The Quality and Utilization of School Health Services of a State University in the Philippines

Christian M. Sabando[1] and Evangeline B. Alo[2]
[1]Central Philippines State University-Victorias City Campus, Philippines
[2]Local Government Unit of Victorias City, Negros Occidental, Philippines

ISSN 2672-3107 (Print) • ISSN 2704-288X (Online)
PHILIPPINE SOCIAL SCIENCE JOURNAL
Advancing Social Science Research in the Philippines and Beyond
Volume 4 Number 3 July-September 2021

Article history:
Submitted: 25 July 2021
Revised: 18 October 2021
Accepted: 25 October 2021

Keywords:
Development management
Health and well-being
School health services
State University
Descriptive-correlational
Philippines

ABSTRACT. Higher educational institutions are responsible for integrating the vital aspect of primary healthcare services in school settings. The study assessed the quality and utilization of school health services (SHS) of a state university in the Philippines. A descriptive-comparative and correlational study was utilized through a researcher-made questionnaire among 310 respondents using stratified random sampling. Generally, findings revealed that the level of quality of SHS is high, and the extent of utilization is great. It showed significant differences in the level of quality when grouped as to geographic clusters and the extent of utilization when grouped as to designation and geographic clusters. There is a positive correlation between the level of quality and the extent of utilization of SHS. Challenges encountered were the limited availability of health personnel and inadequate health supplies and equipment. Therefore, the higher the quality of SHS, the greater is the extent of utilization towards building a healthy university.

1.0. Introduction

The COVID-19 pandemic has forced the worldwide community to critically look at the overall health of the people and their health-promoting practices. As COVID-19 continues to spread globally, numerous countries closed schools due to a distancing policy to lessen viral transmission and ease the healthcare system's burden. However, closed schools for a more extended period have detrimental social and health consequences for students living in poverty. They are more likely to aggravate existing inequalities (Van Lancker & Parolin, 2020).

School health promotion developed popularity throughout Southeast Asia. Japan made a significant contribution to the region's reinforcement of school health promotion. Countries like the Lao People's Democratic Republic, Cambodia, Philippines, and Thailand have effectively designed and implemented school health programs in areas like nutrition, sanitation, and deworming, resulting in a comprehensive network of school health staff in the education and health sectors (Estrada et al., 2020).

In the Philippines, the overall health and health promotion practices of most Filipinos lag behind other countries. Studies revealed that large-scale school health programs effectively reduce preventable diseases through cost-effective interventions (Monse et al., 2013). Similarly, higher educational institutions (HEIs) are responsible for developing strategies to improve and re-orient health services and integrate them into educational programs (Ferreira et al., 2018). Furthermore, the Commission on Higher Education (CHED), through CHED Memorandum Order (CMO) No. 9 Series of 2013 (Commission on Higher Education [CHED], 2013), mandates state universities and colleges (SUCs) to provide health services, specifically on primary health care and wellness program administered by licensed medical, dental, and allied professionals. This is recently reinforced by the CMO 8 series of 2021 (CHED, 2021) that provided guidelines on the flexible delivery of Student Services and Affairs Programs during the pandemic.

The State University in this study has provided health services to its students and personnel through its Medical-Dental Health Unit (MDHU), in consonance with CMO 9-2013. Along with this compliance, various issues and challenges were encountered, including the limited availability of health personnel, limited clinic space, and inadequate health supplies and equipment. Hence, a study on the quality and utilization of SHS is essential for stakeholders to improve these services and protect the community's health.

Studies on health services in schools have been conducted worldwide. Darlington et al. (2018) focused on implementing health promotion programs in schools, while Osian et al. (2020) studied the knowledge, attitude, and utilization of SHS among senior secondary school students. Likewise, the study of Jukes et al. (2014) evaluated the cognitive impacts of school health in the Philippines. In Negros Occidental, a related study on school health services was that of Duran (2018) on implementing SHS in Central Philippines State University (CPSU). However, no study has been conducted on the quality and utilization of school health services of a state university. Thus, this study will fill that gap in the literature.

This research focused on the quality and utilization of school health services by state university personnel and students. It also looked into the challenges encountered in the utilization of these SHS. Findings of the study were made as bases in the formulation of a strategic plan to enhance the quality and utilization of school health services of the university and other higher educational institutions.

2.0. Framework of the Study

This study theorizes that higher quality of school health services increases the extent of its utilization, thereby contributing to the improved health status of students and school personnel, leading to the attainment of health outcomes. Along this line, the Total Quality Management (TQM) Theory of Edward Deming (Deming, 1986) was used as an anchor. TQM involves continuous improvement of organizational processes resulting in quality products or services and is an interlinked system of quality management practices. When quality products and services meet clients' satisfaction, there is "repeated use" or increased utilization (Anderson et al., 1994).

Deming's TQM theory is suited for this study because by finding out the level of quality of SHS and the extent of its utilization, it could be determined if there is repeated use of the services, which would verify if these services meet clients' needs and are within the set quality standard. The quality of the school health services was determined based on the standard stipulated in CMO 9-2013. The extent of utilization of SHS and the relationship between quality and utilization were also determined to confirm if a high level of SHS quality would mean a high extent of utilization.

Furthermore, the study is anchored on Andersen's Behavioral Model of Health Service Use (Andersen, 1995). According to this model, health care utilization is the point in health systems where patients' needs meet the professional system. If the quality of the professional system and the services provided are responsive to patients' needs, there is continued utilization of health services (Babitsch et al., 2012).

The Behavioral Model involves predisposing, enabling, and need factors on the use of health services (Andersen et al., 2011). In this study, the predisposing factors are the students and personnel of the university, along with their beliefs, values, and knowledge related to health care services. The enabling factors are the health services available, facilities, and health personnel that provide management practices. In contrast, the need factors are the clients' need for SHS that will affect their utilization. Based on Andersen's Model, if school health services (enabling factor) meet the services required (need factor) by clients in consonance with their health knowledge and beliefs (predisposing factor), then there is the repeated use of the services. Along this line, the relationship between quality and utilization of SHS was determined to validate if, indeed, high SHS quality would yield to a high extent of utilization.

3.0. Methods

The study utilized a descriptive-comparative and correlational research design to describe, compare, and correlate the level of quality and the extent of utilization of SHS in the areas of anti-drug and substance abuse, dental health, medical health, mental health, and physical health from the fiscal year 2019-2020. The respondents were 310 students and personnel of a state university, geographically clustered into Central, North, and South campuses.

The campuses are clustered based on the geographical setting in one of the provinces in the Visayas. The Central campus is an extension campus in the urban area located in a third-class municipality in the central portion of the province. The North campus is another extension campus in the rural area situated in a component city in the north. On the other hand, the South campus is the main university campus located in a rural area in a component city in the southern part of the province. The south (main) campus is responsible for the overall planning and coordination of the school health services of the whole university.

The comparative design was employed to examine the differences of variables (Kumah, 2015) in the level of quality and extent of utilization of SHS when respondents are grouped as to designation and geographic cluster. On the other hand, a correlational research design was used to determine the relationship between the level of quality and the extent of utilization of SHS.

A researcher-made questionnaire based on CMO9-2013 and quality rubrics of student affairs and services was utilized. The questionnaire was in a checklist form with four parts. Part I is a self-reported profile of respondents, while Parts II and III contain items on the level of quality and extent of utilization of SHS using five-point Likert-type statements. Part IV explores the challenges encountered in the utilization of SHS.

The questionnaire was subjected to the Content Validity Ratio (CVR) of Lawshe (1975) by ten experts on school health services. The validated instrument included 64 out of 69 items, with the CVR result of 0.930 interpreted as valid. The reliability test was done through Cronbach's Alpha method by pilot testing 30 students and personnel of a state university who were not respondents of the study. The reliability result is 0.981, interpreted as highly reliable.

Permission to conduct the study was sought from the university president and campus administrators, after which orientations were given to the enumerators and respondents before data gathering.

Physical and virtual data gathering were used. For physical data gathering, enumerators distributed the consent form and questionnaire hard copy to the respondents after the orientation. Proper health protocols such as wearing of face mask, face shield, gloves, observance of social distancing, and disinfection were strictly observed. Upon receipt of the duly filled-out consent form and questionnaires, necessary sanitation protocols were followed. For virtual data gathering, the consent form and questionnaire were made available through Google forms and sent via messenger or email.

The descriptive analysis was used on the level of quality and extent of utilization of SHS using the mean and standard deviation. To determine the challenges encountered, the frequency count and percentage distribution were used.

Normality test using Kolmogorov-Smirnov and Shapiro Wilk showed that the variables of the level of quality (KS=0.062, p=0.005) (SW=0.979, p=0.000) and extent of utilization (KS=0.072, p=0.001) (SW=0.976, p=0.000) were not normality distributed, the use of non-parametric tests was done. Mann-Whitney U test was used to determine the significant difference in the level of quality and the extent of utilization of SHS when grouped as to designation. However, Kruskal Wallis was used to determining the significant difference in the level of quality and the extent of utilization of SHS when grouped as to geographic cluster. In addition, the Spearman rank correlation was used to determine the significant relationship between the level of quality and extent of utilization.

The researcher addressed the universal principles of ethics on respect for persons, beneficence, and justice to guarantee the study's ethical soundness. Informed consent of respondents was sought to ensure that their participation was entirely voluntary and free of coercion. It was made clear that they have the right to withdraw if they feel uncomfortable, and they would not be penalized if they withdrew within the course of the study.

4.0. Results and Discussion

Level of quality of school health services

Generally, the level of quality of school health services as a whole is high (M=3.93, SD= 0.63), indicating that the quality of SHS provided by the state university is very satisfactory and fairly exceeded expectations. This implies that the university puts a premium on the quality of health services it offers to the students and personnel in compliance with the standards set under CMO 9-2013. Moreover, the provision of high-quality SHS in the university is valued by the administration. It is cascaded to the school nurses, doctors, and dentists. Hence, students and personnel enjoy high-quality SHS. Furthermore, because of the ongoing accreditation of the university with the International Standards Organization (ISO) and the Association of Accredited Chartered Colleges and Universities in the Philippines (AACCUP), coupled with the periodic monitoring of CHED, the current administration ensured that SHS met the quality standards set by CHED, ISO, and other quality assurance organizations.

This finding is supported by the study of Nair et al. (2015), which avers that health service standards served as benchmarks. Healthcare services can utilize these standards as the basis of the internal quality assurance mechanism for the external accreditation process. Furthermore, according to the World Health Organization (2014), a standards-driven approach and competencies are essential to delivering quality SHS that focuses on improving health.

Of the five areas of SHS under study, medical health services obtained the highest quality rating (M=4.21, SD=0.65) interpreted as excellent, indicating the presence of health professionals, updated health records, and accessible school clinics. This finding is supported by Patton et al. (2016), who opined that the most effective healthcare service structure embraces high-quality training of health workers, responsive facilities, and extensive community engagement. This result is parallel to the study of Vasquez-Rivera (2019) that the University of the Philippines – Los Baños, has very high-quality standards in facilities and support systems, especially in the area of medical and dental health; this high-quality standard is maintained to boost the university's bid towards internationalization.

On the other hand, dental health services obtained the lowest mean score (M=3.60, SD=0.87) among the five areas of SHS. This can be traced to the nature of the appointment of the school dentist, who is hired on a part-time basis and has only three consultation schedules per month. Further, there are also cases of insufficient dental supplies, which added up to its low rating.

When respondents were grouped according to the designation, both students and personnel rated the quality of school health services as high, whereas the students rated medical health as very high among other service areas. This implies that the medical services have advocated for the health and well-being of students through quality health services via ample health supplies, equipment, and qualified health personnel.

This is strengthened by the study of Allensworth (2015), which averred that school-based health centers (SBHCs) are vital in providing accessible and affordable healthcare services in meeting students' health, social needs, and quality health education to reduce health-risk related behaviors, improving academic behaviors and health literacy.

When grouped according to geographic cluster, the south campus gave the highest overall mean, followed by the north campus, and the central campus with the lowest overall mean, but all are described as a high level of quality. Furthermore, the central campus gave dental health the lowest rating interpreted as moderate level. Generally, the limited availability of campus dentists is considered a challenge since the dentist is hired part-time. However, the inadequacy of dental supplies and equipment poses a more significant challenge since they are limited based on the availability of funds. This is confirmed by Bahadori et al. (2015), who opined that dental clinic service quality is essential in improving healthcare and plays an essential role in patient satisfaction.

Table 1. Level of Quality of School Health Services

Variable	Anti-Drug and Substance Abuse			Dental Health			Medical Health			Mental Health			Physical Health			Quality of School Health Services		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Designation																		
Student	4.10	0.67	Hi	3.58	0.86	Hi	4.25	0.65	VH	4.06	0.68	Hi	3.86	0.76	Hi	3.97	0.59	Hi
School Personnel	3.88	0.85	Hi	3.63	0.90	Hi	4.14	0.65	Hi	3.95	0.76	Hi	3.60	0.86	Hi	3.85	0.70	Hi
Geographic Cluster																		
North Campus	3.91	0.66	Hi	3.58	0.79	Hi	4.18	0.61	Hi	3.96	0.65	Hi	3.77	0.84	Hi	3.88	0.59	Hi
Central Campus	3.78	0.78	Hi	3.06	0.90	Mo	4.06	0.75	Hi	3.76	0.77	Hi	3.51	0.72	Hi	3.63	0.64	Hi
South Campus	4.14	0.76	Hi	3.73	0.86	Hi	4.26	0.65	VH	4.12	0.72	Hi	3.84	0.80	Hi	4.02	0.63	Hi
As a Whole	***4.03***	***0.74***	***Hi***	***3.60***	***0.87***	***Hi***	***4.21***	***0.65***	***VH***	***4.02***	***0.71***	***Hi***	***3.78***	***0.81***	***Hi***	***3.93***	***0.63***	***Hi***

Note: VH=Very High, Hi=High, Mo= Moderate

Extent of utilization of school health services

The extent of utilization of school health services as a whole is great (M=3.88, SD=0.68), indicating that SHS are utilized most of the time and/or when applicable. The findings imply that the university's SHS is available and accessible to students and personnel in compliance with CHED requirements. This also revealed that the information, education, and promotion activities integrated with each of the five SHS are effective, widely participated, and reached the intended users causing a great extent of utilization. The support system in utilizing the SHS, such as accessibility of the service and availability of service providers, can also be deduced if the support system is in place.

This is parallel to the study of Babitsch et al. (2012), which purports that health care utilization is supply-induced and highly dependent on the health care system's structures, aside from the need-

related aspects. Likewise, the findings also strengthened the claim of Bersamin et al. (2016) that school-based health services utilization established an impact on the accessibility of the health care and academic outcomes of students.

When respondents are grouped according to the designation, both students (M=4.14, SD=0.64) and personnel (M=4.02, SD=0.70) gave medical health the highest utilization rating, interpreted as a great extent, indicating that medical health services are utilized most of the time. The findings affirmed that of Babitsch et al. (2012) which claimed that if the quality of the professional system and the services provided are responsive to the patient's needs, there is continued utilization of the service. This finding is also supported by the study of Martin and Sorensen (2020) that school-based health centers are linked to improved utilization of health care services, better health outcomes, and reduced substance use. Furthermore, the results are reinforced by the study of Dunfee (2020), where school-based health centers and the utilization of health services therein found a positive effect on students' health and educational outcome.

It is interesting to note that both students and personnel gave mental health, anti-drug and substance abuse, and physical health a great extent of utilization, which means that these services are utilized most of the time.

Finally, SHS that gained the lowest utilization rating for both students (M=3.68, SD= 0.84) and personnel (M= 3.41, SD=.08) is dental health, although this is still within range of great extent, implying that dental health services are utilized most of the time. This negates the study of Carpizo and Buhia (2018). They concluded that dental care utilization remains very low in the whole university population despite promoting health care services.

When respondents are grouped according to geographical location, the south campus recorded the highest rating on the extent of utilization, followed by the north campus, while the central campus yielded the lowest mean score. Along this line, data revealed that dental health had a moderate extent, indicating that dental health services are utilized sometimes and/or when applicable. Additionally, the healthcare utilization model has also identified essential factors such as predisposing, enabling, and need factors related to the youth's utilization of dental care services (Chertok et al., 2018).

Table 2. Extent of Utilization of School Health Services

Variable	Anti-Drug and Substance Abuse			Dental Health			Medical Health			Mental Health			Physical Health			Utilization of School Health Services		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Designation																		
Student	4.03	0.73	Gr	3.68	0.84	Gr	4.14	0.64	Gr	4.07	0.69	Gr	3.96	0.75	Gr	3.97	0.62	Gr
School Personnel	3.70	0.83	Gr	3.41	1.08	Gr	4.02	0.70	Gr	3.76	0.82	Gr	3.66	0.83	Gr	3.71	0.75	Gr
Geographic Cluster																		
North Campus	3.89	0.74	Gr	3.54	0.91	Gr	4.07	0.66	Gr	3.89	0.69	Gr	3.84	0.71	Gr	3.85	0.64	Gr
Central Campus	3.74	0.89	Gr	3.05	0.97	Mo	3.93	0.70	Gr	3.65	0.83	Gr	3.64	0.91	Gr	3.59	0.74	Gr
South Campus	3.97	0.77	Gr	3.73	0.90	Gr	4.16	0.65	Gr	4.08	0.74	Gr	3.91	0.80	Gr	3.97	0.66	Gr
As a Whole	***3.92***	***0.78***	***Gr***	***3.59***	***0.94***	***Gr***	***4.10***	***0.66***	***Gr***	***3.96***	***0.75***	***Gr***	***3.86***	***0.79***	***Gr***	***3.88***	***0.68***	***Gr***

Note: Gr=Great Extent, Mo= Moderate Extent

Difference in the level of quality of school health services according to designation

Results showed no significant difference in the level of quality of school health services when grouped as to designation [U=9561.500, p=0.108]. Thus, the null hypothesis was accepted. This implies that the university endeavors to provide quality school health services to all its clients regardless of whether they are students or employees. The designation of the clients does not influence the quality of the services provided.

The finding is supported by the study of Gibson et al. (2013) that clinic users in the school health centers (SHC) reported higher quality care regarding their health concerns, adequate time with the healthcare provider, suitable and understandable provider communications, and more excellent provider consultation. Access to complete health services via the school health center led to enhanced access to health care and improved quality of care. Ultimately, healthy individuals are eager to focus and learn, which may improve academic outcomes. Hence, it is insufficient to improve the population's optimum health outcomes without adequate access to quality health care (Leslie et al., 2017).

Table 3. Difference in the Level of Quality of School Health Services according to designation

Designation		u	z	p
Student	School Personnel			
3.97	3.85	9561.500	-1.609	0.108
(0.59)	(0.70)			

Note: the difference is significant when p≤0.05

Difference in the level of quality of school health services according to geographic cluster

There is a significant difference in the level of quality of SHS when grouped into geographic clusters [$\chi^2(2)=11.370$, $p=0.003$]. Hence, the null hypothesis is rejected. Post hoc test revealed that the central campus has a significantly lower level of quality than the other two campuses. The results also suggest that the quality of SHS in the south and north campuses is significantly higher, indicating the need for the central campus to improve its SHS, particularly in dental health.

The significant difference in the quality of SHS of the campuses may be traced to health policies and programs, professional skills, training of the service providers, and the budgetary allocation of the MDHU in each of the campuses. Particularly, the budgetary allocation can affect program implementation, determine the sufficiency of various supplies and equipment, and the availability of health personnel. However, various cases in the university point out that provision of quality services can still be possible even with lower budgetary allocation. Innovative strategies such as collaboration, community partnerships, resource mobilization, and aggressive stakeholders' engagement can bring numerous resources that can be utilized. Moreover, proficient skills and training of health personnel and the MDHU can also improve service quality.

This finding is substantiated by Turunen (2017), who stated that partnerships are vital tools in the health-promoting school approach. Price (2017) averred that school-based health centers (SBHCs) denote successful school-community partnerships through enhancing access for health care of the vulnerable youth and manage the complexity of students' health needs given limited resources, allowing meaningful participation in their education. Further, this result is also reinforced by Dopeykar et al. (2018), who claimed that service quality standard has a vital role in managing the services provided, diagnosing the problem and service performance assessment.

Table 4. Difference in the Level of Quality of School Health Services according to Geographic Cluster

Geographic Cluster			χ^2	df	p
North Campus	Central Campus	South Campus			
3.88	3.63	4.02	11.370*	2	0.003
(0.59)	(0.64)	(0.63)			

Note: *the difference is significant when p≤0.05

Difference in the extent of utilization of school health services according to designation

Table 5 shows a significant difference in the extent of utilization of school health services when grouped as to designation [$U=8515.000$, $p=0.003$]. Hence, the null hypothesis is rejected. Data revealed that students utilized SHS to a greater extent than the school personnel. This result only affirms that the university is compliant with the provisions of CMO 9-2013. CHED emphasized that students should be the focal service point, giving them prime importance in accessing and utilizing SHS. Hence the university exerts more efforts to ensure that SHS is accessible to them. On the other hand, university personnel are encouraged to utilize SHS as part of the health and wellness program. However, they also have the capacity and available mechanisms to seek health care from other specialized health institutions.

This finding is further supported by Bersamin et al. (2016), who showed solid evidence for the positive impact of SBHCs on improving health care access and utilization among students. The result is also parallel to the study of Stone et al. (2013) that utilization of SBHCs impact positively to student-caring relationships with healthcare personnel and school assets (presence of caring adults, high behavioral expectations, and opportunities for meaningful participation).

Table 5. Difference in the Extent of Utilization of School Health Services according to Designation

Designation		U	Z	p
Student	School Personnel			
3.97	3.71	8515.000*	-3.011	0.003
(0.62)	(0.75)			

Note: *the difference is significant when p≤0.05

Difference in the extent of utilization of school health services according to geographic cluster

Results revealed a significant difference in the extent of utilization of school health services when grouped as to geographic cluster [$\chi^2(2)=9.158$, $p=0.010$]. Hence, the null hypothesis is rejected. Post hoc test revealed that central campus has a significantly lower extent of utilization than other campuses. This means that the geographic location of the campuses influences the utilization of school health services, where the north and south campuses registered significantly higher utilization than the central campus.

The significant variation could be due to the need factors and knowledge of students and personnel related to the SHS of the specific campus. Hence, the utilization varies from campus to campus due to the quality of school health services, the availability of supplies and equipment, the aggressiveness and reach of the information and promotion activities, and the presence of well-trained health personnel. The central campus has lower utilization, evidenced by the lack of dental supplies and equipment brought about by delayed procurement.

On the other hand, the south campus, being the main university campus, has relatively complete resources consisting of health supplies and equipment, including the availability of the health personnel and plantilla position for a full-time school nurse.

Results of the study affirmed that of Muduru (2016), which averred that knowledge of school health services among students is essential in their utilization of the services. Complementary thereto, Paschall et al. (2019) stated that the availability and utilization of certain types of SBHC during adolescence predict higher educational attainment in adulthood.

Furthermore, Bersamin et al. (2016) affirmed that SBHC has examined that health service utilization established an impact on health services access. Consequently, a complex picture emerges of the impact of SBHCs on health outcomes that examined the health needs of specific communities and schools. Also, Arenson et al. (2019) claimed that SBHCs perform dual roles by providing medical, mental, dental, and vision care to the students in school where they spend most of their time, maximizing their opportunity to learn and grow.

Table 6. Difference in the Extent of Utilization of School Health Services according to Geographic Cluster

Geographic Cluster			χ^2	df	p
North Campus	Central Campus	South Campus			
3.85	3.59	3.97	9.158	2	0.010
(0.64)	(0.74)	(0.66)			

Note: *the difference is significant when p≤0.05

Relationship between quality and utilization of school health services

Table 7 reveals a significant positive relationship between the level of quality and the extent of school health services utilization [$\rho(308)=0.889$, $p=0.000$]. Therefore, the null hypothesis is rejected. This means that the extent of SHS utilization depends on the quality of these services, implying that the higher the level of quality, the greater is the extent of its utilization. Consequently, increased utilization of these SHS would lead to the attainment of health outcomes.

The quality of school health services is guided and influenced by the management practices of the university's top management and health service providers, the competence of the personnel, the systems, policies, and procedures applied in program implementation, adherence to the quality standards set by authorities and the availability of health resources.

Several studies showed that higher service quality leads to higher utilization of these services; one of which is that of Wang et al. (2015) opined that access to and quality of health services are the

vital aspects of healthcare services utilization. Another study by Karim et al. (2015), which revealed that clients' perceived quality of health services and their expectations of service standards significantly affect health service utilization, is also congruent with the findings of this study.

Moreover, Gage et al. (2018), who argued that poor quality of care might discourage utilization of valuable primary health care services, also support this result. Undeniably, the high level of quality of school health services significantly establishes a meaningful relationship that affects students and personnel's great extent of utilization of SHS.

Table 7. Relationship between Quality and Utilization of School Health Services

Variable	r	df	p
Quality x Utilization	0.889*	308	0.000

Note: *the correlation is significant when p≤0.05

Challenges encountered in the utilization of school health services

Results showed that the challenges faced by the three campuses are somewhat similar, with slight variations in terms of the magnitude of the concern. However, these challenges can be generally grouped into three, namely: (1) limited availability of health personnel; (2) lack of supplies, equipment, facilities, and support system; and (3) non-observance of COVID-19 health protocols. According to Darlington et al. (2018), implementing multifaceted public health programs is challenging in the school setup. Cygan et al. (2020) also affirmed that among the challenges faced by schools are limited availability of school nurses and budget.

5.0. Conclusion

The high level of quality and the great extent of utilization of school health services revealed that the state university is highly compliant with the minimum quality standards stipulated in CMO 9-2013. It further showed that SHS is designed and implemented with the students as the focal service point, giving them prime importance in accessing and utilizing the services. However, despite this overall success, specific concerns in dental health services need to be addressed. The result pointing out the central campus to have a significantly lower level of quality and utilization than the north and south campuses highlights the need for the central campus to strengthen its policies and programs related to school health services.

The significant positive relationship between quality and utilization confirmed that school health services utilization is driven by its high quality. This emphasizes the need for the university to improve specific areas such as dental health services to further increase utilization.

The challenges encountered showed the vulnerability of the SHS system to the effects of the environment where it operates, in this case, the current COVID-19 pandemic, where the implementation of additional health protocols under the new normal would equate to the need for additional resources. On the other hand, these challenges also provided data on service quality and utilization gaps to be addressed and what direction should be taken in designing and implementing future enhancement efforts.

Finally, the result affirmed the Total Quality Management Theory of Deming and Andersen's Behavioral Model of Health Service Use, which were made as anchors of the theoretical framework of this study. Further, the study can be considered evidence of concrete efforts of the university in providing quality services to its clients, in line with its vision anchored on sustainable development goals, particularly on quality education, good health, and well-being.

REFERENCES

Allensworth, D. D. (2015). Health services and health education. *In Prevention Science in School Settings* (pp. 105-121). Springer, New York, NY. https://doi.org/10.1007/978-1-4939-3155-2_6

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter? *Journal of Health and Social Behavior*, 1-10. https://doi.org/10.2307/2137284

Andersen, R. M., Rice, T. H., & Kominski, G. F. (2011). *Changing the US health care system, cafescribe: Key issues in health services policy and management*. John Wiley & Sons.

Anderson, J. C., Rungtusanatham, M., & Schroeder, R. G. (1994). A theory of quality management underlying the Deming management method. *Academy of Management Review*, *19*(3), 472-509. http://www.jstor.org/stable/258936

Arenson, M., Hudson, P. J., Lee, N., & Lai, B. (2019). The evidence on school-based health centers: A review. *Global pediatric health, 6*,2333794X19828745. https://doi.org/10.1177/2333794X19828745

Babitsch, B., Gohl, D., & Von Lengerke, T. (2012). Re-revisiting Andersen's Behavioral Model of health services use: A systematic review of studies from 1998–2011. *GMS Psycho-Social-Medicine*, *9*. https////doi.org/10.3205/psm000089

Bahadori, M., Raadabadi, M., Ravangard, R., & Baldacchino, D. (2015), «Factors affecting dental service quality,» *International Journal of Health Care Quality Assurance*, Vol. 28 No. 7, pp. 678-689. https://doi.org/10.1108/IJHCQA-12-2014-0112

Bersamin, M., Garbers, S., Gold, M. A., Heitel, J., Martin, K., Fisher, D. A., & Santelli, J. (2016). Measuring success: Evaluation designs and approaches to assessing the impact of school-based health centers. *Journal of Adolescent Health, 58*(1), 3-10. https://doi.org/10.1016/j.jadohealth.2015.09.018

Carpizo, R., & Buhia, M. N. (2018). Gender differences towards dental health knowledge, attitude, and utilization of dental care. *Abstract Proceedings International Scholars Conference*, *6*(1), 114. https://doi.org/10.35974/isc.v6i1.1420

Chertok, I. R., Chertok, N., Haile, Z. T., & Chavan, B. (2018). Association of youth characteristics and recent utilization of dental services in the United States. *Frontiers in Pediatrics,* 6, 104. https://doi.org/10.3389/fped.2018.00104

Cygan, H., Tribbia, C., & Tully, J. (2020). School health policy implementation: Facilitators and challenges. *The Journal of School Nursing*, 36(5), 330-338. https://doi.org/10.1177/1059840519846089

Commission on Higher Education (2013). *Enhanced policies and guidelines on student affairs and services (SAS).* https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.09 s2013 .pdf

Commission on Higher Education (2021). *Guidelines on the implementation of flexible delivery on SAS program during COVID19 pandemic*. https://ched.gov.ph/wp-content/uploads/CMO-No.-8-s.-2021.pdf

Darlington, E. J., Violon, N., & Jourdan, D. (2018). Implementation of health promotion programmes in schools: An approach to understand the influence of contextual factors on the process? *BMC Public Health*, 18(1), 163. https://doi.org/10.1186/s12889-017-5011-3

Deming, W. E. (1986) *Out of the crisis*. Cambridge: Massachusetts Institute of Technology, Center for Advanced Engineering Study. https://archive.org/details/outofcrisisquali00demi/page/n537/mode/2up

Dopeykar, N., Bahadori, M., Mehdizadeh, P., Ravangard, R., Salesi, M., & Hosseini, S. M. (2018). Assessing the quality of dental services using SERVQUAL model. *Dental Research Journal*, *15*(6), 430. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6243813/

Dunfee, M. N. (2020). School-based health centers in the United States: Roots, reality, and potential. *Journal of School Health*, 90(8), 665-670. https://doi.org/10.1111/josh.12914

Duran K.C. (2018). Extent of implementation of health services in Central Philippines State University. Unpublished thesis, University of Negros Occidental Recoletos.

Estrada, C. A. M., Gregorio Jr, E. R., Kanyasan, K., Hun, J., Tomokawa, S., Dumlao, M. C., & Kobayashi, J. (2020). School health promotion in Southeast Asia by Japan and partners. *Pediatrics International*. https://doi.org/10.1111/ped.14284

Ferreira, F. M. P. B., Brito, I. D. S., & Santos, M. R. (2018). Integrative review of the literature. *Revista brasileira de enfermagem*, 71, 1714-1723. https://doi.org/10.1590/0034-7167-2016-0693

Gage, A. D., Leslie, H. H., Bitton, A., Jerome, J. G., Joseph, J. P., Thermidor, R., & Kruk, M. E. (2018). Does quality influence the utilization of primary health care? Evidence from Haiti. *Globalization and Health*, *14*(1), 1-9. https://doi.org/10.1186/s12992-018-0379-0

Gibson, E. J., Santelli, J. S., Minguez, M., Lord, A., & Schuyler, A. C. (2013). Measuring school health center impact on access to and quality of primary care. *Journal of Adolescent Health*, *53*(6), 699-705.https://doi.org/10.1016/j.jadohealth.2013.06.021

Jukes, M. C. H., Zuilkowski, S. S., EdD., Parawan, A., M.D., & Lee, S., B.S. (2014). Evaluating the cognitive impacts of school health in the Philippines. *International Journal of Child Health and Human Development, 7*(1), 55-66. https://www.proquest.com/scholarly-journals/evaluating-cognitive-impacts-school-health/docview/1625138291/se-2?accountid=206140

Karim, R. M., Abdullah, M. S., Rahman, A. M., & Alam, A. M. (2015). Identifying influence of perceived quality and satisfaction on the utilization status of the community clinic services; Bangladesh context. *Bangladesh Medical Research Council Bulletin*, *41*(1), 1-12. https://doi.org/10.3329/bmrcb.v41i1.30192

Kumah, C. H. (2015). A comparative study of the use of the library and the internet as sources of information by graduate students in the University of Ghana. *Library Philosophy and Practice (e-journal),* 1298. http://digitalcommons.unl.edu/ libphilprac/1298

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, *28*(4), 563-575. http://caepnet.org/~/media/Files/caep/knowledge-center/lawshe-content-validity.pdf.

Leslie, H. H., Sun, Z., & Kruk, M. E. (2017). Association between infrastructure and observed quality of care in 4 healthcare services: A cross-sectional study of 4,300 facilities in 8 countries. *PLoS medicine*, *14*(12), e1002464. https://doi.org/10.1371/journal.pmed.1002464

Martin, E. G., & Sorensen, L. C. (2020). Protecting the health of vulnerable children and adolescents during COVID-19–related K-12 school closures in the US. In *JAMA Health Forum* (pp. e200724-e200724). https://doi.org/ 10.1001/jamahealthforum.2020.0724

Monse, B., Benzian, H., Naliponguit, E., Belizario, V., Schratz, A., & van Palenstein Helderman, W. (2013). The fit for school health outcome study - A longitudinal survey to assess the health impacts of an integrated school health programme in the Philippines. *BMC Public Health*, 13(1), 1-10. https://doi.org/10.1186/1471-2458-13-256

Muduru, A. T. (2016). Awareness and utilization of school health services among students of Isa Kaita College of Education Dutsin-Ma, Katsina State, Nigeria. http://academicfora.com/wp-content/uploads/2016/02/KLS-316-119.pdf

Nair, M., Baltag, V., Bose, K., Boschi-Pinto, C., Lambrechts, T., & Mathai, M. (2015). Improving the quality of health care services for adolescents, globally: A standards-driven approach. *Journal of Adolescent Health*, *57*(3), 288-298. https://doi.org/10.1016/j.jadohealth.2015.05.011

Osian, E. A., Ehwarieme, T. A., & Igbinoba, O. (2020). "Knowledge, attitude and utilization of school health services among senior secondary school students in Egor local government area, Benin City, Edo State." https://doi.org/10.9734/IJTDH/2020/v41i1230336

Paschall, M. J., Bersamin, M., Finan, L. J., & Zhang, L. (2019). School-based health services and educational attainment: Findings from a national longitudinal study. *Preventive medicine*, *121*, 74-78. https://doi.org/10.1016/j.ypmed.2019.02.019

Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., & Viner, R. M. (2016). Our future: A lancet commission on adolescent health and well-being. *The Lancet*, *387*(10036), 2423-2478. http://dx.doi.org/10.1016/S0140-6736 (16)00579-1

Price, O. A. (2017). Strategies to encourage long-term sustainability of school-based health centers. *American Journal of Medical Research*, *4*(1), 61-83. https://www.ceeol.com/search/article-detail?id=649123

Stone, S., Whitaker, K., Anyon, Y., & Shields, J. P. (2013). The relationship between the use of school-based health centers and student-reported school assets. *Journal of Adolescent Health*, *53*(4), 526-532. https://10.1016/j.jadohealth.2013.05.011.

Turunen, H., Sormunen, M., Jourdan, D., von Seelen, J., & Buijs, G. (2017). Health-promoting schools—A complex approach and a major means to health improvement. *Health Promotion International*, *32*(2), 177-184. https://doi.org/10.1093/heapro/dax001

Van Lancker, W. & Parolin, Z. (2020). COVID-19, school closures, and child poverty: A social crisis in the making. *The Lancet Public Health*, *5*(5), e243-e244. https://doi.org/10.1016/S2468-2667(20)30084-0.

Vasquez-Rivera, A. M. (2019). Level of internationalization of state universities and colleges (SUCS) in CALABARZON, Philippines. http://www.ijarp.org/published-research-papers/june2019/Level-OfInternationalization-Of-State-Universities-And-Colleges-sucs-In-Calabarzon-Philippines.pdf.

Wang, W., Winter, R., Mallick, L., Florey, L., Burgert-Brucker, C., & Carter, E. (2015). *The relationship between the health service environment and service utilization: Linking population data to health facilities data in Haiti and Malawi*. Rockville, MD: ICFInternational. https://www.dhsprogram.com/pubs/pdf/AS51/AS51.pdf

World Health Organization (2014). *European framework for quality standards in school health services and competencies for school health professionals*. Copenhagen, Denmark: WHO Regional Office for Europe, Copenhagen. https://www.euro.who.int/__data/assets/pdf_file/0003/246981/European-framework-for-quality-standards-in-school-health-services-and-competences-for-school-health-professionals.pdf

Correspondence:

CHRISTIAN M. SABANDO*
sabando_c@yahoo.com
https://orcid.org/0000-0002-8970-7509

EVANGELINE B. ALO
vangie_alo@yahoo.com
https://orcid.org/0000-0002-8669-2612

*Principal Correspondent