Original Research Article

Knowledge of family planning and contraceptive use among indigenous women in Dinajpur, Bangladesh: a cross-sectional study

U. K. Majumder, Md Salauddin Khan*

Statistics Discipline, Khulna University, Khulna, Bangladesh

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*Correspondence:
Md Salauddin Khan,
E-mail: salauddinstat@ku.ac.bd

ABSTRACT

Background: Knowledge of family planning (KFP) and contraceptive use play a vital role in controlling the level of fertility. The association between indigenous women's KFP and contraceptive use was badly found in inadequate studies. This study aimed to determine the factors that connect contraceptives use as well as gathering KFP of indigenous women.
Methods: This study was carried out among purposively selected six Upazilas of Dinajpur district, where most of the indigenous peoples live. About 223 respondents were randomly selected for data collection by using a structured questionnaire. Univariate and bivariate analyses were used to describe the individual variables, and to find the associations among the variables. Binary logistic regression analysis was applied to determine the effects of selected socio-demographic factors on KFP and contraceptive use.
Results: The results acknowledged that contraceptive use was found higher among school attended women (69%) and women (75%) of service holder husbands. Women who were involved in higher working status also use more contraceptives and are concerned about KFP. Pill and injections were more used among modern methods. Location, school attendance, educational and occupational status of the respondent and their husbands were found to be significantly associated with KFP and use of contraception among indigenous women.
Conclusions: KFP and contraceptive use among women defined a gap was identified. By creating educational and employment opportunities for women to be enhanced the KFP and contraceptive use. Also, the socio-demographic factors needed to be taken into consideration in formulating policies and implementing programs among women.

Keywords: Family planning, Contraception, Binary logistic regression, Indigenous women, Dinajpur

INTRODUCTION

Extreme fertility rate and hence high population growth rate are among the leading economic and social problems challenged by the developing world. Increased level of poverty and decreased life expectancy has an association with the high population growth rate.[1-4] Though Bangladesh's population growth rate is decreasing gradually but its trend is not so downward. Similarly, in indigenous people in Bangladesh, the population growth rate is average compare to the national growth rate. Contraception is unique among medical interventions in the breadth of its positive outcomes. It is an active way of family planning (FP) and fertility control and therefore very essential in endorsing maternal and child health.[5] Decreasing the number of maternal deaths by 40% over the past 20 years and merely by reducing the number of unintended pregnancies in the developing countries has been cut by increasing use of contraception.[6] A large number of European women aged 15-49 years old were estimated to be in danger of unintended pregnancy and almost half of the total pregnancies in the United States were unintended despite the availability of a wide variety of effective contraceptive methods.[7,8] In every year, almost 230 million births were averted by using

contraception, and also worldwide 272,040 maternal deaths were prevented.[9] Rapid reduction of worldwide fertility rates from a total fertility rate of 4.7 births in the early 1970s to 2.6 births in the late 2000s is predominantly attributed to increased contraceptive use.[10]

Bangladesh is a high densely populated country in the world. Though resource scarcity and subsistence-level economic conditions characterize the economy, Bangladesh has had exceptional health achievements. In 2010, the United Nations (UN) recognized the country for its exemplary progress towards millennium development goal (MDG) 4 in child mortality and for being on track to achieve the maternal mortality reduction goals of MDG 5.[11] Maternal mortality was reduced from 574 deaths per 100,000 live births in 1991 to 194 deaths per 100,000 live births in 2010.[12] Total fertility rate reduced from about 7.0 children per woman in 1970, to 2.3 children per woman in 2010.[13] However, Bangladesh still has a long way to go to achieve the replacement level of fertility.

KFP methods is used in Bangladesh extraordinary and almost all married women were known or used at least one method. The contraceptive prevalence rate (CPR) would have to rise over 70% for this target to be reached, whereas, 61% of currently married women aged 15-49 years old use different contraceptive methods in Bangladesh.[14,15] CPR for married couples has increased to 62% in 2014 from 56% in 2007. On the other hand, 62% of women know of one traditional family planning method.[14,15] The prevalence of the modern method has always been higher than the traditional method. Among different modern and traditional methods, the pill ranks high. For instance, long-lasting method accounted for 26% in 1993-1994, which has been declined to 13% in 2014.[12] A study conducted among different ethnic groups in Chittagong hill tracks (CHT) found that the CPR among indigenous people was lower than the national average.[16] On the contrary, a study in the matrilineal Garo indigenous community revealed that the CPR was much higher than the national figure due to their strong preference for female babies.[17]

Women's employment status is one of the most influential factors among several socio-demographic determinants of contraceptive use.[18] Evidence shows that women's employment status is strongly associated with contraceptive use as economic role gives them more autonomy and more control over an important decision.[18,19] Though numerous articles have been published in Bangladesh and other developing nations about contraceptive use and various sociodemographic variables, none of those analyzed emphasized the employment status of women. Thus, it is important to examine the pattern of contraceptive use among indigenous married women. Therefore, this study aimed to explore the socio-demographic determinants of using contraception; and to observe differences between knowledge of family planning and prevalence of contraceptive use among indigenous women in Bangladesh.

METHODS

Study area

The primary data were used for this study. The study was conducted in the north-west part of Bangladesh, Dinajpur district. It is located about 414 km north of the capital, Dhaka, and in between $25^0 10'$ and $26^0 04'$ north latitudes and in between 88⁰23' and 89⁰18' east longitudes. This study was conducted based on purposively selected six different Upazila in Dinajpur which were Birgang, Nowabganj, Fulbari, Biral, and Chirirbandar because of the availability of indigenous people in Dinajpur. These six Upazila also covers approximately one-third of indigenous peoples of Bangladesh.[20]

Study design

This study was conducted on the indigenous people of Dinajpur in Bangladesh aiming to explore the knowledge and practice about family planning (FP) and current use of contraceptive (CC) methods among married indigenous women. This was a cross-sectional study that involved 223 mothers who were married indigenous women and conducted this survey over two months from March to April 2018.

Sample size determination

A total of 223 mothers who were the currently married indigenous women using the formula: [21]

$$n = \frac{Z_{\alpha/2}^2 p(1-p)}{d^2}$$

where: n=desired sample size, considered, $Z_{\alpha/2} = Z_{0.10/2} = Z_{0.05} = 1.645$ (for 90% CI) standard normal value corresponding to the 90% confidence interval (CI); $p\ (0.62) =$ the prevalence rate of mothers with knowledge FP and CC and acceptance margin of error d=0.06 in the study.

Substitution in the above formula gives 177. Considering non-response 30%, the estimated sample size was: $n = 177 \times 0.30 = 230.1 \approx 230$. Finally, we have 223 respondents due to some non-response (missing) indigenous families in the study area.

The procedure of data collection

Since, there was no systematic, research-based information on maternal morbidity and mortality in the community, a direct household survey was employed using a structured interview questionnaire. A pretested semi-structured questionnaire was used to collect a sample of 5 respondents by authors and trained research assistants, after an appropriate explanation of purpose of

study was made, and verbal consent obtained from respondents. As a non-indigenous Bengali, and English-speaking researchers from mainstream society as well as the issue of this study, was gender-sensitive. The author found few women of indigenous community who had experienced doing such types of collecting data involved in different NGO and about 10 years of schooling. The interview schedule covered the following issues such as socio-demographic, cultural, and religious variables; access to health care services, complications and health care seeking behavior during pregnancy, during and after delivery, knowledge, and use of fertility protection.

Data analysis

Dependent and predictor variables: In this study, the authors used knowledge about on knowledge and practice about family planning (FP) and current use of contraceptive (CC) methods as response variables which are related to taking service from the health center. These response variables were considered as two categories 'yes', or 'no' and defined as:

$$Y = \begin{cases} 1; & Yes; \text{ knowledge of family planning or current use of contraceptive} \\ 0; & No; \text{ otherwise} \end{cases}$$

Independent variables: The authors considered explanatory variables as age, location of residence, indigenous types, school attendance, occupation, educational status of respondents, school attendance of husband, educational status of the husband, occupation of husband, family size, monthly family income, monthly family expenditure, monthly family expenditure on food, maternal health care services in the local area, the distance of the health service center from home, mass media exposure, and birth order.

Data analysis: SPSS software version 20.0 (SPSS Inc., Chicago, IL) was used. Percentage of independent and dependent variables was determined. The level of statistical significance was set at p<0.05. Tables were used to display data distribution as appropriate.

Statistical analysis: Statistical methods such as descriptive statistics, chi-square test, and Binary logistic regression were used to analyze the data. A chi-square test was performed for measuring the association among knowledge about family planning (KFP) and current use of contraception (CC) by different types of selected variables. A binary logistic regression model was applied to survey to determinants that significantly explain various response variables among indigenous women. The general logistic regression model is given by: [22]

$$Pr(Y_i = 1) = \frac{exp(X_i\beta)}{1+exp(X_i\beta)}$$

where, Y_i is a binary variable that takes a value of '1' if the respondent answered 'Yes' and '0' otherwise; X_i is a vector of independent variables and β is a vector of unknown parameters. The estimated form of the regression model is as:

$$\ln\left[\frac{p_i}{1-p_i}\right] = \beta_0 + \beta_1 X_1 + \cdots + \beta_k X_k$$

The odds ratio (OR) in favor of $Y_i = 1$ together with its 95% confidence interval (CI) were computed for $X_1, X_2, \ldots, X_k$ to indicate how many times the group of interest is likely to be visited health treatment facilities area compared to the reference group.

RESULTS

Background and characteristics of the respondents

Table 1 showed the response and explanatory variables' frequencies and their corresponding percentages. It was demonstrated that the respondents came from six Upazila, and the minimum came from Biral and Chirirbandar as well as the maximum came from Nowabganj of the respected districted in Bangladesh. There were four types of indigenous people in Dinajpur among them 54.7, 24.2, 14.3, and 6.7% were Santal, Oraon, Mahali, and Pahan respectively. The majority, almost 33.6% respondents belonged 25 to 29 years, 19.7% were less than 20 years, 17.9% were in 20 to 24 years, 15.2% were in 30 to 34 years and 13.5% indigenous people were in above 35 years. The literacy rate among indigenous mothers was very poor; about 33.6% of indigenous women didn't attend the school whereas 66.4% attend among them only 28.7% completed secondary or higher education. Almost 93.3% of women did the work in the forms and houses and only 6.7% of women were service holders.

The occupational and educational status of the respondent's husband was almost the same as those who were poor. The family sizes of the respondents were not so large indicated its family members. Their family members were 3 to 4 almost 59.6 and 31.8% were medium families. Regarding the monthly family income of the respondents, it revealed that the majority almost 46.6% have belonged to the group. 4001 to 6000, and the monthly family expenditure was 49.3% belonged to the grouped tk. 4000 to 5999 and monthly family expenditure on the food of the respondents was 51.6% belonged to the grouped up-to tk. 3500.

Frequency distribution of knowledge and current use of family planning methods with their related terms

Table 2 demonstrated that the percentage distribution of uses, knowledge, and concern about family planning methods of the respondents. Hopefully, about 97.3% of the respondents were concerned about family planning, and among them, 67.2% have currently used these methods. The pill ranked the first and popular methods about 52.9% of the married women are using it. The study also reported that some other methods like injections (22.5%), female sterilization (6.6%), periodic

abstinence (5.9%), Norplant, IUD, condom, and other methods were also used. The current family planning (FP) methods were used with husband and wife's approbation about 64.1 and 67.3% respectively. Approximately 95% of the women reported that they did not face complications to use the current FP methods while 5.4% were faced. About 96.9% took decisions husband and wife both at the same time about family planning both respondents take decisions about family planning. It is delighted that most of the respondents were taken health service from home but alarming was that the good number of health workers did not visit the places.

Significant factors related with family planning and current use of contraception

Table 3 showed that in both cases of knowledge about family planning and current status of family planning methods the location of residence, educational status of the respondents, educational status of husband, maternal health care services in the local area, the distance of the health service center from home variables were statistically significant. The variables of school attendance and occupational status of respondents were significant for knowledge about family planning. Above 90% of respondents were concerned about family planning in all the residences like Sadar, Birgang, Nowabganj, Fulbari, Chirirbandar except Biral. Knowledge of FP was found to be higher among respondents who belong to the Santal (99.2%) as compared to those who belonged to Oraon (94.4%), Mahali (96.9%), and Pahan (93.3%). Knowledge of FP was lower among teenagers (93.3%); however, it was gradually increased with the increase of age, particularly among 25 to 29 age groups. There was a significant association between school attendance and knowledge of FP. Only 2.7% of respondents who attended the school had never knowledge of FP, while 24.5% of those who never attended school did not know FP. It was found that all the respondents who were involved in service knew FP, while only 96.1 and 97.7% of respondents occupied farmer and housewife knew about FP. More than ninety-seven percent (97.4%) of whose husbands attended school had knowledge of FP, while the 97.3% of women whose husbands did not attend school had knowledge of FP. The study reported that 97.1% of women had Knowledge of FP from UHC, while the corresponding percentage for FWC and satellite clinic (SC) were 97.7 and 94.7% respectively. Respondents who resided within two miles of any health facilities had a greater (95.1%) chance to knowledge about FP as compared to those who lived a long distance from the health facilities. All the background characteristics discussed in Table 3 had a significant association with Knowledge of FP.

The study showed about 65.5% of the respondents from Dinajpur Sadar used contraceptives while the corresponding values for Birgang, Nowabganj, Fulbari, Biral, and Chirirbandar were 87.5, 45.9, 76.7, 68.0, and 92.0% respectively. Current use of contraception was found to be extremely higher (70.4%) among respondents who belong to Oraon than those who belonged to Santal (68.9%), Mahali (62.5%), and Pahan (60.0%). The practice of using contraception was low (53.3%) among older respondents who were 35 and above years old and among the lower age groups. Current use of contraception was relatively high (68.9%) among those who attended school relative to those who did not attend the school (65.3%). The study reported that 71.1 and 66.7% of women who were involved in agricultural and household activities used contraception, while the corresponding value of the service holder was 100.0%.

Current use of contraception was positively associated with the husband's education and occupation. More than 60% of women used contraception whose husbands attended school, while the corresponding value was 70.1 percent whose husbands did not attend school. The study also found that in higher percentages, i.e., about 75% of respondents used contraceptives, those husbands were involved in service and the lower percentages (30.0%) of respondents used contraceptives those husbands were doing business. Current use of contraception in second birth order was found to be higher among respondents who had two children. Respondents who lived in more than the 2+ kilometers distance from the service centers had higher rates (85.3%) of contraception use than those who resided within a 2 km distance from the service centers. Determine the significant contributing factors affecting the current use of contraceptives of indigenous women analyzed by binary logistic regression analysis.

It was observed that location of residence is significant with current use of contraception among indigenous married women. Comparatively indigenous women in Dinajpur Sadar were more concerned about the use of contraception. It was monitored among school attendant women that increase of educational level probability of contraceptive use increases. Complementing higher education increased the probability of contraceptive use compared with illiterate [OR=1.75, 95% CI: 1.038-1.872]. Similarly, the probability of using contraceptives increased among women who had good occupational status compared to farmer or housewife counterparts [OR (95% CI): 2.66 (1.648-2.972)]. The research described that the husband's educational and occupational status contributed as an integral part to the use of contraceptives among married women in the indigenous community. Women who had higher educated husband influenced to using modern family planning methods comparison with illiterate husbands [OR (95% CI):1.88, (1.268-1.922)], as well highly occupational husband encouraged to use contraception comparatively husband occupationally farmer [OR (95% CI):1.968 (1.127-2.598)]. The distances of the health service center 2 to 5 km were 0.951 times lower chance of being used contraceptive than the distance of the health service center less than the reference category 2 km. The probability of using contraceptives decreased among women distance 6 km. or above in comparison with a minimum distance of service

center not more than 2 km [OR (95% CI): 0.942 (0.821-0.984)]. The locations where existed different health care facilities like Upazila health complex, family welfare center, satellite clinic, etc. were more concerned about contraceptive among married indigenous women compared to other facilities [ORs (95% CIs): 1.22, 1.26, 1.05 ((1.208-1.232), (1.248-1.272), (1.038-1.062) correspondingly]].

Table 1: Percentage distribution of socioeconomic and demographic characteristics of the respondents.

Variables	Characteristics	Frequency	Percentage (%)
Location of residence	Sadar	29	13.0
	Birgang	40	17.9
	Nowabganj	74	33.2
	Fulbari	30	13.5
	Biral	25	11.2
	Chirirbandar	25	11.2
Indigenous type	Santal	122	54.7
	Oraon	54	24.2
	Mahali	32	14.3
	Pahan	15	6.7
Age (years)	Less than 20	44	19.7
	20-24	40	17.9
	25-29	75	33.6
	30-34	34	15.2
	35 and above	30	13.5
School attendance of respondent	Yes	148	66.4
	No	75	33.6
Educational status of respondents	Illiterate	74	33.2
	Primary	85	38.1
	Secondary & above	64	28.7
Occupational status of respondents	Farmer	76	34.1
	Housewife	132	59.2
	Service and others	15	6.7
School attendance of husband	Yes	146	65.5
	No	77	34.5
Educational status of husbands	Illiterate	75	33.6
	Primary	64	28.7
	Secondary and above	84	37.7
Occupational status of husbands	Farmer	159	71.3
	Labor/driver	37	16.6
	Service	17	7.6
	Business/others	10	4.5
Family size	Small (3-4)	133	59.6
	Medium (5-6)	71	31.8
	Large (7+)	19	8.5
Monthly family income (Tk.)	2000-4000	94	42.2
	4001-6000	104	46.6
	6001 and above	25	11.2
Monthly family expenditure (Tk.)	<4000	72	32.3
	4000-5999	110	49.3
	6000 and above	41	18.4
Monthly family expenditure on food (Tk.)	up to 3500	115	51.6
	3501-4999	64	28.7
	5000 and above	44	19.7

Table 2: Percentage distribution of family planning method of the respondents.

Variables	Categories	Frequency (N)	Percentages (%)
Knowledge about family planning	Yes	217	97.3
	No	6	2.7
Current use of contraceptive	Yes	150	67.2
	No	73	32.8
Type of family planning methods	Female sterilization	10	6.6
	Male sterilization	1	0.6
	Condom	5	3.3
	Pill	80	52.9
	IUD	2	1.3
	Norplant/Implants	2	1.3
	Injections	34	22.5
	Periodic abstinence	9	5.9
	Others	8	5.2
Husband's approbation for current family planning method	Yes	143	64.1
	No	80	35.9
Wife's approbation for current family planning method	Yes	150	67.3
	No	73	32.7
Complications faced to use the current family planning method	Yes	12	5.4
	No	211	94.6
Take decisions about family planning	Husband	2	0.9
	Wife	5	2.2
	Both	216	96.9
Appointment to health care center for family planning in last three months	Yes	50	22.4
	No	173	77.6
Health workers visit to you for family planning in last three months	Yes	66	29.6
	No	157	70.4
Mass media exposure	Access to any media	61	27.4
	No access to any media	162	72.6

Table 3: Association of knowledge of family planning and current use of contraception among different socioeconomic and demographic characteristics.

Categories		Knowledge about family planning		P value	Current status of family planning method		P value
		Yes (%)	No (%)		Yes (%)	No (%)	
Location of residence	Dinajpur Sadar	99.2	0.8	0.001*	65.5	34.5	0.000*
	Birgang	97.5	2.5		87.5	12.5	
	Nowabganj	93.2	6.8		45.9	54.1	
	Fulbari	92.5	7.5		76.7	23.3	
	Biral	89.8	10.2		68.0	32	
	Chirirbandar	95.5	4.5		92.0	8	
Indigenous type	Santal	99.2	0.8	0.235	68.9	31.1	0.788
	Oraon	94.4	5.6		70.4	29.6	
	Mahali	96.9	3.1		62.5	37.5	
	Pahan	93.3	6.7		60	40	
Age (year)	Less than 20	97.7	2.3	0.666	56.8	43.2	0.078
	20-24	97.5	2.5		74.7	25.3	
	25-29	98.7	1.3		73.5	26.5	
	30-34	97.1	2.9		72.5	27.5	
	35 and above	93.3	6.7		53.3	46.7	
School attendance of respondent	Yes	97.3	2.7	0.000*	68.9	31.1	0.588
	No	75.5	24.5		65.3	34.7	
Educational status of the respondents	Illiterate	97.3	2.7	0.000*	64.9	35.1	0.000*
	Primary	97.6	2.4		67.1	32.9	
	Secondary and above	96.9	3.1		71.9	28.1	

Continued.

Categories		Knowledge about family planning		P value	Current status of family planning method		P value
		Yes (%)	No (%)		Yes (%)	No (%)	
Occupational status of respondents	Farmer	96.1	3.9	0.000*	71.1	28.9	0.65
	Housewife	97.7	2.3		66.7	33.3	
	Service and others	100	0		100	0	
School attendance of husband	Yes	97.3	2.7	0.95	66.4	33.6	0.575
	No	97.4	2.6		70.1	29.9	
Educational status of husbands	Illiterate	97.3	2.7	0.000*	69.3	30.7	0.000*
	Primary	96.9	3.1		60.9	39.1	
	Secondary and above	97.6	2.4		71.4	28.6	
Occupational status of husbands	Farmer	96.9	3.1	0.555	70.4	29.6	0.064
	Labor/Driver	100	0		64.9	35.1	
	Service	94.1	5.9		75.6	24.4	
	Business/others	100	0		30	70	
Maternal health care services in your local area	Upazila health complex (UHC)	97.1	2.9	0.000*	63.2	36.8	0.000*
	Family welfare center (FWC)	97.7	2.3		68.2	31.8	
	Satellite clinic (SC)	94.7	5.3		78.9	21.1	
	Others	100	0		75	25	
Distance of the health service center from home (km)	Up to 2	95.1	4.9	0.002*	54.5	45.5	0.000*
	2 – 5	100	0		85.3	14.7	
	6 or above	100	0		80	20	
Mass media exposure	Access to any media	27.2	33.3	0.739	26.5	29.2	0.675
	No access to any media	72.8	66.7		73.5	70.8	
First birth order	1st birth			N/A	50	50	0.461
	2nd birth				80	20	
	3rd birth				71.1	28.9	
	4th birth				57.9	42.1	
	5th and above birth				45.4	64.6	

*p<0.05.

Table 4: The odds ratio of logistic regression models for the determinants of current use of contraception.

Variables	Categories	Odds ratio (OR)	95% CI for OR	P value
Location of residence	Dinajpur sadar (Ref.)	1		
	Birganj	0.032	0.020-0.044	0.011*
	Nowabganj	0.123	0.111-0.135	0.000*
	Fulbari	0.495	0.483-0.507	0.001*
	Biral	0.881	0.869-0.893	0.001*
	Chirirbandar	0.876	0.864-0.888	0.124
School attendance of respondent	Yes (Ref.)	1		
	No	0.868	0.556-1.581	0.863
Educational status of the respondents	Illiterate (Ref.)	1		
	Primary	1.031	1.018-1.342	0.005*
	Secondary and above	1.753	1.038-1.872	0.000*
Occupational status of respondents	Farmer	1		
	Housewife	0.981	0.988-1.012	0.483
	Service and others	2.660	1.648-2.972	0.002*

Continued.

| Variables	Categories	Odds ratio (OR)	95% CI for OR	P value
Educational status of husbands	Illiterate (Ref.)	1		
	Primary	1.122	1.108-1.172	0.078
	Secondary and above	1.881	1.268-1.922	0.000*
Maternal health care services in your local area	Upazila health complex (UHC)	1.223	1.208-1.232	0.006*
	Family welfare center	1.261	1.248-1.272	0.000*
	Satellite clinic (SC)	1.052	1.038-1.062	0.000*
	Others (Ref.)	1		
Distance of the health service center from home	Up to 2 (km) (Ref.)	1		
	2-5 (km)	0.951	0.939-0.963	0.000*
	6 km. or above	0.942	0.821-0.984	0.000*
Husbands education	Illiterate	0.682	0.668-1.442	0.315
	Primary	0.488	0.225-1.054	0.024*
	Secondary and above (Ref.)	1		
Husbands occupation	Farmer (Ref.)	1		
	Labor/Driver	0.978	0.881-1.251	0.235
	Service	2.050	2.238-3.161	0.000*
	Business and others	1.968	1.127-2.598	0.001*
Constant		0.801		0.559

Ref. Reference category and *p<0.05.

Graphical view of family planning and current use of planning methods

Figure 1 demonstrated that the contraceptive prevalence rate (CPR) was higher (67.2%) among indigenous people than the national level (62.0%). Figure 2 showed different modern and traditional methods, the pill ranked the first of the currently married women using this method (52.9%), which was about two times higher than the national figure (27.0%). The study also reported that injections were also higher (22.5%) among surveyed indigenous women than the national level; this was also two times higher than national figure (12.0). Percentages of all other methods were also found higher for the plain land indigenous families in Dinajpur compared to the national level average. The practice of withdrawal as an FP method was absent among respondents.
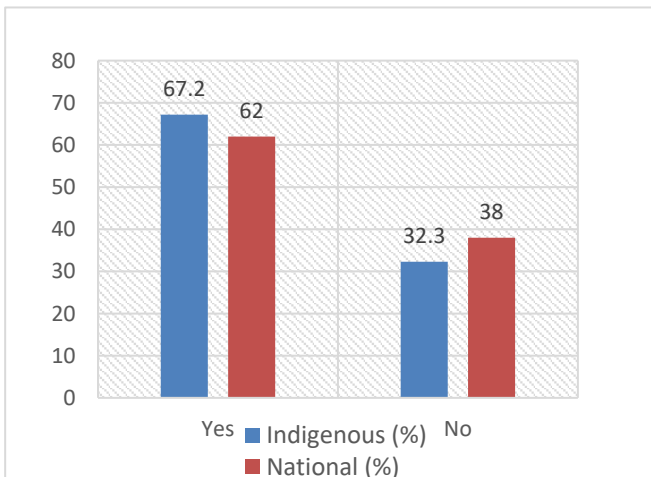
Figure 1: Comparison of currently using status of family planning methods between studied indigenous population and national level in Bangladesh.
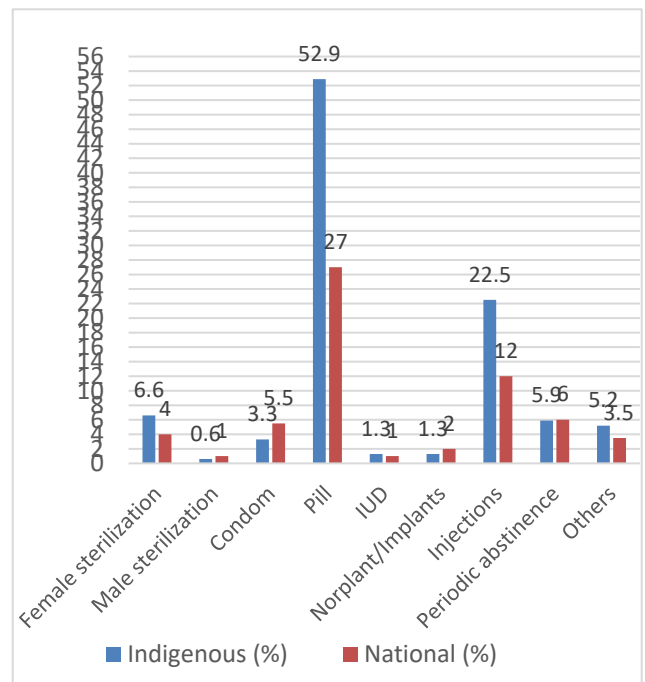
Figure 2: Different types of family planning methods used by the studied indigenous population and national level in Bangladesh.

DISCUSSION

Results indicate that knowledge of contraception is almost universal in most of the indigenous women, yet knowledge of multiple methods of contraception. The most commonly used modern methods are the pill, injectable, and the male condom. Current contraceptive use has increased steadily in most married women, but levels remain lower in indigenous women, and particularly among rural and less educated women. The

majority of current users in most sub-districts in Dinajpur have switched methods, irrespective of region.

The study demonstrated that there is a significant effect of women's education and their husband's education on knowledge of FP and current contraceptive use among indigenous women. Fertility and contraceptive use in developing countries are associated with various markers of socioeconomic status, the most prominent of which is women's education.[2] Currently married women who have higher education were more likely to be current contraceptive users.[23] Another study showed that among women, illiteracy was identified as one of the factors that affect the knowledge and practice of contraception.[24] Illiterate women were at higher risk of not using any FP method than literate women.[18] Female education and husband's education put a direct impact on the contraceptive prevalence rate.[25] Educated women can understand the advantages of using contraception and having fewer children. They were also able to learn about different types of contraceptive methods and which one suits them the best.[26]

Our results support findings from several other studies that show that women who live in rural areas have the least tendency to use contraceptives compared with their Sadar Upazila counterpart.[23,27] Indigenous women in Nowabganj in Dinajpur were found at more risk of becoming pregnant because only 46% of women in this region use contraceptives. The study described that there is a significant effect on women and their husband's occupational status on knowledge of FP and contraceptive use. Women who had a well-known carrier can maintain family planning and are concerned about contraceptive use. Women in the Sylhet division were found at more risk of becoming pregnant because of only 47% of unemployed women in this region use contraceptives.[18] Nearly one-fourth of the employed women and one-third of the unemployed women were at risk of becoming pregnant because they want no more children but do not use any contraceptive method.[18] The results revealed that current contraceptive use among indigenous women was significantly influenced by the location of residence, education of spouse, maternal health care service in the local area, and distance of the health service center from home.

However, this study has some limitations. In this primary survey, the question on contraceptive use was posed to married women, thus our study did not examine contraceptive use among unmarried women. Since we examined contraceptive use patterns only among currently married women, it did not include unmarried or ever-married women. Hence, these results may not be able to be generalized to all women in Bangladesh. Finally, our selection of variables was constrained by the primary survey data; nevertheless, we were unable to include additional, potentially important variables concern in current contraceptive use in the present analysis.

CONCLUSION

This study concludes that contraceptive use was lower among employments who were housewives or lower-class workers than their higher-class workers counterparts. Respondents and their husband's education and occupation were highly significant variables on the knowledge of FP and the use of current contraception. Contraceptive use among indigenous women was significantly influenced by the location of residence, distance of heath service center from home, maternal health care services in the local area with education, and occupational status. Since there are differences in to use of contraception among indigenous women with educational and occupational status, government and non-government organizations may create opportunities for higher educations and well-known job status. Also, the government should establish more health care centers in the local areas so that all inhabitants take services regularly.

REFERENCES

1. Adiri F, Ibrahim HI, Ajayi V, Sulayman HU, Yafeh AM, Ejembi CL. Fertility behaviour of men and women in three communities in Kaduna state, Nigeria. Afri J Reprod Health. 2010;14(3):97-105.
2. Mondal MN, Ullah MM, Khan MN, Islam MZ, Islam MN, Moni SY et al. Socioeconomic and demographic disparities in knowledge of reproductive healthcare among female university students in Bangladesh. Int J MCH AIDS. 2015;4(2):32.
3. Mondal MN, Shitan M. Relative importance of demographic, socioeconomic and health factors on life expectancy in low-and lower-middle-income countries. J Epidemiol. 2014;24(2):117-24.
4. Mondal MN, Shitan M. Impact of socio-health factors on life expectancy in the low and lower middle-income countries. Iran j pub health. 2013;42(12):1354.
5. Oye-Adeniran BA, Adewole IF, Umoh AV, Oladokun A, Gbadegesin A, Ekanem EE. Community-based study of contraceptive behaviour in Nigeria. Afr J Reprod Health. 2006;10(2):90-104.
6. Cleland J, Conde-Agudelo A, Peterson H, Ross J, Tsui A. Contraception and health. Lancet. 2012;380(9837):149-56.
7. Skouby SO. Contraceptive use and behavior in the 21st century: a comprehensive study across five European countries. Eur J Contra Reprod Health Care. 2004;9(2):57-68.
8. Darney PD. A hormonal contraception update 2010: a decade of innovation and transformation. Am J Obstet Gynecol. 2011;29.

9. Singh S, Darroch JE, Ashford LS, Vlassoff M. Adding it up: the costs and benefits of investing in family planning and maternal and new born health. Guttmacher Institute. 2009.
10. Ahmed S, Li Q, Liu L, Tsui AO. Maternal deaths averted by contraceptive use: an analysis of 172 countries. Lancet. 2012;380(9837):111-25.
11. Government of the People's Republic of Bangladesh, Ministry of Health and Family welfare: Health related millennium development goals. Health bulletin 2012. Dhaka: management information system, Directorate General of Health System. 2012.
12. National Institute of Population Research and Training, Measure Evaluation, International Centre for Diarrhoeal Disease Research, Bangladesh. Bangladesh maternal mortality and health care survey 2010. Dhaka, Bangladesh. 2012.
13. Chowdhury AM, Bhuiya A, Chowdhury ME, Rasheed S, Hussain Z, Chen LC. The Bangladesh paradox: exceptional health achievement despite economic poverty. Lancet. 2013;382(9906):1734-45.
14. National Institute of Population Research, Training (NIPORT) Mitra and Associates, MEASURE DHS. Bangladesh Demographic and Health Survey, 2011. Preliminary Report. Dhaka, Bangladesh and Calverton, Maryland, USA. 2012.
15. National Institute of Population Research and Training (NIPORT) Mitra and Associates and Macro International. Bangladesh Demographic and Health Survey, 2011. Dhaka, Bangladesh and Calverton, Maryland, USA. 2013.
16. Ahmed SM. Morbidity, Child Nutrition and Health-Seeking Behavior. Counting the hills: assessing development in Chittagong hill tracts. 2001.
17. Islam MA, Islam MR, Banowary B. Sex preference as a determinant of contraceptive use in matrilineal societies: a study on the Garo of Bangladesh. Eur J Contrac Reprod Health Care. 2009;14(4):301-6.
18. Islam AZ, Mondal MN, Khatun ML, Rahman MM, Islam MR, Mostofa MG, et al. Prevalence and determinants of contraceptive use among employed and unemployed women in Bangladesh. Int J MCH AIDS. 2016;5(2):92.
19. Hossain MK, Mondal MN, Akter MN. Reproductive health rights of women in the rural areas of Meherpur district in Bangladesh. Journal of reproduction & infertility. 2011 Jan; 12(1):23.
20. Statistics BB. Bangladesh bureau of statistics (BBS). Ministry of Planning, Government of the People's Republic of Bangladesh: Dhaka, Bangladesh. 2017.
21. Edet IV, Effiong JH, Udoh IA. Knowledge and Practice of Child Survival Strategies among Mothers Attending Postnatal Clinic in Itu, a Sub-Urban Area of South Nigeria. Int J Health Sci Res. 2020;10(1):1-8.
22. Kabir MA, Hossain MM, Duty FA. Patterns, prevalence and determinants of environmental tobacco smoke exposure among adults in Bangladesh. Addictive behaviors reports. 2018;8:113-21.
23. Tawiah EO. Factors affecting contraceptive use in Ghana. J Biosocial Sci. 1997;29(2):141-9.
24. Mustafa R, Afreen U, Hashmi HA. Contraceptive knowledge, attitude and practice among rural women. J Coll Physicians Surg Pak. 2008;18(9):542-5.
25. Baldwin SB, Solorio R, Washington DL, Yu H, Huang YC, Brown ER. Who is using emergency contraception? Awareness and use of emergency contraception among California women and teens. Women's Health Issues. 2008;18(5):360-8.
26. Gough AJ. The effects of Government policies towards contraception use in women. Poblacion y Salud en Mesoamerica. 2008;5(2):0.
27. Oni GA, McCarthy J. Use of contraceptives for birth spacing in a Nigerian city. Studies in Family Planning. 1986;17(4):165-71.