Reproductive health behavior and associated factors among the married Santal female of West Bengal

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Received: July 17, 2018 Accepted: October 06, 2018

ABSTRACT *The study tries to find out the influence of various bio-social factors on some gynecological problems and awareness about the reproductive health-related issues among the reproductively active married Santal female of West Bengal. A cross-sectional study has been carried out among 159 Santal married female participants aged from 18 to 45 years. Body Mass Index (BMI) was calculated for the assessment of the nutritional status. Educational status and age at marriage are also collected for awareness of the reproductive health and related factors. Menstrual irregularities mainly found among the underweight female and pain during menstrual flow during menstrual period is observed in high frequency among obese mother. Education indirectly influences age at marriage and also age at first conception, use of contraceptives and also use of sanitary napkin, it is noticed that educational level improves the knowledge about the family planning methods and reproductive hygiene related issues.*

Keywords: *Contraceptives. Educational Status, Gynecological Problems. Malnutrition*

INTRODUCTION

The concept of health becomes more clear when a specific definition was given by World Health Organization, that is health is not merely the absence of disease or infirmity rather it is a state of complete physical, mental and social well being (WHO 1948). Health is the outcome of three cumulative factors, such as biological, social-cultural and environmental factors. Biological factors include genetics and heredity, social-cultural factors includes occupation, income, education etc and the environmental factor includes the ecological and geographical distribution where they live (Wilkinson and Marmot 2000).

Reproductive health is an important element in the concept of general health and a significant factor of human development. It is the reflection of health during childhood and crucial during adolescence and adulthood, sets the stage for health beyond the reproductive years for both female and male, affects the health of the next generation (Jhansi 2010). Lack of menstrual and personal hygiene is also found to be associated with reproductive tract infections (RTIs) in addition; there are socio-economic and cultural determinants of RTIs. Studies have shown a strong association between female's livelihood, work and their reproductive health (Oomman 2000).

Various reports suggested that adolescent female in India and Nepal shows relatively high rates of gynecological morbidities, especially in the settings where female have limited access to adequate health care services (Bott and Jejeebhoy 2003). Demographic literatures reveal that age at marriage has long been regarded as one of the proximate determinants of fertility (Davis and Blake 1956). A study carried out on the relationship between body mass index and menstrual irregularities among the adolescents girls and found that BMI plays a vital role to regulate the menstrual cycle, presence of very light menstruation and hypomenorrhea is found relatively in higher frequency among the underweight adolescent girls (Thapa and Shrestha 2015).

A large proportion of adolescent girls suffer from various gynecological problems like menstrual irregularities such as hypermenorrhoea, hypomenorrhoea, menorrhagia, and dysmenorrhoea, in Mumbai, nearly 55 percent of the girls were found to be suffering from dysmenorrhoea (Vaidya et al. 1998). In Gambia, West Africa the younger female aged between 15 to 24 years were highly suffered by dysmenorrhoea (Walraven et al. 2002).

The present study was to conduct a situational analysis of reproductive health of Santal female. The study tries to investigate the influence of various bio-social factors on some relevant aspects of reproductive health behavior such as gynecological related problems and also their awareness about the reproductive health-related concerns.

MATERIAL AND METHODS

Sampling

A cross-sectional survey was conducted in September to December 2015 on reproductively active married Santal female, aged between 18 to 45 years. Total 159 participants were selected, among which 76 rural participants were from village Muradi, block Saturi, District Purulia and 83 urban participants were from Kalyani city, District North 24 Parganas, West Bengal.

Data Collection

Schedules were prepared for collecting the data from the research partners, which contains age, sex, education, and anthropometric measurements. Data were collected after obtaining the oral consent and during the time of anthropometric measurements from the research partners, all the regulation of standard protocols were maintained for collecting anthropometric measurements (Stewart et al. 2011).

The study intends to find out the general health condition and reproductive health awareness of the studied population. Interview technique was used to gather information from selected ever married female concerning their reproductive health profile, consisting age at menarch , age at marriage, age at first conception, use of contraceptives, use of sanitary napkin, regularity of periods, pain during periods, menstrual flow and menstrual duration. All these data were collected after their verbal consent.

Anthropometric Measurements

In the present study, basic measurements were taken to assess the nutritional status. Total two anthropometric measurements were collected from the research partners on the basis of ISAK (2011) international standards guideline for anthropometric assessment (Stewart et al. 2011). The measurements were body stature (in cm) measured by anthropometer (on nearest ±0.1 cm) and body mass (in kg) were measured by a reliable weighing machine (on nearest ±0.1 kg). Body mass index (BMI) was calculated as weight in kilogram divided by height (stature) in meter square (kg/m^2). BMI was categorized according to the WHO recommended classification, where BMI value <18.5 Kg/m^2 considered as underweight and to be ≥25Kg/m^2 considered as obese category (Eston et al. 2009).

Data Analysis

All the collected data were analyzed by Microsoft office excel and by the use of SPSS (version 16.0) statistical software package. Simple percentage, mean and standard deviation were calculated as descriptive statistics for each variable.

RESULTS

Descriptive statistics of the present study among the research partners showing the following overviews, all data are expressed as mean (±SD). Mean age of the Santal female is 28.45(6.44), minimum age is 18 years and maximum is 45 years. Mean age at menarche obtained as 12.80 (±.899) years and mean age at marriage is 18.41(±2.63) years. In case of age at first conception, mean is 17.79(±6.88) years. Minimum Menstruation duration is 2 days and maximum is 7 days and mean obtained as 3.79(±1.04) days. Mean height and weight are 150.29(±5.18) cm and 47.68 (±8.97) kg respectively and Mean BMI obtained as 21.06 (±3.48).

Table 1: Nutritional status and menstrual related problems of the participants

Character	*Nutritional Status (BMI)*			
	Underweight (%)	*Normal (%)*	*Overweight (%)*	*Obese (%)*
Regularity				
Regular	21 (56.76)	68(66.67)	13(81.25)	4(100.00)
Irregular	16(43.24)	34(33.33)	3(18.75)	0(00)
Pain during periods				
Yes	2(5.40)	12(11.76)	2(12.5)	1(25.00)
No	35(94.60)	90(88.24)	14(87.5)	3(75.00)
Menstrual Flow				
Low/Scanty	18(48.65)	25(24.51)	4(25.00)	0(00)
Medium/Normal	11(29.73)	53(51.96)	10(62.5)	3(100.00)
Over/Excessive	8(21.62)	24(23.53)	2(12.5)	0(00)
Menstrual Duration				
2-3 days	19(51.35)	47(46.08)	5(31.25)	0(00)
4-5days	16(43.25)	49(48.04)	11(68.75)	4(100.00)
6daysandabove	2(5.40)	6(5.88)	0(00)	0(00)
Total	37	102	16	4

Table 1 shows the frequency distribution of Santal female according to their nutritional status and menstrual related problems. From this table, it is observed that maximum female have normal BMI (64.15%), whereas 23.27% female are underweight and only 2.52% female fall under obese category.

The highest percentage of menstrual irregularities is found among the underweight (43.24%) female followed by normal female 33.33%. Among the overweight female 18.75% was reported with menstrual irregularities. The table shows that pain during menstrual period is mostly observed among obese female (25.00%), followed by overweight female (12.50%).

In the present study, it is found that few normal (5.88%) and underweight (5.40%) female records the longer menstrual duration. In this regard, it is also observed that higher frequency (51.35%) of underweight female have experience shorter menstrual period duration that is up to 2 days followed by normal (46.08%) and overweight female (31.25%). It is also noticeable fact that low or scanty menstrual flow during menstrual period even called hypomenorrhea is found in a higher frequency among underweight female (48.65%) followed by overweight (25.00%) and normal (24.51%). Over and excessive flow during menstruation period is observed among female having normal weight (23.53%) followed by underweight (21.62%) and overweight (12.50%).

Table 2: Frequency of leucorrhea according to nutritional status of the participants

Nutritional status(BMI)	*No. of mothers*	*Leucorrhea*	
		Yes (%)	No (%)
Underweight	37	14(37.84)	23(62.16)
Normal	102	29(28.44)	73(71.56)
Overweight	16	1(6.25)	15(93.75)
Obese	4	1(25.00)	3(75.00)
Total	159	45	114

Table 2 depicts the association between nutritional status (body mass index) and the occurrence of leucorrhea among the Santal female. It is observed that relatively higher frequency of the occurrence of leucorrhea are found among the underweight female (37.84%), which is followed by normal female (28.44%) and obese (25.00%) but suddenly decreasing the percentage among the overweight female.

Table 3: Frequency of leucorrhea according to use of contraceptives of the participants

Leucorrhea	*Use of contraceptives*				
	Condom (%)	*Ligation (%)*	*Oral pill(%)*	*No use (%)*	*Total (%)*
Yes	10(14.93)	15(60.00)	3(25.00)	17(30.91)	45(28.30)
No	57(85.07)	10(40.00)	9(75.00)	38(69.09)	114(71.70)
Total	67	25	12	55	159

Table 3 reveals the possible relation with the occurring of leucorrhea and the types of contraceptives used by the female. Form the study it is observed that high frequency (60.00%) of occurring leucorrhea is found among female who were using ligation method as permanent contraceptive rather than other contraceptives methods like condom (14.93%) and oral pill (25.00%). Interestingly it is also observed that female who have no leucorrhea are mostly condom users (85.07%). Among the nonusers, 30.91% are suffering from leucorrhea.

Table 4: Reproductive health awareness according to maternal educational status

Character	*Educational status*					*Total*
	Nonliterate (%)	*Primary (%)*	*Upper Primary (%)*	*Secondary (%)*	*Higher Secondary and above (%)*	
Age at marriage						
<18 years	46(68.66)	12(92.30)	23(65.71)	20(58.83)	2(20.00)	103
18-23 years	19(28.36)	1(7.70)	10(28.57)	11(32.35)	8(80.00)	49
24-28 years	2(2.98)	0	1(2.86)	3(8.82)	0	6
>28 years	0	0	1(2.86)	0	0	1
Age at first conception						
<18 years	31(46.27)	9(69.24)	13(37.14)	11(32.35)	3(30.00)	67
18-23 years	31(46.27)	2(15.38)	19(54.29)	19(55.88)	3(30.00)	74
24 years and above	5(7.46)	2(15.38)	3(8.57)	4(11.77)	4(40.00)	18

Use of sanitary napkin						
Cloth	53(79.10)	12(92.30)	20(57.15)	11(32.75)	1(10.00)	97
Napkin	14(20.90)	1(7.70)	15(42.85)	23(67.65)	9(90.00)	62
Use of contraceptives						
Ligation	15(33.34)	2(20.00)	6(27.28)	2(10.00)	0	25
Condom	23(51.11)	8(61.53)	13(59.09)	16(80.00)	7(100.00)	67
Oral pill	7(15.55)	0	3(13.63)	2(10.00)	0	12
No Use	22(32.83)	3(23.07)	13(37.14)	14(41.18)	3(30.00)	55
Total	67	13	35	34	10	159

Table 4 shows that if any relationship is present between the female education level and reproductive health awareness among the Santal female. In the present study, higher frequency of age at marriage below 18 years is found among primarily educated female (92.30%) followed by nonliterate female (68.66%) and continuously decreases as against higher educational level.

In case of age at first conception which is largely dependent on age at first marriage and again it is observed that higher frequency of age at first conception below 18 years is found among primarily educated female (69.24%) followed by non-literate (46.27%) and has an inverse relation with the educational level.

It is observed that high frequency of using cloth during their menstruation period is found among the primarily educated (92.30%) and nonliterate female (79.10%).The frequency of cloth users gradually decreases with higher educational level, on the other hand, it is also a notable fact that as the educational level is increases the frequency of using different kinds of disposable sanitary napkin is also higher.

Table 4 also shows that frequency distribution of different kinds of contraceptives as family planning methods according to the educational level of the female. It is found that highest frequency of contraceptives users are found among the primary educated female (76.93%) followed by female who attained education up to higher secondary and above (70.00%), upper primary (68.86%) and secondary (58.82%). The frequency of using oral pill is found to be high among nonliterate female (15.55%) followed by upper primary (13.63%) and secondary (10.00%) educated female.

DISCUSSION

After reviewing earlier studies conducted by different researchers, it has been found that many factors play an important role on reproductive health profiles. Among various factors, nutritional status is one of the crucial factors. In the present study, the occurrence of malnutrition is found among the Santal female and malnutrition influences many gynecological related problems. Not only biological factors but also sociological factors like maternal education which is also play a vital role in case of reproductive health awareness.

In this study, menstrual irregularities mainly found among the underweight female. In this regard a study on reproductive disorders among underweight and overweight young females by Aladashvili-Chikvaidze and his confrere reveals that the tendency of menstrual irregularity and amenorrhea present in low BMI, even a moderate weight loss of 10-15% under ideal body weight can result in menstrual irregularity (Aladashvili-Chikvaidze et al. 2015).

In the present study it is found that pain during menstrual flow during menstrual period is observed in high frequency among obese mother (25.00%) than others. According to Minkin and Wright, dysmenorrheal is the severe pain during menstrual period. Dysmenorrhea is defined as a severe, painful, cramping sensation in the lower abdomen occurring during the menses (Minkin and Wright 2003).

It is also noticed that low or scanty menstrual flow during period is mainly found among the underweight and overweight female. But excessive menstrual flow during menstrual period mainly found among normal female (23.53%) followed by underweight female (21.62%) relative to others. Many studies conducted on the association between BMI and the incidence and severity of dysmenorrhea and it is reported to be a controversial fact since some studies have not observed any relation between the two (Grandi et al. 2012). A 'U' shaped association was revealed between dysmenorrhea and BMI and revealing that high risk of dysmenorrhea for both underweight and obese female (Ju et al. 2015).

It is found in the present study that menstruation period duration is shorter in case of underweight female. A study conducted by Osayande and his confrere in 2014 concluded that the girls with higher BMI experiences lower menstrual cycle (Osayande et al. 2014). Education indirectly influences age at marriage and also age at first conception. Here in the present study age at marriage below 18 years is mostly found among the nonliterate and primarily educated female. Here in the present study shows that age at first

conception below 18 years is mostly found among the primarily educated female and nonliterate female and first conception at mature age increases as with the higher educational level of the female. A study conducted by Maxwell in 1987 observed a positive relationship between education and age at first birth (Maxwell 1987). Heaton and Forste in 2010 worked on effects of education on age at marriage, contraceptives use and fertility and reported that in all countries education influenced female's individual decisions about family formation (Heaton and Forste 2010). With regard to education, Gaisie (1984) found that the median age at first birth for female with secondary and tertiary education was 25 years compared to 19 years for the middle and primary school leavers (Gaisie 1984).

It is also found in the present study that sanitary napkin is mostly used by female with higher educational level (90.00%) as they have more knowledge about the menstrual hygiene related issues. A study conducted by Rani (2004) among young married female from Chittoor district, Andhra Pradesh, reported that higher frequency of menstrual hygiene was found among relatively educated up to middle school or above than who have little education or have no education (Rani 2014).

Interestingly it is observed in the present study that most of the condom users do not have leucorrhea or any vaginal discharge (85.07%). A study conducted by Cates and Stone (1992) reported that condom use can protect against transmission of STDs by preventing direct contact with semen and also prevent any genital discharge rather than other contraceptives methods (Cates and Stone 1992). In the present study it is noticed that educational level improves the knowledge about the family planning methods A study conducted by Radulovic et al, (2006) on the influence of education level of family planning, reported that female with higher education know the best about contraception and they choose mostly condom as a family planning method of contraception (Radulović, et al. 2006).Thus it is found that use of condom as a family planning method is increases as with the higher education level of the female. The frequency of using tubal ligation is mainly found among the less educated female.

CONCLUSION

It may be inferred that all the information is giving directly or indirectly supporting the influence of bio-social factors on reproductive health behavior among Santal female. It was observed that mainly underweight female was suffering from menstrual irregularities on the other hand, pain during menstruation was mainly found among obese female. The reproductive health seeking behavior of the Santal females are directly or indirectly influenced by education. However, the spread of education and literacy among female is believed to be fundamental to changes in the reproductive health behavior.

The Santal female should take care to maintain the hygienic reproductive health such as use of sanitary napkin to avoid any infections. Family planning method, which has motivated people to have smaller families, use of contraceptives specially condoms, which has resulted in a decrease in the rate of leucorrhea as well as sexually transmitted infections(STI) and unwanted pregnancies. So, to avoid any STI, they should take care of this. As education plays an important role in enhancing knowledge so they still need reproductive health awareness programme through different NGOs and other government facilities.

ACKNOWLEDGEMENTS

Authors would like to acknowledge all the research participants for their kind cooperation. This research was partially supported by Prof. Subir Biswas, Department of Anthropology, West Bengal State University, Kolkata 700126, India.

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