ORIGINAL ARTICLE

KNOWLEDGE REGARDING HEALTHFUL SCHOOL ENVIRONMENT AMONG TEACHERS IN SCHOOLS

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ABSTRACT

Background: Healthful school environment is one of the components of school health program which is essential for promotion and maintenance of healthy and safe learning as well as living environment. The objective of the study was to assess the knowledge regarding healthful school environment among teachers in school of Palpa.

Method: A descriptive cross sectional design was carried out among 96 teachers working in Shree Damkada Model Secondary School, Saraswati Higher Secondary School and Shree Sarda Higher Secondary School. Probability proportionate sampling method was used and data was collected through self-administered questionnaire and analyzed by descriptive and inferential statistics using SPSS version 25. Findings were presented in tabulated form.

Findings: More than half (53.9%) had adequate level of knowledge. Adequate knowledge was present on meaning (59.8%), purpose (89.6%), important of boundary for school (100.0%), classroom structure with minimized distraction and hazard to students (69.8%), comfort and ergometric design of classroom furniture (62.5%), color of board used in classroom(71.9), necessary of cross ventilation (86.5%), necessary of separate eating facility (100.0%), necessary of separate toilet facility (100.0%), safe method for waste disposal (71.9%). However inadequate knowledge was present regarding appropriate location for school (32.3%), area needed for a student (34.4%), ideal number of students in one classroom (2.0%), size of playground for school (10.4%). There was no significant association found level of knowledge and socio-demographic variables.

Conclusion: More than half of the respondents have adequate level of knowledge regarding healthful school environment despite of this there is inadequate level of knowledge regarding appropriate location for school, area needed for one student, ideal number of students in one classroom. This indicates need of in-service education program on healthful school environment.

Keywords: *Healthful school environment, Teacher, Knowledge*

INTRODUCTION

Healthful school environment is one of the interrelated aspects of the school health programs. The concept "Healthful School Environment" denotes all the consciously organized, planned, and executed efforts to ensure safety and healthy living conditions for all members of the school community[1].

Healthful school environment is one that protects students and members of the school against immediate injury or disease and promotes prevention activities and attitudes against known risk factors that might lead to future disease or disability. It includes the physical, aesthetic surroundings, the psychosocial climate and culture of the school[2]. The purpose of a Healthful School Environment is to create a healthy and safe learning environment in the school. The physical school environment includes the school building and its contents, the physical structures, infrastructure, furniture and the use and presence of chemicals and biological agents. The site on which a school is located and the surrounding environment, including air, water and materials with which children may come into contact, and nearby land use, roadways and other hazards[3].

In endemic areas, 60% of all school children may suffer from malaria[4]. Standing water and poor waste management in schools increase vectors breeding and spread near the school environment[3]. Hence, schools situated adjacent to pools of water and wetlands are more susceptible to mosquito-borne diseases. In high-income countries, road traffic accidents are the most common cause of death among children aged 5-14 years and account for approximately 10% of deaths in this age group. In low and middle-income countries, road traffic accidents are the fifth leading cause of deaths in the same age group, after diarrhoeal diseases, lower respiratory infections, measles and drowning[5].Therefore, schools located near busy roads or water bodies, landfills, construction sites have increased risks of these accidents. Falls and injuries within school grounds can occur due to a poorly maintained school environment or poor construction management. Human excreta are the most significant source of disease-producing organisms, including parasites, bacteria and viruses. Success in eliminating fecal material from the school environment is dependent on informed and responsible students, supervision of young pupils, a fence or structure to stop animals from defecating in areas where children play, toilets conveniently located- reliable, clean, odor-free, private and well maintained. Separate facilities for girls can reduce dropout rates during or before menses[6].

Most children throughout the world attend school. It is important to the health of these children that they have clean water to drink, enough water to use for hygiene, adequate sanitation facilities, clean air to breathe, safe and nutritious food, and a safe place to learn and play. A contaminated environment can cause or exacerbate health problems. These include short-term health effects such as infectious diseases, respiratory infections, or asthma that can reduce school attendance and learning ability. Also, the physical infrastructures like playgrounds, building structures, or location of schools affect the health of students.

In Nepal, pupils attend class for seven hours a day for roughly 200 days out of the year. Their interactions in the school setting have a significant impact on both their mental and physical health. The school is one of the organizations that may do more than any other organization to enhance the well-being of student and school staff[8].

A study conducted in primary school teachers in Nigeria shows that 69.1%

of teachers have knowledge on Healthful School environment in School Health Program[9]. A descriptive study conducted in selected school in India among 100 teachers. The finding reveals that only 10% have good knowledge on school health services[10]. A cross-sectional study conducted among 426 secondary school teachers across the five urban government area (GAS) in Ibadan metropolis by balloting. The study revealed that the awareness on healthful school environment was only 41.5%. The research explored the awareness and knowledge of teachers which is minimal[11]. A cross-sectional study on Healthful School Environment Component of the School Health Programme. A total number of 42 schools were visited; 16 of those schools were public schools, 26 were privately owned. Results revealed that (46.2%) private school ground size. Indoor game room was not available in all the public school and in 87.7% of the private school. Altogether facilities were absent in 90% of all the schools. 81.3% of the public school and in 69.2% of the private schools were located away from the noise pollution but still 18.7% in public and 30.8% private school were located in noisy place. 19.3% public & private school had not adequate light & ventilation. Only of 34.7% of the school 20% public school and 42% private school have separate toilet facilities.

These research finding shows that teachers have low level of knowledge regarding healthful school environment but teachers are key person for school and school children the teacher should have knowledge about physical school environment and school health that is necessary to save children and teachers from the health problem. The health and environment education is extremely important to reduce the school health and environment hazards and meet the target of safe schooling and for school health development issues in Nepal[12].

There are many actions that teachers can take to develop healthful schools and safe environmental conditions within the classroom and school building. The classroom is perhaps the most important aspect of a student's school environment and the aspect over which the teacher has the most control. Teachers should do everything they can to provide a safe, comfortable, and non-threatening environment in the classroom. However, the classroom is but one part of the total school environment. Teachers also should advocate for a healthful school environment in their entire school building and in their community. This, of course, is a cooperative undertaking involving many people. As health advocates, teachers will work with other school professionals, students, parents, and community organizations to bring about improvements in the total healthful school environment[12].

MATERIAL AND METHODS

A cross-sectional descriptive study design was used. The data were collected by using probability proportionate to sample size Sampling technique and self-structured questionnaire used for data collection. Data was collected from 2080/09/15 to 2080/09/29. The total sample size was 96. Ethical approval was taken from IRC of Manmohan Memorial Institute of Health Sciences. Informed Consent was obtained from all respondents before the data collection. Data analysis was done using SPSS version 25. Data was interpreted by using descriptive statistics (frequency, percentage, mean and standard deviation,) and inferential statistics (Chi-square test) were used to measure the association between the level of knowledge with socio demographic variables.

RESULTS

Table 1 shows that, more than half (58.3%) of the respondents were between 20-37 years with a mean age were Mean ±SD = 37.06 ±9.65. More than half 54.2% respondents were male. Most (78.1%) of respondents were 1to 12 years working experience. Half (51%) of the respondents were completed their master's degree.

Table 2 shows that more than ninety (95.8%) respondents answered healthful school environment is promoting physical and mental wellbeing of students. More than eighty (89.6%) answered to support the overall well- being of students is purpose of healthful school environment. Similarly, 86.5% respondents answered physical environment and psychological environment are components of healthful school environment.

Table: 1 Socio-Demographic Characteristics of the Respondents

Variable	Number	Percent
Age (in Years)		
≤ 37	56	58.3
> 37	40	40.7
Mean ±SD = 37.06 ±9.65		
Sex		
Male	52	54.2
Female	46	45.8
Experience in Years		
1-12	75	78.1
13-42	21	21.9
Mean ± SD = 12.10±9.71		
Educational Level		
Basic	-	-
Secondary	7	7.3
Bachelor	40	41.7
Masters	49	51.

Table 2: Respondent's Knowledge regarding Meaning and Purpose of Healthful School Environment

Variable	Number	Percent
Meaning of Healthful School Environment		
Promoting physical and mental wellbeing of student	92	95.8
Purpose of Healthful School Environment		
To support the overall well-being of student	86	89.6
Component of Healthful School Environment *		
Physical environment	83	86.5
Biological environment	45	46.9
Socio cultural environment	65	67.7
Psychological environment	83	86.5

*Multiple Responses

Table 3 shows that knowledge regarding physical environment of school among respondents, cent percent respondents answered about school boundary, water purification and separate toilet are necessary for healthful school environment. Similarly, 99.0% respondent answered white board is suitable for classroom teaching,86.5% respondents answered cross ventilation is necessary in classroom, 80.2% respondents answered grassy playground is good for outdoor game, 62.5% respondents answered comfort and ergometric design furniture are suitable for classroom furniture. More than two third 71.9% respondents answered container is appropriate method of waste disposal. Despite of this, only 34.4% respondents answered correctly regarding area needed for one student in school, 32.2% respondent answered correctly regarding the distance of school from residence, cinema, and factories, only 25.0% answered correctly regarding Ideal number of students in a classroom, similarly very low 10.4% answered correctly regarding appropriate size for playground.

Table 4 shows that Respondent's Level of knowledge on Healthful School Environment more than half (%53.1) had adequate level of knowledge where as less than half (%46.9) had inadequate knowledge regarding

healthful school environment.

Table 5 shows that there is no significant association between level of knowledge and socio demographic characteristics.

Table 3: Respondent's Knowledge Regarding Physical Environment of School.

Variables	Number	Percent
Area needed for a student (Equal to 1 sq m for each student)	33	34.4
The school should located at 500m away from residence, cinema, and factories	31	32.3
Need of school boundary	96	100.0
To Provide safety and security is the rational for school boundary	84	87.5
Grassy playground is needed for outdoor game	77	80.2
1200 sq. ft is appropriate size for playground	10	10.4
Safety playground is effective environment for student	74	77.1
Structure with minimized distraction and hazard to student is effective learning environment in classroom	67	69.8
Ideal number of students in a classroom is 20-40	24	25.0
Comfort and ergonometric design furniture are suitable for classroom furniture	60	62.5
White board is suitable for classroom teaching	95	99.0
Cross ventilation necessary in class	83	86.5
Necessary of water purification	96	100.0
Necessary of separate eating facility	96	100.0
Ratio of toilet for student is 1:10	26	27.1
Container is safe method waste disposal	69	71.9

Table 4: Respondent's Level of knowledge on Healthful School Environment

Level of Knowledge	Number	Percent
Inadequate knowledge (<29.1)	45	46.9
Adequate knowledge (≥ 29.1)	51	53.1
Total	96	100

DISCUSSION

In this study, represent that (53.1%) had adequate level of knowledge which is similar to the study conducted, by Saadia in Nigeria, among school teachers where (55.75%) had adequate knowledge. The present study shows that 95.8% of respondents answered correctly about the meaning of healthful school environment which is contrast to the study conducted by Abubakar at el., 2021, in Northwestern Nigeria revealed that 69.1% teachers were not agreed healthful school environment is benefited for school children. This difference might be due to difference in setting and sample size.

Present study represent that (89.6%) answered correctly about purpose of healthful school environment which is contradict to the study conducted by Poudel et al., 2019 in Chitawan, Nepal, revealed (76%) answered cor-

rectly. It could be due to difference in sample size of teachers and research setting Present study reveals (89%)answered physical components are main components of healthful school environment. This findings is supported by study conducted by Poudel et al., 2019 in Chitawan, Nepal, where 80% answered physical components are main components of healthful school environment.

In this study shows that (100%) responded boundaries in a schools is necessary this finding is contrast with the study conducted in by Deborah et al., in Nigeria (2017) revealed that 86.3% boundary is necessary in a school, similarly this study revealed that (87.5%) respondents answered boundary provide safety and security this finding is similar to the study conducted by Deborah et al., in Nigeria (2017) revealed that (95.1%) answered same statement. This difference might be difference in sample size. In this study shows that 86.5% answered Cross ventilation necessary in class, this findings is similar to the study conducted by Chabo & Ndep in Nigeria, 2018 revealed that 94% of teachers from private schools and 54% from public schools said their classroom was well-ventilated.

Present study presents that majority of teachers 99.0% answered correctly regarding White board is suitable for classroom teaching, 100% answered regarding necessary of water purification & Necessary of separate eating facility respectively this findings is contrast with the study conducted by Acharya, in Nepalgunj, Nepal 2023 revealed that 60% of the schools faced problems related to toilet facilities, water supply, and boundary walls. This suggests that the school environment is not suitable for students. This findings also revealed that school teacher had not adequate knowledge regarding school environment. Present study shows that 71.9% answered container is safe method waste disposal this findings is contrast to the study conducted by Chabo & Ndep in Nigeria, 2018 revealed that 92% of teachers from private schools reported that their schools were free of surface refuse dumping. This difference might be due to difference in education level of respondents and study setting.

Table 5: Association of Level of Knowledge Regarding Healthful School Environment with Socio-demographic

Variables	Level of Knowledge		Chi-Square	p-value
	Adequate(%)	Inadequate(%)		
Age (in Years)			0.269	0.604
20-37	31(55.40	25(44.6)		
38-60	20(50.0)	20(50.0)		
Sex			0.066	0.798
Male	27(51.9)	25(48.1)		
Female	24(54.5)	20(45.5)		
Experience(in years)			0.293	0.588
1-12	30(55.6)	24(44.4)		
13-42	21(50.0)	21(50.0)		
Level of Education			0.049	1.00
School Level	4(57.1)	3(42.9)		
Bachelor and Above	47(52.8)	42(47.2)		

CONCLUSION

Based on the findings of the study, more than half of the respondents have adequate knowledge. However, inadequate knowledge was present regarding Area needed for a student, Distance of schools from residence, cinema, and factories, appropriate size for playground and Ratio of toilet for student. There was no association between levels of knowledge with socio demographic variables.

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AUTHOR CONTRIBUTIONS

Principal author: Shusma Acharya conceived of the study, participants in design and coordination, statistical analysis and drafted the manuscript. Dakshina Bashyal:conceived of the study, participated in design and statistical analysis.

COMPETING INTEREST

All the authors declare no competing interests.