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Bridging Health and Education via School Health Education in Pakistan: A Case Study of Rawalpindi

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Abstract: Health and education are two important sectors that can determine a country's development. Pakistan is a developing nation that has invested a lot of money in providing its people with better health and educational facilities. It is better to provide awareness among citizens to take care of their health rather than huge investments in curing the diseases. Students' health has a positive impact on their learning abilities, and once they are aware of the healthy habits taught in schools, they can become healthy students and can achieve better in academics. The main purpose of this research is to examine the status of health education in public schools and to locate the ways through which health is promoted, via schools as a platform. The study examined five different elements of school health education: Personal Health and Life skills, Healthy school environment, Health and Nutrition Services, Disease control and prevention, School-community Partnership. The quantitative research method was employed using a survey strategy of school teachers. The study depicts the prevalence of health education components, with varying degree, in both primary and secondary schools. The Independent sample t-test was used to analyze the variances and mean differences between the groups. The statistics have shown that in urban and rural areas, schools undergo similar practices regarding health education. A separate policy to bridge health and education in the form of school health education has been recommended to provide the basic guidelines for the authorities to take actions to foster students' learning capabilities.

Keywords: school health education, health promotion programs, personal health and life skills, healthy school environment.

通过巴基斯坦的学校健康教育为健康和教育搭建桥梁：拉瓦尔品第的案例研究

摘要: 卫生和教育是决定一个国家发展的两个重要部门。巴基斯坦是一个发展中国家，已投入大量资金为其人民提供更好的医疗和教育设施。与其为治疗疾病进行巨额投资，不如让公民意识到要照顾好自己的健康。学生的健康对他们的学习能力有积极的影响，一旦他们意识到学校所传授的健康习惯，他们就能成为健康的学生，在学业上取得更好的成绩。本研究的主要目的是考察公立学校健康教育的现状，并以学校为平台，找出促进健康的途径。该研究检查了学校健康教育的五个不同要素：个人健康和生活技能、健康的学校环境、健康和营养服务、疾病控制和预防、学校-社区伙伴关系。定量研究方法采用学校教师调查策略。该研究描述了不同程度的健康教育成分在中小学中的流行程度。独立样本 t 检验用于分析组间的方差和均值差异。统计数据表明，在城市和农村地区，学校在健康教育方面也有类似的做法。建议以学校健康教育的形式将健康和教育联系起来，为当局采取行动培养学生的学习能力提供基本指导方针。

关键词: 学校健康教育、健康促进计划、个人健康和生活技能、健康的学校环境.

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1. Introduction

Pakistan's economy has witnessed many external and internal challenges. Among them are illiteracy and poor health of its citizens, especially children. The government along with its partners have strived hard to increase the literacy rate as well as to improve the health status of its people. In Pakistan, large amount of money has been invested on treatment of diseases. For developing nations like Pakistan, it is costly to cure for a disease than to care for it. To create precautionary measures for certain diseases, it is necessary to make the people aware of particular health behavior. Especially in the early years of ones' life, it is essential to maintain good health behavior to make them permanent in later life. Health and Education are interrelated and interdependent too. Among others, health status is deemed an important determinant of children's growth and their capacity to learn. Schools play a pivotal role in improving the physical and cognitive health of students. It instills healthy behaviors among children and it has a spillover effect in the locality in which they reside. Thus, provides the information about the different health problems. Despite billions of rupees spent on the curative side, the government has been unable to satisfactorily control diseases. Prevention and health promotion are often neglected area in both policy and practice. In a country like Pakistan, with one of the least per capita expenditures on health and one of the highest mortality rates due to communicable diseases, therefore preventive measures and health promotion activities could play a significant role in reducing the burden of diseases. The Ottawa Charter defines health promotion as 'the process of enabling people to increase control over and to improve their health'. However, it is a fundamental aspect of protective medicine. It promotes positive behaviors and attitudes.

Many components of School health education have been used to link health and education in Pakistan. For this purpose, in 1980s, school health program was launched and doctors were appointed to conduct health screening at the grass root level. Medical doctors were found uninterested to serve in rural areas, hence the result was their absenteeism, that led to the termination of the program. Presently, the same program has been re-launched by the Punjab Health Sector Reforms Program (PHSRP) and National Commission for Human Development in almost 12 districts of Punjab. Other than preparing human resources for the country, education sector also helps in quality leadership production, which in turn serves in other domains and helps increase the economy. The 34 million children, comprising of 5-24 age people, and cannot be ignored by the health sector as they are the future builders of the country. The need of the hour is to reach out to this segment.

1.1. Significance of the Study

The main purpose of this research is to examine the status of health education in public schools and locate the ways through which health is promoted, via schools as platform. This research proposed the major shortcomings in the promotion of child health in institutions, due to disparities between the health and education sector.

1.2. Objectives of the Study

- To determine teachers' views about the status of health in their schools.
- To determine the differences in the health education status among schools in urban and rural areas.
- To highlight the problems that the majority of schools are facing in terms of acting as a "platform" for health promotion.

1.3. Hypothesis Setting

Based on relevant literature the following hypotheses were formulated:

H1: Schools are being used as a platform for health education.

H0: Schools are not being used as a platform for health education

H2: The mean primary schools' scores and secondary schools' scores are the same for school health education practices.

H0: The mean primary schools' scores and secondary schools' scores are different for school health education practices.

H3: The mean urban schools' score and rural schools' scores are the same for school health education practices.

H0: The mean urban schools' score and rural schools' scores are different for school health education practices.

2. Literature Review

It is supported by earlier studies that along with other factors, students' health plays a pivotal role in their ability to gain knowledge. Among other technologies, strategies and methodologies that are designed to cater for the health of people; health education is one of them. School health education is a subset of health education centered in schools and colleges. It is defined as a deliberate set of curricula in which different dimensions of child health are addressed [1]. These categories may include psychosocial and physical areas. It is suggested by various researchers that health promotion through schools as a platform must also consider problems from other spheres as equity, health policy, active participation by the local community, the provision of health-related services in school premises and

psychosocial development [2]. Research proves that, the more the students take part in health education programs, the less they are inclined toward uncertain behavior. While studying the effectiveness of Health Promoting Schools, [3] found that schools health problems can be addressed properly by using schools as platforms for health promotion [4]. School heath education has many stakeholders including students, teachers and other staff. Among these, local communities including parents are considered as major stakeholders [5]-[8].

Health behavior is influenced by three types of factors: predisposing factors, enabling factors, and reinforcing factors. These are classified on the basis of types of intervention and methods used to modify them. Likewise, there is an opinion that school health programs should be comprehensive rather than categorical.

As stated in [9], the major concern of health education program should be the true application of the acquired knowledge. The purposeful implementation of school-based health education programs requires help. These programs can be supported through the curriculum, communities, including parents and the government through its regulatory authorities. The rationale behind health education in school settings is, to bring health literacy. Health literacy comprises gaining information, interpreting it and finally comprehending it to move toward a healthy lifestyle. Research shows that child's poor health is a barrier to learning [7], [10]-[11]. The health education has cost effective potential [12]. Health promotion through schools play a significant role in increasing pupil's skills and competencies [7].

In every model of school health promotion, physical environment plays a significant role. Evidence shows that in the case of inadequate facilities, students face health-related issues [13]. The psychological health of the students is easily determined by the outlook of the school buildings [14]. Two main categories of models fall under the typology designed by the Centre for Public Health Research: strategy for change and a contextual framework. Traditional educational models are those in which a top-down strategy is being used with a narrow contextual framework [15]. In this model, health-related education is taught using traditional teaching methodology, where the teacher states various facts about a particular health-related problem [16]-[17]. The models with bottom-up strategy and narrowly framed are considered Modern educational models. Innovative and creative techniques are used for the provision of health-related knowledge in classrooms. It focuses on the factors that lead toward a particular health-related behavior, rather than on behavior. The Use of top-down strategy to bring the change along with the wide contextual framework constitutes the third model called planner models. It included the involvement of the school as a whole, local community including parents and other agencies related to health education [13].

Three key areas of health promoting schools have been discussed in theories; including formal curriculum, school ethos and school home community interaction. This study will mainly deal with personal health and life skills that includes students' routine habits regarding cleanliness and safety measures. The physical environment of the school and its surroundings represent a healthy school environment. Health and nutrition services incorporate health screening by the doctors, accessibility of first aid services and food safety measures. Common disease control and prevention is another important element of health education. It comprises awareness of symptoms and prevention methods about diseases, as the ways through which infected students are treated within school premises. Lastly, but one of the critical components is school and community partnership. It measures the strength of a school and its local community relationship in terms of information sharing and participation.

3. Research Methodology

The quantitative research method was employed using a survey strategy [18].

The questionnaire was developed, keeping in mind the fact that it gathers the sufficient information. On the other hand, effort has been made to make it comprehensive and simple.

A pilot test of 30 school teachers was conducted to check the reliability of the instruments used. This study aimed to find that our participants were clear about the statements asked.

This research investigates the status of school health education in different public schools. Thus, various components of school health education were assessed, namely; personal health and life skills, healthy school environment, health and nutrition services, common disease control and prevention and school and community partnership (Figure 1).

The data collection is done through both primary and secondary resources. The primary data are collected through questionnaire surveys and secondary data from different research papers.

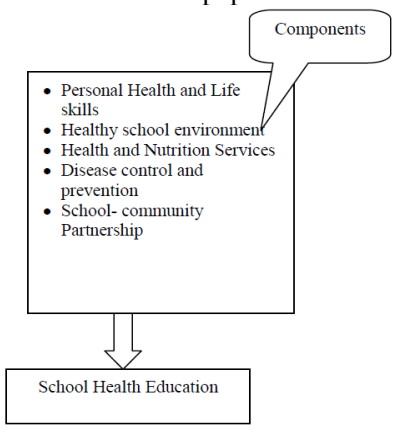

Fig. 1 Components of school health education

The research framework is based on the responses and survey was conducted among the primary and secondary school teachers of Rawalpindi (Pakistan). The sample size was 180 teachers.

A biographical questionnaire was used to obtain personal details of the participants. The questionnaire consisted of 30 items and was presented in the form of a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). With a five-point scale item, it is easy to label each point on the scale, but for larger scale items, just the end points are labeled (Nunnally). The checklist consists of five components: personal health and life skills, healthy school environment, health and nutrition services, common disease control and prevention and school and community partnership. Personal health and life skills were measured using a 6-item scale (a = 0.75). A healthy school environment was measured using an 11-item scale (a = 0.78). Health and nutrition services were measured using a 5-item scale (a = 0.79). Common disease control and prevention' was measured using a 3-item scale (a = 0.69). School and community partnerships were measured using a 3-item scale (a = 0.58).

4. Results and Discussion

The participants were teachers from public schools in Rawalpindi, Pakistan. Among the participants 13.0% were male respondents and 87.0% were female respondents. 48% teachers were from primary schools and the remaining 52% were taught at secondary level. The majority of the participants (59.3%) reported themselves as class teachers. As far as the qualification of the teachers is concerned, about 59.3% teachers revealed that they are postgraduates. When asked about the number of years that teachers have spent in this school, 40% of teachers responded 1- 5 years in the school.

Table 1 Components of school health education statistics

		PHLS	HSE	HNS	DCP	SCP
N	Valid	150	150	150	150	150
	Missing	0	0	0	0	0
Mean		2.55	2.58	2.68	2.48	2.71

Participants of the study agreed that in their schools, students performed activities regarding their personal health and life skills and hence showed a mean of 2.55 that predicts their agreeableness on the prevalence of personal health and life skills' related practices in the schools. As far as the second major component of school health education; healthy school environment is concerned, the data observed a mean of 2.58. It states that respondents have shown a satisfactory response over this variable. Health and Nutrition services depicts a mean of 2.68, the participants have showed a neutral response as they neither agree nor disagree to the statements asked and stated a satisfactory response. Teachers were asked about the degree of disease control and prevention awareness present in their schools. They agreed that their school possessed such facilities as depicted in the mean value of 2.48. The participants agreed to the statements asked about the participation of their school and local community institutions.

Table 2 Correlations

		Components	HES
Components	Pearson Correlation	1	.638**
	Sig. (2-tailed)		.000
	N	150	150
HES	Pearson Correlation	.638**	1
	Sig. (2-tailed)	.000	
	N	150	150

** The correlation was significant at the 0.01 level (2-tailed).

The correlation among different components and statements about SHE is r (150) = 0.638. Hence, we can say that the variables that were chosen to measure health education were significant at 0.000 and could measure the phenomenon effectively. Our first hypothesis is proved that stated, schools are being used as platforms for health education.

The data were collected from the schools located in Rawalpindi. The statistics showed that there were 72 primary schools in the survey and the remaining 78 were secondary schools. If we read the Levene's test for the variable "school-level," we observe that value for f-statistics is greater than 0.05, our null hypothesis is accepted. Therefore, we can conclude that the variances of the primary and secondary schools are the same. This means that the scores of both primary and secondary schools are the same. We will read the top row of "equal variances assumed" for mean differences. Now, examine the confidence intervals, as they have 0 in it so our alternate hypothesis is rejected. Table 3 shows a significance value greater than 0.05, so we can state that the difference in the mean number of the five components in primary and secondary schools is statistically insignificant.

The group statistics showed that there 123 schools were located in urban areas of Rawalpindi and the remaining 27 were rural schools. The Independent sample mean test was applied to compare the means of both urban and rural schools in the components of school health education.

If we read the Levene's test for the variable "school-level," we observe that value for f-statistics is greater than 0.05, our null hypothesis is accepted. Therefore, we can conclude that the variances of the urban and rural schools are the same. Now, the confidence interval has 0 in it so our alternate

hypothesis is rejected. Table 4 shows the significance values greater than 0.05 so we can state that the difference in the mean number of components in urban and rural schools is statistically insignificant.

Table 3 Finding the mean differences within groups by using T-test

		Levene's Test for the Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Differences	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PHLS	Equal variances assumed	.382	.538	-.873	148	.384	-.082	.094	-.269	.104
	Equal variances not assumed			-.874	147.598	.384	-.082	.094	-.269	.104
HSE	Equal variances assumed	.758	.385	.225	148	.822	.021	.092	-.162	.203
	Equal variances not assumed			.224	145.397	.823	.021	.093	-.162	.204
HNS	Equal variances assumed	3.023	.084	.240	148	.811	.028	.116	-.201	.257
	Equal variances not assumed			.242	145.035	.809	.028	.115	-.199	.255
DCP	Equal variances assumed	0.246	.621	-1.162	148	.247	.131	.113	-.353	.092
	Equal variances not assumed			-1.160	145.708	.248	.131	.113	.353	.092
SCP	Equal variances assumed	.120	.730	0.807	148	.421	.119	.148	-.173	.412
	Equal variances not assumed			0.806	146.841	.421	.119	.148	-.173	.412

Table 4 Finding the mean differences within groups by using T-test

		Levene's Test for the Equality of Variances		t for Equality of Means					95% Confidence Interval of the Differences	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PHLS	Equal variances assumed	.583	.446	-1.054	148	.294	-.129	.123	-.372	.113
	Equal variances not assumed			-1.072	38.961	.290	-.129	.121	-.373	.115
HSE	Equal variances assumed	.937	.335	1.047	148	.297	.125	.120	-.111	.362
	Equal variances not assumed			1.099	40.407	.278	.125	.114	-.105	.356
HNS	Equal variances assumed	.284	.595	.950	148	.344	.143	.150	-.154	.440
	Equal variances not assumed			.900	36.284	.374	.143	.159	-.179	.464
DCP	Equal variances assumed	1.917	.168	1.747	148	.083	.254	.145	-.033	.542
	Equal variances not assumed			2.022	46.017	.049	.254	.126	.001	.507
SCP	Equal variances assumed	.051	.822	1.304	148	.194	.250	.192	-.129	.629
	Equal variances not assumed			1.212	35.645	.234	.250	.206	-.168	.668

5. Conclusion and Policy Recommendations

This study demonstrates the prevalence of school health education practices in public sector schools. The results have shown that schools in Rawalpindi are conducting practices related to health education. Schools, though, serve as platforms for health education but lack certain facilities relevant to facilitate this process. The health education practices were examined through its components, namely; personal health and life skills, healthy school environment, health and nutrition services, common disease control and prevention and school and community partnership. However, the frequencies of the five components varied from school to school. There was no significant difference in the health practices of urban and rural schools. In personal health and life skills practices, it was observed that students knew about road safety rules but hardly demonstrate cleanliness habits in schools. The overall response about the second component, a healthy school environment, was satisfactory from teachers. Health and nutrition services included; Health screening by health professionals, availability of first aid equipment, the location of school canteen, and the questions about the food safety and vendors' rules and thus, school teachers have shown a satisfactory response on the provision of these services. Schools follow certain rules and regulations regarding disease control and prevention. There are fewer activities arranged by the schools to promote community participation in school health education

services.

Pakistan being the developing country, has initiated various programs to link the health and education of its citizens but, it was done without the need assessment of such programs. The earlier attempts focused only on the health screening and did not consider the degree of health education practices being carried out in schools. Despite these efforts, unfortunately, the health and education sectors did not perform well because of certain political, economic and social factors. The programs carried out at Federal and Provincial level failed due to the irresponsible attitude of the health and Education sectors, respectively. Doctors were not willing to work in remote areas and schools were facing financial and administrative constraints. The previous studies have identified two different spectrums of school health education as traditional and modern methods. However, the results depicted that the health education in our participant's schools lies somewhere between these methods. This is stated because not majority of the teachers emphasize student participation though they use innovative strategies to make learning easy. Students behave only as passive listeners, and these models are mainly applied in classrooms.

Every year, lots of money is spent on children's health. For a developing nation like Pakistan, the formula of "care is better than cure" is valid. Bridging health and education through school health education can be a positive approach to deal with the issues of both health and education. The current study has focused on a single district of Pakistan because of certain financial and time constraints. To have a clearer picture of such programs, the scope of the study needs to be broadened.

Health Education interventions were introduced by the Ministry of Education in Pakistan. The National Education Policy 2009 has clearly stated the provision of education about the emerging trends regarding; disaster management, risk management, human rights, safety tools, and disease control and its prevention. Among these trends, school health programs are also a major policy action area. The new National Education Policy clearly supports the school health education program along with the addition of school safety procedures in the syllabus of students. The focus will be on improving the school environment and curriculum content with the modern trends in education.

However, these policy interventions still lingered in their scope because of the budget restraints. Institutionalization and sustainability are the other factors behind the delay of these actions and there is a dire need for advocacy and coordination mechanisms between the health and education sector. Policy dialogues among professionals from both the health and education sectors can be initiated to develop a national policy on school health education. Once the policy is framed, then the districts can take those policy objectives and can develop their own list of activities according to their requirements in the health and education sectors, respectively. Students' syllabus and teachers' training manuals can be designed by consulting the health, education, environment sectors along with the other agencies conducting similar tasks, like United Nations. Trained staff will be required after the introduction of a separate syllabus for students in health education. To solve this problem, government can hire female doctors to teach these courses in schools as many females quit their jobs after completing their house jobs. Systems' approach can be best used here because every school has a different internal and external system. Based on that, schools may be provided with the freedom to incorporate strategies that promote the health status of their school children.

Special task forces can be designed that can monitor the implementation of policy objectives on a quarterly basis as there could be financial constraints. The pre-post analysis of the program can be conducted on further guide the decision-makers to mold their policy actions to reach the desired goal. Sustainability mechanisms can be designed that will ensure the programs' integration in our regular education system. The success of any such program will depend largely on; political will and interest of various stakeholders in the community, whether they are national or international stakeholders.

Based upon the research results, we conclude that the schools in the participant city carry out school health education practices at a satisfactory level. This needs improvement as there is no underlined specific policy for schools to incorporate health education in their systems. The data further revealed that both primary and secondary schools, undergo the same kind of practices. There was no difference found in the rural and urban schools in terms of the practices being followed. A separate policy has been suggested that can incorporate every component of health education to foster better health and educational outcomes in the students.

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