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Original Research Article

School health performance score: a comparative study between rural and urban school performance

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ABSTRACT

Background: Safe, secure and healthy environment for children to learn better and face the challenges of future life can be achieved by school sanitation and hygiene education. The objective of the study was to study School health performance score and compare between rural and urban school performance.
Methods: A cross sectional study was carried out. It included randomly selected 46 rural schools and 11 urban schools. Both the school was compared in terms of school health services parameters.
Results: In our study, 33854 students in total were enrolled from 46 rural schools as compared 9904 students from 11 urban schools. Mean number of students per school was noted to be 735.95±303.72 in rural schools and 900.36±172.83 students in urban schools. From the 46 rural school teachers, 7 teachers had semi-English as their mode of teaching as compared to 39 teachers whose mode of teaching was Marathi; while all the 11 urban school teachers taught their students only in Marathi.
Conclusions: It was found that the school performance score overall as well as on individual item studies was significantly better in urban schools than the rural schools.

Keywords: School, Health, Performance score

INTRODUCTION

Education is a best indicator for lifelong health with improved quality of life. Those with more years of schooling tend to have better health, well-being and healthier behaviors. Education is an important mechanism for enhancing health and well-being of individuals as it reduces the need for health care, associated costs of dependence, lost earnings and human suffering. It also helps promote and sustain healthy lifestyles and positive choices, supporting and nurturing human development, human relationships as well as personal, family and community well-being.[1,2]

Safe, secure and healthy environment for children to learn better and face the challenges of future life can be achieved by school sanitation and hygiene education.[3]

In India, more than one fifth of our child population of 5-14 years of age usually opts for primary and secondary education. The number of children enrolled in schools are 80% whereas the rest remaining out of school. Out of the enrolled children, 65-85% is regularly attending school, on an average 200 days (54.79%) in a year. Thus, majority of the time is spent in school.[3]

School health is a social concern in different populations, places, and time. Investigators suggest that education causes health; however, the pathways through which education leads to better health and longer life expectancy are still not clearly understood. We know that education, health, and social outcomes are very closely interdependent. Success in school and years of schooling are major factors in determining social and occupational status in adulthood and health status throughout life.[4]

The concept of a health promoting school, as promoted by the World Health Organization (WHO) and supported by UNESCO, is useful in realising the scope of school-related health issues extending beyond the classroom.[5] A health-promoting school aims to enable pupils, staff and the community and serves to take action for a healthier life, school and society.

Present study was carried out to study the school performance score and compare the findings between rural and urban schools.

METHODS

Present study was school based cross sectional study carried out from March 2016 to December 2016. The study was carried out among randomly selected urban and rural schools of Sangli district.

A total of 46 rural schools from the Sangli district were randomly enrolled in the present study. A total of 11 urban schools from the Sangli district were randomly enrolled in the present study.

There was a checklist filled by Investigator after observing premises of school. Both in checklist and questionnaire there was no mention of name of the teacher, hence identity kept anonymous.

Checklist for school

Its objective was to assess facility provided in the school and environment of school premises.

It was filled by investigator by discretely watching the premises of school.

Section 1

It comprised of information regarding name of the school, number of students, school medium.

Section 2

It consists of facilities provides in the schools like- health programmes, dental and eye check-ups, TT immunization, facility of ambulance and stretcher, number of trained teachers for handling accidental situation, washing of water tank, insecticidal spraying and medical record keeping.

Section 3

It consists of availability of first aid services, filtered water supply, availability of urinals and latrines, cleanliness of classroom, ventilation and lightening, sitting arrangements, mesh on windows.

Meanwhile checklist of schools was filled by investigator after watching the premises of school.

The data was entered in the statistical software programme and analyzed using proportions. Percentages were used for descriptive data. Mean and two standard deviation were calculated for quantitative data. Mann-Whitney test and Fisher exact test was used to compare the performance score between the rural and urban schools

RESULTS

Majority schools i.e. 46 (80.7%) were located in the rural areas. Only 11 (19.3%) of schools were located in the urban areas.

Table 1: Distribution of schools based on location.

Location	Number	Percentage (%)
Rural	46	80.7
Urban	11	19.3
Total	57	100

Table 2: Total number of students.

Distribution of students	Rural schools (46 schools)	Urban schools (11 schools)
Total number of students	33854	9904
Mean±SD students/school	735.95±303.72	900.36±172.83

In our study, a total of 33,854 students were enrolled from the 46 rural schools as compared 9904 students from the 11 urban schools. The mean no. of students per school was 735.95±303.72 from the rural schools in comparison to 900.36±172.83 students from urban schools.

Table 3: Medium of teaching in schools.

Medium of teaching	Rural schools	Urban schools
Semi-English	07	00
Marathi	39	11
Total	46	11

P=0.3251, using Fisher's exact test.

From the 46 teachers in rural schools, 7 teachers had semi-English as their mode of teaching as compared to 39 teachers whose mode of teaching was Marathi. From the 11 teachers in urban schools, all the 11 teachers taught their students only in Marathi. No significant difference in the proportion of schools using different modes of teaching between the two groups was observed.

Table 4 shows school performance score. Using Mann-Whitney test for Health related programme score indicated that the median health related programme score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median score related to

other health facilities was significantly higher in urban schools. Using Mann-Whitney test indicated that the median drinking water hygiene score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median other imp measure score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median cleanliness score was significantly higher in urban schools. Comparison of mesh on windows could not be analyzed, as all values in urban group were 0. Using Mann-Whitney test indicated that the median toilets and urinals infrastructure score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median overall school performance score was significantly higher in urban schools. Using unpaired t-test indicated that the percent school performance score was significantly higher in urban schools.

Table 4: School performance score.

Median (range)	Rural schools (n=46)	Urban schools (n=11)	P value
Health related programme score	2 (0-3)	3 (2-3)	0.0490
Other health facilities score	2 (0-5)	5 (2-5)	0.0002
Drinking water hygiene score	1 (1-2)	2 (1-2)	0.0381
Other important measure score	5 (2-7)	7 (6-7)	0.0011
Cleanliness score	3 (0-5)	4 (2-5)	0.0032
Mesh on windows	0 (0-1)	0 (0)	Cannot be analyzed, as all values in urban group were 0
Toilets and urinals infrastructure score	7.66 (4-10)	9.03 (7-10)	0.0136
Overall school performance score	20.21 (10.3-28.6)	28 (24.4-31)	<0.0001
Percent school performance score	59.42%	82.35%	<0.0001

DISCUSSION

Majority schools i.e. 46 (80.7%) were located in the rural areas. Only 11 (19.3%) of schools were located in the urban areas.

In our study, a total of 33854 students were enrolled from the 46 rural schools as compared 9904 students from the 11 urban schools. The mean no. of students per school was 735.95±303.72 from the rural schools in comparison to 900.36±172.83 students from urban schools.

From the 46 teachers in rural schools, 7 teachers had semi-English as their mode of teaching as compared to 39 teachers whose mode of teaching was Marathi. From the 11 teachers in urban schools, all the 11 teachers taught their students only in Marathi. No significant difference in the proportion of schools using different modes of teaching between the two groups was observed.

Using Mann-Whitney test for health related programme score indicated that the median health related programme score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median score related to other health facilities was significantly higher in urban schools. Using Mann-Whitney test indicated that the median drinking water hygiene score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median other imp measure score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median cleanliness score was significantly higher in urban schools. Comparison of mesh on windows could not be analyzed, as all values in urban group were 0. Using Mann-Whitney test indicated that the median toilets and urinals infrastructure score was significantly higher in urban schools. Using Mann-Whitney test indicated that the median overall school performance score was significantly higher in urban schools. Using unpaired t-test indicated that the percent school performance score was significantly higher in urban schools

Majra et al studied 20 schools. 25% of the schools i.e. five schools are having remote location.[6] Only 50% of schools i.e. ten schools were found to have satisfactory infrastructure. Overcrowding was present in 90% of the schools. Lighting and ventilation was sufficient in 70% and 60% of the schools respectively. In 80% schools, it was found that there was adequate cleanliness. No school was having the separate arrangement for lunch of the school children. Facility for drinking water was present in 18 schools. Liquid waste disposal was not satisfactory in 6 schools. Solid waste disposal was not satisfactory in 8 schools. 10 schools had latrines for boys. 12 schools had latrines for girls. Hand washing facility was found to be present in only two schools. These findings are similar with the findings of the present study.

Le et al found that all schools had separate latrines for students. Inspite of that it was observed that the students were defecating and urinating in the open land.[7] This was due to more number of students and less number of latrines. Hence if the latrine was occupied, the waitlisted student preferred the open urination or defecation. In some schools it was found that the latrines were situated at long distances from schools hence the students were forced to go in open nearby school. In some schools, it was found that the latrines had no water supply and hence the students preferred the open areas. In certain schools,

the latrines were not washed and maintained regularly. Most of the schools were not promoting the awareness among students regarding regular use and maintenance of latrines. The authors took feedback from students and found that the students desired to have clean latrines with regular water supply apart from having adequate number of latrines.

Ebong assessed the knowledge of school children on hygiene in schools.[8] They also assessed the presence of hygienic facilities at study schools. The authors found that the knowledge level among studied school children was very good. Most answers to maximum questions pertaining to environmental hygiene were found to be absolutely correct. The knowledge of this regard was even very good among pupils whose fathers had good literacy status than the pupils whose fathers had bad literacy status. 100% of knowledge score was found in 88 students whose fathers were literate compared to only 39 students whose fathers were illiterate. The authors asked questions pertaining to the hygienic levels at the student's houses and found that 22% used to take water supply from wells for drinking water. 78% of the houses had drinking water supply from bore. Almost 90% of the houses were dumping their refuse. Around 70% of the houses had pit latrines. Only 33% of the houses had access to closed drainage system.

Joshi et al reviewed various studies on association between various factors and improved health.[9] They noted that after review of 15 studies, age of the child, sex of the child, class in which the student studying, social class to which the student belongs, accessibility of the student for facilities of the sanitary and hygiene and before knowledge related to the hygiene practices were found to be very much significantly associated with the improved health outcomes among those with very good knowledge.

Morgan et al stated that if the students studying in schools are given proper access to the regular water supply, they made available the sanitation and told about hygiene then the overall health of these students will be improved.[10] Not only this, it will definitely reflect improved outcome in education of these children. It will also remove the gender bias among school children.

CONCLUSION

It was found that the school performance score overall as well as on individual item studies was significantly better in urban schools than the rural schools. Government needs to give more attention towards rural schools to improve the overall infrastructure, health facility and hygienic facilities at these schools promptly. They need to think of innovative methods to increase the inflow of funds at these schools. For example the Government can name the school against the donor name if he is ready to give a certain good amount of funds to that school.

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