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Original Article

Community Section

Determinants of Intrauterine Device Acceptance among Married Women in Coastal Karnataka, India

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ABSTRACT

Introduction: Intrauterine Devices (IUDs) are the most effective long term, temporary method of contraception which have many benefits such as low cost and minimal side effects. Despite this, IUD use is not prevalent in India; though, the expanding population stresses the dire need for effective contraceptive use.

Aim: To determine the reasons for acceptance and use of IUDs among the women and the side effects experienced by them, to utilise this information to further increase the rate of acceptance of IUDs.

Materials and Methods: The present cross-sectional study was done in three health care facilities: a Government Maternity Hospital, a private tertiary care hospital and a Community Health Centre (CHC), associated with Kasturba Medical College (KMC), Mangalore, Karnataka, India. Before conducting the study, ethical clearance was obtained from the Institutional Ethics Committee (IEC) of KMC, Mangalore. Participant information sheets and informed consent forms were distributed. We studied 110 married women who had IUDs inserted. Demographic details, source of information, factors motivating IUD use, reasons for the use of IUDs and side effects were assessed using a questionnaire.

Results: The mean age of the study participants was 26.65±4.0. 77% were Hindus, 99.1% of the participants were literate and 86.4% were housewives. Only 2.7% of the husbands were illiterate and 53.6% were employed in semiskilled professions. Almost 91% of the husbands and 82% of the families were favourable towards the use of contraceptives. For 89% of the participants, the health care provider served as a chief source of information about IUDs. Out of all the participants, 68.2% were using IUDs for child spacing and 29.1% were using it for prevention of pregnancy. Around 36% of the women experienced side effects due to IUD use, out of which 61.5% complained of vaginal bleed.

Conclusion: IUDs are being accepted in our society. Benefits of use outweigh the risk involved. Health care providers play an effective role in promoting IUD use in society.

Keywords: Awareness, Contraceptive, Cross-sectional study, Intra uterine device, Side-effects

INTRODUCTION

India is the second most populated country in the world and is expected to surpass China by 2022 [1]. Many Indians avoid using contraceptives to control their family size, despite the dire need for it, due to ignorance, traditional religious customs, etc., [2].

Today, contraceptives are classified into two types: modern and traditional methods. Modern methods include Oral Contraceptive Pills (OCP), IUDs, injectables, etc. Traditional methods include periodic abstinence, rhythm and withdrawal method [3].

IUDs have proven to be the most effective long term temporary method of contraception with a <0.5% failure rate [4]. Despite this, the use of IUD is not prevalent in India. Female sterilisation (36%) is preferred the most. This is followed by condoms (5.6%), OCPs (4.1%) and only 1.5% of the population uses IUDs [5]. Women use it as a temporary spacing device and get it removed as soon as they feel the slightest discomfort or pain [6]. Ignorance about IUDs is a prevalent problem too, with 31.2% of women and 49.5% of men having never heard of them [7].

Currently, 46.5% of our country's population isn't practicing any family planning method [5]. The reasons for this should be identified and addressed. The present study focuses on assessment of factors that influence IUD use. The information obtained can be used to increase the acceptance of this method of contraception.

MATERIALS AND METHODS

The present observational, cross-sectional study was conducted in three health centres in Mangalore, Karnataka, India. Mangalore is the headquarters of Dakshin Kannada district [8] and has the highest literacy rate. It's known as the 'medical educational hub' as it has six medical colleges and cumulatively produces one of the highest number of medical graduates in the country. There are more than 25 hospitals in the city itself which provide low cost, good specialty and super specialty care [9,10]. The top of the line healthcare is advocated by the fact that the maternal mortality rate here is 79/100,000 births, while the national rate is 223/1,00,000 births and infant mortality rate is 10.9/1000 births as opposed to the national rate of 48/1000 births [11].

In the present study, study population comprised of married women between the ages of 18 and 45 years who had achieved menarche but not menopause, were using IUDs as a method of contraception, had consented for the study and had visited the outpatient department of the health centres. The sample size was 110, taking the prevalence of IUD users as 1.5%. The sampling method used was convenient sampling and duration of the study was two months, conducted in February and March 2017.

Ethical committee clearance from the IEC of KMC, Mangalore, Karnataka, India was obtained before starting the study. Before conducting the study; the purpose of the study, the meaning of their participation in the study and the contents of the questionnaire were explained to all the women and a written consent was obtained from them. The women were assured that anonymity would be maintained throughout the study and the data would be used for research purposes only.

A semistructured questionnaire was used as the tool for data collection. The questionnaire had two parts, part 1 and 2. The first

part dealt with the demographic details of the study participants and contained questions relating to their age, religion, and literacy status. The second part contained questions regarding factors influencing acceptance of IUDs, IUD use and its side effects [12]. The data obtained was analysed by SPSS software version 16.0 and presented in the form of percentages.

RESULTS

A total of 110 women with IUDs inserted took part in this study. [Table/Fig-1,2] deals with their demographic details. The mean age of the study participants was 26.65±4.0 years, 57.3% of which fell under the 25-32 year age group. 60 participants came from rural areas and 68 women possessed BPL cards. Estimating the literacy status showed us that only one participant was illiterate while most had a middle or high school education. Among the husbands, three were illiterate. Most (86.4%) of the participants were housewives. None of them were nulliparous and 78 women wanted more children.

The profile of IUD use among the study participants is reported in [Table/Fig-3]. 78 participants had the IUDs inserted immediately postpartum and 60 participants had their IUDs inserted in the government maternity hospital. Copper T was used by 94 participants.

Categories	Number (%)
Healthcare facility	
Government maternity hospital	60 (54.5)
Private tertiary care hospital	27 (24.5)
Moodbidri community health centre	23 (21.0)
Total	110 (100)
Age in years	
≤24	37 (33.6)
25-32	63 (57.3)
≥33	10 (9.1)
Total	110 (100)
Religion	
Hindu	85 (77.3)
Muslim	24 (21.8)
Christian	1 (0.9)
Total	110 (100)
Caste	
SC/ST	15 (13.7)
OBC	31 (28.2)
General	43 (39.1)
Other	21 (19.0)
Total	110 (100)
Lives in a	
Rural area	60 (54.6)
Semi urban area	15 (13.6)
Urban area	35 (31.8)
Total	110 (100)
BPL card	
Yes	68 (61.8)
No	42 (38.2)
Total	110 (100)
Type of family	
Joint	70 (63.6)
Nuclear	40 (36.4)
Total	110 (100)

[Table/Fig-1]: Baseline characteristics of the study participants (n=110).

Categories	Number (%)
Level of education	
Illiterate	1 (0.9)
Literate	
-Primary school	19 (17.3)
-Middle or high school	40 (36.4)
-Pregraduation	22 (20.0)
-Graduation or professional degree	28 (25.4)
Total	110 (100)
Husband's level of education	
Illiterate	3 (2.7)
Literate	
-Primary school	24 (21.9)
-Middle or high school	41 (37.3)
-Pregraduation	12 (10.9)
-Graduation or professional degree	30 (27.2)
Total	110 (100)
Occupation	
Clerical or professional	6 (5.4)
Housewife	95 (86.4)
Semiskilled and unskilled	9 (8.2)
Total	110 (100)
Number of children	
1	70 (63.6%)
2	38 (34.6%)
3	2 (1.8%)
Total	110 (100)
Participant desires more children	
Yes	78 (70.9)
No	32 (29.1)
Total	110 (100)
Number of abortions	
0	106 (96.4)
1	4 (3.6)
Total	110 (100)

[Table/Fig-2]: Baseline characteristics of the study participants (II) (n=110).

Categories	Number (%)
Duration of use of IUD	
<1 month	43 (39.1)
1-6 months	36 (32.7)
>6 months	31 (28.1)
Total	110 (100)
Time of IUD insertion	
6 weeks postpartum	6 (5.5)
Post menstruation	26 (23.6)
Immediately postpartum	78 (70.9)
Total	110 (100)
Type of IUD used	
375 multiloaded	11 (10)
CuprT380A and CuprT 180A	94 (85.5)
Unknown	5 (4.5)
Total	110 (100)

[Table/Fig-3]: Profile of IUD use among the study participants (n=110).

The source of information of IUDs and the factors which influenced IUD acceptance are discussed in [Table/Fig-4]. 62 patients were motivated to use IUDs as a mutual decision with their husband and

41 were motivated by healthcare providers. For 80.9%, the main source of information of IUDs was the health care provider.

Categories	Number (%)
Husband's opinion about contraceptive use	
Approve	100 (90.9)
Disapprove	10 (9.1)
Total	110 (100)
Patient's family's attitude towards IUD usage	
Favourable	90 (81.8)
Unfavourable	17 (15.5)
Unknown	3 (2.7)
Total	110 (100)
Patient was motivated to use contraceptives by*	
Her husband, inlaws, friends	3 (2.7)
Mutual (husband and wife)	62 (56.4)
Herself	9 (8.1)
Health care providers	41 (37.3)
Total	115*
Patient's source of information about IUDs*	
Media, educational institute, NGOs	6 (5.5)
Health care providers	89 (80.9)
Friends, husband or other relatives	19 (17.3)
Other	16 (14.5)
Total	130*
Patient discussed IUD usage with her husband	
Yes	95 (86.4)
No	15 (13.6)
Total	110 (100)

[Table/Fig-4]: Source of information and factors influencing IUD acceptance. (n=110)
* Multiple options were selected

The reasons for acceptance and usage of IUDs among the study participants are depicted in [Table/Fig-5]. More than half of the participants (68.2%) chose IUDs for child spacing. Two (1.8%) women even accept IUDs as they felt that it reduced the incidence of child mortality as compared to other methods of contraception.

Categories	Number (%)
Prevention from pregnancy	32 (29.1)
Fewer side effects as compared to other methods of contraception	13 (11.8)
Lower price as compared to other methods of contraception	9 (8.2)
Less cumbersome as compared to other methods of contraception	19 (17.3)
Child spacing	75 (68.2)
Reduced incidence of child mortality as compared to other methods of contraception	2 (1.8)
Doctor's convincing	12 (10.9)
Total	162*

[Table/Fig-5]: Reasons for acceptance and use of IUDs among the study participants* (n=110).
*Multiple options were selected for reasons of IUD use

Side effects experienced by the study participants are reported in [Table/Fig-6] with 64.5% women experiencing no side effects. Out of the 39 women that did, the main side effects complained of was vaginal bleed. There was no case of IUD rejection or failure.

Categories	Number (%)
No side effects experienced	71 (64.5)
Side effects experienced*	39 (35.5)
Irregular or absent periods/back pain/reduced breast milk	9 (23.1%)
Anxiety/nausea and vomiting/obesity/vaginal discharge	12 (30.1%)
Abdominal pain	10 (25.6%)
Vaginal bleeding	24 (61.5%)
Total	110 (100%)

[Table/Fig-6]: Side effects of IUD use experienced among the study participants (n=110).
*multiple options were selected for side effects experienced

DISCUSSION

The three health care centres part of the study is associated with state government which is the first medical institute, part of a public private partnership in India. Lahore General Hospital (LGH) is the oldest hospital in the region, having opened its doors in 1848, catering to a population from the district and neighbouring states. Around 200 deliveries are conducted here monthly, which is approximately 6% of the total deliveries performed in the district [13]. A family welfare councillor presents in LGH councils all the pregnant patients about the benefits of using IUDs. She plays a keyrole in motivating around 30 women to get IUDs inserted here monthly. KMC Attavar is one of the finest tertiary care hospital with super specialty care in most departments. The Obstetrics and Gynaecology Department is one of the most sort after departments catering to the effluent class of patients. The CHC, located in the Moodbidri, Karnataka, India caters to the poor and all services are free of cost. All three healthcare facilities are affiliated to Manipal University that marks the symbol of partnership of government and private university. All three healthcare facilities offer multiloaded as well as Copper T insertions.

The mean age of the study participants was 26.65±4.0 years. This finding is similar to that of a study performed in Hubli by Kittur S et al., where the mean age was 23.75 years and to the finding of a multicentric study by Kumar S et al., where the mean age was 24 years [14,15].

It is observed that literacy plays a major role in contraceptive use. An educated woman may have more of a say regarding the family planning method she practices as opposed to an illiterate woman who is probably ignorant or more easily manipulated. This finding has been advocated in a study by Kunwar S et al., as it was found that literate woman use contraceptives more than illiterate women [16]. For women employing IUDs, some degree of literacy is important as the IUD tail has to be checked by oneself twice weekly and symptoms of infection need to be identified and reported immediately. This study depicted only one illiterate women as opposed to 11% illiterate participants in a study conducted by Gujju RL et al., in AP and 23% illiterate participants in a multicentric study by Kumar S et al., [15,17]. The number of illiterate husbands in this study was also very low. This coincides with the fact that in Dakshin Kannada, the male literacy rate is 93.13% and female literacy rate is 84.13%, more than the national average [18,19].

The study population consisted of 86.4% housewives. One may assume that empowerment and financial independence do not necessarily have a direct impact on the implementation of family planning via IUDs. Primiparas constituted 63.6% of the women. This is similar to the findings of the study in Hubli where 70.5% women were primiparas [14]. However, it differs from a study by Udgiri R et al., where it was found that family planning increased with parity. They postulated that if one's family is complete, one has a higher chance of using contraception [20]. It is possible that in this study setting, women who completed their families resort to more

permanent methods of sterilization rather than using IUDs.

78 participants desired more children, which tells us that a greater number of the subjects were using this as a temporary method of contraception as opposed to 29.1% who were perhaps using this as a long term method.

More than half of the participants had their IUD inserted in the government maternity hospital as opposed to 24.5% in the private tertiary care centre and 21% in the CHC. This could be attributed to the role the family welfare counsellor in LGH played in spreading awareness about this method of contraception.

Almost 71% of the women in this study had had their IUD inserted immediately postpartum which is similar to 82% of the subjects in Kumar S et al., study [15]. This perhaps may be attributed to the fact that insertion is easier at this point, the woman is likely to be highly motivated to accept contraception and she can be persuaded effectively [14]. This is very useful in India as the frequency of these subjects, especially those from a rural setup, to be counselled about family planning after they are discharged postdelivery, is not very high.

A study done in Pondicherry, Tamil Nadu, India states that all men have a favourable attitude towards family planning [21]. This is necessary, as only then can a mutual decision be taken between the couple to effectively use contraceptives; therefore, the wife doesn't have to try to assert her authority in a male dominated society by fighting for contraceptive use or bear the burden of unplanned pregnancies. In present study, for more than half of the participants, the decision to use IUDs was taken mutually with their husbands. However, we observe that 9.1% still disapproved contraceptive usage. Also, 15.5% of the families were unfavourable towards the same. This shows that there is still some generation gap, with the elders probably not aware of the usefulness of family planning. Out of the 15 women who didn't discuss IUD usage with their husbands before insertion, 40% were aware that their husband disapproved contraceptive use. Perhaps the reason that they took the decision independently was to avoid disagreement. We can thus speculate that woman emancipation is on the rise. They didn't depend on their husband's permission before taking decisions for them and perhaps they understood the importance of contraceptive use for their own well being.

Apart from serving as an effective means of convincing people (37.3% of the participants of this study) to use this method of contraception, health care providers also served as a source of information for 80.9% of the population. This is similar to the findings of a study conducted by Whitaker AK et al., which states that 53.5% of the participants had a favourable attitude towards IUD use, post an educational intervention [22]. We can thus assume that counselling increases awareness and acceptance of family planning and if doctors in all the health care facilities regularly counsel, especially the postpartum patients, the prevalence of contraceptive use would increase.

When the women were questioned about the reasons for use of IUDs, a variety of responses came up, maximum i.e., 75 (68.2%) being for child spacing. This is understandable since IUDs are the most effective long term temporary method of contraception [6]. The other major reason for acceptance was prevention of pregnancy: 32 subjects (29.1%). This was the exact number of subjects who did not desire more children. This suggests that perhaps all these women consider IUD a reliable, long term mean of contraception. The multicentric study by Kumar S et al., showed that 54% of the subjects used the method for child spacing and 46% used it though they did not want any more children [15]. 22% chose it due to the low price and 87.6% preferred it due to its long acting nature.

Majority of the women in this study did not experience any side effects. Of those who did, 61.5% experienced vaginal bleed and 25.6%, abdominal pain. Similar results were found in the study by Gujju RL et al., where 2.1% experienced side-effects, of which 43% was abdominal pain and 12% was vaginal bleed [17]. 38% had string problems as well. The fact that majority of the women experienced no side effects gives us another benefit of choosing IUDs for contraception, over other harmful methods. There was no failure or rejection of IUD reported in this study but this could be due to the fact that only 28.1% of the total participants had their IUD inserted more than six months back.

LIMITATION

The present study is confined to only Mangalore city of Dakshin Kannada, Karnataka, India. Present study does not determine why non users have not accepted IUDs as a method of contraception, nor does it take into account the women who had their IUDs removed convenience sampling may lead to selector's bias.

CONCLUSION

IUDs are being accepted as an effective method of contraption in Mangalore, mostly since it's a less cumbersome means of child spacing. Health care providers play an effective role in spreading awareness and convincing women to choose this method. The benefits have so far outweighed the risks. Side effects experienced are few, most common being vaginal bleeding. As the literacy rate in our country increases, and if more health care providers council patients, there is a probability that this contraceptive method will be more prevalent.

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