A Diarrhoea Awareness Campaign to Improve the Knowledge among the Adolescents in Mysuru City

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Abstract

Diarrhoea can be defined as passage of loose stools, three times or more in a day, with an increased frequency of bowel movements. It is mainly affecting the poor because of lack of poor sanitation and water hygiene. With proper education about sanitation and hygiene, through demonstrations and educational interventions, the adolescents can practise these precautionary measures at home and prevent themselves from these frequent infections.

Aim: To provide awareness and education to the adolescents in Mysuru district and to assess the effectiveness of this diarrhoea awareness campaign among the adolescents in Mysuru district.

Methods: Community based intervention study. In a duration of three months, 3 schools were covered in field practice area of JSS urban health centre, Medhar block and JSS high school bannimantap. The sessions had presentations, live demonstrations and informative brochures on hygiene and ORS. Pre and post validated questionnaire was given to assess children's knowledge. Sample size is 119.

Results: We found that post the intervention there was a significant increase in the knowledge among the adolescents. There was a significant association between socio-demographic factors like religion, type of drain, type of family, source of water for cooking and household purposes.

Conclusion: We can conclude from the above study that intervention campaigns like the above is one of the most simplest and effective ways to spread health awareness among adolescents. With targeted groups and by combining components of health we can make significant progress in increasing the health status of the community.

Keywords: Awareness; Diarrhoea; Adolescents; Demonstrations; Campaign.

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INTRODUCTION

Diarrhoea can be defined as the passage of loose or watery stools three times or more in a day, meaning there is an increased frequency of bowel movements, affecting people of all ages. It is caused by a variety of bacterial, viral and parasitic organisms.[1]

Globally a total of 2.9 million sanitation and water related diarrhoea deaths occur per year among children under five years. Older children are severely affected too as every fifth child's

growth is stunted, one in thirteen is wasted and every seventh child is underweight with 90% of these cases occur in South Asia and Sub-Saharan Africa region. Apart from these, an overwhelming two billion people worldwide are infected with intestinal parasites and ahigh burden of this is among children in resource poor settings.[2]

In the Indian scenario, according to Water Aid report 2018, 163 million people lack access to clean water close to their home and lack sanitation facilities making diarrhoea the third leading cause of childhood mortality with 1.6 million deaths/ year in the country for under fives.[3]

So it is clear that diarrhoea is mainly a disease affecting the poor mainly because of lack of proper sanitation, provision of clean water and improper hygiene with an approximate two million deaths which could be prevented annually if everyone practised appropriate hygiene and had good, reliable sanitation and drinking water. Also a majority of childhood deaths which could be prevented through good water, sanitation and hygiene.[4-5]

Considering that the disease has a sudden onset and the speedy progression, the cases might be life threatening in children, therefore prompt interventions at home or near the health facility could be the difference between survival and mortality. Early prevention measures, awareness about the surroundings, and proper sanitation practices can help in keeping the adolescents healthy.[6]

If adolescents are provided with the good education through demonstrations and educational interventions, then it will empower them to take the necessary steps to keep themselves healthy and active. Educational interventions directly on the community is an important and effective tool in bringing down the incidence of diarrhoea.[7]

Many of the interventions if properly reached to the adolescents, can be very effectively practised at home, usually a lack of awareness and knowledge about home based treatment like oral rehydration therapy and seeking appropriate care when presented with signs and symptoms is what leads to the morbidities. Hence a national oral rehydration therapy programme was initiated to reduces the burden of diarrhoea among adolescents, and it has become an integral part of mother and child care.[8-9]

The UNICEF has already appealed for a stronger commitment to the fight against adolescent and childhood diarrhoea. Better interventional strategies have to be developed in order to break through these barriers and respond with appropriate measures. Only by delivery of these effective measures can we further reduce childhood diarrhoea throughout the world. A multi dimensional approach will therefore be more effective for behavioural change among the adolsescents.[10-11]

Our study focuses on providing awareness and education to the adolescents in Mysuru district and to assess the effectiveness of this diarrhoea awareness campaign among the adolescents in Mysuru district.

METHODOLOGY

This study is acommunity based intervention study.

The awareness campaign was conducted over a duration of three months from February-April 2022, in the three schools namely government primary school, high school in Medhar block and JSS high school, Bannimantap, Mysore.

Prior to conducting the demonstrations for the students, informed consent from the school authorities were taken. The demonstrations followed a standardised protocol and lasted for 20-30 minutes per session with each session focusing on around 25-35 students. Six such sessions were conducted.

Each session proceeded in the following manner. At the beginning of every session, questionnaires in Kannada were distributed and the students were asked to fill it out. Any queries by the students, with respect to the questionnaire were clarified and explained by the moderators or teachers from the school who accompanied us for the study. Once the questionnaires were collected, a presentation was displayed for the students regarding the awareness and knowledge of diarrhoea. The presentation consisted of slides regarding definition of diarrhoea, types of drain, types of waste, signs and symptoms of diarrhoea, about handwashing steps, Oral Rehydration solution (ORS) composition and how to use it at their houses. A live demonstration of handwashing steps and usage of the ORS was done. Here the ORS packet was taken and poured

into 1 litre of water and mixed properly to make the solution. Following this, diarrhoea awareness brochures were distributed to the students and to the school staff for display at the school bulletin. The brochures had information regarding preparation of ORS and sanitary measures like food hygiene practices and hand washing techniques. At the end of the session, the same questionnaire was asked to be filled again, for post intervention assessment of knowledge.

Adolescents from 10-19 years who were willing to participate in the study were included.Purposive sampling technique was done for sample collection and a total of 160 students were evaluated.

Ethical clearance was obtained from JSS academy of higher education and Research. Oral consent was taken from the study participants.

The data collected was entered in Microsoft Excel 2019 spreadsheet followed by analysis using SPSS version 26 Windows version 26.0 (IBM Corp. Released 2019. IBM SPSS Statistics for Armonk, NY, USA) The demographic characteristics such as age, gender, education etc. were represented using standard deviation and percentages. The statistical significance between the two paired groups and the socio demographic factors was compared using Wilcoxon test. The data distribution was represented using appropriate tables. A p-value of less than 0.05 is considered statistically significant.

RESULTS

Table 1: Awareness scores of the students before and after intervention.

Awareness scores	Pre (n=119)	Post (n=119)	Standard Deviation		P value
			Pre	Post	
Median	11	12	2.157	1.825	0.001
Interquartile range	9	11			

Table 2: Frequency chart for Age, Gender, Religion, Socioeconomic status and type of family with their respective categories.

Variables	Category	Frequency	Percentage (%)
Age	10-14	90	75.6
	15-19	29	24.4
Gender	Female	63	52.9
	Male	56	47.1
Religion	Hindu	105	88.2
	Muslim	6	5.0
	Christian	6	5.0
	Jain	2	1.8
Socio-economic status	Upper high	4	3.4
	High	3	2.5
	Upper middle	80	67.2
	Lower middle	30	25.2
	Poor	2	1.7
	Very poor	-	-
Type of family	Nuclear	82	68.9
	Joint	27	22.7
	Others	10	8.4

Table 3: Association of pre and post-testawareness values with the socio-demographic variables and its categories (gender, religion, type of family, type of drain, source of drinking water, source of cooking water, source of water for household purposes).

Variables	Category	Pre test Median (IQR)	Post test Median (IQR)	p-value
Gender	Female	10(9-12)	12(11-12)	0.000
	Male	11(9-12)	12(11-12)	0.000
Religion	Hindu	10(9-12)	12(11-12)	0.000
	Muslim	11.50(9.50-12)	11.50(10-12)	0.655
	Christian	11.50(8.50-12)	11.50(9.25-12)	0.317
	Jain	11.50(8.25-9.25)	11.50(8.25-9.25)	1.000
Type of family	Nuclear	10(9-12)	12(11-12)	0.000
	Joint	10(8-12)	12(11-12)	0.002
	Others	11(10-12)	12(11.50-12)	0.238
Type of drain	Open	11(9-12)	12(10.50-12)	0.005
	Closed	10(9-12)	12(11-12)	0.000
	Others	6(0-9.50)	6(0-9.50)	1.000
Source of drinking water	Municipal or piped water	10(9-12)	12(11-12)	0.000
	Open well	10.50(7.50-8.75)	10(7.50-8)	0.317
	Borehole	11(9-12)	11(10-12)	0.168
	Handpump	10(10-10)	12(12-12)	0.083
	Bottled water	11(8-12)	12(11-12)	0.000
Source of cooking water	Municipal or piped water	10(9-12)	12(11-12)	0.000
	Open well	10.50(7.50-8.75)	10(7.50-8)	-
	Borehole	11(9-12)	11(10-12)	0.088
	Handpump	10(10-10)	12(12-12)	0.026
	Bottled water	11(8-12)	12(11-12)	0.012
Source of water for household purposes	Municipal or piped water	11(9-12)	12(11-12)	0.000
	Open well	10(9-12)	12(11-12)	0.000
	Borehole	-	-	-
	Handpump	-	-	-
	Bottled water	-	-	-

Awareness scores of the students before and after intervention shows the pre and post awareness scores from which we can deduce there is a significant increase in the awareness scores before and after intervention (Table 1).

The frequency chart shows that, in the study population 52.9%(63) are female. 88.2%(105) belong to Hindu religion. 67.2%(80) belong to the upper middle socio-economic status and 25.2%(30) belong to the lower middle status. 68.9%(82) are nuclear families and 22.7%(27) are joint families. 66.4%(79) of the fathers work as coolie while 78.2%(93) work are housewives. 40.3%(48) of the fathers and 42.9%(51) of the mothers completed high school education (Table 2).

An association of pre and post intervention scores with the socio-demographic variables and the categories was also done. Both male and female have a significant association, similarly Hindus, have a shown significance. In type of family, both nuclear and joint have shown significance, in type of drain, closed drains have shown significance. In sources of drinking water, municipal or piped water and bottled water have shown significance. In sources of cooking water, municipal or piped water has shown significance. In sources of water for household purposes piped water and open well have both shown significance (Table 3).

DISCUSSION

We can see from the above results that there is a significant improvement in the knowledge scores before and after the awareness study. There

is also a significant association between socio demographic factors and their housing conditions with the improvement in their knowledge levels of diarrhoea showing that better housing conditions play a better role in their understanding of the disease.

This study shows that water and sanitation practices at home including the housing conditions, were of prime importance when it came to the knowledge of diarrhoea. The students with better sanitary conditions were more aware of how to keep themselves free from diarrhoea than the ones with poorer housing conditions which is in line with study done by Calncross S, Hunt C et al. The reason being that better housing conditions may also mean they could look after themselves better, as they didn't have to worry about many of the facilities which houses with open drain or outdoor water sources have to encounter. So with adequate awareness they could actually implementing these preventive steps in their household as their basic needs were already met.[12]

To reiterate the above point, study done by Komarulzamam A, J Smits et alshows that people having piped water sources, have reduced chances of diarrhoeal infection, this may be attributable to the reason that piped water meant a regular supply, and they didn't have to search for water from outside. Outdoor water supply mostly meant that the water was exposed to insects and dust and other pathogens which can cause diarrhoea whereas with piped water there was no such problems. This is in line with our study which shows that students living in piped water houses had a better inclination to understand and adhere to the preventive measures of diarrhoea.[13] A study by Reese H, Routray P et al. shows that piped water and secure water sources may not directly decrease the prevalence of diarrhoea but it changes the behaviour and promotes more usage of toilet and a cleaner disposal of waste from the household. It bring about a systematic approach to the water usage and their personal sanitation measures. It is also more effective in the long term benefits of health.[14]

Socio-economic factors like gender, religion, type of family have a significant association with pre and post knowledge interventions. The significance of this is that factors like a closed drain or piped water is better for prevention of diarrhoeal diseases, so this can be made aware to the people and make them adapt these methods for prevention. This is line with previous studies done by Sriram S, Shwetha NB et al.[9]

Another important point from this study is about the lack of awareness about home remedy measures like the use of ORS by the students. Studies have shown that the ORS is undoubtedly an effective measure to manage diarrhoea but because there is a lack of awareness of where to get it and how to use it, students were quite unsure of its uses. With effective education on where it is available, its compositions, its uses and on how to effectively use ORS, they can manage the diarrhoea to a certain extent by themselves. This is in line with the study byUzoma J O, Nucchi C E et al.[15]

This study has implemented one of the most reliable and tested interventional methodswhich is that of educational campaigns. It is engaging and demonstrative, which may be a good inclination for the youth to understand the information better. Regular such campaign will be effective to increase the knowledge of not only diarrhoea but for other diseases as well. Also with minimum resources, awareness can be spread to a larger number of the community especially the adolescents. The main drawback would be the small sample size taken and the limited number of schools which this was conducted in. With more studies on different communities and with sufficient evidence to back it up, we can implement this on a large scale.

CONCLUSION

We can conclude from the above study that intervention campaigns like the one presented is one of the most simplest and effective ways to spread health awareness among adolescents. With targeted groups and by motivating participation from youth we can make significant progress in increasing the health status of the community. More such integrated health awareness campaign can be the key to improving health of the adolescents and shift them to a healthier lifestyle.

Author Contributions: All the authors have equally contributed in all the steps including conception, data collection, analysis and writing of article.

Ethical Approval: JSS academy of higher education and research have approved the study protocol. The study participants have provided oral consent before data collection.

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