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ASSOCIATION OF ACADEMIC STRESS WITH SANITATION: A STUDY OFADOLESCENT OTHER BACKWARD CLASS (OBC) GIRLS IN SAGAR, INDIA

RAJUL RAIKWAR AND K.K.N. SHARMA

ABSTRACT

Sanitation and hygiene, stress free life and education are the basic rights, which have tremendous impact on physical health and mental health. Adolescent school-going girls are the core of population dynamics of any country so they need proper attention especially in schools. This work investigates the association between academic stress, mental health and sanitation of Indian higher secondary school students. A total of 600 adolescent girls were selected purposively from 11 and 12 standards (mean age: 15.58 years) from government schools in Sagar, Madhya Pradesh, India. Data collection involved using a specially designed Student Stress Scale (Dr. Zaki Akhtar), structured questionnaire and observation. Study indicates that 12.66% schools don't have toilet facility in their school. It has been also observed that in most of the schools not having proper sanitation and cleanliness of the toilets, girls hesitate to using toilets, which may have impact on their health and behaviour. Due to this reason, during menstrual period, a large number of girls are not interested to go school. Correlation between availability of toilets, cleanliness of toilets and academic stress was found to be significant at < 0.01 level.

Keywords: Sanitation and hygiene, school toilets, academic stress.

INTRODUCTION

The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years. Adolescence in India has been defined to be a period between 10-18 years. There are an estimated 200 million adolescents in India who comprise one-fifth of the totalIndian population (Jain et al, 2009). Most of the physical and mental health problems are directly or indirectly associated with stress, sanitation and hygiene. Sanitation, hygiene and education are fundamental to good health and have tremendous impact on health, social and economic development. Awareness regarding menstrual problem and availability and cleanliness of school toilets are major issues during adolescence period because many girls avoid school during their menstrual period and feel stressed especially

Ms. Rajul Raikwar, Research Scholar, Department of Anthropology Dr.Harisingh Gour Vishwavidyalaya, Sagar, M.P., Email: rajulraikwar0@gmail.com; **Prof. K.K.N. Sharma,** Professor and Head, Department of Anthropology, Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P.

when there school toilet condition is not good. Adolescent school going girls are the vulnerable and core of population dynamics of any country. Therefore, attention should be given to the adolescent girls during their school education especially in their surrounding environment, including health and hygiene and change in behaviour during adolescent period.

Several studies reveal that menstrual hygiene and status of school toilets are strongly correlated.Vernon *et al*. (2003) investigated the children's experiences of school toilets that present a risk to their physical and psychological health in England and Sweden. Their findings show that students from both these countries said that toilets were dirty, smelly and unpleasant and they felt hesitation while using the toilets.

Jasper *et al*. (2012) did a systematic review on water and sanitation in Schools. They found that school facilities regarding drinking water, school toilets, sanitation and hygiene should be addressed properly. Mudey *et al.* (2010) conducted a cross-sectional study on awareness regarding safe and hygienic practices among school-going adolescent girls in Rural area of Wardha District of India. It was found that most of the girls suffered from genital tract infection because of using unclean clothes and the cleanliness during menstrual period was not satisfactory. Yasmin *et al*. (2013) worked on menstrual hygiene among adolescent school students in West Bengal, India. They focused on menstrual hygiene and reproductive tract infection (RTI). They found that school toilets were not in good condition, which is a risk to genital diseases. Gitau et al. (2015) worked on primary school students in Kenya. They found that health problems were associated with sanitation. Thakre *et al.* (2015) worked on knowledge and practice related to menstrual hygiene among adolescent school girls of Saoner, Nagpur District, India. They found that many factors affected menstrual behaviour but economic status and awareness regarding menstrual practices affected the most. They suggested the designing of a programme regarding awareness of menstrual practices.

Hirve *et al.* (2015) discussed about psychosocial stress associated with sanitation practice and experiences of women and adolescent girls at public places, workplaces and in schools in rural community in Pune, India. They found that there is a significant relation between psychosocial stress and practice and experience of open defection. Sahoo et al.(2015) determined the sanitation-related psychosocial stress on women across the life-course in Odisha, India. It was found that women feelenvironmental, social and sexual type of stress during the routine sanitation practices. Deb *et al.* (2015) investigated the academic stress, parental pressure, anxiety and mental health among high school students in Kolkata, India. They found that academic stress was a serious problem which affected nearly half of the students and it was found to be related with several personal factors. Ejik *et al.* (2016) did systematic review on menstrual hygiene management among adolescent girls in India. Mostly girls were unaware about menarche and hygiene. They found that there was a need in schools of MHM (menstrual hygiene management) programmes.

Thus, from a perusal of the previous studies,it is clear that school's sanitation and hygiene related facilities are not up to the mark in India and is directly related to students behaviour and stress. Review of literature shows that this is a very serious and important issue from the health perspective of school-going adolescent girls.

MATERIALS AND METHODS

The Study Area

This study was conducted in Sagar Town of Madhya Pradesh State of India. Geographical location of the area is between latitude 21.2p N-26.87p N and longitude 74.02p E-82.49p E. It is the sixth largest state in India by population. Sagar is one of the districts in the state of Madhya Pradesh in Central India. It is located on a spur of the Vindhya Range. Total population of Sagar is 2,378,458 approximately 70% of the population lives in rural areas(Census of India, 2011). We selected Other Backward Class adolescent school-going girls.Other Backward Classes (OBCs) is a collective term used by the Government of India to categorize castes which are socially and educationally disadvantaged. In the Indian Constitution, Other Backward Classes are described as "socially and educationally backward classes". In Sagar District, Other Backward Classes (OBCs) constitute 39.5% (according to 2001 census) and 55% (according to 2002 BPL survey data) of the population. Lodhi, Patel and Yadav are the prominent castes, which covers more than sixty percent of the total of Other Backward Class (OBC) residing in different places in Sagar Districts of Madhya Pradesh.

Sample and selection of participants

Schools were selected with the help of caste-wise school data provided by District Education Officer on the basis of Other Backward Class Girls population in the schools.For this purpose 600 adolescent girls were selected purposively from 11 and 12 standard (mean age: 15.58 years) from government schools of Sagar (M.P.), namely Pandit Ravi Shankar Higher Secondary School, Sagar, Maharani Luxmi Bai 1 and 2, Government Higher Secondary School Bamhori Bika, Government Higher Secondary School Pathariya, Jat, Government Higher Secondary School, Jaisinagar, Government Higher Secondary School, Banda, Government Higher Secondary Schoo, Karrapur, Government Higher Secondary School, Sanodha, Government Higher Secondary School, Parsoria, Hulasiram Public School, and Saraswati Sisu Mandir Motinagar.

Data Collection

Data collection was done with the help of observation, interview and pre-tested questionnaire between September 2016 and February 2017. The questionnaire included information regarding description of the school-based sanitation practices, availability of school toilets, menstrual related sanitation and Hygiene

practicesin schools. For academic stress, Student Stress Scale (SSS), Dr. Zaki Akhtar Scale was used.

Data Analysis

Data analysis was done in multiphase strategies; firstly data entry was done with the help of MS excel then coding of data was done with the help of SPSS (16.0). After completion of data entry part statistics was applied. All the correlation coefficients were tested on <0.01level of significance.

RESULTS

Questions related to school toilets sanitation and hygiene are presented in Table-1. It is apparent from the table that 12.66% schools still did not have toilets and 87.33% schools had toilet facility out of which 53.24% toilets were not in good condition. 68.5% girls felt depression while using toilets and one third of the population missed schools during their menstrual period

Table -1: Status of toilets sanitation and school hygiene

S. No.	Status	N (%)
1.	**Availability of school toilets** Toilets No ToiletsTotal	524 (87.33%) 76(12.66%) 600 (100%)
2.	**View of cleanliness of School Toilets**Normal Good DirtyTotal	179 (34.16%) 66(12.59%) 279(53.24%) 524 (100%)
3.	**Status of hesitation**YesNoTotal	411(68.5%) 189(31.5%) 600 (100%)
4.	**Absenteeism during Menstrual Period**YesNoTotal	425(70.83%) 175(29.16%) 600 (100%)

To understand the relation between cleanliness and availability of the toilets, correlation analysis was computed (Table-2). This table reveals that there was a positive significant correlation between cleanliness and availability of toilets in schools (P <0.01).

Table-2: Correlation between Cleanliness and Availability of School Toilets

	Cleanliness of Toilets	**Availability of Toilets**	
Cleanliness of Toilets	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	600	600
Availability of Toilets	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	600	600

*Significant (p=0.01)

Academic stress in relation to status of toilets in schools was also investigated and the results are given in Table-3. It is clear from the table that the girls from schools having toilet facility suffered from less stress (22.7%) as compared with girls belonging to school which do not have toilet facility (47.4%).

Table-3: Distribution of Academic Stress Classification with Status of School Toilets

Status of Toilets	Academic Stress Classification	N (%)
Available	Very Low Stress	70 (13.4%)
	Low Stress	152 (29%)
	Moderate Stress	130 (24.8%)
	High Stress	119 (22.7%)
	Very High Stress	53 (10.1%)
	Total	524
No toilet	Very Low Stress	3 (3.9%)
	Low Stress	7 (9.2%)
	Moderate Stress	20 (26.3%)
	High Stress	36 (47.4%)
	Very High Stress	10 (13.2)
	Total	76

To understand academic stress faced by girls in terms of availability of toilets in schools,correlation was used as a statistical tool. Results are displayed in Table-4, which show that there is a positive significant correlation between academic stress and availability of toilets in schools ($P < 0.01$).

Table-4: Correlation between Academic Stress and Availability of School Toilets

		Academic Stress	**Availability of Toilets**
Academic Stress	Pearson Correlation	1	.193**
	Sig. (2-tailed)		.000
	N	600	600
Availability of Toilets	Pearson Correlation	.193**	1
	Sig. (2-tailed)	.000	
	N	600	600

*Significant (p=0.01)

DISCUSSION

Condition of sanitation and hygiene is not up to the mark in India, especially inschools belonging to rural areas. Government of India launched several schemes, i.e. Total Sanitation Campaign (TSC), Swachh Bharat Mission (SBM), Swachh Bharat Swachh Vidyalaya (SBSV), etc., to improve situation of sanitation and hygiene and achieved little successes in this.According to National University of Educational Planning and Administration (NUEPA, 2016) status of availability of toilets increased in last ten years with 96.7% of schools having school toilet facility. But according to our study,availability of toilets in schools in Sagar area was 87.33%, out of which only 12.59% were in good condition.

Stress is associated with sanitation and hygiene practices and improving sanitation can reduce stress (Sahoo et al., 2015; Hirve et al., 2015). Adolescent

girls report stress if toilet condition is not proper.Our findingsindicate that many of the girls do not drink sufficient water in school because of poor toilet facilities. Unhygienic toilets during menstrual period are one of the main causes of school dropouts and 70.83% girls remained absent from schools during menstrual period. Most of the quantitative studies have found an association between school dropouts and menstruation (Miiro et al., 2018;Sommer et al., 2016; Phillips-Howard et al., 2016).

CONCLUSIONS

Our study indicates a positive significant correlation between academic stress, availability and cleanliness of toilets in schools. Academic stress is high in those school students who are facing poor toilet facility. Most of the girls feel hesitation during their menstrual period and avoid school in this period.Sanitation and hygiene was not found satisfactory in schools.Many girls do not drink sufficient water in schools to avoid going to toilet. By addressing the need of sanitation and hygiene of school girls, not only their health will improve but school dropout ratio will also decrease.

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