

Original Research Article

Water sanitation and hygiene in the schools of rural field practice area of Shri B. M. Patil Medical College, Vijayapur

Rashmi Hullalli*, M. R. Gudadinni, Shailaja S. Patil

Department of Community Medicine, Shri B M Patil Medical College Hospital & Research Centre, BLDE University, Vijayapura, Karnataka, India

Received: 08 September 2017

Revised: 07 October 2017

Accepted: 09 October 2017

*Correspondence:

Dr. Rashmi Hullalli,

E-mail: rashmi.s.hullalli@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: One of the world's most urgent issues is lack of safe water, sanitation and hygiene. Water-related improvements are crucial to meet the development goals, reduce child mortality, and improve health in a sustainable way. The absence of WASH in schools is responsible for 20% of total deaths and disability adjusted life years (DALYs) in children. Over 440 million school days are missed annually due to water, sanitation and hygiene related diseases. Though there are emerging vaccines for rotavirus and cholera still WASH remains critical in the prevention of diarrheal diseases, soil transmitted helminthes infections and acute respiratory diseases. Objective of the study was to study the implementation and functionality of WASH in schools.

Methods: A cross sectional study was done in all the schools of rural practice area of our college by interview technique using a pre tested semi structured questionnaire.

Results: Out of 7 schools, 5 (71%) had piped water supply but only 2 schools (28.5%) practiced the process of water purification every day. All the schools were provided with toilet facilities whereas only 3 schools had separate toilet for girls. When looked upon availability of soap only 3 schools had provided soap regularly for hand washing. Most of the schools taught about personal hygiene but only 2 schools revealed that they dispose solid waste regularly.

Conclusions: Although nationwide emphasis is given to water sanitation and hygiene, practicing is very low especially in rural areas. Therefore special efforts should be done not only for the implantation, but also upon the operation and maintenance of the same.

Keywords: Water, Sanitation, Hygiene, School children

INTRODUCTION

The importance of water sanitation and hygiene (WASH) has been well documented in the literature. It is one of the basic components of health in schools. Research of WASH on nutrition has showed that WASH is responsible for half of under nutrition in the world.^{1,2} Recent studies have highlighted the importance of environmental hygiene on child's nutritional status. Similarly under nutrition is a risk factor for enteric

infections. Today, WASH measures remain critically important especially among children from developing countries who are at greater risk from enteric infections. As a result of increased use of oral rehydration therapy (ORT), the diarrhoea mortality has been reduced even though diarrhoea remains the second leading cause of death in under five children after pneumonia.³ 88% of all child deaths are due to diarrhoeal diseases.³ Soil transmitted helminthic infections are strongly associated with open air defecation and the use of fresh excreta or wastewater in agriculture. About 1 billion people practise

open air defecation especially in rural areas.³ Children are at greater risk of infection because of their lower immunity. Literature on hand hygiene reveals that hand washing with soap will reduce all the microorganisms.³ Water treatment methods like boiling, filtration will improve the quality of water significantly. 34% of primary schools and 25% of rural health-care centres lack improved sanitation facilities.⁴ Hence this study was undertaken to know the status of WASH in schools of rural practise area of our college.

Objectives

- To assess the status of WASH in schools.
- To know the operation and maintenance of the same.

METHODS

Study design: Cross sectional study

Study place: Ukkali village, B Bagewadi taluk Vijayapur district.

Study period: 1 month (August 2016 – August 2016)

A cross sectional study was conducted in all the schools of rural field practice area of our college. Ukkali is the village where we have our rural health training centre. There are a total of 7 schools in this place. All the schools within our purview were included. Data was collected by interview technique using a pre tested semi structured questionnaire. After explaining the purpose of the study, information was collected from the headmasters by visiting each school; in case of his/her absence it was obtained from the in-charge head master of the school. The questionnaire had 5 components which include information about the school, water supply, sanitation facilities, hygiene and waste disposal. The above information was cross checked by inspecting the school premises.

Data was entered in MS Word and analysis was done. The results were expressed in terms of percentages and proportions along with graphical representations.

RESULTS

There were total (n=7) schools in the study area of which 4 were primary schools and 3 were secondary schools. 3 schools were run by government sector and 4 by private sector. Schools had a total of 23 physically disabled children of which 13 were girls and 10 were boys. The number of teachers in all the schools was 83.

Majority i. e. 72% (5) of the schools had piped water supply as their source of water. 86% (6) of schools reported that, the frequency of water supply was once in 5 to 7 days. When asked about its scarcity, 86% of schools reported that water was enough for the usage.

None of the schools had water facilities which are accessible to physically handicapped children.

Table 1: School details (n=7).

School level	Primary	4
	Secondary	3
School management	Government	3
	Private	4
No of disability children	Girls	13
	Boys	10
		23
Number of teachers	Male	31
	Female	52
		83

Table 2: Details of water supply.

Source of water supply	Piped	5 (72%)
	Public tap	1 (14%)
	Borehole	1 (14%)
Functionality of water source	5-7 days	6 (86%)
	2-4 days	1 (14%)
	<2 days	0
Does it provide enough water?	Yes	6 (86%)
	No	1 (14%)
Treatment of water supplied	Always	2 (28.5%)
	Sometimes	2 (28.5%)
	Never	3 (43%)
Do children bring their own drinking water?	Most	1 (14%)
	Some	2 (28.5%)
	None	4 (58.5%)
Drinking water accessibility to physically disabled	Yes	0
	No	7 (100%)

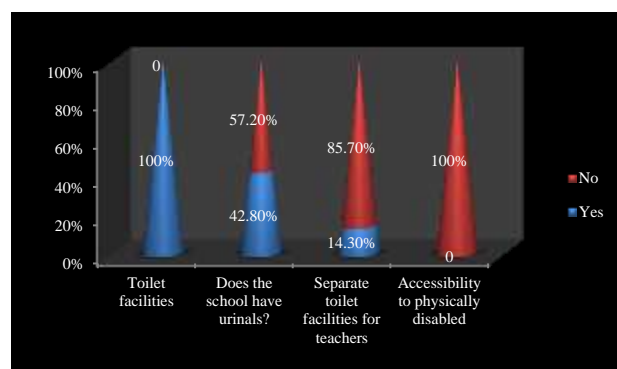


Figure 1: Sanitation in schools.

The above figure shows the details of sanitary facilities. All the schools (100%) had toilet facilities but 3 (42.8%) schools had urinals. Only 14.3% of the schools had separate toilet facilities for teachers. No school had toilet

facility which was accessible to students with physical disabilities.

Table 3: Hygiene.

Hand washing facilities	Yes	7 (100%)
	No	0
Hand washing station exclusively for girls	Yes	2 (28.5%)
	No	5 (71.5%)
Is the sufficient soap/ash available	Always	3 (42.8%)
	Sometimes	2 (28.5%)
	Never	1 (14%)
Is hygiene taught in school?	Yes	5 (71.5%)
	No	2 (28.5%)

All the schools (100%) had washing facilities like wash basins but only 3 (42.8%) schools had soap which was always available at the site. Hygiene practices like steps of hand washing were taught in 5 schools (71.5%).

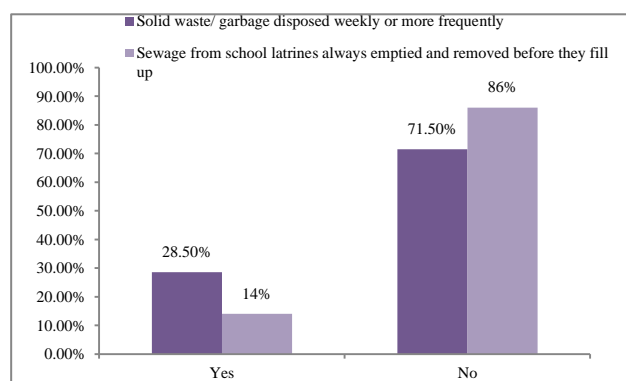


Figure 2: Waste disposal in schools.

The above bar diagram shows that most (71.5%) of the schools used to dispose solid waste and garbage once in a week or more frequently. And majority of the schools (86%) said that they empty and remove the sewage from school latrines before they fill up.

DISCUSSION

A review by The Global Public-Private Partnership for Hand washing, including studies from Asia and Africa, found rates for hand washing ranged from 3 to 42% and 1 to 16%, respectively whereas in our study it was found to be 28.5%.⁵ Our findings reveal that, regardless of the number of available toilets, toilets exclusively for girls was found to be 57.2% similar to a study done at Myanmar which was 51.7%.⁵ All the schools had water supply in a study done at urban area of North India which was similar to our study.⁶

Provision of safe drinking water at schools is very essential. This is especially true for a developing country

like India. Teachers play an important role in inculcating such good practices where the process of primordial prevention is concerned. Majority of these diseases are preventable by the promotion of hygienic practices among school children through proper health education.

CONCLUSION

Organisations can use these results to prepare for challenges and to know what conditions are necessary for successful programme. Even though importance is given to water sanitation and hygiene (WASH), practicing is very low especially in rural areas of developing countries. Therefore special efforts should be done for the implementation of WASH in schools, and also upon the operation and maintenance of the same.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Teague J, Johnston EA, Graham JP. Water, sanitation, hygiene, and nutrition: successes, challenges, and implications for integration. *Int J Public Health*. 2014;59:913-21.
2. Strunz EC, Addiss DG, Stocks ME, Ogden S, Utzinger JR, Freeman MC. Water, Sanitation, Hygiene, and Soil-Transmitted Helminth Infection: A Systematic Review and Meta-Analysis. *PLoS Med*. 2014;11(3):e1001620.
3. Brown J, Craincross S, Ensink JHJ. Water, sanitation, hygiene and enteric infections in children. *Arch Dis Child*. 2013;98:629-34.
4. GLAAS, 2012. GLAAS 2012 Report. UN-Water Global Analysis and Assessment of Sanitation and Drinking Water: The challenge of extending and sustaining services. World Health Organization. http://www.un.org/waterforlifedecade/pdf/glaas_report_2012_eng.pdf
5. Weaver ERN, Agius PA, Veale H, Dorning K, Hlang TT, Aung PP, et al. Water, Sanitation, and Hygiene Facilities and Hygiene Practices Associated with Diarrhea and Vomiting in Monastic Schools, Myanmar. *Am J Trop Med Hyg*. 2016;95(2):278-7.
6. Sekhon H, Minhas S. A school based survey on hygiene in an urban area of North India. *Sch Acad J Biosci*. 2014;2(8) 499-504.

Cite this article as: Hullalli R, Gudadinni MR, Patil SS. Water sanitation and hygiene in the schools of rural field practice area of Shri B. M. Patil Medical College, Vijayapur. *Int J Community Med Public Health* 2017;4:4307-9.