Available online at http://www.ijims.com
ISSN: 2348 – 0343

Drinking water and toilet facilities in women's colleges of Jaipur City of India

Ruby Jain, Madhu Kulhar *, Anita Sihag
Department of Home Science
University of Rajasthan, Jaipur
*Corresponding author:Madhu Kulhar

Abstract

In recent times a worldwide consciousness has been developed about the unavailability of safe drinking water and public toilets which are still the major problems of developing countries like India. Understanding this, Union government recently launched 'Clean India Campaign' and asked the people to participate actively. Unavailability of toilets makes females is more vulnerable to the spread of diseases due to poor hygiene and sanitation. This is also one of the biggest reasons for girl's dropout from schools, especially in rural areas [1]. The problem prevails not only in rural areas but also in urban areas. Present study surveyed 10 women colleges of Jaipur city to find out their hygiene situation especially drinking water and toilet facilities. The sample including lecturers, students, housekeeping supervisors, and helpers from the selected colleges. Quantitative and qualitative data were collected through questionnaire, interview and observation. The results show that almost all colleges have adequate facilities, but they were not up to the mark. Surroundings of drinking water were very grubby. Where ever there were separate toilet facilities for staff members were in good condition but toilets for students were in a pathetic situation. All the lecturers and majority of the student were aware of the hazards of poor hygiene and sanitation. Contrary to this despite being educated, housekeeping supervisors were ignorant about hygiene and sanitation. The paper further explores the reasons behind this scenario.

Keywords: Health, Hygiene, Sanitation, Drinking water facility, Toilet facility.

Introduction

Clean India Campaign was launched on October 02, 2014 to create a 'Clean India' by 2019 - the 150th birthday of Mahatma Gandhi. Objectives of the project are to create public awareness, change in attitudes, mindsets and set up field staff to work on behavior change and to ensure responsibility. This project is initiated to combat the pathetic situation of hygiene and sanitation in the country.

Safe drinking water, sanitation, and good hygiene are essential for health, survival, growth and development. Though, these basic needs are still a luxury for many of the world's people. "Safe drinking water and basic sanitation are so obviously vital to health that they risk being taken for granted"[2]. Unfortunately, India is also the victim of lack of these basic amenities like other developing countries.

High incidences of infectious, communicable diseases are associated with low levels of sanitation, public hygiene and poor quality drinking water [3]. A WHO [4] report reveals the same facts that there are adverse health outcomes associated with unsafe water, lack of access to water for hygiene purposes and inadequate management of water. K. Park, [5] throws light on this problem in his book and describes safe drinking water as free from harmful pathogens, chemicals, color, and odor. India's 2/3 population's diseases are caused by unsafe drinking water [6]. In Rajasthan, 75% diseases are the result of unsafe drinking water [7]. It is believed that 50 percent diseases can be minimized by providing safe drinking water. All major cities in India have an

intermittent and untreated water supply. According to the World Health Organization (WHO), about 97 million people do not have clean drinking water. The issue of cleanliness and maintenance of the quality of drinking water is a big area of concern.

Investigation of data from various sources shows that not only drinking water but also hygienic toilet facilities are also lacking in India and other underdeveloped countries. Many studies and reports of the international agencies [8, 4, 2,], [9], [10] and few individual researchers [11, 12, 13], come together on this problem.

WHO (2003) reported that 60 percent of India's population practices open defecation. Approximately the same data is revealed by UNICEF, India (Water, Environment, and Sanitation UNICEF India). Overall 72 percent of Indians are still in need of hygienic sanitation facilities. Only 61 percent urban and only15 percent rural population have proper toilet facilities [5]. Along with this, filthy garbage disposal and untreated sewage are leading to a variety of health problems. The shortage of basic amenities adversely affects the girl's education; it cites the high dropout rate of girls. Almost 23 percent of girls drops out of school when they start menstruating. In some places, nearly 66 percent of girls skip school during menstruation and one-third of them eventually drop out [14]. Prevalence of communicable diseases and incidences of physical assaulting are increasing. According to the UNICEF report, 2003 adolescent girls are more vulnerable to infections during menstruation. The report says that 91 percent women suffer various infections during reproductive age. Unavailability of clean water and poor sanitation make the situation much miserable. Not only health issues but social safety is also a great area of concern while accessing unsafe toilets. [14].

The absence of toilets at school [12] and lack of privacy, and toilet facilities for girls in school and security reasons were also reasons mentioned by adolescents for dropping out during survey [15]. In the densely populated and irregularly planned cities of undeveloped and underdeveloped countries, the public health and environmental impacts of this situation are immense. [16].

Sanitation is largely missing everywhere in the management of these facilities. This is not only the problem of villages and backward areas but also widespread in cities [4]. In recent times, a worldwide consciousness has been developed about this problem. Keeping in mind the importance of toilet and drinking water facilities in women higher education the researcher has been motivated to explore the situation in women's colleges of Jaipur city. The study has been conducted to find out the situation of drinking water and toilet facilities in women's colleges of Jaipur city.

Methodology

Jaipur is the capital and largest city of Rajasthan state, there are 122 women colleges including government and nongovernment. Out of them, 10 colleges were taken for data collection. The colleges were selected conveniently from 5-10 kilometers from the centre of the city. Multistage sampling was done. A sample of 270 respondents including 50 lecturers (5from each college), 200 students (20 from each college), 10 housekeeping personals/supervisors (one from each college) and 10 helpers (one from each college) were selected conveniently.

Quantitative and qualitative data were collected through questionnaire, interview and observation. The self-structured questionnaire was used to collect the information from lecturers and students. A structured interview schedule was used to collect the data from housekeeping supervisors/personals and helpers. The observation was done with the help of a self-structured checklist to factually validate the facilities.

Results and Discussion

Hygiene and sanitation are the keys to a person's health. In a woman's life, it is extremely important to maintain her reproductive health as well as privacy and safety. Hence, utmost importance should be given to access toilet and drinking water facilities imparted in colleges in order to maintain the general health of student as well as lecturers. The colleges selected were centrally situated in Jaipur city and some of them are well reputed big women's college.

Facilities: Toilet

Table 1 shows lecturers and student's strength along with the number of toilets for both. There were separate toilets for teachers and students in 7 colleges out of 10 surveyed. The remaining 3 colleges were the smallest 3 colleges among selected colleges in terms of lecturers and students' strength. Data in the table shows that Maharani's college being the biggest college among the selected colleges in terms of student strength. The ratio of toilet to student was highest in Indian Girls P.G. College being 1:232, this was followed by 1: 166 in Maharani's College and the lowest ratio was 1:40 in one of the college. The ratio of the toilet to teacher ranged from 1: 3 to1:47. The number of helpers in the colleges surveyed was 1-4 to clean toilets. Thus in all the colleges the number of toilets for students was very less compared to the prescribed norms. According to "The Guidelines for Community Toilets, 1995; Ministry of Urban Affairs & Employment, Government of India" there should be minimum one toilet per 50 users and as per " Right to Education Act of India 2009" and "National Urban Sanitation Policy", at least 1:40 Toilet – student ratio should be maintained.

Table 2 depicts the routine activities of lecturers and students i.e. time spent in college, knowledge of no. of toilets, frequency of use and any problem faced by using unsafe toilets. The majority of lecturers (68%) stay in college for 3-5 hours a day. 72% knew the number of toilets in college despite this only few (14% lecturer's) daily use toilet facilities as they knew the health hazards of using unsafe toilets. Few of them (4%) faced the health problems by using unhygienic facilities. Whereas 37.5% students stay in college for 5-7 hours and 33.5% for 3-5 hours, but only 38% students accepted that they were using college toilets. The majority of students (93.5%) and lecturers (72%) knew about the number of toilets in college and 83% and 62% respectively were using them. The students knew the health hazards of unsafe toilets, but no one faced any health problem due to them.

Water is very important for hygiene, "A lack of access to water, sanitation and hygiene (WASH) affects women disproportionally, due to both biological and cultural factors" [17].Table -3 presents the functional situation of toilets like water for hygiene, soap for hand wash, toilet seats, dustbins, safety of doors etc. 64% lecturers and 82% students reported that there were dustbins inside the toilets. All the lecturers and 96.5% students accepted that there was tap inside toilets. But only 30% lecturers and 29% students said that there was water in these taps. 72% lecturers and 69.5% students stated that there was tap for hand wash. But water present in these taps was reported by 14% lecturers and 21% students. In addition to this only 4% lecturers and 19% students accepted about the availability of soap for hand wash. Doors were found safe with latches in all the 10 colleges.

Cleanliness and proper disposal of garbage are equally important as the physical availability of the facilities. Table 4reveals the filthy situation of toilets in the selected colleges. The majority (92%) of lecturers stated that cleaning should be done with water, soap, phenyl and other chemicals. And dustbins should be kept clean. But in actual situation only 64% lecturers and 38% students told that the daily cleaning of toilets was done.14% lecturers and 85% students said that they always faced dirt and filth inside the toilets. 24% lecturers and 61% students complained about soiled toilet seats. 14% lecturers and 44.5% students complained that they always found used sanitary napkins in open inside the toilets. It shows the unawareness of cleaning staff as well as of

users. In that case, many of them (18% lecturers and 31.5% students) refused using toilets. 32% lecturers and 54.5% students reported about toilets stinking. Thus, dirt, open sanitary napkins, and a bad odor was the common phenomena in the toilets of students as well as staff members.

The observation results show that the separate toilets for lecturers were comparatively less dirty and the number was sufficient. The dustbins were found only in three colleges. Soiled pots, lack of cleanliness in toilets and non-functional taps were found during observation. The door's latches were also broken or absent in many toilets whereas lecturers and majority of students reported safe doors. Although cleaning was done with phenyl and acid but toilets were still dirty.

Facilities: Drinking water

Drinking water facilities were also not up to mark. Table 5 reveals the situation of drinking water facilities in the selected colleges. A great no. (62%) of lecturers and students (22%) never consumed college drinking water as they feel that it was not safe for drinking. Many of them (22% lecturers and 8.5% students) do not know about the place of drinking water in the college. Lecturers and students reported that drinking water was available inside the canteen, outside the canteen, outside the toilets and elsewhere. Sources of water were different i.e. tube well, hand pump, tap, well etc. And the water was stored in tanks, pots and somewhere in both of these. 84% lecturers and 38% students said that drinking water was always available, but according to the 74% lecturers and 39.5% students it was not adequate. According to (32% of lecturers and 26.5% of students) them there were aqua guards, but not functional (according to the 30% lecturers and 21.5% students). 86% lecturers and 52.5% students said that water was covered safely. And regular purification was done according to the 84% lecturers and 16% students.

Interviews of housekeeping personnel's were taken with the help of structured interview schedule. And it was found that same person was managing both toilets as well as drinking water facilities. Supervisors of all colleges were educated. They were appointed on a contractual basis by bid system. When new bid opened, a contract also had to be changed. They come in college to observe the work of helpers only twice a month. The drinking water facilities were checked 1-2 times monthly by housekeeping personals.

There were 1-4 helpers in these colleges. The number is very small as compared to number of students. They were not getting their wages timely. Sometimes their salary was delayed for several months as they reported during the interview. They conveyed that there were separate sweepers for cleaning of entire college and toilets. They also stated that cleaning was done daily. The helpers told that the cleaning of toilets was done with broom, brush, surf, acid and phenyl. They were used to wash hands with soap after cleaning.

Aqua guard was available in only four colleges and only in one college it was working. There were water coolers in seven colleges out of them in three they were not functional. There was a college where drinking water facility was not available and in one college drinking water was not covered. Observation shows that in all ten colleges surroundings of drinking water were very dirty.

Conclusion

Results of the study depicted the grim situation of the facilities in most of the colleges which are below the optimum standard. The major contributing factors in this unhealthy situation are poor management of available resources along with contractual nature of housekeeping staff which denies accountability of the later. Along with that delayed payment to the contractual staff make things worse.

The need of the hour is to urgently pay attention towards the improvement of these basic facilities. The constitution also provides 'Right to Dignified Life' as one of the fundamental rights which also include the safe

and healthy environment. So these temples of higher education should also provide better hygiene and sanitation services to the occupants.

References

[1] Snel M., Ganguly S., Kohali C. and Shordt K. (2002) School Sanitation and Hygiene Education India Resource Book. http://www.irc.nl/sshe/resources/chintro.html

[2] World Health Organization and UNICEF (2006) Meeting the MDG drinking water and sanitation target: the urban and rural challenge of the decade, WHO Press, World Health Organization, 1211 Geneva 27, Switzerland.

[3] Shariff, A. (1995). Health transition in India (No. 57). National Council of Applied Economic Research.

[4] World Health Organization. (2003). The world health report 2003: shaping the future. World Health Organization.

[5] K. Park. (2009) Samudaik Swasthya Siksha (Paricharikaon Ke Liye), Banarasidas Bhanot Prakashan, Jabalpur.

[6] Basu, S. (1996). Need for action research for health development among tribal communities of India. South Asian Anthropologist, 17, 73-80.

[7] Bharadwaj G. (2007). Shala Swachta evem Swasthya Siksha Parishad, Jaipur. Nai Dilli: Publication, department, NCERT volume I.

[8] Assessment, I. (2002). Water supply and sanitation. Planning Commission, Government of India, New Delhi.

[9] World Bank Report (2006) India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service Background, Paper on Urban Water Supply and Sanitation the World Bank.

[10] Mooijman, A., Snel, M., Ganguly, S., & Shordt, K. (2010). Strengthening water, sanitation and hygiene in schools. Retrieved Apr, 15, 2010.

[11] Garg, C. C. (1998). Equity of health sector financing and delivery in India. Harvard School of Public Health, mimeo.

[12] Govindaraju, R., & Venkatesan, S. (2010). A study on school drop-outs in rural settings. Journal of Psychology, 1(1), 47-53.

[13] Balasubramaniam D. (2010) Access to Drinking Water in India. Ph. D. Thesis, the University of Georgia. Available online.

[14] Ramachandran S. K., (2012, July 28), “Sanitation, hygiene services almost nil in India”, THE HINDU (website).

[15] Maithly, B., & Saxena, V. (2008). Adolescent's educational status and reasons for dropout from the school. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, 33(2), 127.

[16] Davis, J., White, G., Damodaron, S., & Thorsten, R. (2008). Improving Access to Water Supply and Sanitation in Urban India: Microfinance For Water And Sanitation Infrastructure Development. Water Science and Technology, 58(4), 887.

[17] Jansz S., Wilbur J., (2013).Briefing note on Water Aid, website www.wsp.org/sites/wsp.org/files/publications/global_plareport.pdf

Table1: Student and Staff strength and Toilet facilities in Women's Colleges.

The no. given brackets are showing percentage.

S. No.	Colleges	No. of Lecturers	No. of Students	Toilets for Lecturers	Toilet -Lecturer ratio	Toilets for Students	Toilet - Student ratio	No. of helpers
1.	Kanodia Girls College	170	4500	8	1:21(21.25)	41	1:110(109.75)	4
2.	Maharani's Girls college	235	7500	5	1:47	45	1:166(166.6)	3
3.	Vedic Girls College	140	3900	8	1:18(18.5)	30	1:130	2
4.	Bhagwan Mahaveer College	29	1900	3	1:9(9.66)	15	1:126	2
5.	L.B.S.College	20	1790	6	1:3(3.33)	36	1:50(49.72)	4
6.	S.S.Jain Subodh College	40	2460	4	1:10	28	1:88(87.85)	4
7.	Indian Girls P.G.College	46	2554	3	1:15(15.3)	11	1:232	1
8.	Baba Narayan Das College	10	650	-	-	16	1:40(40.62)	1
9.	Dr. Ambedkar P.G.Girls College	16	700	-	-	9	1:78(77.77)	1
10.	Muslim Girls College	10	1300	-	-	13	1:100	3

Table 2: Routine activities of Lecturers and Students

S. No.	Stay in college and toilet related information	Lecturers (n =50)		Students (n=200)	
		Yes	No	Yes	No
1.	Time spend in college • 1-2 hours • 2-3 hours • 3-5 hours • 5-7 hours	 0 5(10) 34(68) 11(22)	 - - - -	 16(8) 42(21) 67(33.5) 75(37.5)	 - - - -
2.	Know the no of toilets in college	36(72)	14(28)	187(93.5)	13(6.5)
3.	Using college toilets	31(62)	14(28)	166(83)	34(17)
4.	Frequency of use • Daily • 1-2 times weekly • 3-4 times weekly • When needed	 7(14) 3(6) 9(18) 12(24)	 - - - -	 56(28) 12(6) 39(19.5) 59(29.5)	 - - - -
5.	• Know about the health hazards of unsafe toilets • Skin related • Genital related • Reproductive related • All of above	 - - - 50(100)	 - - - -	 42(21) 57(28.5) 33(16.5) 68(34)	 - - - -
6.	Faced any health problem due to unsafe toilets	2(4)	48(96)	0	200(100)

The no. given brackets are showing percentage.

Table 3: Facilities in Toilets

S. No.	Facilities in toilets	Lecturer's response		Student's responses	
		Yes	No	Yes	No
1.	Toilet seat type • Indian • Western	 41(82) 9(18)	 - -	 188(94) 12(6)	 - -
2.	Dustbin Inside	32(64)	18(36)	162(82)	36(18)
3.	Tap inside	50(100)	-	193(96.5)	7(3.5)
4.	• Water in Tap • Always • Mostly • Few times • Never	 15(30) 22(44) 10(20) 9(18)	 - - - -	 58(29) 17(8.5) 79(39.5) 39(69.5)	 - - - -
5.	Tap outside for hand wash	36(72)	14(28)	139(69.5)	61(30.5)
6.	Water in tap • Always • Mostly • Few times • Never	 7(14) 17(34) 10(20) 2(4)	 - - - -	 42(21) 26(13) 19(9.5) 52(26)	 - - - -
7.	Soap for hand wash • Yes • No • Some times	 2(4) 28(56) 20(40)	 - - -	 38(19) 103(51.5) 59(29.50	 - - -
8.	Safe doors	43(86)	7(14)	159(79.5)	41(20.5)
9.	Latch	50(100)	-	195(97.5)	5(2.5)

The no. given brackets are showing percentage.

Table 4: Cleanliness of toilets

S. No.	Cleanliness of toilets	Lecturer's response		Student's responses	
		Yes	No	Yes	No
1.	According to you cleaning can be done by- • Only water • Soap and water • Phenyl or other chemical • By keeping dustbin clean • All above	 - - 4(8) - 46(92)	 - - - - -	 21(10.5) 16(80 36(18) 24(12) 103(51.5)	 - - - - -
2.	Daily cleaning done • Daily • 1-2 times weekly • 3-4 times monthly • As required	 32(64) 7(14) 3(6) 8(16)	 - - - -	 76(38) 52(26) 46(23) 26(130	 - - - -
3.	Faced any waste inside	7(14)	43(86)	171(85)	29(14.5)
4.	Faced soiled toilet seat	12(24)	38(76)	122(610	78(39)
5.	If yes then how many times • Daily • Mostly • 1-2 times monthly	 - 5(10) 7(14)	 - - -	 13(6.5) 39(19.5) 26(13)	 - - -
6.	If yes what action taken • Ignore • Complain • Flush • Deny use	 - 4(8) - 8(16)	 - - - -	 5(2.5) 2(1) 9(4.5) 62(31)	 - - - -
7.	Sanitary Napkins found in open Always Sometimes Never	 7(14) 38(76) 5(10)	 - - -	 89(44.50 37918.5) 74(37)	
8.	When found then action taken- • Complain	 -	 -	 27(13)	 -

	• Called the helper for cleaning • Deny use	3(6) - 9(18)	- - -	14(7) 96(48) 63(31.5)	- - -
9.	Faced offence smell • Yes • No • Sometimes	 22(44) 38(76) 16(32)	 - - -	 109(54.5) 29(14.50 62(31)	 - - -

The no. given brackets are showing percentage.

Table 5: Situation and arrangements of drinking water

S. No.	Drinking water arrangements	Lecturer's response		Student's responses	
		Yes	No	Yes	No
1.	Consume college drinking water	19(38)	31(62)	156(78)	44(22)
2.	Unsafe drinking water affects health	50(100)		176(88)	24(12)
3.	Know about place of drinking water	39(78)	11(22)	183(91.5)	17(8.5)
4.	If yes then where • In the canteen • Outside the canteen • Near the toilets • Elsewhere	 17(34) 8(16) 4(8) 10(20)	 - - - -	 86(43) 44(22) 29(14.5) 24(12)	 - - - -
5.	Source of water • Tube well • Hand pump • Tap • well	 12(24) - 38(76) -	 - - -	 56(28) 6(3) 136(38) 2(1)	 - - - -
6.	Drinking water stored in • Tank • Pot • Both	 12(24) 38(76) 27(54)	 - - -	 53(26.5) 21(10.5) 126(63)	 - - -
7.	Aqua guards • Yes • No • Yes but not functional • Yes sometimes functional	 18(32) - 15(30) 11(22)	 - - - -	 52(26.5) 20(10) 43(21.5) 85(42.5)	 - - - -
8.	Adequate drinking water • Yes • No • Some times • Don't know	 37(74) 3(6) 10(20) -	 - - - -	 79(39.5) 62(31) 38(19) 21(10.5)	 - - - -
9.	Drinking water covered • Yes • No • Some times • Don't know	 43(86) - 7(14) -	 - - -	 105(52.5) 34(17) - 86(43)	 - - - -
10.	Always available • Yes • No • Sometimes • Don't know	 46(84) 4(8) - 9(18)	 - - -	 76(38) 86(43) 38(10) -	 - - -
11.	Purification done with chemicals • Yes • No • Sometimes • Don't know	 42(84) - 5(10) 3(6)	 - - - -	 32(16) 16(8) 33(16.5) 129(64.5)	 - - - -

The no. given brackets are showing percentage.