

# Periods, Perceptions and Practice- A Study of Menstrual Awareness among Adolescent Girls in a Tribal District of Odisha, India

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## **Abstract**

Menstruation is a normal biological phenomenon. Still it is associated with misperceptions, malpractices and challenges especially among female adolescents of low socioeconomic settings. The present study was conducted to investigate the knowledge about menstruation, determinants of menstrual hygiene management and the consequences of menstruation on college absenteeism in a tribal dominated backward district of Odisha, India. A college based cross-sectional questionnaire-based study was undertaken among randomly selected 740 female students who were attending 12<sup>th</sup> grade and undergraduate courses. About 64 % of girls had inappropriate knowledge about menstruation and MHM. Only 38 % girls used disposable sanitary napkins during menstruation. Almost 59 % of the respondents reported remaining absent from college during periods. High educational status of mother was found to be strong predictor of appropriate knowledge about menstruation among the adolescents. Economic constraint was found to be the major factor for not using disposable sanitary napkins which in turn is one of the major causes of college absenteeism. Girls also reported inability to change menstrual absorbents in college due to absence of proper disposal system.

**Key Words:** *Menstruation, Knowledge, Absenteeism, Hygiene, Adolescent.*

## **Introduction**

The period of adolescence for a girl is a crucial period of reproductive development where physical and psychological preparation starts for motherhood. Adolescent girls enter puberty unwary, frightened and anxious about menstruation with limited information making it a taboo subject to raise. Inadequate education about puberty, poor menstrual health management (MHM) practice, insufficient water, sanitation and hygiene (WASH) facilities in educational institutes, cause school and college going girls to experience discomfort and humiliation during menstruation especially in low- and middle-income countries. <sup>[1]</sup> Although, the importance of puberty education is universally recognised, still the question of who should educate the young girls is debatable. Many countries resolve this issue by introducing appropriate reproductive health education in the school curricula, to familiarise young adolescents with puberty changes. India's National Health Mission programme has involved the female community health worker for this purpose with variable

results. <sup>[2]</sup>

Menstruation can cause significant hindrance in the way of girls' access to health, education and future prospects if they are not equipped with good MHM. Estimates of the prevalence of methods of MHM like use of menstrual absorbents (cloth, toilet tissue, rags, leaves etc.), washing and drying practices, hygiene of genital parts, storing of absorbents and disposal of used absorbents vary greatly across countries. <sup>[3-4]</sup> Unhealthy menstrual practices are found to be particularly acute in rural areas and amongst women and girls of lower socio-economic groups. Improper MHM may result in urinary and reproductive tracts infections which are attributed to reuse of unhygienic sanitary absorbents. <sup>[5]</sup> World Bank statistics indicated that students remain absent in classes from one to four days every month during their menstrual cycle. <sup>[6]</sup> Several studies documented that girls face difficulty in managing menstruation in educational institutes due to lack of sanitary facilities and proper waste disposal system. Moreover, students had difficulty in attending class and performing in exams

due to menstrual related problems like blood leakage or staining as they did not use proper menstrual absorbents. This affects their academic performance.

There are scarce studies on perception on menstruation and practice of menstrual hygiene among tribal students in India. This study is therefore conducted with the aim of assessing the prevailing knowledge about menstruation and MHM and investigating the consequences of menstruation on college absenteeism among adolescent girls in this tribal dominated backward district of Odisha, India.

## Materials and Method

### Study design and setting

A college based cross-sectional study involving quantitative method was undertaken among randomly selected adolescent female students who were attending 12<sup>th</sup> grade and undergraduate courses during the time of data collection. This study was conducted in two undergraduate colleges in district Kandhamal, Odisha, India, during the period of August 2017 to February 2018. A total 740 students from two colleges were selected by doing systematic sampling.

### Data collection procedure

After approval from the institutional ethical review committee, principal investigator and other team members of the project explained the nature and purpose of the study to all randomly selected students and written informed consent was taken from them. A structured pre-tested, close-ended questionnaire was developed and data was collected through face to face interviews. The questionnaire was divided into four sections comprising of variables on socio-demographic characteristics, knowledge about menstruation and MHM, practice of menstrual hygiene and reasons for college absenteeism during menstruation.

### Data quality management and analysis

The data collected was compiled and imported to SPSS 19.0 (Statistical Package for Social Sciences). Descriptive statistics was used to determine mean and standard deviation for continuous variables like age while frequency and percentage for qualitative variables (caste, college, class year, place of residence). Multiple regressions were used to examine the effect of two or more independent variables on a single dependent variable to test the statistical significance at 95%

confidence level. P-value of < 0.05 was considered as significant.

## Results

### Socio-demographic characteristics of participants

Seven hundred forty female students participated in the study. The mean age of the study participants was found to be  $19 \pm 1.2$ . About 339 (45.8 %) participants were below 18 years of age. Most of them resided in rural areas (n=397, 53.6%). About 43 % (n=319) belonged to reserved category (SC and ST). Mothers of most girls had below high school education (n=412, 62.5%) and were unemployed (n=564, 76 %). About a quarter of the girls (n=190) were from low socioeconomic settings (family income < Rs 10, 000).

### Knowledge about menstruation and MHM

Only 36 % (n=268) respondents had appropriate knowledge; about menstruation and MHM. According to multivariate analysis students studying in final year (AOR (95 % C.I) 1.9 (1.6-2.3)) with monthly family income > Rs 10,000 [AOR (95 % C.I) 1.7 (1.2-2.5)] and whose mother had attended high school [AOR (95 % C.I) 3.7 (2.1-5.9)] had better knowledge than their counterparts (Table 1).

### Practice of menstrual hygiene

Most of the respondents used homemade cloth (n=457, 62 %) and economic constraints 213 (75 %) seemed to be the main reason (Figure 1). Only 67 % (498) respondents disposed used absorbents whereas 242 (33 %) washed and reused them (Figure 2). Only 165 (22 %) students changed adsorbents at school.

### Absenteeism during menstruation

As many as 439 (59 %) reported absence from college during menstruation. The major reason for college absenteeism was heavy bleeding and fear of staining their clothes (76 %) (Figure 3). Almost half the respondents felt uncomfortable being in school during menstruation because inability to change menstrual absorbent due to dirty toilets and lack of disposal facilities. Multivariate analysis showed that students who didn't use of disposable sanitary pads were associated with increase in absenteeism and vice versa [AOR (95%) 2.1 (1.8-3.2)] (Table 2).

**Table 1: Comparison of knowledge level about menstruation and MHM by socio-demographic characteristics among study participants. (n=740)**

Variables	Total Frequency (Percentage)	Appropriate Frequency (Percentage)	Inappropriate Frequency (Percentage)	COR (95%)	AOR (95%)
Educational status Higher secondary Undergraduate	292 (39.4) 448 (61.6)	62 (21.2) 206 (46)	230 (78.8) 242 (54)	1.6 (1.4-1.8)*	1.9 (1.6-2.3)*
Place of residence Rural Urban	397 (53.6) 343 (46.3)	94 (23.6) 174 (50.7)	303 (76.3) 169 (49.2)	2.0 (1.5-2.8)*	
Caste General Reserved	421 (56.8) 319 (43.1)	179 (42.5) 94 (27.9)	242 (57.4) 230 (72.1)	2.4 (1.8-3.4)*	
Living arrangement Hostel Family	334 (45.1) 406 (54.8)	165 (49.4) 103 (25.3)	169 (50.5) 303 (74.6)	2.7 (2-3.7)*	
Mothers' educational status ≥ high school < high school	328 (44.3) 412 (55.6)	175 (53.3) 93 (22.5)	153 (46.6) 319 (77.4)	3.4 (2.6-5.5)*	3.7 (2.1-5.9)*
Family monthly income (in Rs) <10,000 ≥10,000	190 (26.6) 550 (73.4)	53 (27.9) 215 (39)	137 (72.1) 335 (61)	2.4 (1.9-3.1)*	1.7 (1.2-2.5)*

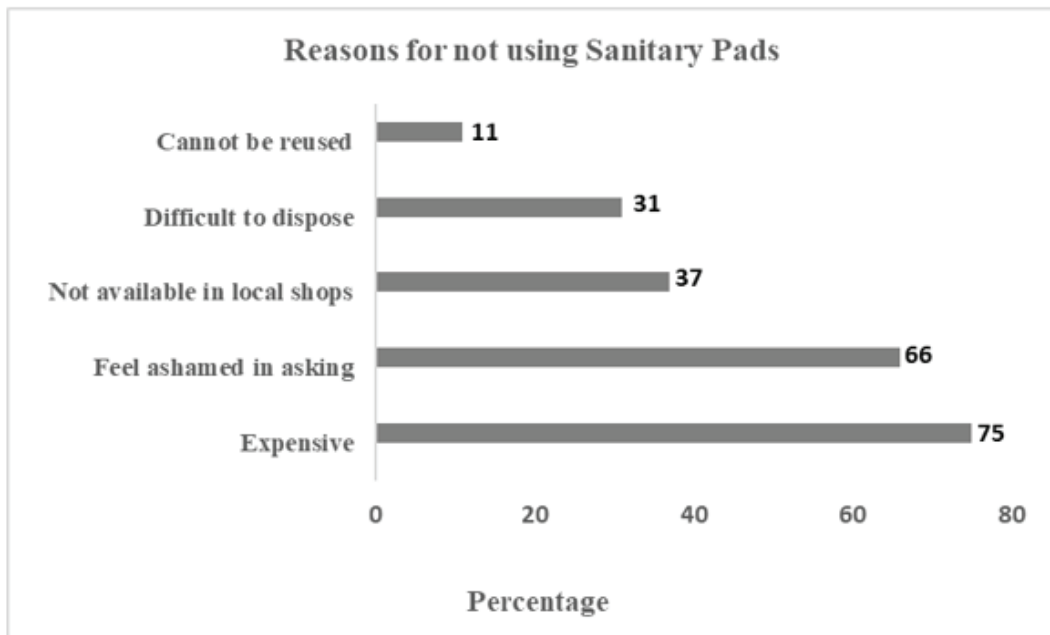
Knowledge score  $\geq 7$  is appropriate and  $<7$  is inappropriate.

\*Statistically significant at  $p < 0.05$ .

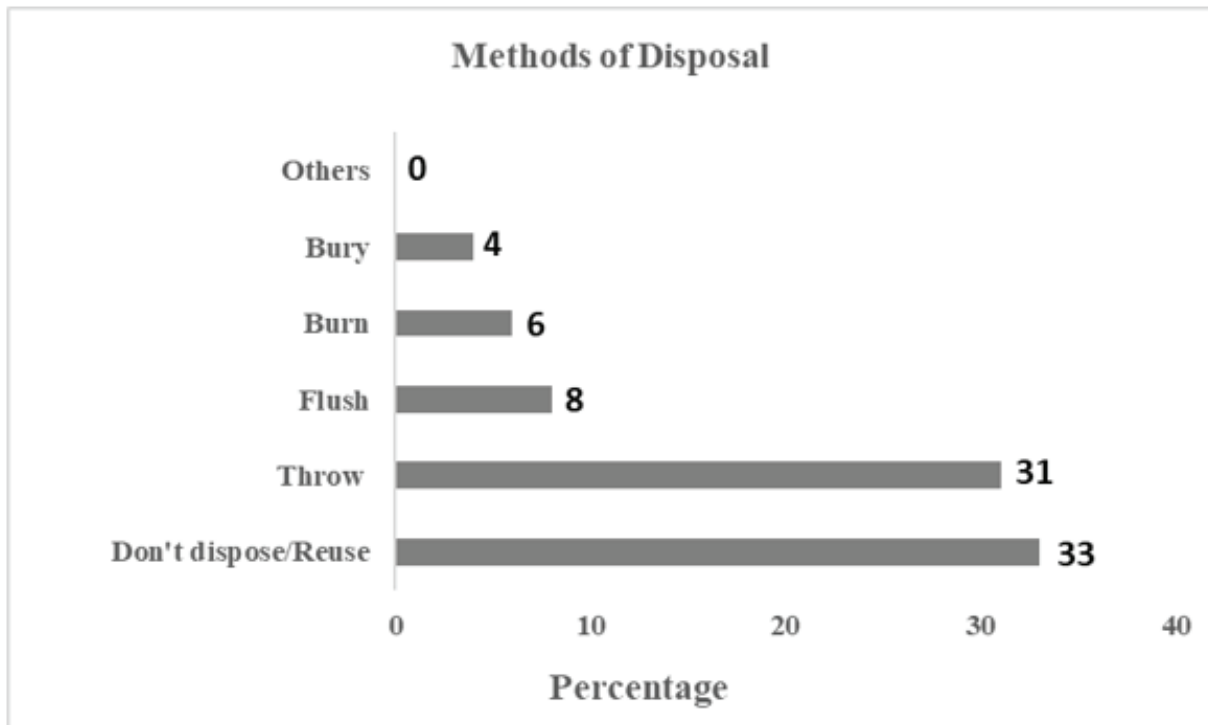
**Table 2. Comparison of factors associated with college absenteeism during menstruation among study participants. (n=740)**

Variables	Total Frequency (Percentage)	College Absenteeism Frequency (Percentage)		COR (95%)	AOR 95%
		Yes	No		
Educational status Higher secondary Undergraduate	292 (39.4) 448 (61.6)	184 (63) 255 (57)	108 (37) 193 (43)	0.86 (0.45-2.43)	
Place of residence Rural Urban	397 (53.6) 343 (46.3)	234 (59) 205 (59.8)	163 (41) 138 (40.2)	0.58 (0.32-1.22)*	
Caste General Reserved	421 (56.8) 319 (43.1)	256 (60.8) 183 (57.3)	165 (39.2) 136 (42.7)	1.32 (0.76-3.11)	
Living arrangement Hostel Family	334 (45.1) 406 (54.8)	194 (58) 245 (60.3)	140 (42) 161 (39.7)	0.47 (0.11-3.78)	
Mothers' educational status ≥ high school < high school	328 (44.3) 412 (55.6)	186 (56.7) 253 (61.4)	142 (43.3) 159 (38.6)	0.95 (0.40-2.45)	
Family monthly income (in Rs) <10,000 ≥10,000	190 (26.6) 550 (73.4)	132 (69.5) 307 (55.8)	58 (30.5) 243 (44.2)	0.42 (0.22-0.82)*	
Use of disposable pads Yes No	283 (38.2) 457 (61.8)	108 (38.2) 331 (72.4)	175 (61.8) 126 (27.6)	1.96 (1.08-3.40)*	2.14 (1.8-3.28)*

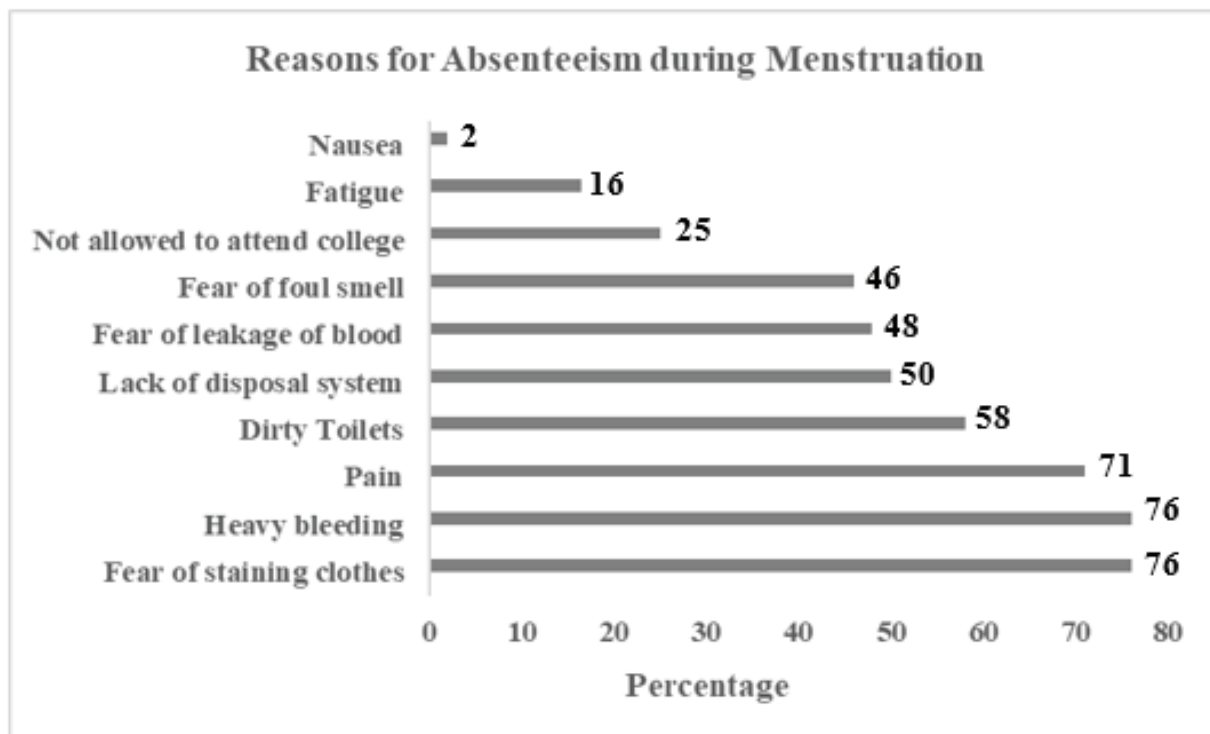
\*Statistically significant at  $p < 0.05$ .



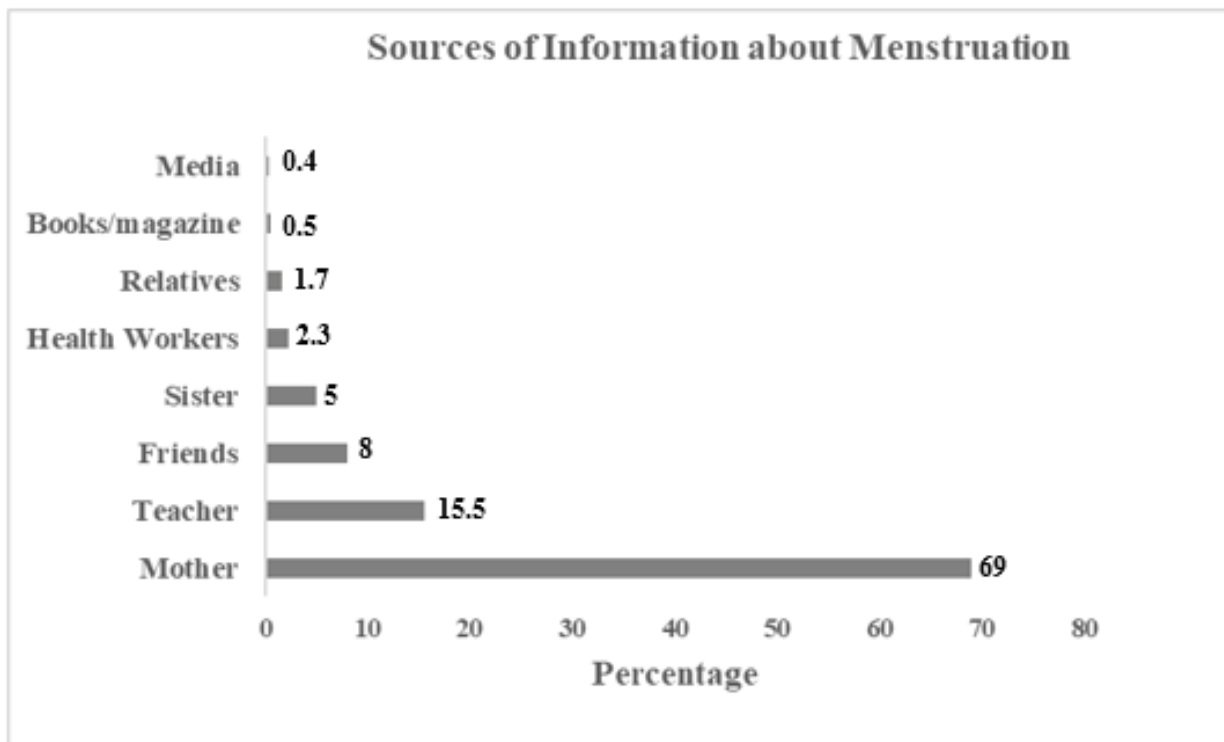
**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**

## Discussion

There is lack of awareness among the socially underdeveloped communities about the various measures needed for protection of health and dignity of young adolescent girls during menstruation.

In this study, we observed that most of the adolescent girls started menarche unaware of its biological cause. Majority of the girls had different misperceptions towards menstruation and faced different psychological trauma due to lack of any prior knowledge and unpreparedness during periods. These negative reactions like shame, irritation, tension, fear and guilt were also found in other studies.<sup>[7]</sup> Learning about menstrual cycle is important for adolescents for the purpose of avoiding unexpected menstrual bleeding and knowing about fertile periods and contraception. This lack of knowledge may be related to absence of reproductive education in schools and fewer parents to child communication about menstruation and MHM. These findings are closely related to other studies.<sup>[8]</sup> Ideally, school teachers or health workers should be the first source of information so that right knowledge about menstruation can be imparted to the young adolescents. We found mother to be the major source of information and higher educational status of adolescent's mothers to be an important predictor of knowledge about menstruation and MHM (Table 1, Figure 4).<sup>[9]</sup> The explanation for this can be attributed to the fact that educated women possess better knowledge and perception towards MHM and have access to various healthcare services information. The present study revealed that final years undergraduate students had better knowledge than those studying in first year and 12th grade. This suggests that increase in educational status of students clears the various doubts and misconceptions related to menstruation and makes them more aware.

Different types of menstrual absorbent materials were used which is dependent on the diversity of socio-economic settings of the girls. About 38% of the girls used cloth during menstruation instead of sanitary pads which was comparable to a study from Ethiopia.<sup>[10]</sup> Despite the discomfort being felt due to use of cloth, it still remains the preferred means for them, due to its easy availability, low cost and reusability which is in agreement with other studies.<sup>[11]</sup> Majority of the girls did not wash their genital area with soap or antiseptics, unaware of the importance of maintaining cleanliness in the genital area during menstruation as reported

elsewhere.<sup>[12]</sup> Out of 740 respondents, only 29 % girls changed their menstrual absorbent more than twice and 71 % only once a day similar to another study.<sup>[13]</sup> A few girls reported itchiness, burning, and rashes in their genital areas which may be due to improper cleaning and drying (lack of exposure to sunlight) of the menstrual soak-up cloth similar to study from Nagpur.<sup>[14]</sup> Most of the girls avoided bathing during their periods due to lack of separate enclosed bathing space at their homes, scarcity of water or lack of privacy. The lack of toilets at home is of great concern with regard to safety, privacy and dignity, as reported repeatedly by women in India.<sup>[15]</sup> Only a quarter of the girls changed their menstrual absorbents at college, comparable to findings from other studies.<sup>[16]</sup> The major reason accounted was absence of proper disposal system at college. The girls who reported changing pads had to bring the soiled absorbent back home or throw it in open spaces. We observed that the urban girls disposed the used absorbents in routine household waste by wrapping them in sheets of papers and polythene related to findings from other studies.<sup>[3]</sup> However, in rural areas a range of options used for disposing of menstrual materials includes burning, burying, throwing in the waste bin, pit latrine or flushing. Inadequate disposal methods at times cause problems like clogging of toilet and polluting the local streams in villages.<sup>[17]</sup> Disposal of commercial pads is a matter of concern because of their high content of non-biodegradable components.<sup>[18]</sup>

In present study menstruation-related college absenteeism rate of 42% observed here was also consistent with previous reports.<sup>[19]</sup> Menstruating girls from socially deprived backgrounds especially residing in rural areas are more likely to miss college as they use cloths instead of sanitary pads. Even if girls manage to attend college during menstruation, the fear of staining their clothes or being humiliated for foul smell of menstrual absorbent reduces their concentration and makes them hesitant to participate in class activities. This concern has been raised in other studies.<sup>[10]</sup> Further due to absence of a proper waste disposal system, most girls end up carrying the used material back home or throwing them in open. This reveals the need for clean toilets combined with the establishment of proper waste disposal systems in educational institutes.

## Conclusion

The results from the present study suggests negligence of adolescent girl's reproductive health

needs in these tribal areas. Lack of sanitized menstrual absorbents and sanitary facilities in educational institutes seriously jeopardizes academic performance in adolescent girls. In order to improve gender equality in educational institutes of these backward poor districts, emphasis should be given to adolescent girl's menstrual needs by providing them free or subsidized sanitary napkins. Further installation of incinerators in colleges can not only solve the pad disposal problem but also reduce environmental pollution due to throwing or burning of disposable sanitary pads. Hence, government should give special attention towards making educational institutes a comfortable place for girls.

**Conflict of Interest:** Nil

**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

**Ethical Clearance:** From institutional ethical Committee.

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