

## PRACTICES OF SCHOOL HEALTH SERVICES IN PUBLIC AND PRIVATE SCHOOLS OF KARACHI CENTRAL

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### ABSTRACT

The School Health Program (SHP) aims to promote healthy living practices from an early age, crucial in countries like Pakistan with high mortality rates. Originating from colonial America, SHP gained global recognition through WHO's Global School Health Initiative. This research assesses SHS awareness among teachers in Karachi's central district, proposing implementation guidelines. Through a quantitative survey of senior teaching staff from 30 schools, the study aims to enhance health education effectiveness. Findings reveal inadequacies in SHS practices, particularly regarding healthcare staff availability and health appraisals. Recommendations include increased healthcare staffing and government regulation in both public and private schools to ensure children's health and safety.

**Keywords:** School, Health, Services, Karachi

### INTRODUCTION

#### Background of Research

When we talk about a system of HealthCare delivery which is functional within a school or college a term School Health Program is coined. The reason of this particular service is to create awareness in order to promote healthy living practices early on in life. Pakistan is very far down the road when it comes to healthcare. The under 5 mortality rates of Pakistan is 74.6 per 1000 live births and the infant mortality rate as of 2019 is 60.2 per 1000 live births.

On an average 1.2 billion children are reaching the school going age globally. In some households as early as 6-month-old children are sent to daycares and schools since mothers have to rejoin work etc. The main aim of school health services is to help children obtain full benefit from their education. The functions and regulations of school health services are the control of communicable diseases, record keeping, health appraisals, supervision of health of

school children. To evaluate the health of individuals objectively is an aspect of school health services. One of the very prominent issues nowadays is mental health and emotional issues in school going children, health appraisals give us the opportunity to single out students with such disturbances. In some cases, early detection of such disturbances can lead drastic differences in outcomes of such diseases. While stating all this we must state that school health services are a coordinated system that ensures a continuum of care from school to home to community healthcare provider and back. (Small, L., Majer, S., Allensworth, D., Farquhar, K., Kann, L., & Pateman, C. , 1995 ).

The concept of school health services was initiated in the colonial American era by Benjamin Franklin who advocated a healthful situation and promoted the primary subject of physical education in schools (Khalid, 2017). In 1850 Lemeul Shattuck wrote a

report of Sanitary Commission of Massachusetts, after which the medical and public health sectors began to unravel the pivotal role schools could play in curbing communicable diseases, thereby preventing a lot of public health problems. WHO in 1995 recognized this role and put in motion the 'Global School Health initiative'. This programme was designed to mobilize and strengthen health promotion and education activities at the local, national and regional and global levels. (World Health Organization, 2000). This initiative was designed to improve the health of students, school personnels, families and other members of the community.

Although infectious disease cases among children are fewer in numbers and symptoms are generally insignificant, they cannot be ignored. At the present time due to the disruption and closure of schools around the world, there will be a negative impact on children's right to education, mental health and growth (World Health Organization, 2020). Sooner or later countries around the world will require to develop strategies to protect children's health and decide to reopen the educational institutions. Schools are ideal places for the spread of infectious diseases due to which awareness and guidance on their prevention and management is required to be provided to students, parents, teachers and school staff. Greatest impact on young minds happens at Educational institutions and any awareness is maximal in such places.

### **Research Objective**

The aim of this research is to provide an outlook on the current state of SHS and assess the awareness of the teachers regarding the functional SHP. This research is designed to reflect the current condition of school health services in the central district of Karachi. By assessing the current state of SHS guidelines could be evaluated and suggested to make existing infrastructure feasible for an operative and functional school health service.

### **Research Question**

The purpose of this research is to emphasize on the importance of presence of operative school health services that are prevalent in private schools and public schools of Karachi and how they impact on curbing the spread of communicable diseases.

Moreover, does a good and apt leadership have a role in effective utilization of the already present? The aim of this research is to recommend guidelines to prevent and control the spread of infections in a school setup. Within the school system policies related to sound infection control shall be rooted in order to develop good standards of hygiene. The most effective way to interrupt the spread of communicable diseases is by implementing the standard precautions developed following the policies. Following summarizes the knowledge base required to develop strategies in order to ensure SHS to be implemented.

### **Scope of Study**

In order to gather information, questionnaire will be created which will be circulated to the senior teachers and heads of both private and public schools of Karachi in order to find out the current level of awareness. With the knowledge base as expressed in previous section recommendations to build and implement policies upon resumption of schools will be presented. Furthermore, a detailed study of some aspect related

### **Justification of study**

In order to enhance the effectiveness and efficacy of health education, it needs to be started at grass root levels. Work has been done on the efficacy and need of an operative and functional SHS, but none for schools in the urban Karachi.

### **Review of Literature**

#### **Definition of School Health Services (SHS)**

The provision of health care delivery dedicated to operate in the premises of schools and colleges can be termed as School Health Services (SHS). The School Health Policies and Practices Study (SHPPS) which is conducted by Center of Disease Control and Prevention (CDC) under Division of Adolescent and School Health (DASH), United States define School Health Services as a "*coordinated system that ensures a continuum of care from school to home to community health care provider and back*" (Small, L., Majer, S., Allensworth, D., Farquhar, K., Kann, L., & Pateman, C. , 1995 ).

### **Responsibility & Requirements for provision of SHS**

As government is solely responsible for the safety and well-being of its citizens, hence ensuring the availability of health services to public schools along with its effective application also falls under a government's dominion. For developing countries, it becomes more crucial as basic health services are not easily accessible to many people (Sabit, A., Matatu, M., & Tambaya, I., 2016).

In this regard, the World Health Organization (WHO) has developed the International Health Regulations (IHR) and its core capacities monitoring framework to assist governments of the developing world in monitoring the health systems and providing adequate health care to its citizens. One of the models used by WHO for the development of health system is the Potter model. It emphasizes on strengthening of the existing institutional capacity and structures, IHR is implemented via strengthening the systems, facilities and human resources notably with respect to detection, assessment, notification, and response (World Health Organization, 2011). The principles of the above given model are discussed below:



#### **Performance capacity:**

Apparatus, funds, tools, consumables, materials (e.g., PPEs, decontamination materials) required for workers to efficiently perform.

#### **Individual Capacity:**

Qualified and well-trained staff with skills, attitude and motivation to perform their jobs effectively.

#### **Systems Capacity:**

Effective monitoring and surveillance systems to be in place and capacity for the development and test preparedness plans.

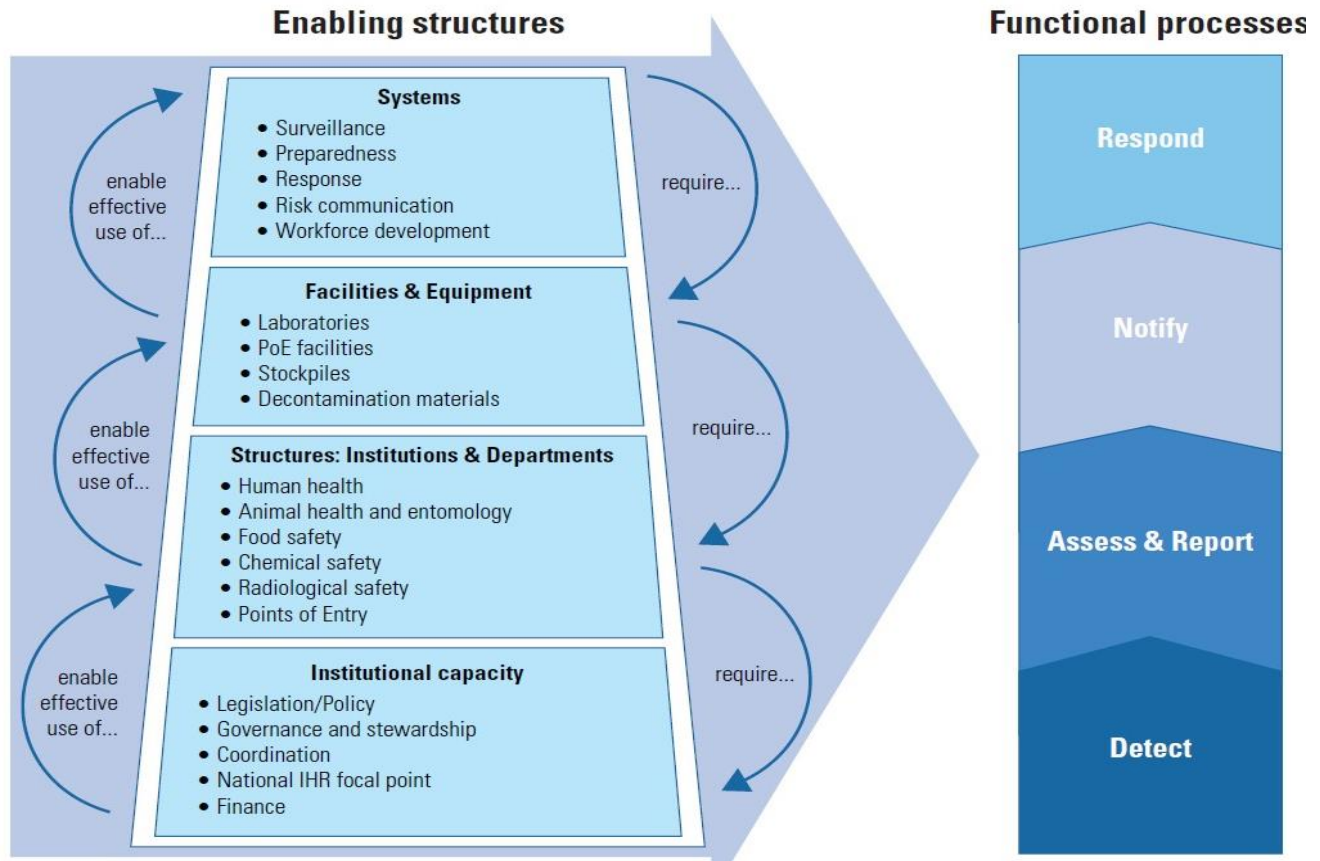
#### **Structures, Processes and Management Capacity:**

Rules and regulations along with policies, legislation and procedures to back them for the guidance of health care delivery; inter-sectoral coordination; partnerships and networks; and managerial capacity including the flow of information, money and managerial decisions.

The potter model is depicted in the following figure:

Figure 1:

*Potter concept hierarchy for the development of IHR core capacities*

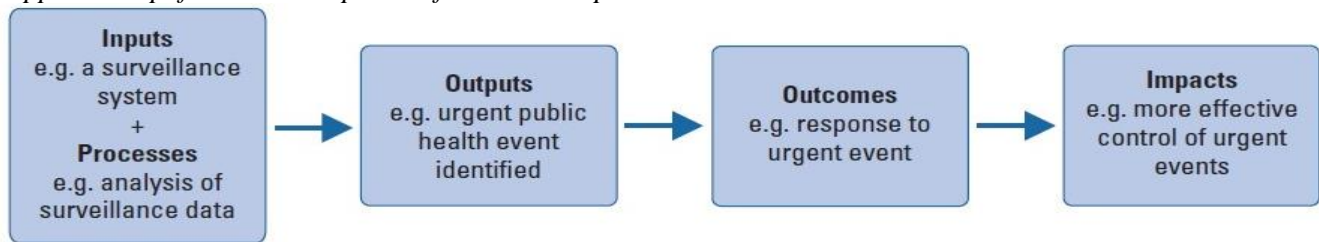


Alongside Potter model, WHO additionally embraces the Ripple model which views limit working as a cycle that waves out, bringing about reformist changes after some time in people, associations, frameworks and inevitably the status of populaces. The supposition that will be that sources of info and cycles do in reality swell out to achieve positive changes in the association and the administrations it gives (yields and results). While the advancement stages are viewed as advancing successively from contribution to results, the limit improvement activities for the IHR actually don't begin in a vacuum. Numerous limit improvement activities, especially in the beginning phases, have little to show aside from that data sources are

available and measures are being actualized. This altered model considers the way that shifting degrees of limit as of now exist across States Parties and that assets, structures and frameworks should be recognized and fortified through a powerful cycle that guarantees public administration and possession inside the nation. Where yields and results are available, the model supports the efficient survey of data sources and cycles set up. A fundamental supposition that will be that center limit incorporating measures change contributions with yields which bring about explicit results and in the more extended term have the necessary effect (World Health Organization, 2011)

**Figure 2:**

*Ripple concept for the development of IHR core capacities*



The challenges and sequencer requirements of school health services differ at different levels of governance and jurisdictions i.e. state, province, city, district and individual school. Elements on which these variations are based comprise of student needs, community health care resources, finance availability, local culture, school health service entity leadership, and the perception of school administrator and school system's decision-making bodies on health services (Institute of Medicine, 1997).

Since educational institutions bring enormous quantities of understudies and staff together, judiciousness directs that—as in any work environment—a framework must be set up to manage such issues as emergency treatment, health related crises, and discovery of infectious conditions that could spread a gathering circumstance. In contrast to different working environments, nonetheless, a framework should likewise be built up in schools to give routine organization of drugs, since understudies—particularly youthful understudies—will be unable to accept this accountability themselves, and worry for substance misuse has prompted arrangements in many schools that deny more established understudies from administrating their own prescription. Laws relating to a specialized curriculum students2 necessitate that schools offer the types of assistance essential for these understudies to get a suitable training. Such administrations may incorporate checking imperative signs, evolving dressings, catheterization, tube taking care of, or controlling oxygen. The school should likewise offer types of assistance to non-specialized curriculum understudies with interminable medical issues, for example, asthma, diabetes, and seizures—all together that they can be

instructed. Schools have practically no decision in offering such types of assistance, for they are directed either by administrative command or by safety measures relating to dangers and obligation. Administrations, for example, screenings and vaccinations are likewise broadly acknowledged as having a place in the schools, with the inspiration accomplishing more with access, effectiveness, and economies of scale than with obligation. Since schools are the place kids spend a huge segment of their time, schools are seen by numerous eyewitnesses as the coherent site for administrations that depend on general wellbeing standards of populace-based avoidance. There is some discussion, be that as it may, about the overall advantages and burdens of a populace based versus a specific high-hazard approach, which targets preventive administrations just toward kids at high danger. The populace-based methodology has the upside of delivering an enormous likely effect on the populace in general, yet a significant weakness is that the advantages are often little for the person. Another potential inconvenience is that all intercessions have a limited danger of unintended unfriendly symptoms, which are additionally intensified alongside benefits in the populace-based methodology, perhaps bringing about a negative advantage hazard proportion. Contingent upon the medical problem, one methodology might be better than the other, or a blend of the two might be proper. For instance, the National Cholesterol Education program suggests a populace-based methodology for actualizing dietary rules for kids, joined with a high-hazard way to deal with blood lipid screening focused on just at youngsters considered in danger dependent on family ancestry (Institute of Medicine, 1997).

Further, schools are deliberately situated to serve in the general wellbeing fight against the resurgence of irresistible ailments, for example, tuberculosis and hepatitis. Another component of school wellbeing administration—one that is regularly ignored—is its potential for growing the information base. School wellbeing administrations can be a rich wellspring of information for considering the connection between wellbeing status and learning limit, and for evaluating neglected needs and checking the wellbeing status of kids and teenagers. Given the above needs and advantages, a fundamental wellbeing administrations program must be set up in all schools. The issues at present creating a lot of conversation and discussion, nonetheless, are the function of the school in giving admittance to essential consideration, the suitable lead organization for the more customary fundamental school wellbeing administrations, the preferences and burdens of a populace cantered versus a high-hazard way to deal with the conveyance of wellbeing administrations in schools, and the need to build up an incorporated arrangement of school wellbeing administrations.

The function of the school in giving admittance to essential consideration is an especially troublesome and basic issue. Since schools are a public framework though medical services is predominately private, there seems, by all accounts, to be a major confuse between the two frameworks. Numerous understudies as of now have their own wellspring of essential consideration, however a huge and developing fragment of the understudy populace doesn't. Those understudies without admittance to essential consideration are normally poor and are frequently at most serious danger of scholarly disappointment.

In order to develop and manage the health care facilities at school, the American Academy of Paediatrics produced a school health manual, School Health: Policy and Practice. This manual serves as the quality measure for local school health programs in United States (Institute of Medicine, 1997). Following seven goals of a school health program are stated in this document:

**Goal 1**

Ensure access to primary health care.

**Goal 2**

Provide a system for dealing with crisis medical situations.

**Goal 3**

Provide mandated screening and immunization monitoring.

**Goal 4**

Provide systems for identification and solution of students' health and educational problems.

**Goal 5**

Provide comprehensive and appropriate health education.

**Goal 6**

Provide a healthful and safe school environment that facilitates learning.

**Goal 7**

Provide a system of evaluation of the effectiveness of the school health program.

Furthermore, WHO via Global School Health Initiative (1995) launched an entire school health services approach which was included as one of integral part of the Health Promoting School. There are four principles that run this health promoting program running in schools:

Health promoting school policies

Safe and healthy learning environment

Skills-based health education

School-based health and nutrition services.

The above suggestion is being administered by WHO to strengthen the school health services and support the member States.

**Studies Conducted to Measure Impact and Suggest Improvement of SHS**

In order to quantify the impact of school health services, (Sabitu, A., Matazu, M., & Tambaya, I., 2016) conducted a survey study in which application of school health services at the disposal of secondary school in Funtua Education Zone, Katsina State-Nigeria was investigated. The research used a random sample of Fifteen (15) junior secondary

schools out of twenty-two schools in the study area. The survey found that majority of schools under study had the access to numerous elements of school health services but there was poor practice and coordination among the school health services the author recommended measures to enhance the teacher's awareness of existing school health program and to improve the interdepartmental collaboration between the state ministries of Health and Education.

Another study was carried out in Ogun state by (Kuponiya, O., Amoran, O., & Kuponiya, O., 2006) to determine the practices and availability of school health services, Western Nigeria. A multi-stage examining procedure was utilized to complete a near cross-sectional study of private and public essential in the examination territory. Information was accumulated by leading a directed organized survey and agenda. The example broke down comprised of 360 head educators with in general mean time of  $45.7 \pm 9.9$  years. The creator found that the usage of medical care administrations was vastly improved in non-public schools, while, helpless practice was predominant and the accessibility of medical services staff were lacking uncommonly among the government funded schools. The authors suggested the increase of health personnel, employing Medical officers for routine medical check-ups and pre-entrance medical screening as admission requirement for developing countries to improve the health care services at schools.

(Bezem, J., Heinen, D., Reis, R., Buitendijk, E., Numans, E., & Kocken, L., 2017) adopted a triage approach for accessing school health services to study the impact perception of school professionals. The research was carried out in Gelderland province of Netherlands. The reason for this examination is to accentuate on the significance of essence of usable school wellbeing administrations that are pervasive in tuitionbased schools and government funded schools of Karachi. An emergency approach was utilized for populace based wellbeing evaluations in grade schools. The crisis approach is a pre-screening or routine assessment of adolescents finished by SHS colleagues who can recognize the children who ought to be reviewed by a specialist or clinical chaperon. On the other hand, the standard strategy is the spot all youths are assessed by specialists and clinical orderlies. The School specialists were more satisfied

and found the crisis approach more appropriate when stood out from the standard procedure. The makers suggested that a crisis approach gives specialists and clinical guardians more opportunities to go to schools for interviews adequately could benefit various Countries.

(Hussain, I., Alamgir, A., & Shahzad, M., 2015) examined the requirement of health education in the elementary school students in Pakistan. A mix of qualitative and quantitative research was adopted for data collection. The area focused to conduct the research was Bahawalpur, Pakistan, where 400 elementary school students, all boys were gone through administered pilot questionnaire. The study concludes that, the elementary school students lacked awareness and education about medication, nutrition, disease prevention and other personal health related areas. The authors recommended initiation of a proper school health education programme along with psychological counselling through collective and coordinated efforts by teachers and parent.

#### **State of SHS in Pakistan**

In Pakistan WHO launched the School Health Services Program initiative in 1987. The program was aimed to give anticipation, wellbeing training and screening/reference administrations in the nation's schools. During late occasions the greatest issue looked in executing the school wellbeing advancing activities in Pakistan are the absence of investment from networks, public areas and NGOs. To improve the circumstance changed systems have been created to oblige the advanced ideas as a team with the administration, global working together offices and delegates from common society (World Health Organization, 2000). The accompanying rundown sums up the difficulties as expressed by WHO which are presently confronting school wellbeing advancement in Pakistan to strengthen implementation of policy in context of government and political instability.

To overcome economic restraints and insufficient resources.

To strengthen underdeveloped multisectoral and NGO collaboration.

To increase access to training for personnel, especially women, and training materials.

To define and strengthen links between Ministries of Health and Education and other government agencies.

### RESEARCH METHODOLOGY

This is a formal research. A process by which we learn new information regarding existing facts, it is organized and systematic. This research is a quantitative type of research. A survey questionnaire is used as tool of this research. The research is conducted in the premises of Urban Karachi Central district. The population of this research is senior teaching staff and heads of 30 public and private schools situated in Karachi Central district of Karachi includes f b area, north nazimabad, nazimabad, gulberg, new karachi, north karachi. The sampling technique used is non probability sampling due to the ease and convenience for collecting samples. This technique is time and cost effective as compared to probability sampling.

### Scales & Measures

There are three parts in the questionnaire used for the research. The first was on demographics which had three items based on nominal scale. Second part was based on three constructs with total forty-seven items based mostly on dichotomous scale. This research includes head teachers of public and private schools in the Central district of Karachi city.

### Data Collection

Data is collected through questionnaire which was designed on Google Forms. The questionnaire was having multiple questions based on dependent & independent variables. The questionnaire was distributed and data was collected online.

### Statistical Analysis

The data is analyzed through SPSS version 16.0 version. The analysis provides frequencies, descriptive statistics, reliability and linear regression. In which testing of independent variables is been done with the dependent variables using linear regression.

### Results

#### Socio-demographic characteristics

A total of 62 participants took place in the questionnaire-based survey. 35 of the respondents belonged to private while 27 participants were from government sector schools. Among the schools surveyed 51.6% of the schools provide school health services and have School Health Program (SHP) (See Table 3). The socio-demographic variables indicate that among public schools only 37% of head teachers acquired master degree or above while remaining 63% have highest qualification equal or below bachelor degree. Table 1 below shows the socio-demographic characteristics of the respondents.

**Table 1**  
*Characteristics of respondents' socio-demographic variables*

Characteristics	Public Schools N = 27 (%)	Private Schools N = 35 (%)	Total N = 62 (%)	Test Statistic value ( $X^2$ )	p-value
Gender					
- Male	18 (66.6%)	6 (17.1%)	24 (38.7%)	15.75	0.001
- Female	9 (33.3%)	29 (82.9%)	38 (61.3%)		
Marital Status					
- Single	8 (29.6%)	10 (28.6%)	18 (29%)	0.048	0.976
- Married	18 (66.7%)	24 (68.6%)	42 (67.7%)		
- Widowed	1 (3.7%)	1 (2.9%)	2 (3.2%)		
Religion					
- Islam	20 (74.1%)	34 (97.1%)	54 (87.1%)	7.523	0.023
- Christian	4 (14.8%)	1 (2.9%)	5 (8.1%)		
- Hindu	3 (11.1%)	0 (0%)	3 (4.8%)		
Ethnicity					
- Urdu Speaking	14 (51.9%)	30 (85.7%)	44 (71%)	14.358	0.006
- Pathan	4 (14.8%)	0 (0%)	4 (6.5%)		
- Sindhi	5 (18.5%)	0 (0%)	5 (8.1%)		

-	Punjabi	3 (11.1%)	3 (8.6%)	6 (9.7%)		
-	Other	1 (3.7%)	2 (5.7%)	3 (4.8%)		
Highest Educational Qualification						
-	Doctorate	0 (0%)	1 (2.9%)	1 (1.6%)		
-	Master Degree	10 (37%)	21 (60%)	31 (50%)	5.217	0.157
-	Bachelor Degree	16 (59.3%)	11 (31.4%)	27 (43.5%)		
-	Certificate/Diploma	1 (3.7%)	2 (5.7%)	3 (4.8%)		

### Respondents' Knowledge about School Health Services

Almost one third of the head teachers in both groups have not even heard about the SHP ( $\chi^2 = 0.384$ ,  $P = 0.535$ ) and two third of the participants either not consider SHP to be essential component in Karachi schools or do not know about its importance. Majority, 19 (70.4%) of the public and 24 (68.6%) of the private school head teacher consider that the School Nutrition Services will reduce hunger and malnutrition among learners and a similar proportion suggests that School premises must contain a Health Service Centers. Furthermore, 74.1% of the public

and 85.7% of the respondents were able to correctly identify the inspection required for children ( $\chi^2 = 9.628$ ,  $P = 0.008$ ). Almost all the respondents, 25 (92.6%) of the public and 33 (94.3%) of the private school head teachers are aware of the fact about BLS as an integral skill needed by the school's first aider. Majority (95.2%) of the total do emphasize the need of consistent Health Records keeping and updating. Lastly, 85.2% public and 71.2% private sector participants are aware from the SHP as being part of WHO strategy to produce health promoting schools worldwide. Table 2 below demonstrates the knowledge of respondents about SHP.

**Table 2**  
*Knowledge of respondents about school health programme*

Characteristics	Public Schools N = 27 (%)	Private Schools N = 35 (%)	Total N = 62 (%)	Test Statistic value ( $\chi^2$ )	p-value
How long have you been a head teacher (Years)					
- 1-5 years	10 (37)	15 (42.9)	25 (40.3)		
- 6-10 years	11 (40.7)	9 (25.7)	20 (32.3)	1.943	0.584
- 11-15 years	3 (11.1)	4 (11.4)	7 (11.3)		
- >15 years	3 (11.1)	7 (20)	10 (16.1)		
Have you heard of School Health Program (SHP)					
- Yes	19 (70.4)	22 (62.9)	41 (66.1)	0.384	0.535
- No	8 (29.6)	13 (37.1)	21 (33.9)		
Is SHP a primary health component in Karachi					
- Yes	11 (40.7)	11 (31.4)	22 (35.5)		
- No	10 (37.0)	9 (25.7)	19 (30.6)	3.926	0.232
- Don't Know	6 (22.2)	15 (42.9)	21 (33.9)		
School Nutrition Services will reduce hunger and malnutrition in learners					
- Yes	19 (70.4)	24 (68.6)	43 (69.4)		
- No	7 (25.9)	5 (14.3)	12 (19.4)	3.512	0.173
- Don't Know	1 (3.7)	6 (17.1)	7 (11.3)		
School Health Service Center must and can only be sited within School premises					
- Yes	22 (81.5)	27 (77.1)	49 (79)		
- No	4 (14.8)	4 (11.4)	8 (12.9)	1.300	0.522
- Don't Know	1 (3.7)	4 (11.4)	5 (8.1)		
Inspection of children include tooth decay and bad breath					
- Yes	20 (74.1)	30 (85.7)	50 (80.6)		
- No	7 (25.9)	1 (2.9)	8 (12.9)	9.628	0.008
- Don't Know	0 (0)	4 (11.4)	4 (6.5)		
SHP does not assess children's immunization status					
- Yes	15 (55.6)	10 (28.6)	25 (40.3)		
- No	7 (25.9)	13 (37.1)	20 (32.3)	4.729	0.094

-	Don't Know	5 (18.5)	12 (34.3)	17 (27.4)		
BLS is an integral skill needed by the school's first aider						
-	Yes	25 (92.6)	33 (94.3)	58 (93.5)		
-	No	2 (7.4)	1 (2.9)	3 (4.8)	1.428	0.490
-	Don't Know	0 (0)	1 (2.9)	1 (1.6)		
Health Records of children must be consistently updated periodically						
-	Yes	26 (96.3)	33 (94.3)	59 (95.2)		
-	No	1 (3.7)	1 (2.9)	2 (3.2)	0.812	0.666
-	Don't Know	0 (0)	1 (2.9)	1 (1.6)		
SHP is part of WHO strategy to produce health promoting schools worldwide						
-	Yes	23 (85.2)	25 (71.4)	48 (77.4)		
-	No	1 (3.7)	3 (8.6)	4 (6.5)	1.679	0.432
-	Don't Know	3 (11.1)	7 (20)	10 (16.1)		

### Services Available in the Schools

There were no doctors available in 16 public schools (59.3%) and 23 private school (65.7 %). Periodic medical examination for staff and pupils was carried out in only 13 (48.1%) and 11 (31.4%) public and private schools respectively with 48.4% of total schools do not have medical check-ups as part of their entry procedure. Also this is not statistically significant ( $\chi^2 = 1.796$ , 0.001,  $P = 0.180$ , 0.974).

A clinic or sickbay was present in 21 (77.8 %) and 24 (68.6 %) public and private schools with a health worker available in 17 (63%) in public schools and 20 (57.1%) in private schools respectively ( $\chi^2 = 0.649$ ,  $P = 0.420$ ). First aid of any type was available in almost all public and private schools ( $\chi^2 = 1.318$ ,  $P = 0.251$ ). This is as shown in Table 3.

**Table 3**  
*Practice of school health services in public and private schools*

Characteristics	Public Schools N = 27 (%)	Private Schools N = 35 (%)	Total N = 62 (%)	Test Statistic value ( $X^2$ )	p-value
Do u have SHP in your school?					
- Yes	15 (55.6)	17 (48.6)	32 (51.6)		
- No	12 (44.4)	18 (51.4)	30 (48.4)	0.298	0.585
Are there doctors available in school (If SHP is implemented)?					
- Yes	11 (40.7)	12 (34.3)	23 (37.1)		
- No	16 (59.3)	23 (65.7)	39 (62.9)	0.272	0.602
Do you perform routine medical checkup on pupils					
- Yes	13 (48.1)	11 (31.4)	24 (38.7)		
- No	14 (51.9)	24 (68.6)	38 (61.3)	1.796	0.180
Why routine medical checkup is not performed					
- It is part of entry procedure without implementation	14 (51.9)	18 (51.4)	32 (51.6)		
- Not a part of entry procedure.	13 (48.1)	17 (48.6)	30 (48.4)	0.001	0.974
Do you have a first aid box					
- Yes	26 (96.3)	35 (100)	61 (98.4)		
- No	1 (3.7)	0 (0)	1 (1.6)	1.318	0.251
Plaster of Paris is a usual content of first aid box					
- Yes	6 (22.2)	2 (5.7)	8 (12.9)		
- No	15 (55.6)	23 (65.7)	38 (61.3)	3.714	0.156
- Don't Know	6 (22.2)	10 (28.6)	16 (25.8)		
Do you have a school clinic or sick bay					
- Yes	21 (77.8)	24 (68.6)	45 (72.6)	0.649	0.420

-	No	6 (22.2)	11 (31.4)	17 (27.4)		
If yes is there a health worker in the sick bay?						
-	Yes	17 (63.0)	20 (57.1)	37 (59.7)	0.215	0.643
-	No	10 (37.0)	15 (42.9)	25 (40.3)		

#### Factors Influencing Implementation of School Health Services

The public-school head teachers reported lack of procedures (55.6%), lack of funds (96.3%) and inadequate health personnel (22.2%) as the three most important challenges that they face in running the SHP. On the other hand, the private school head teachers had listed lack of funds (88.6%), inadequate health personnel (20%) and friction between parents and the school management (25.7%) as the three major challenges faced while trying to implement the school health programme. With  $\chi^2 = 1.481$ ,  $P = 0.224$  for entry procedures,  $\chi^2 = 1.261$ ,  $P = 0.738$  for availability of medical personnel,  $\chi^2 = 1.227$ ,  $P =$

0.268 for lack of government funding and  $\chi^2 = 7.731$ ,  $P = 0.021$  for advocacy to community and parents these stats and concerns prove to be quite substantial. Another major figure is regarding the schools have a functional SHP, table 3 indicates that 44.4% of public schools and 51.4% of private schools do not possess a functional SHP. Even though the significance of these stats is questionable with  $\chi^2 = 0.298$  and  $P = 0.585$  but it poses a major concern on the present condition of school health environment. The statistics for factors influencing the implementation of school health services as discussed in this section is summarized in Table 4 below.

**Table 4**  
*Factors influencing implementation of school health services*

Characteristics	Public Schools N = 27 (%)	Private Schools N = 35 (%)	Total N = 62 (%)	Test Statistic value ( $X^2$ )	p-value
Do pupil undergo medical inspection before entry in the school?					
- Yes	15 (55.6)	14 (40)	29 (46.8)	1.481	0.224
- No	12 (44.4)	21 (60)	33 (53.2)		
Who conducts the medical inspection?					
- Doctor	6 (22.2)	7 (20)	13 (21)	1.261	0.738
- Nurse	5 (18.5)	9 (25.7)	14 (22.6)		
- Health Attendant	6 (22.2)	10 (28.6)	16 (25.8)		
- Teacher	10 (37)	9 (25.7)	19 (30.6)		
Are Pupils engaged in physical education?					
- Yes	20 (74.1)	30 (85.7)	50 (80.6)	1.323	0.250
- No	7 (25.9)	5 (14.3)	12 (19.4)		
Is there a functional school health program?					
- Yes	15 (55.6)	17 (48.6)	32 (51.6)	0.298	0.585
- No	12 (44.4)	18 (51.4)	30 (48.4)		
Government must provide all the funding needed for all SHP activities					
- Yes	26 (96.3)	31 (88.6)	57 (91.9)	1.227	0.268
- No	1 (3.7)	4 (11.4)	5 (8.1)		
Advocacy to community and parents is not necessary to have an effective SHP					
- Yes	15 (55.6)	9 (25.7)	24 (38.7)	7.731	0.021
- No	11 (40.7)	18 (51.4)	29 (46.8)		
- Don't Know	1 (3.7)	8 (22.9)	9 (14.5)		

#### DISCUSSION

The significance of an operational School health programme cannot be emphasized upon enough in the wake of how it affects a nation in totality. It

affects the children and the adults of a country and in general creates awareness in the overall nation. Few studies have been done in this regard that indicate an overall poor level of SHS, be it a private setting or a

public setting school. Effective SHS encompasses early detection of various malnutritional disorders, eating disorders etc in the urban Karachi (Hussain, I., Alamgir, A., & Shahzad, M., 2015) other studies have been made that show the generally poor SHS in the city. It was seen that the knowledge of SHS was moderate to low in both private and public sector educational institutes. One of bigger parts of SHS is School health programmes which handles the sustenance of children's health in a school premises. This study showed that most schools had SHS but of not a very competent type for example like there was not very much focus on record keeping and a smaller number of schools screened students before admission process. This fact is indicated in Table 3 medical examination periodically was carried out in only 13 (48.1%) and 11 (31.4%) public and private schools respectively with 48.4% of total schools do not have medical check-ups as part of their entry procedure. This was a statistically insignificant finding ( $\chi^2 = 1.796$ , 0.001,  $P = 0.180$ , 0.974). Another major concern was the availability of a proper Doctor for the school which was not present in most of the cases. There were no doctors available in 16 (59.3%) public schools and 23 (65.7 %) private schools. Though these stats were not significant as can be observed by  $\chi^2 = 0.272$  and  $P = 0.602$ . Another major figure is regarding the schools have a functional SHP, table 3 indicates that 44.4% of public schools and 51.4% of private schools do not possess a functional SHP. Even though the significance of these stats is questionable with  $\chi^2 = 0.298$  and  $P = 0.585$  but it poses a major concern on the present condition of school health environment. An effective SHS provides early detection, prevention of mortality and reduction in the morbidity of school going children. Moreover, in the 1980's there was a system in place for public schools which suffer more due to lack of infrastructure and lack of funds to provide better SHS to the children. According to a recent study in the urban Pakistan there is a 41% going to public schools and 59% attend private schools. Whereas in the rural part of the country 74% go to public schools and 26% children attend private schools including Madressa etc. As per this study, the public-school head teachers reported lack of procedures (55.6%), lack of funds (96.3%) and inadequate health personnel (22.2%) as the three most important challenges that they face in

running the SHP. On the other hand, the private school head teachers had listed lack of funds (88.6%), inadequate health personnel (20%) and friction between parents and the school management (25.7%) as the three major challenges faced while trying to implement the school health programme (Refer to Table 4). With  $\chi^2 = 1.481$ ,  $P = 0.224$  for entry procedures,  $\chi^2 = 1.261$ ,  $P = 0.738$  for availability of medical personnel,  $\chi^2 = 1.227$ ,  $P = 0.268$  for lack of government funding and  $\chi^2 = 7.731$ ,  $P = 0.021$  for advocacy to community and parents these stats and concerns prove to be quite substantial. The figures from this study also show that the existing SHS does not assess the immunization status of children, while 27.4% of respondents had no knowledge. The validity of this stat can be noted with  $\chi^2 = 4.729$  and  $P = 0.094$  (Table 2). Most schools also had a common inference that a SHS provider needs to have knowledge of BLS. Moreover at least a few teachers should be able to impart F.A to students and should be trained. In this regard Almost all the respondents, 25 (92.6%) of the public and 33 (94.3%) of the private school head teachers are aware of the fact about BLS as an integral skill needed by the school's first aider.  $\chi^2 = 1.428$ ,  $P = 0.490$  verify this figure to be substantial in its claim. (Refer to Table 2)

Additionally, there was a 72% prevalence of presence of a sick bay or a clinic in the schools, 59% of schools had a health worker present in the school premises. These stats were not found to be significant with  $\chi^2 = 0.649$ ,  $P = 0.420$  for availability of sick bay in schools and  $\chi^2 = 0.215$ ,  $P = 0.643$  for the presence of a health worker in sick bay (Table 3). This may imply that a steady deterioration of SHS has happened in the last couple of decades. Now the discussion arises regarding as to why routine medical check-up is not performed in schools although with a current system in place, 51% of the respondents claim that there is no implementation of routine medical check-up in the curriculum ( $\chi^2 = 1.796$ ,  $P = 0.18$ ), whereas 48% of the respondents claim that a routine medical check-up is not part of the entry procedure ( $\chi^2 = 0.001$ ,  $P = 0.974$ ).

Subsequently, Table 4 indicates that check-up performed by the teachers in majority of cases regardless of private or public with overall 30.6% and the significance of this stat can be seen with  $\chi^2 = 1.261$  and  $P = 0.738$ . In the 19<sup>th</sup> century there were

medical officers assigned to public schools hence the routine appraisal activities were done under a professional's supervision. Hence the current stats reveal the deterioration of school health system as a whole. Moreover, check-up before admissions indicates that 44.4% of public schools and 60% of private schools based on the responses from participants do not perform medical inspections at entry level and with  $\chi^2 = 1.481$ ,  $P = 0.224$  this figure verifies to be true. Medical checks both at entry level and routinely should become a must in the urban Karachi for all public and private schools.

Further analysis into the practices of SHS in public and private schools revealed that private schools are slightly more likely to have a proper SHP in affect rather than public schools and none of the factors had a significance for the analysis.

### Conclusion and Recommendations

In conclusion, this study reveals that different areas of SHS were poorly practiced. The availability of a nurses, paramedics or doctors was not sufficient and the situation was found almost same in both public and privately run schools. This indicates the lack of importance for health care of children in our schools as a society. Health appraisal in the form of periodic checkups by school teachers which signifies the non-serious behaviour of schools towards assessing children's health. This suggests that increased healthcare related staff are required to be employed to cater for the health of the school children in Karachi and government shall take steps to regulate such actions on all public and private schools. Doctors and other health workers ought to have schools put under their supervision which they would direct and help lead routine clinical assessment. A clinical screening before induction into a school must turn into a necessity into all public and private schools in Karachi. All these inadequacies need to be addressed by the government. Government at all levels must take actions on preparation of a proficient school health program and guarantee its implementation to ensure health and safety of children going to schools.

### REFERENCES

- Bezem, J., Heinen, D., Reis, R., Buitendijk, E., Numans, E., & Kocken, L. (2017). Improving access to school health services as perceived by school professionals. *BMC health services research*, 17(1), 743.
- Hussain, I., Alamgir, A., & Shahzad, M. (2015). A Study of Health Education and Its Needs for Elementary School Students. *i-manager's Journal on School Educational Technology*, 10(3), 26-37.
- Institute of Medicine. (1997). *Schools and Health: Our Nation's Investment*. Washington, DC, 153-236.
- Khalid, S. (2017). School Health Services. *Journal of Islamabad Medical & Dental College*, 6(1), 1-2.
- Kuponiya, O., Amoran, O., & Kuponiya, O. (2006). School health services and its practice among public and private primary schools in Western Nigeria. *BMC Research Notes*, 9(1), 6.
- Sabit, A., Matatu, M., & Tambaya, I. (2016). A Survey on Availability and Utilization of School Health Services Among Junior Secondary Schools in Funtua Zone Katsina State Nigeria. *Journal of Multidisciplinary Research in Healthcare*, 3(1), 1-9.
- Small, L., Majer, S., Allensworth, D., Farquhar, K., Kann, L., & Pateman, C. (1995). School health services. *Journal of School Health*, 65(8), 319-325.
- World Health Organization. (2000). *Improving health through schools: national and international strategies / compiled and edited by Isolde Birdthistle*. 100-107.
- World Health Organization. (2011). *Checklist and Indicators for Monitoring Progress in the Development of IHR Core Capacities in States Parties International Health Regulations Coordination*, 53-55.
- World Health Organization. (2020). *School health services*. Retrieved from [https://www.who.int/maternal\\_child\\_adolescent/adolescence/school-health-services/en/](https://www.who.int/maternal_child_adolescent/adolescence/school-health-services/en/) Retrieved from <https://apps.who.int/iris/handle/10665/66314>