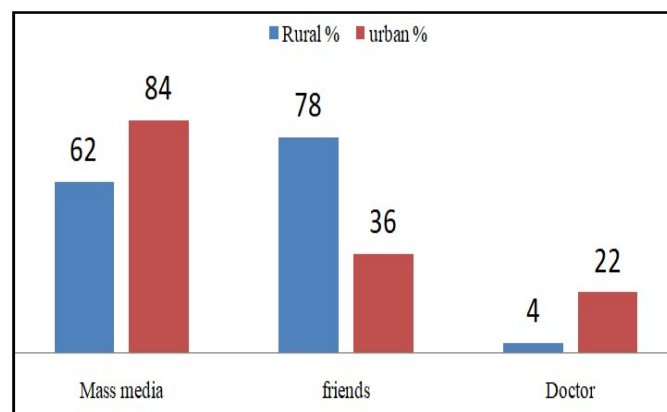
Education(Wife)		
Illiterate	9(18%)	13(26%)
Primary	7(14%)	4(8%)
secondary	21(42%)	10(20%)
Higher secondary	3(6%)	12(24%)
Graduate & above	10(20%)	11(22%)
Education(Husband)		
Illiterate	9(18%)	7(14%)
Primary	8(16%)	6(12%)
secondary	12(24%)	8(16%)
Higher secondary	7(14%)	10(20%)
Graduate & above	14(28%)	19(38%)

As shown in table 1, majority of respondents were in the age group of 20-25 (60% rural & 50% urban) followed by 26-29(30% rural & 46% urban) .Most of the participants were married and belong to Hindu community(84% rural & 86% urban). In rural area majority were of secondary education (42%) and in urban area majority were illiterate (26%)

**Table 2. Awareness on spacing methods**

Variable	Rural(n=50)	Urban(n=50)
<b>Ideal age of marriage</b>	41(82%)	43(86%)
<b>Ideal gap b/n marriage &amp; 1<sup>st</sup> child</b>	36(72%)	37(74%)
<b>Gap b/n 1<sup>st</sup> &amp; 2<sup>nd</sup> child necessary</b>	100(100%)	100(100%)
<b>Ideal gap b/n 1<sup>st</sup> &amp; 2<sup>nd</sup> child</b>	40(80%)	45(90%)
<b>Known methods of spacing</b>		
IUD	38(76%)	43(86%)
OC Pills	23(46%)	30(60%)
Emergency contraception	9 (18%)	16(22%)
Condom	40(80%)	41(82%)
Don't know	4(8%)	2(4%)
<b>Awareness on proper use of spacing methods</b>		
IUD	8(16%)	5(10%)
OC pills	2(4%)	10 (20%)
Condom	1(2%)	2 (4%)
<b>Source of availability</b>		
Pharmacy	44 (88%)	45 (90%)
Pvt.hospital	28 (56%)	30 (60%)
Govt.hospital	15 (30%)	6 (12%)
Doctor	4 (8%)	11 (22%)

As shown in table 3, 82% rural & 86% urban women know the ideal age of marriage, 72% rural & 74% urban women know the ideal gap between marriage and 1<sup>st</sup> child. Most of the women do not know how to use spacing methods. Only 16% of rural&10% of urban women know how to use IUD and 4% of rural & 20% of urban women know how to use OC pills. Majority of the women know that spacing methods are available in pharmacy (88% rural & 90% urban) followed by Pvt hospital (56% rural & 60% urban).



**Fig 1. Source of information**

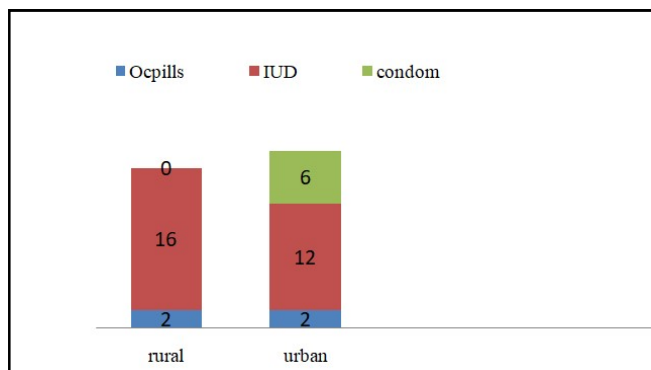


Fig 2. Practice of spacing methods

Fig 1 shows that majority of the women heard spacing methods from mass media (62% rural & 84% urban) followed by friends (78% rural & 36% urban). Fig 2 shows that most of the women (both rural& urban) are not practicing any spacing methods. Only 16% of rural and 12% of urban women are practicing IUD, 2% of both rural & urban women are practicing OC pills and 6% of urban are practicing condom.

From table 4, it is clear that majority of the women felt using spacing methods can improve health of child & health of the mother apart from mere spacing child birth. As per table 5, the driving force for opting spacing methods in rural and urban area is fear of becoming pregnant after delivery and missed periods.

## DISCUSSION

The present study was undertaken with the aim of assessing the knowledge of reproductive women regarding spacing methods, to know the prevalence of contraception and to understand the contraceptive behavior of the respondents using health belief model. In the present study knowledge of any modern contraceptive method among respondents was found to be extremely high. 76% of rural & 86% of urban women know about IUD, 46% of rural & 60% of urban women know about OC pills and 80% of rural & 80% of urban women know about condom. While in Myo Myo Mon's study(13) done in Myanmar, 94.9% were aware of OC pills and 91.9% were aware of 3 monthly injection.

Table 3. Health belief model constructs

Construct	Rural	Urban	Mann-Whitney test
Perceived susceptibility			U=1274.5
Low(<75%)	43(86%)	42(84)	P<0.4325
Moderate(76%-84%)	1(4%)	0(0)	
High(>85%)	2(8%)	0(0)	
Perceived barriers			U=818.5
Low(<75%)	37(74%)	39(78%)	P<0.0015
Moderate(76%-84%)	2(4%)	5(10%)	
High(>85%)	7(14%)	6(12%)	
Self efficacy			U=879.5
Low(<75%)	24(48%)	21(44%)	P<0.0054
Moderate(76%-84%)	16(32%)	14(28%)	
High(>85%)	10(20%)	15(30%)	

Table 4. Awareness on non contraceptive benefits

variable	Rural(n=50)	Urban(n=50)
Improves health of mother	29(58%)	32(64%)
Improves health of child	44(88%)	47(94%)
Stabilizes family income	7(14%)	16(32%)
Regaining strength	3(6%)	1(2%)

Table 5. Cue to action

	RURAL(n=50)	URBAN(n=50)
Fear of becoming pregnant after delivery	8(16%)	6(12%)
Missed period	1(2%)	4(8%)

For health belief model constructs, Likert scale is used. The response for the questions was given a score of 1 for strongly disagree, 2 for Disagree, 3 for Neutral 4 for Agree, 5 for strongly agree. The scores were summated and then categorized into low (<75%), medium (76%-84%) and high (>85%). In table 4, Higher scores ,in case of perceived susceptibility, represent higher risk of becoming pregnant, higher scores for perceived barriers represent more inhibition for practicing spacing methods while higher scores for self efficacy represent higher positive attitude for contraceptive use. In the current study there is significant difference in perceived barriers for rural & urban women (P<0.0015) and also for self efficacy (P<0.0054) from the above table. The most common reason women use spacing methods is to prevent pregnancy and properly spaced pregnancies have a positive impact on women's social and economic development.

In J Mao's study(14) done in Manipur respondents in the age group of 31-35 had higher knowledge of about 34.9% on condom/loop/cooperT. In Srivastava et al study(15), the most known (61.2%) temporary method of contraception was intrauterine contraceptive device (IUCD) followed by oral contraceptive pills (OCP) (60.5%) and condoms (53.7%). In present study the main source of knowledge is mass media (62% rural & 84% urban) followed by friends (78% rural & 36% urban) while in J Mao's study the main source of information is friends (44%) followed by mass media (22%) and in MyoMyoMon's study health providers(36.9%) were the major source. The most common method ever used by the couples was IUD (16% in rural & 12% in urban) followed by OC pills (2% in urban & 2% in rural) in the current study while in Srivastava et al study it is condom(34.5%) followed by natural methods(26.9%).

Concerning HBM perceptions there is variation of significant constructs to the individual seeking behaviors in different studies. The current study identified low perceived susceptibility, high perceived barriers and low self efficacy as strong predictors of contraceptive use. If women perceive that they are susceptible to pregnancy, they are more likely to use spacing methods. In contrast spacing methods is likely used if they perceive barriers to obtain spacing methods.

This finding was supported by previous study which reported an association of perceived barriers, perceived susceptibility and self efficacy with the use of birth control in teens with diabetes (16). In addition when the intention to use birth control was measured, perceived barriers, cue to action and self efficacy were considered strong predictors of contraceptive use (17). In Kenya a study showed that only perceived barrier was a significant factor predicting frequency of condom use (18). As a result the effect of each perception depends to the seeking behaviors depends on the nature of characteristics of study participants, attitudes and social norms.

**Strengths of study:** The strength of the study is application of behavioral theory of health belief model perception which is most useful for predicting health seeking behavior

**Limitations of study:** This study was a cross sectional study and used an interview to identify contraceptive users and non users, thus it might be affected by reliable answers from women. However we ensured the rapport and explained the objectives of the study before the interview. Thus the deviation of self reported user or non user is probably less.

## CONCLUSION AND RECOMMENDATIONS

The perceptions measured by HBM strongly predicted the contraceptive practice of respondents in the current study. Perceived barriers to use spacing methods and self efficacy were two most influential constructs. Further programmes to expand or increase the contraceptive use among women should more extensively address reduction of barriers of contraception and improve self efficacy of women. This can be brought about by facilitating the access to more information, education and communication with the reproductive age couples, and improved social and welfare services. These couples should be given information about contraceptives at every visit to the health services to motivate them. The most important factor is regular availability of contraceptives and adequate health care services at the peripheral level.

## ACKNOWLEDGMENT

The authors would like to acknowledge the women for their participation, anganwadi and asha workers for their cooperation in smooth conduction of the study.

**Conflict of interest:** None.

## REFERENCES

Shojaie Tehrani H, Ebadi Fard A. Population, family planning, marital health. Tehran: Samt Publ; 2001: 10-25. (Persian).2.

- Park's Text book of preventive medicine, 23<sup>rd</sup> Edition pg no-493
- Leridon H, Helzner JF. Human fertility: the basic components: Chicago and London: Univ Chicago Press; 1977
- Conde-Agudelo A, Rosas-Bermúdez A, Kafury-Goeta AC. Birth spacing and risk of adverse perinatal outcomes. *JAMA: J Am Med Assoc* 2006; 295(15): 1809. ian)
- Sangwan N and Maru RN, The target-free approach: an overview, *Journal of Health Management*, 1999, 1(1):71-96.
- Khan ME, Sebastian MP and Aeron A, Promoting healthy timing and spacing of pregnancy: barriers and possible intervention: observation from a qualitative study in Uttar Pradesh, *Research Update*, New Delhi: Population Council/Frontiers, 2007, No. 13
- Koenig MA, Foo GH and Joshi K, Quality of care within the Indian family welfare programme: a review of recent evidence, *Studies in Family Planning*, 2000, 31(1):1-1
- Stephenson R and Tsui AO, Contextual influences on reproductive health service use in Uttar Pradesh, India, *Studies in Family Planning*, 2002, 33(4):309-320.
- Varkey LC et al., Involving men in maternity care in India, *FRONTIERS Final Report*, New Delhi: Population Council, 2004.
- Nath DC, Land KC and Singh KK, The role of breast-feeding beyond postpartum amenorrhoea on the return of fertility in India: a life table and hazards model analysis, *Journal of Biosocial Science*, 1994, 26(2):191-206.
- IIPS and Macro International, *National Family Health Survey (NFHS-3), 2005-06, India, Uttar Pradesh*, Mumbai: IIPS, 2008.
- Ministry of Home Affairs, Government of India, Census data 2001, <[http://www.censusindia.gov.in/Census\\_Data\\_2001/India\\_at\\_glance/popul.aspx](http://www.censusindia.gov.in/Census_Data_2001/India_at_glance/popul.aspx)>, no date, accessed Feb. 4, 2010
- Myo Myo Mon: Factors influencing decision on contraceptive use among married female youths and their husbands in rural area of Ayeyarwaddy division of Myanmar. 2009, 138-140.
- J Mao. *Knowledge, Attitude and Practice of Family Planning: A Study of Tezu Village, Manipur (India)*. The Internet Journal of Biological Anthropology. 2006 Volume 1 Number 1
- Srivastava et al., *J Obstet Gynecol India* Vol. 55, No. 6 : November/December 2005 Pg 546-550
- Denise Charron, Prochownik et al. Reproductive health beliefs and behavior in teens with Diabetes: application of the expanded health belief model. *Paediatrics Diabetes* 2001;30-39.
- Wang SL, Charron, Prochownik D, Seveika SM, et al. Comparing three theories in predicting reproductive health behavioral intention in adolescent women with diabetes. *Pediatr Diabets* 2006;7:108-115.
- Volk JE, Koopman C. Factors associated with condom use in Kenya : attest of the health belief model. *AIDS Educ Prev* 2001;13:495-508