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Original Research Article

A community-based study on reproductive empowerment of women aged 15-49 years and associated factors in a rural area of Delhi

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ABSTRACT

Background: Reproductive health disparities persist globally, with a significant proportion of women lacking access to modern contraception despite desiring to control their fertility, leading to a substantial number of unintended pregnancies. This study aimed to assess the level of reproductive empowerment among married women in rural areas, specifically focusing on communication, decision-making, social support, and norms related to reproductive health.
Methods: A cross-sectional study was conducted in the rural areas of south Delhi, with a sample size of 215 married women aged 15-49 years. Systematic random sampling was employed, and data was collected using a semi-structured questionnaire validated in Hindi. The reproductive empowerment (RE) scale was utilized, comprising sub-scales related to healthcare provider communication, partner communication, decision-making, social support, and social norms. Data analysis was performed using SPSS software, with a significance level set at $p<0.05$.
Results: The study reveals that 54.8% of the participants exhibited high levels of reproductive empowerment. The mean RE score was 3.09±0.39 out of 4, indicating moderate to high levels of empowerment. Sub-scale analysis showed higher scores in healthcare provider communication (3.91±0.28) compared to decision-making (2.93±0.65), partner communication (3.53±0.69), social support (2.19±0.89), and social norms (2.13±0.69).
Conclusions: This study underscores the importance of exploring reproductive empowerment as a specific entity and advocates for further research and interventions to promote women's agency and decision-making autonomy in matters of reproductive health.

Keywords: Decision making, Empowerment, Social support, Reproductive health, Women's health

INTRODUCTION

Twenty-six percent of women belonging to the reproductive age group worldwide do not practice a modern method of contraception in spite of wanting to delay or avoid pregnancy.[1] This results in 41% of all pregnancies worldwide being unintended.[2] These figures portray the unmet reproductive health needs of women and that women are deprived of their right to make crucial decisions about their own bodies and future.[3] Reproductive health care encompasses the constellation of means and services that contribute to reproductive health by preventing and treating reproductive health issues.[4]

Reproductive empowerment (RE) has been defined as both a transformative process and an outcome; whereby individuals expand their capacity to make informed decisions about their reproductive lives, amplify their ability to participate meaningfully in public and private discussions related to their sexuality, reproductive health, and fertility, and act on their preferences to achieve desired reproductive outcomes, free of violence, retribution, or fear.[5]

Agency and resources are both pertinent to an individual's empowerment. Agency is a component of empowerment that represents the capacity for purposive action drawing

on various resources to bring into reality one's choices. This process has three components: choice, voice and power.[5]

Reproductive health outcomes that accurately reflect reproductive empowerment (RE) include increased contraceptive choices, improved matching between client needs and service providing and greater input in sexual and reproductive health (SRH) policies in intermediate level. Long term outcomes include better match between reproductive aspirations and outcomes; better controls over spacing and timing of pregnancies, controls over fertility, reduced prevalence of RTIs and also reduced child marriage and sexual coercion.[6]

The ability to decide freely the number, spacing and timing of one's children was endorsed as a basic human right at the International Conference on Population and Development as early as in 1994.[7] A lot of research has been conducted to explore the role of empowerment over reproductive health outcomes, but the explicit recognition and exploration of the reproductive sphere as a distinct dimension of empowerment remains largely untouched. Apart from the lack of standardized terminology to denote reproductive empowerment, the conceptual obscurity makes related research challenging.[5]

METHODS

This cross-sectional study was conducted in the field practice area of Vardhman Mahavir Medical College and Safdarjung Hospital, department of community medicine in rural areas of south Delhi. The study was conducted from January 2021 to June 2022. The objectives of the study were to assess the level of reproductive empowerment of married women aged 15-49 years and factors associated with the same in the study area. Ethical approval was obtained from the institutional ethical committee. As studies on women's reproductive empowerment were scarce in India, especially in the rural areas of Delhi, the sample size was calculated using a proportion of 50%. Proportion of women having higher levels of reproductive empowerment was considered for sample size calculation. Using 95% confidence interval, 7% absolute error and non- response rate of 10%, the sample size was determined as 215. All women of 15-49 years of age who were currently married and been residing in the area for a minimum of 6 months were included in the sampling frame. Women who had undergone hysterectomy for any medical purpose other than contraception and those who had attained menopause were excluded from the study. Systematic random sampling was used to choose the study participants from a list of married women of each village, obtained with the help of accredited social health activists and anganwadi workers. By applying probability proportional to size (PPS), sample of women to be included from each village was calculated. Sampling interval was calculated to be 20. A semi-structured, interviewer-administered questionnaire in Hindi was used to collect data. The questionnaire included questions pertaining to: a) socio-demographic profile: age, sex, marital status, socio-economic status, education, occupation of both participants and partners, parents and sibling details; b) reproductive empowerment scale- pre validated (9); and c) reproductive health outcomes including age at marriage, number of children, age at first child birth, obstetric history, usage of contraceptive, number of unintended pregnancies, history of reproductive tract infections and ideal family size preference.

After pretesting the questionnaire in 10 percent of the calculated sample size in similar population, necessary changes were incorporated, and the questionnaire was finalized.

The reproductive empowerment (RE) scale was used. The scale comprises five sub-scales, namely reproductive health (RH), healthcare provider (HCP) communication, RH partner communication, RH decision-making, RH social support, and RH social norms. Considering the Indian context, where the institution of marriage is of pivotal importance in one's life, joint decision-making was considered most empowering, followed by self-decision-making, followed by partner and any other person the least empowering. The minimum and maximum scores were 20 and 80, respectively. Higher scores indicate higher levels of empowerment and vice versa. At the time of analysis, considering the not-normal distribution of data, the median value was determined as the cut-off value. Participants who scored above the median were considered to have high RE and the remaining low RE.

The cleaned data was entered into Microsoft Excel and data analysis was done using licensed SPSS software version 21.0.71. Qualitative data was summarized as proportions, while quantitative data as mean, median, and appropriate measures of dispersion, including confidence intervals. A p value of <0.05 was taken to be significant.

RESULTS

The mean age of the participants was 30.3±7.6 years, ranging from 19-48 years. One-fourth of the study participants, 54 (25.1%), were in the age group of 20-24 years, 48 (22.3%) of them were in the age group of 25-29 years, 39 (18.1%) women in the age group 30-34 years, 36 (16.7%) of them were in the age group of 35-39 years, 20 (9.3%) participants were in the 40-44 years age group and 12 (5.6%) of them were aged 45-49 years. Majority of the study population, 196 (91.1), were homemakers. The mean age of the partners was 33.5±7.9 years, with minimum of 20 years and maximum of 50 years. The mean age of women at marriage was 18±2.6 years, with range between 10-26 years.

The majority of the study participants, 154 (71.6%), followed Hinduism, while 61 (28.4%) followed Islam. The mean duration of marriage was 12.2±8.3 years, ranging from less than one year to 33 years (Table 1).

Table 1: Distribution of study participants according to Socio-demographic characteristics (n=215).

Socio-demographic characteristics	N	%
Mean age of participants = 30.3±7.6 (range 19-48 years)		
Religion		
Hinduism	154	71.6
Islam	61	28.4
Occupation of participants		
Unskilled	2	0.9
Semi-skilled	5	2.3
Skilled	11	5.1
Semi-professional	1	0.5
Not gainfully employed	196	91.1
Educational status of participants		
Illiterate	41	19.1
Primary school	50	23.3
Middle school	38	17.7
Secondary school	52	24.2
Senior secondary	23	10.7
Graduate and above	11	5.1
Post-graduate	3	1.4
Type of family		
Nuclear	78	36.3
Joint	137	63.7
Mean age at marriage = 18±2.6 (range 10-26 years)		
Mean duration of marriage = 12.2±8.3 (range <1-33 years)		
Mean age of partners = 33.5±7.9 (range 20-50 years)		
Occupation of partner		
Semi-skilled	66	30.7
Skilled	129	60.0
Professional	12	5.6
Unemployed	7	3.3
Student	1	0.5
Educational status of partner		
Illiterate	19	8.8
Primary school	43	20.0
Middle school	48	22.3
Secondary school	46	21.4
Senior secondary	29	13.5
Graduate and above	30	14

Among the study participants, 49 (22.8%) women were not aware their family income. Very few of the study participants, 14 (6.5%) belonged to the upper class while 37 (17.2%) belonged to the upper middle class. Fifty-one (23.7%) study participants belonged to the middle class, another 51 (23.7%) participants belonged to the lower middle class and 13 (6.0%) belonged to the lower class, as shown in (Figure 1).

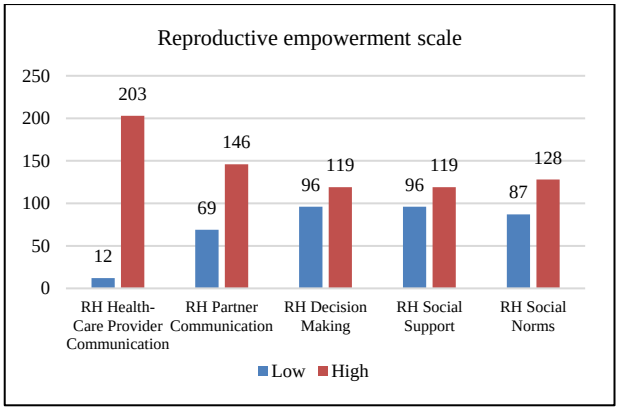

Figure 1: Bar graph of study participants according to components of reproductive empowerment scale (n=215).

Out of 215 participants, 17 (7.9%) had no living children at the time of study, 52 (24.2%) of them had a single child. One-third of the study participants, 70 (32.6%) of them had two children. Fifty participants (23.3%) had 3 children and 26 (12.1%) of the study participants had more than 4 children.

Table 2: Distribution of study participants according to factors related to marital history amongst the study population (n=215).

Marital history	N	%
Age at marriage (in years)		
<15	13	6.0
15-17	63	29.3
18-20	106	49.3
21-24	32	14.9
25-29	1	0.5
Duration of marriage (in years)		
<4	48	22.3
5-9	47	21.9
10-14	44	20.5
15-19	28	13.0
20-24	26	12.1
25-29	14	6.5
>30	8	3.7
Parties involved in choosing the partner		
Family and participant	90	41.9
Family alone	125	58.1
Residence after marriage		
Matrilocal	2	0.9
Patrilocal	138	64.2
Neolocal	75	34.9

The mean age of women at marriage was 18±2.6 years, with mean duration of marriage of 12.2±8.3 years.

Table 3: Association between socio-demographic characteristics and reproductive empowerment amongst the study population and partner (n=215).

Variables	Low RE (n=97)	High RE (n=118)	Pearson- chi sq. value; p value
Age of participant in years			
15-19	4 (66.67)	2 (33.33)	12.203; 0.048*
20-24	23 (42.59)	31 (57.41)	
25-29	26 (54.17)	22 (45.83)	
30-34	9 (23.08)	30 (76.92)	
35-39	19 (52.78)	17 (47.22)	
40-44	11 (55)	9 (45)	
45-49	5 (41.67)	7 (58.33)	
Religion			
Hinduism	69 (44.81)	85 (55.19)	0.021; 1.000*
Islam	28 (45.9)	33 (54.1)	
Occupation			
Gainfully employed	88 (44.9)	108 (55.1)	0.043; 0.511*
Not gainfully employed	9 (47.37)	10 (52.63)	
Occupation of partner			
Professional	0 (0)	12 (100)	20.006; <0.001#
Semi-Skilled	41 (62.12)	25 (37.88)	
Skilled	52 (40.31)	77 (59.69)	
Unemployed	3 (42.86)	4 (57.14)	
Student	1 (100)	0 (0)	
Educational status of partner			
Illiterate	12 (63.16)	7 (36.84)	24.72; <0.001#
Primary school	27 (62.79)	16 (37.21)	
Middle school	25 (52.08)	23 (47.92)	
Secondary school	19 (41.3)	27 (58.7)	
Senior secondary	11 (37.93)	18 (62.07)	
Graduate	3 (10.34)	26 (89.66)	
Post-graduate	0 (0)	1 (100)	

*Chi square test; #Fischer exact test applied wherever applicable.

Table 4: Association of factors related to marital history with reproductive empowerment amongst the study population (n=215).

Variables	Low RE (n=97)	High RE (n=118)	Pearson- Chi sq. value	P value
Parties involved in choosing the partner			7.12	0.009*
Family and participant	31 (34.44)	59 (65.56)		
Family alone	66 (52.8)	59 (47.2)		
Residence after marriage			17.302	<0.001#
Matrilocal	2 (100)	0 (0)		
Patrilocal	48 (34.78)	90 (65.22)		
Neolocal	47 (62.67)	28 (37.33)		

*Chi square test; #Fischer exact test applied wherever applicable.

As per Table 4, for more than half of the study participants, 125 (57.1%) only the family members were involved in choosing the partner while for the remaining 90 (41.9%) participants, both the family members and the participant were involved.

In the current study, the overall mean score of RE of the study population was found to be 3.09±0.39 on a scale of 1-4. The mean score of RE in the HCP communication sub- scale was found to be 3.91±0.28; 3.53±0.69 in the partner communication sub-scale. The mean scores of RE was 2.93±0.65 in the RH decision-making sub-scale, 2.19±0.89 in the RH social support sub-scale and 2.13±0.69 in the RH social norms subscale. Among the 215 participants, 118 (54.8%) exhibited high levels of reproductive empowerment, while the others, 97 (45.1%), only had lower levels. Table 4 shows the distribution of participants according to the scores of each subscale.

Table 5: Association of factors related to patterns of contraceptive usage, history of reproductive tract infections and treatment seeking with Reproductive Empowerment amongst the study population (N=215).

Variables	Low RE (n=97)	High RE (n=118)	Pearson- Chi square value	P value
Usage of contraceptive ever				
Yes	50 (42.37)	68 (57.63)	0.795	0.41*
No	47 (48.45)	50 (51.55)		
Mode of contraceptive (n=118)				
Female	47 (48.45)	50 (51.55)	3.06	0.218*
Male	19 (52.78)	17 (47.22)		
Both	31 (37.8)	51 (62.2)		
History of RTI currently				
Yes	18 (56.25)	14 (43.75)	1.882	0.16*
No	79 (43.17)	104 (56.83)		
History of RTI in the past				
Yes	41 (51.25)	39 (48.75)	1.936	0.202*
No	56 (41.48)	79 (58.52)		
History of RTI ever				
Yes	49 (52.69)	44 (47.31)	3.795	0.043*
No	48 (39.34)	74 (60.66)		
History of RTI treatment (n=93)				
Only participant	32 (58.18)	23 (41.82)	5.673	0.097#
Both	1 (50)	1 (50)		
None	16 (44.44)	20 (55.56)		

*Chi square test; #Fischer exact test applied wherever applicable.

Table 6: Association of factors related to obstetric history with reproductive empowerment amongst the study population.

Variables	Low RE	High RE	Pearson- Chi square value	P value
Intention to conceive (n=518)			7.647	0.017#
Planned	170 (37.5)	283 (62.5)		
Mistimed	3 (50)	3 (50)		
Unwanted	33 (55.9)	26 (44.1)		
Outcome of pregnancies (n= 518)			3.579	0.441#
Live birth	186 (40.5)	273 (59.5)		
Abortion	20 (37)	34 (63)		
Current pregnancies	0	3 (100)		
Still birth	0	2 (100)		
Type of abortion (n=54)			12.236	0.012#
Induced certified	13 (48.2)	14 (51.8)		
Spontaneous	7 (33.3)	14 (66.7)		
Induced unsafe	0	6 (100)		
Current status of live births(n=459)			2.136	0.347*
Alive	176 (39.9)	265 (60.1)		
Dead	10 (55.5)	8 (44.5)		
Mode of delivery (n=461)			11.889	0.001*
Vaginal delivery	180 (42.6)	243 (57.4)		
Caesarean section	6 (15.8)	32 (84.2)		
Type of delivery (n=461)			3.662	0.158*
Institutional	9 (5.4)	157 (94.6)		

*Chi square test; #Fischer exact test applied wherever applicable.

Table 7: Association of factors related to menstrual hygiene practices with reproductive empowerment amongst the study population (n=215).

Variables	Low RE (n=97)	High RE (n=118)	Pearson- Chi sq. value	P value
Type of absorbent used			5.89	0.016*
Hygienic methods	61 (39.87)	92 (60.13)		
Unhygienic methods	36 (58.06)	26 (41.94)		

*Chi square test.

Table 8: Correlation and simple linear regression between continuous independent variables and reproductive empowerment (n=215).

Independent variables	Pearson correlation	Standardised coefficient beta	95% CI	P value
Number of pregnancies	-0.044	-0.044	-1.007 - 0.512	0.521
Age of participant in years	0.057	0.057	-0.081 - 0.198	0.407
Spousal age disparity in years	-0.203	-0.203	-1.091 - -0.229	0.003
Proportion of siblings in contact	0.186	0.186	0.02 - 0.121	0.006
Participant's years of education	0.249	0.249	0.218 - 0.704	0.001
Participant's monthly income in INR	-0.015	-0.015	-0.001 - 0.001	0.829
Age of Partner in years	-0.007	-0.007	-0.141 - 0.127	0.917
Partner's years of education	0.298	0.298	0.349 - 0.879	0.001
Partner's monthly income in INR	0.075	0.075	0 - 0	0.276
Number of family members	0.225	0.225	0.252 - 0.962	0.001
Age at marriage in years	-0.007	-0.007	-0.44 - 0.398	0.92
Duration of marriage in years	0.054	0.054	-0.076 - 0.178	0.431
Actual number of children	-0.056	-0.056	-1.224 - 0.504	0.413
Desired number of children	-0.038	-0.038	-1.67 - 0.94	0.582
Age at first childbirth in years	0.150	0.15	0.023 - 0.404	0.028
First birth interval in years	0.157	0.157	0.117 - 1.451	0.021
Duration of contraceptive use	-0.003	-0.003	-0.17 - 0.164	0.969
Number of live births	-0.056	-0.056	-1.171 - 0.48	0.41
Number of abortions	-0.009	-0.009	-2.115 - 1.843	0.892
Number of still births	0.013	0.013	-10.032 - 12.183	0.849
Number of NVD delivery	-0.113	-0.113	-1.353 - 0.115	0.098
Number of LSCS delivery	9.197	0.197	1.111 - 5.667	0.004
Number of home delivery	-0.078	-0.078	-1.15 - 0.309	0.257
Number of institutional delivery	0.069	0.069	-0.451 - 1.404	0.312
Number of home assisted delivery	-0.092	-0.092	-3.868 - 0.717	0.177
Number of induced certified abortion	-0.083	-0.083	-4.329 - 1.036	0.228
Number of induced unsafe abortion	0.084	0.084	-1.878 - 8.06	0.222
Number of spontaneous abortion	0.013	0.013	-3.397 - 4.117	0.85
Number of planned pregnancies	0.062	0.062	-0.504 - 1.355	0.368
Number of unwanted pregnancies	-0.196	-0.196	-3.66 - -0.705	0.004
Number of mistimed pregnancies	0.016	0.016	-4.005 - 5.085	0.815
Number of unintended pregnancies	-0.183	-0.183	-3.395 - -0.542	0.007
Average duration of breast feeding in months	0.228	0.228	0.063 - 0.236	0.001
Average closed birth interval in months	0.093	0.093	-0.017 - 0.091	0.175

There was a statistically significant association between the age, educational status, the socio-economic status of the participants and reproductive empowerment. Ninety (65.69%) study participants who belonged to a nuclear family had high reproductive empowerment as compared to 28 (35.9%) study participants and the difference between the two proportions is statistically significant. There was a statistically significant association between the occupation of the partner, educational status and reproductive empowerment. There was a statistically significant association between the parties involved in choosing the partner and reproductive empowerment. About two-thirds, 65.6% of women who were involved in

choosing their partner showed higher levels of RE. There was a statistically significant association between the residence after marriage and reproductive empowerment. While 65% of participants in a patrilocal type of residence had high levels of RE, only 37.3% of women in a neolocal residence had high RE. There was a statistically significant association between intention to conceive and reproductive empowerment. About 62% of the planned pregnancies were borne by women with high levels of RE while only 44% of the unintended pregnancies were borne by women with high levels of RE. All the six participants who reported unsafe abortion services, had high levels of reproductive empowerment while 52% of those who had safe abortion services had high levels of empowerment, while 67% of those who underwent spontaneous abortions had high levels of RE. This association between type of abortion and reproductive empowerment is statistically significant. Two hundred and forty-three (57.4%) pregnancies which were delivered via normal labor were borne by participants with high reproductive empowerment as compared to 32 (84.2%) pregnancies that were delivered via caesarean section and the difference in proportion between the two was statistically significant. There was no statistically significant association between the outcome of pregnancies, the current status of live births, type of delivery, duration of breastfeeding and reproductive empowerment ($p>0.05$). Ninety-two (60.13%) participants who used hygienic methods of absorbents had high reproductive empowerment as compared to 26 (41.94%) participants who used unhygienic methods and the difference in proportion between the two is statistically significant.

Seventy-four (60.66%) study participants who did not have a history of RTI ever had high reproductive empowerment as compared to 44 (47.31%) participants who had a history of RTI ever and the difference in proportion between the two was statistically significant.

There was a statistically significant association between intention to conceive and reproductive empowerment. There is a statistically significant association between type of abortion and reproductive empowerment. Two hundred and forty-three (88.4%) participants who had vaginal delivery had high reproductive empowerment as compared to 32 (11.6%) participants who had caesarean section and the difference in proportion between the two was statistically significant.

There was a statistically significant correlation between the study participants' age at first childbirth and their level of RE. Levels of RE positively correlated with age at first child birth ($\beta=0.150$, $p=0.028$), showing that when a participant's age at first child birth increases by one year, RE increases by 0.15 units.

There was a statistically significant relation between First birth interval and level of RE amongst the study participants. First birth interval was positively correlated with RE ($\beta=0.157$, $p=0.021$), indicating that with every increasing year between marriage and the first pregnancy of the participant, RE levels tend to increase by 0.16 units.

As seen in Table 8, The study found several significant relationships between reproductive experience (RE) and various factors. Spousal age disparity was negatively correlated with RE ($\beta=-0.203$, $p=0.003$), while both participant's ($\beta=0.249$, $p<0.001$) and partner's education ($\beta=0.298$, $p=0.001$) positively influenced RE. More family members ($\beta=0.220$, $p=0.001$) and sibling contact ($\beta=0.186$, $p=0.006$) also contributed to higher RE. Delayed childbirth ($\beta=0.150$, $p=0.028$), longer intervals before the first birth ($\beta=0.157$, $p=0.021$), and increased breastfeeding duration ($\beta=0.228$, $p=0.001$) were associated with higher RE, while caesarean deliveries ($\beta=0.197$, $p=0.004$) also showed a positive correlation. Conversely, unwanted ($\beta=-0.196$, $p=0.004$) and unintended pregnancies ($\beta=-0.183$, $p=0.007$) were negatively linked to RE, decreasing it with each additional occurrence. Overall, education, family dynamics, and reproductive choices significantly impacted RE levels.

DISCUSSION

The present study was conducted amongst 215 married women belonging to the reproductive age group of 15-49 years in five villages of Delhi in which the overall mean score of RE was found to be 3.09±0.39 on a scale of 1-4. The current study was conducted amongst married women, bearing in mind the virtual universality of marriage in the Indian context. About one-third (69,33%) of the study population were native to Delhi, another one-third (69.33%) hailed from Uttar Pradesh and 21% (44) belonged to Haryana. The study also included some participants belonging to Bihar, Gujarat, Jharkhand, Madhya Pradesh, Rajasthan, Uttarakhand and West Bengal.

In a study conducted by Mandal et al, the mean RE score was calculated to be 2.85 (n=470), indicating an RE level slightly above moderate level.[9] The mean age of the study participants in this study was 25.4 years while it was 30.3 years in the current study. The authors had included women belonging to 18-35 age group while in the current study the age group included was more diverse, ranging from 15-49 years. About 84% of the study population had at least one child at the time of study while in the current study the proportion of women who had had at least one child at the time of study was 93.5% (193).

In the study by Mandal et al, 52% (244) of study participants had completed at least primary education, two-thirds of the study participants followed Islam, while the rest followed Christianity.[9] Whereas in current study 82% (169) of the study participants had completed at least primary education, 71.6% (154) followed Hinduism while the rest of the study participants followed Islam. The higher level of mean RE in the current study as compared to the study conducted by Mandal et al can be attributed to the marked differences in the level of overall development,

existing health care and cultural context including religion. Also, Mandal et al, included only women who had a biological child not older than 5 years of age.[9] Considering that empowerment is a dynamic process and that the levels may vary with time, the inclusion of women in the early stages of marriage could have also been one of the factors behind the difference in RE levels as compared to the current study.[6,7,10]

The present study showed that the participants had very favourable communication with their HCPs, with a mean score of 3.9 (sub-scale range 1-4) in this sub-scale. A majority, 205 (95.3%) of the study participants reported that they talk to their HCP about contraception. All but one of the participants reported that they could initiate conversations, share opinions related to contraception with their HCP and that the HCP pays attention to what the participants say. The current study showed that the participants had good levels of communication with their HCP, which could be one of the important reasons behind RE being higher than moderate levels.

The good levels of communication can also be explained by the participants' trust over HCPs. Karp C et al showed that women recognized their health care providers, including doctors, nurses and community health workers to be educated influencers of their reproductive decisions.[11] Smith et al found that 49%(191) of the study participants (n=390) faced some form of mistreatment during childbirth.[12] However this study included women accessing services in a healthcare facility located in a slum, while the current community-based study was conducted in a rural set up.

The mean score of the study participants was high, 3.53±0.69 in the partner communication subscale. This could be one of the factors favoring RE amongst the study population, as it has been shown by Upadhyay et al in 2014 that increased spousal communication was associated positively with empowerment.[13]

In the current study, 69 (33%) study participants reported that they could not refuse sex with their husbands if they didn't want to have sex. This proportion of women could be attributed to the participants in their early years of marriage, who are trying hard to keep up with the cultural expectations of an 'ideal woman'. Parsekar et al noted that women felt they were expected to be available for their husbands' sexual needs.[14] The study also found that some level of taboo was associated with discussion on sexual matters and addressing lack of sex education should be done.[14] These findings are in line with findings of Heera et al that 39% (123) women are unable to deny sex with their husbands.[15]

In the present study, only 36.3% (76) of the women reported that they themselves make the final decision regarding contraception and the remaining 67.4% (134) made this decision jointly with their partners. These findings are quite similar to findings of Heera et al, which showed the majority of 88.6% (281) women decide on contraception use along with their partners.[15]

Similar findings from a study by Paul et al showing that the decisions regarding childbearing and contraceptive usage are usually made by the male partner was attributed to the long- standing patriarchal culture that has been existing for ages.[16] The average age of female participants was 23 years (n=109) which is much lesser than the mean age of the study participants in the current study, 30 years (n=210). In the current study, however, only 54.9% (115) of the participants had used some modern method of contraception.

The findings of the current study can be attributed to the belief that acting on decisions independently, without husband's consent could jeopardize the marriage.[17]

Regarding decision-making related to contraception, only 6.5% (14) of the participants believed that ideally, they themselves should make the final decisions regarding contraception use in the current study.

One of biggest factors in decision-making around RH was husband's support, as shown by Parsekar et al. The participation of the mother-in-law in decision making around family planning which is deep rooted in the Indian culture, was also recognized by the study.[14]

Dasgupta et al described 'externally decided pregnancies' as those that were mainly decided by husband and in-laws. The study also found that women who reported externally decided pregnancies were more likely to have mistimed pregnancies.[18]

About 65% (136) of the participants in the present study had friends or family members who could help them convince their partners regarding decisions around contraceptive usage. But only 15% (31) of the study participants had a family member or friend who would support them utilize contraception against their husband's will. The role of family and community members in helping the women arrive at an agreeable solution related to reproductive health by convincing their partners has been recognized by Paul et al.[16] This study found that seeking help of family or friends was the first resort when there was any conflict between the couple.

The relation between low education levels and early age at marriage were also noted in another study conducted.[19] A systematic review, noted that the proportion of women getting married before 18 could be a reason for concern, considering adolescent pregnancy outcomes.[14] Another literature review found that though most studies found a significant negative relationship between women's empowerment and number of children borne, this relationship was not significant across all the domains of empowerment.[13] This diversity in different dimensions of women's empowerment could explain why the findings of the current study do not match the previous literature.

Lower age at first childbirth and shorter birth intervals can be results of the societal expectations over women to prove their fertility and earn respect at familial and social levels as noted by Parsekar et al.[14] The low age at first childbirth noticed in the current study could also be related to early marriage in the study population. Low levels of male participation in contraception may be partly attributed to the reported female centric nature of contraception and poor involvement in related discussions by husbands; as noted in a qualitative systematic review.[14]

Similarly, another study conducted in Nigeria found that more empowered women were more likely to use a modern contraceptive method.[20]

In a study conducted in Chandigarh, only half of the 36% of women with symptoms of RTI sought treatment for the same. The study also found that prevalence of RTI was increased among women who were employed, who had higher number of children, who used cloth during menstruation.[21]

About 21% of women were found to have at least one of the symptoms of RTI in a community-based study in a rural area of south India. The odds of having an RTI were higher in women who were gainfully employed and those who were married to unskilled workers.[22]

However, a study found that only 39%, not even half of sexually active women in the reproductive age group who reported symptoms of RTI sought treatment for the same.[23] Treatment seeking was found to be associated with higher education, higher socio-economic status and being gainfully employed. These factors could be behind the low treatment seeking for RTI amongst the participants in the current study. Many of the studies included in a literature review found that some measures of women's empowerment were positively associated with lesser desired fertility.[13] However, the current study did not find a statistically significant association between RE and desired number of children.

Being one of the few community-based studies explicitly exploring reproductive empowerment of women, is an important strength of this study.

The study has the following limitations: qualitative data collection methods like focussed group discussion would have expanded the range of responses, quality of the data collected and provided much more understanding of the responses of the study participants. But this was not possible because of time and logistic constraints. The study was conducted only amongst married women considering the virtual universality of marriage in the study settings. Owing to the sensitivity of the aspects included in the interview, the participants might have been apprehensive to answer with complete honesty and share the details. Self-reporting for questions on violence, abortions, owning assets could have resulted in under-reporting or over-reporting. Recall bias may have also present in this study.

CONCLUSION

Amongst the 215 participants, 118 (54.8%) of them exhibited high levels of reproductive empowerment. The participants exhibited higher levels of empowerment in the HCP and partners communication sub-scales and lower levels of empowerment in RH decision making, social support and social norms sub-scales. This highlights the importance of reproductive empowerment as an entity in itself, requiring further exploration. This knowledge can prove helpful in addressing the barriers faced by women related to their reproductive health and empowerment.

This study included only married women in a rural area, while future research can be conducted in urban areas amongst married, single and unmarried women with partners. Qualitative data collection methods like focused group discussion would expand the range of responses, quality of the data collected and provide much more understanding of the responses of the study participants caused incorrect reporting of age at marriage, age at first child birth, etc.

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