

## **Evaluating School Health Services in Nepal: A Mixed Methods Analysis of Nurses' and Principals' Perceptions**

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### **ABSTRACT**

*School nurses play a critical role in delivering health services, promoting wellness, and safeguarding the well-being of students and staff. This study examines the current state of school health services in Nepal and explores the perceptions of school nurses and principals regarding the nurses' professional responsibilities and contributions. Employing a mixed methods design, the study integrates quantitative survey data with thematic analysis of qualitative interviews to comprehensively understand stakeholder perspectives. Findings reveal a statistically significant difference in perception scores, with principals assigning higher value to the nurse's role ( $M = 4.45$ ) compared to nurses themselves ( $M = 4.06$ ). Both groups affirmed the importance of school nurses in providing first aid, monitoring student health, and supporting overall school wellness. The results underscore the need for more explicit role definitions, enhanced interprofessional collaboration, and policy-level support to optimize the effectiveness of school health services in low-resource settings. This study contributes valuable insights to the global discourse on school health systems and highlights implications for education and public health policy in Nepal and comparable contexts.*

**Keywords:** school nurse, well-being, Nepal, medical studies, research method

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## **INTRODUCTION**

School nurses play a critical role in the health and well-being of children and adolescents. The school nurse as the key personnel in SHS contributes to protecting, promoting, and assessing student and school staff health (Leier et al., 2003). The school nurse's job varies in different nations, but it is often a blend of clinical treatment and public health practice. The primary responsibilities of School Health Nurses are prevention, promotion, health evaluation and first aid, referral, planning for health action, coordinating, recording, and reporting. The healthcare delivery system that operates within a school or college is referred to as school health services. These services aim to improve and preserve the health of schoolchildren to provide them with a healthy start in life. Furthermore, these services aim to make it possible. Moreover, these services seek to enable children to benefit optimally from their school learning (Kuponiyi et al., 2016).

## **LITERATURE REVIEW**

School health services include health evaluations, communicable disease control, record keeping, and supervision of schoolchildren's and personnel's health. It is the part concerned with objectively assessing an individual's health. Health evaluations allow school officials to discover indications and symptoms of common ailments, as well as evidence of mental problems that could obstruct children's learning activities (Amaran et al., 2016). A study showed that all of the key informants were favorable about the SHN program's implementation in schools and its beneficial impact on students, schools, and communities, including improved student health and educational performance, a better school atmosphere, and increased community awareness. However, key informants cited many major roadblocks to the program's implementation, including a lack of coordination among stakeholders, a scarcity of resources, limited training opportunities, and concerns about the program's long-term viability (Shrestha et al., 2019). Another study reflected that the roles most recognized by both nurses and principals for school nurses included monitoring chronically ill students, administering first aid, and referring students with health issues.

In contrast, the roles that were generally not seen as belonging to the school nurse were connected to student academic performance (Al-Dahnaim et al., 2013). Evidence from Nepal showed that one-third of secondary students accessed the school nurse services in the last year. Improving awareness and motivation in students, especially among older students, male students, and those facing learning challenges, may boost

service utilization rates. Moreover, adopting, more effective staffing approaches and bolstering collaboration among stakeholders would increase program efficiency, ultimately resulting in better service accessibility (Sharma et al.,2025).

## **RESEARCH METHOD**

We collected both qualitative and quantitative data for this study. A cross-sectional design was used, in which data were collected at a single point in time by sending a Google Docs form to all the principals and school nurses via mail. Observation was done to assess the status of school health services. The in-depth interview technique was used as a qualitative method to assess the perception of school nurses and principals towards the Nurses' Role in School.

### **Participants**

The target population was all school nurses and the school principals of the government schools of Province 1, Nepal. 145 nurses were working as school nurses during the time of permission and ethical approval. The exact number of school principals were selected. The schools were in different geographical regions, such as the Mountains and the Terai.

### **Instrumentation**

The first was demographic information, and the second was 19-likert-type scaled items. These items are statements related to the school nurse's role that was rated by school principals and school nurses on a five-point scale from strongly agree to strongly disagree. Each of the following roles of the school nurse in a school setting: direct health care, preventive care, school health education, health promotion, and collaboration with parents and educational staff, was assessed by questionnaire. The third part was an observation checklist for assessing school health services that consisted of 22 items (Yes/No), which was used to assess the status of school health services. These items are related to the quality of school standards, written policies and procedures, uses of consultative services, etc. An in-depth Interview (IDI) was conducted for qualitative data regarding the role perception of School Health Nurses and school principals using the interview guidelines in which school nurses experienced roles, opportunities as school nurses, challenges of school nurses, and suggestions from both school nurses and principals.

## **Procedure**

Permission for the study was taken from the Ministry of Health, Province 1. Ethical Approval was taken from the Ethical Review Board (ERB) of the Nepal Health Research Council (NHRC). Written permission and informed consent were obtained from the school principals and school nurses of the respective school. The virtual method explained the study's objectives to all Principals and School Health Nurses separately. All Principal and School Nurse's email IDs were collected before data collection. The Self-administered questionnaire was mailed to all Principals and School Nurses via Google Docs. Among 10% (15 Principals and 15 Nurses, an In-depth Interview (IDI) was conducted regarding the role perception of School Health Nurses using the interview guidelines based on preventive and promotive roles of school nurses, opportunities as school nurses, challenges, suggestions, and recommendations. The interview was audio recorded after obtaining consent from participants. Among 20 % (At least 30) of the schools, School Health Services was assessed by direct observation using the standard checklist. The Google Docs Questionnaire was mailed frequently for recall along with phone calls, messages, and virtual platform, supervision, monitoring, and follow-up were done in between.

## **Data Analysis**

Data was analyzed based on research objectives. The collected data was checked for completeness. The Google Docs data in Excel Spreadsheet was transferred into SPSS version 25. Then the data were coded and analyzed, and both descriptive and inferential statistics were calculated. In descriptive statistics i.e. frequency, percentage, mean, range, standard deviation and inferential statistics was used to compare the mean of perception between school principals and school nurses. A p-value <0.05 was statistically significant. Qualitative data was transcribed and analyzed thematically.

## **RESULTS**

Table 1 illustrates the distribution of socio-demographic characteristics of respondents, with the overall mean and standard deviation of the age of the respondents being  $27.11 \pm 3.73$ . Based on ethnicity, one-third of the respondents (36.4%) were relatively advantaged Janajati, 29.8% were Brahmin /Chetri, 14.4% were disadvantaged Janajati, 0.8 % were religious minorities, and 14.9 % were Dalit. Regarding religion 75.2% were Hindu,

**Table 1**  
***Sociodemographic Information of the School Nurses*** n= 121

<b>Variable</b>	<b>Frequency</b>	<b>Percent age</b>
<b>Age</b>		
<b>20-25</b>	51	42.1
26-30	40	39.72
31-35	20	16.5
35-40	2	1.7
<b>Mean age <math>\pm</math> SD: 27.11 <math>\pm</math> 3.73</b>		
<b>Sex</b>		
Female	121	100
<b>Ethnicity</b>		
Dalits	18	14.9
Janajatis	65	53.8
Muslim	2	1.6
Brahmin/Chetri	36	29.8
<b>Religion</b>		
Hindu	91	75.2
Christian	18	14.9
Budhdist	10	8.3
Muslim	2	1.7
<b>Educational level</b>		
<b>PCL</b>	84	69.4
BNS/BSc	35	28.9
MN/MSc	2	1.7
<b>Marital status</b>		
Married	63	52.1
Unmarried	58	47.9
<b>Type of family</b>		
Nuclear	40	38.0
Joint	73	60.3
Extended	2	1.7
<b>Work experience</b>		
<b>1-5 years</b>	108	89.3
6-10 years	13	10.7

*Note: M=Mean, SD= Standard Deviation*

**Table 2**

*Perception of School Nurses towards the Role of School Nurses in School  
n=121*

<b>Role of school nurse</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
	F (%)	F (%)	F (%)	F (%)	F (%)
Assess the health status of the students	57(47.1)	44(36.4)	5(4.1)	-	15(12.4)
Provide direct medical care to the students	27(22.3)	42(34.7)	13(10.7)	19(15.7)	20(16.5)
Follow-up of chronically ill students	44(36.4)	49(40.5)	9(7.4)	4(3.3)	15(12.4)
Provide first aid	68(56.2)	31(25.6)	4(3.3)	2(1.7)	16(13.2)
Evaluate students with behavioral problems	34(28.1)	56(46.3)	15(12.4)	3(2.5)	13(10.7)
Evaluate students with low academic performances	23(19.0)	59(48.8)	16(13.2)	9(7.4)	14(11.6)
Evaluate cases of persistent absenteeism	25(20.7)	53(43.8)	18(14.9)	13(10.7)	12(9.9)
Manage students with special needs	25(20.7)	59(48.8)	14(11.6)	11(9.1)	12(9.9)
Refer students with health problems	53(43.8)	46(38.0)	8(6.6)	-	14(11.6)
Perform surveillance program	48(39.7)	50(41.3)	7(5.8)	1(0.8)	15(12.4)
Perform screening program	48(39.7)	50(41.3)	6(5.0)	3(2.5)	14(11.6)
Monitor immunization activities	37(30.6)	49(40.5)	17(14.0)	4(3.3)	14(11.6)
Evaluate the school environment for health and safety	45(37.2)	53(43.8)	7(5.8)	4(3.3)	12(9.9)
Provide health education for students and promote good health habits	65(53.7)	35(28.9)	5(4.1)	1(0.8)	15(12.4)
Participate in school educational staff meetings	38(31.4)	53(43.8)	15(12.4)	2(1.7)	13(10.7)
Advise parents and teachers on health topics	46(38.0)	48(39.7)	9(7.4)	1(0.8)	17(14.0)

Advice/train school educational staff for the management of students with chronic illness	31(25.6)	52(43.0)	12(9.9)	10(8.3)	16(13.2)
Advice/train school educational staff for the management of students with behavioral problems	23(19.0)	56(46.3)	22(18.2)	6(5.0)	14(11.5)
Advice/train school educational staff for the management of students with low academic performances	21(17.4)	52(43.0)	14(11.6)	24(19.8)	10(8.3)

52.1% were married, and 70.3% were from joint families. Regarding work experience, 89.3% have work experience of less than 5 years.

Table 2 shows the Perception of School nurses towards the role of School Nurses in school nearly half (47.1 %) of the respondents strongly agreed that the role of assessing the health status of the students,56.2% of the respondents strongly agreed the first aid is the role,46.2 % of the respondents agreed that evaluating students with behavioral,48.8% agreed the role of evaluating students with low academic performances, 48.8% agreed to manage students with special needs, 53.7 % health educator role for students. Similarly, less than half (43%) of the respondents agreed the role of nurses is to advice/train school educational staff for the management of students with low academic performances.

Table 3 illustrates the distribution of socio-demographic characteristics of principles in which the overall mean and standard deviation of the age was  $51.48 \pm 6.07$ . Based on ethnicity, more than half of the respondents (53.3%) were Brahmin/Chetri, one-third of the respondents (32%) were relatively advantaged Janajati, 29.8% were Brahmin /Chetri, 10.7% were disadvantaged Janajati, 2.7 % were Dalit. Regarding religion, 72% were Hindu, all (100%) were married, and 53.3% were from joint families. With regards to work experience, 45.3% have work experience of less than 21-30 years.

**Table 3***Socio-demographic Information of the School Principals (n=75)*

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
30-40	8	10.7
41-50	16	21.3
<b>51-60</b>	51	68
M±SD: 51.48±6.07		
<b>Sex</b>		
Male	75	100
<b>Ethnicity</b>		
Dalits	2	2.7
Janajatis	33	44
<b>Brahmin/Chetri</b>	40	53.3
<b>Religion</b>		
Hindu	54	72.0
Christian	16	21.33
Budhdist	4	5.3
Muslim	1	1.3
<b>Educational level</b>		
Intermediate	5	6.7
Bachelor	21	28
<b>Master</b>	49	65.3
<b>Marital status</b>		
Married	75	100
<b>Type of family</b>		
Nuclear	34	45.3
Joint	40	53.3
Extended	1	1.3
<b>Work experience</b>		
≤10	8	10.7
11-20	12	16.0
<b>21-30</b>	34	45.3
≥31	21	28.0

*Note: M=Mean, SD= Standard Deviation*

**Table 4***Perception of principals towards the Role of School Nurses in School Settings n=75*

Role of school nurse	S A F (%)	A F (%)	N F (%)	D F (%)	SD F (%)
Assess the health status of the students	50(66.7)	18(24.0)	2(2.7)	1(1.3)	4(5.3)
Provide direct medical care to the students	26(34.7)	35(46.7)	7(9.3)	4(5.30)	3(4.0)
Follow-up of chronically ill students	32(42.7)	29(38.7)	5(6.7)	5(6.7)	4(5.3)
Provide first aid	50(66.7)	16(21.3)	3(4.0)	1(1.3)	5(6.7)
Evaluate students with behavioral problem	22(29.3)	36(48.0)	9(12.0)	5(6.7)	3(4.0)
Evaluate students with low academic performances	23(30.7)	26(34.7)	12(16.0)	6(8.0)	8(10.7)
Evaluate cases of persistent absenteeism	19(25.3)	29(38.7)	17(22.7)	7(9.3)	3(4.0)
Manage students with special needs	25(33.3)	28(37.3)	16(21.3)	4(5.3)	2(2.7)
Refer students with health problems	44(58.7)	23(30.7)	4(5.3)	-	4(5.3)
Perform surveillance program	33(44.0)	34(45.3)	2(2.7)	2(2.70)	4(5.30)
Perform screening program	29(38.7)	36(48.0)	2(2.7)	5(6.7)	3(4.0)
Monitor immunization activities	27(36.0)	34(45.3)	6(8.0)	4(5.3)	4(5.3)
Evaluate the school environment for health and safety	30(40.0)	38(50.7)	4(5.3)	2(2.70)	1(1.3)
Provide health education for students and promote good health habits	48(64.0)	19(25.3)	4(5.3)	1(1.3)	3(4.0)
Participate in school educational staff meetings	38(50.7)	29(38.7)	4(5.3)	-	4(5.3)
Advise parents and teachers on health topics	32(42.7)	33(44.0)	5(6.7)	2(2.7)	3(4.0)
Advice/train school educational staff for the management of students with chronic illness	20(26.7)	39(52.0)	4(5.3)	5(6.7)	7(9.3)
Advice/train school educational staff for the management of students with behavioral problems	18(24.0)	40(53.3)	7(9.3)	6(8.0)	4(5.3)
Advice/train school educational staff for the management of students with low academic performances	15(20.0)	36(48.0)	6(8.0)	13(17.3)	5(6.7)

*SA= Strongly Agree, A= Agree, N= Neutral, D= Disagree, SD= Strongly Disagree*

**Table 5***Difference in perception of Nurses and Principals towards the Role of Nurses*

<b>Role of school nurse</b>	<b>Nurses</b>	<b>Principals</b>	
	Mean $\pm$ SD	Mean $\pm$ SD	p-value
Assess the health status of the students	4.06 (1.28)	4.45(1.01)	0.024 *
Provide direct medical care to the students	3.31(1.40)	4.03(1.01)	0.000 *
Follow-up of chronically ill students	3.85(1.29)	4.07(1.11)	0.235
Provide first aid	4.10(1.36)	4.40(1.10)	0.109
Evaluate students with behavioral problem	3.79(1.19)	3.92(1.02)	0.420
Evaluate students with low academic performances	3.56(1.21)	3.67(1.28)	0.568
Evaluate cases of persistent absenteeism	3.55(1.21)	3.72(1.07)	0.309
Manage students with special needs	3.61(1.20)	3.93(1.00)	0.054
Refer students with health problems	4.02(1.24)	4.37(0.99)	0.042*
Perform surveillance program	3.95(1.27)	4.20(1.01)	0.151
Perform screening program	3.95(1.26)	4.11(1.02)	0.368
Monitor immunization activities	3.75(1.25)	4.01(1.07)	0.122
Evaluate the school environment for health and safety	3.95(1.21)	4.25(0.79)	0.035 *
Provide health education for students and promote good health habits	4.11(1.31)	4.44(0.96)	0.043 *
Participate in school educational staff meetings	3.83(1.20)	4.29(0.98)	0.006 *
Advise parents and teachers on health topics	3.87(1.32)	4.19(0.96)	0.054
Advice/train school educational staff for the management of students with chronic illness	3.60(1.31)	3.80(1.18)	0.272
Advice/train school educational staff for the management of students with behavioral problems	3.56(1.19)	3.83(1.05)	0.117
Advice/train school educational staff for the management of students with low academic performances	3.41(1.22)	3.57(1.18)	0.369

Table 4 shows perceptions of principals towards the role of school nurses in which two-thirds (66.7 %) of the respondents strongly agreed that the role of assessing the health status of the students, 46.7 % of respondents agreed the role of providing direct medical care to the students, 66.7% of the respondents strongly agreed to provide first aid is the role, 48 % of the respondents agreed that evaluating students with behavioral problems, 58.7 % strongly agreed with referring students with health problems 45.3 % of the respondents agreed the role of performing surveillance programs, 48% screening programs and 50.7% agreed to evaluate the school environment for health and safety.

Table no 5 depicts the differences in the perception of Nurses and principles towards the role of nurses when comparing the scores of school nurses and the principal an independent t-test found significant differences in perceptions of some roles of school health nurses in both groups including assessing the health status of the students, providing direct medical care to the students, referring students to health problems, evaluate the school environment for health and safety, provide health education for students and promote good health habits, participate in school educational staff meetings with higher mean score among the principal. However, the mean differences in perception of other roles are not statistically significant.

Table 6 shows that two-thirds (70%) of schools do not meet quality standards (full-time school nurse-to-student ratio 1/500). Likewise, the purpose and scope of the school health program written policies and procedures in 86.7 % of schools, 53.3% of schools do not use consultative services and 63.3% do not have certified First aid personnel. Around 86.7% of schools provide input on educational support teams, regarding the job description, 80% of schools have a written job description for the school nurse, and screening is conducted as described in the standard of practice in (97.6%) of schools.

### **Perception of Principals and School Nurses: Qualitative Findings**

The researchers have conducted in-depth interviews with 15 school principals and 15 school nurses using interview guidelines regarding the major roles of school nurses, opportunities for the school nurses, challenges of school nurses, and suggestions for improving the school nurses' program. Four major themes were identified from the analysis.

1. Care Providing /First Aid Role
2. Health Promotive/Education roles/Counseling role
3. Major opportunities as a school nurse
4. Major challenges of school nurse
5. Suggestions from School Nurses and Principals

**Table 6***Assessment of School Health Services*      *n=30*

<b>Statements</b>	<b>Yes</b>	<b>No</b>
Does the school meet quality standard (full-time school nurse-to-student ratio 1/500)	9(30.0)	21(70.0)
The purpose and scope of the school health program have been defined by written policies and procedures	26(86.7)	4(13.3)
Specific written procedures are available for example delegation health care plans and substitute plans.	22(73.3)	8(26.7)
Uses consultative services (physician, health and agency of education, experts)	14(46.7)	16(53.3)
Health personnel are certified in First aid and CPR	11(36.7)	19(63.3)
Cumulative health records are maintained and kept following rules and school procedures	30(100)	-
The school service program undergoes an annual evaluation	28(93.3)	2(6.7)
Have protocols for annually updating student health information	25(83.3)	5(16.7)
Provide student-cantered staff meeting input on students with health /medical issues	19(63.3)	11(36.7)
Provide input on educational support teams	26(86.7)	4(13.3)
Provide input on the interagency team meeting	22(73.3)	8(26.7)
There is a written job description for the school nurse	24(80.0)	6(20.0)
There is the job description for health service assistive health personnel	6(20.0)	24(80.0)
A school health nurse or supervisor is available for consultation	28(93.3)	2(6.7)
Screening is conducted as described in the standard of practice	29(96.7)	1(3.3)
Students with specific health needs such as students with disabilities or those managing chronic illness are identified and Have individual health care plans	28(93.3)	2(6.7)
Scholl nurse is responsible for participating in the appropriate placement of the students with health needs	27(90.0)	3(10.0)
School health office/workplace provides for confidential treatment and record keeping, appropriate infection control measures, and is accessible to every student	30(100)	-
Selected data is collected and entered into the school survey	25(83.3)	5(16.7)
School health nurse participates in a coordinated school health team	30(100)	-
Acts as a health education resource and a liaison to the school community on health and medical issues	30(100)	-
There are facilities for good hand hygiene and a computer available to the nurse	27(90.0)	3(10.0)

## **1. Care Providing Role**

School nurses must care for children from nursery to 12 class and the aged 3 to 19 years. They have to conduct health assessments of school children, take anthropometric measurements to assess the nutritional status, and assess the school's environmental sanitation. They have to work in teams with teachers and staff of the school, and also work as the liaison between the school and the community.

*"In my school, many children come to school with Poor personal hygiene long nails, and dirty clothing, I have told them many times about bathing, cleanliness, and nail cutting, and even I have provided bathing facilities to some students in school."* (Interview, School Nurse 1)

Another nurse said *"In my school, Students used to come without food, faint in the prayer line, students in the lower class come from Poverty and labor background."*(Interview, School Nurse 2). *"Girls students very much hesitated to tell their period and demand pads in the beginning but are now open to sharing their personal problems."*(Interview, School Nurse 3)

All school nurses agreed that *"student dropout rate decreased, most of the girls students hesitated to come to school during periods because of pain abdomen, the need of pads, and disposal problem, now they used to come and ask me without hesitation, they take rest in my office, sometimes 20 to 25 students take rest, lying in the floor of my office"*(Interview, School Nurse 6)

*"In my point of view, the school nurse program is highly effective especially for the girls' students because they can express their personal problems openly with the school nurse. The school nurse is providing first aid management to senior students and teachers. Because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes."*(Interview, School Principal 1). *"The people and students who are far from basic health care services are more benefited from school health nurses programs. Because of the SHN program, the students' dropout rate has been reduced, from an economic point of view, the program is also cost-effective".* (Interview, School Principal 2).

## **Health Promotive/Education roles/Counseling role**

School nurses provided health education on various topics based on the needs assessment of children, the school, and the community. They have conducted health exhibitions and demonstrated healthy practices, good

habits, good touch, and bad touch. The health teaching and education and counseling service provided by school nurses seems effective in changing the habits of students.

*"I have been giving health education in menstrual hygiene, stress/anxiety reduction, good and bad touch, the importance of iron/folic acid, and hand hygiene."(Interview, School Nurse 4)*

*"We have to call a minimum of 10 - 12 guardians daily for their children, they may get minor injuries and trauma, and we need balance for them. We have provided counseling services to students with behavioral problems but we need training to provide special counseling services." (Interview, School Nurse 6). "I have also provided health education and taught the technique of dressing. I have also conducted an exhibition program on healthy nutrition, and environmental sanitation" (Interview, School Nurse 13)*

## **2. Major Opportunities as a School Nurse**

Many school nurses reported and expressed that they are satisfied with the services provided in government schools because they feel successful in reducing the dropout rate of students, especially girls. Their communication and counseling services make the students open to expressing their personal and family problems which helped them to identify actual problems and abuse.

*"I think because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes"(Interview, School Principal 1)*

*"The people and students who are far from basic health care services are more benefited from school health nurses programs. Because of the SHN program, the students' dropout rate has been reduced, from an economic point of view, the program is also cost-effective". (Interview, School Principal 2)*

## **3. Major Challenges of School Nurses**

Despite the various positive roles of school nurses, they face challenges from inside and outside the health care delivery systems. The main challenges faced by school nurses were lack of coordination, supervision, and monitoring from superiors, education, and training opportunities. The significant difficulties reported by some of the principals were turnover of the school nurses, communication and coordination problems with the Province and local level, and lack of adequate supervision and monitoring

and lack of transfer facilities. Here, the researchers have presented the verbatim given by the School Nurses and Principals during Interview.

*"The main challenges are lack of job security, adequate facilities as per the government, and provision of sick leave. There is a problem of coordination and communication among the province, local government office, and school principal that may cause role confusion, without formal communication and information, we have to attend the program with service, and school principals ask the justification to us." (Interview, School Nurse 7)*

*"Along with this, some challenges are there like, lack of experience, lack of training, budget allocation is not sufficient, and the room needs renovation as there is a lack of privacy in the room where services are provided. Along with this printers and laptops are not available for reporting and recording, lack of equipment and medicine to provide First Aid. No allowance for those who worked in remote areas. Lack of capacity-building training". (Interview, Most of the School Nurses)*

#### **4. Suggestions from School Nurses and Principals**

The majority of School Principals suggested/recommended that the school nurses should be permanently recruited, provided with transfer facilities, and adequately trained, and should be supported by the local health office and local Government. Similarly, the school nurses suggested that the job should be permanent, transfer facilities should be available, should create an environment of cooperation and coordination, and an adequate supply of drugs and equipment. Another important suggestion is that the nurse-student ratio is not sufficient.

*"In my opinion, there should be permanent recruitment of school health nurses. In addition, there should be good coordination among the Ministry of Health, the health office, and school*

*"I think the services provided by the school nurses are more cost-effective than the other medical personnel. Their nature of caring for the children and counseling is different from others e.g. teachers. So, the school nurses program should be continued and sustainable." (Interview, School Principal 15)*

## **DISCUSSION AND CONCLUSIONS**

### **Perception of School Nurses towards the Role of School Nurses**

This study has shown the Perception of School nurses towards the role of School Nurses in school in which nearly half (47.1 %) of the respondents strongly agreed that the role of nurses was to assess the health status of the students, more than half (56.2%) of the respondents strongly agreed that providing first aid is the main role of nurses and 46.2 % of the respondents agreed that evaluating students with behavioral problems is the role of nurses. However, one of the studies has shown that 12.5, 22.6, and 15.7% of school nurses disagreed or strongly disagreed that the roles of a school nurse were to evaluate students with behavioral problems, evaluate students with low academic performance, and advise/train school educational staff for the management of students with low academic performance (AL-Dahnaim et al., 2013). More than half of nurses (53.7 %) strongly agreed to provide health education for students and promote good health habits. Similarly, 43.8% % of the respondents agreed that the role of school health nurses is to participate in school educational staff meetings. Another study's findings have shown that school nurses are well-positioned to monitor symptoms, ensure medication adherence, impart health knowledge, and reinforce positive attitudes and behaviors daily (Schainker et al., 2005). These findings are moreover like each other.

### **Perception of Principals towards the Role of School Nurses**

Two-thirds (66.7 %) of the principals strongly agreed that the role of nurses was to assess the health status of the students, whereas nearly half (46.7 %) of respondents agreed that the role of nurses is to provide direct medical care to the students. Likewise, two-thirds (66.7%) of the principals strongly agreed that providing first aid is the role of nurses, and nearly half (48 %) of the respondents agreed that evaluating students with behavioral problems is the role of nurses. Likewise, more than half (58.7 %) strongly agreed with referring students with health problems, nearly half (50.7%) agreed to evaluate the school environment for health and safety, while 1.3 % strongly disagreed. Nearly two-thirds of principals (64 %) strongly agreed on providing health education for students and promoting good health habits. In the event of an accident at school, teachers who stated that having a school nurse would make them feel safer were 41 times more likely to think that the nurse would be helpful (chi square=57.125,  $p<0.001$ , OR=41) (Martinsson et al., 2021). These studies have concluded that providing first aid, assessing the health status, and referring students with health problems are the main roles of school nurses (Maughan & Adams, 2011). Teachers perceived that the presence of nurses was important because nurses provided nursing care that teachers

could not. Teachers perceived nurses as maintaining good physical conditions and safety for the child by observing and assessing the child and providing necessary nursing care. Teachers believed that children perceived nurses as more familiar than teachers (Shimizu & Katsuda, 2015). When comparing the scores of school nurses and the principals, an independent t-test found significant differences in perceptions of some roles of school health nurses in both groups including assessing the health status of the students, providing direct medical care to the students, referring students to health problems, evaluate the school environment for health and safety, provide health education for students and promote good health habits, participate in school educational staff meetings with higher mean score among the principal.

### **Perception of Principals and School Nurses: Qualitative Findings**

School nurses must conduct health assessments of school children, take anthropometric measurements to assess the nutritional status, and assess the school's environmental sanitation. They must work in teams with the school's teachers and staff and as the liaison between the school and the community. Over 94% of school nurses felt that diet was very important for optimal health, indicating that they had positive attitudes toward the value of nutrition. More than half said they were very comfortable advising others about eating well. According to this study, school nurses feel comfortable with their educational background and nutritional sources, and they offer a range of dietary services (Sneller et al., 1997).

The important and good aspect of the school nurse program was that female students could express their problems openly with school nurses, such as menstrual and behavioral problems. As a result, the dropout rate of students has been reduced. Parents believed their children would get proper health care and treatment if they became sick in school. The study findings are more similar to those of other research, where most teachers stated that they carried out initiatives such as waste disposal pits in schools, classrooms, and restroom buildings, safe drinking water access, restroom and hand washing facilities improvement, and more. According to all of the study's key informants, the School Health Nursing program successfully raised students' general health and nutrition awareness. Additionally, the program improved the pupils' life skills, cleanliness habits, and nutritional behaviors. Some parents began sending tiffin from home in such tiffin boxes after receiving tiffin boxes from certain participants, who also liked this (Shimizu & Katsuda, 2015b).

School nurses have also conducted an exhibition program on healthy nutrition, and environmental sanitation. When school nurses noticed that a child had mental health issues, they would send them to the children's hospital, the emergency room, or child and adolescent

psychiatry so that they could be looked at further. Team meetings are crucial, according to school nurses, partly because they provide an opportunity to violate confidentiality and partly because all involved parties, including the parents, are striving to support the child. One of the study's findings was that school nurses were required to collaborate with a wide range of experts, agencies, and parents to address mental health issues in students (Dina & Pajalic, 2014). The school principals reported during the interview session that because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes. School nurses identify the students with special needs and provide counseling services, as well as coordinate with families. The parents and teachers thought the school nurse's main responsibilities were providing first aid and administering medications (Maughan & Adams, 2011).

The school health nurses have provided most of the services mentioned in the checklists. School nurses provide counseling services in sanitation and personnel hygiene, so it is one of the most essential school programs, and it should be continued. Some of the principals told us that they felt very comfortable working with school nurses because they can manage the students' problems immediately and can provide emotional and psychological support, students can tell their private and confidential issues to school nurses. The study's nurses highlighted their significance in imparting hard skills, soft skills, and field knowledge; however, medical students did not appear to recognize the latter two as highly (Doja et al., 2020). Most school nurses reported and expressed that they are satisfied with the services provided in government schools because they feel successful in reducing the dropout rate of students, especially girls. Their communication and counseling services make the students open to expressing their personal and family problems, which helps them identify actual problems and abuse. The participants underlined the need for cooperation between the school health service and the promotion of students' well-being. The partnership should function without any hindrances, particularly when students have worries or issues (Gadda et al., 2023). According to the research, the competence of the school nurse team and local priorities affect how much health education school nurses can provide. The school nurses determined that to support them in their work, they require health education materials. School nurses and school nurse assistants may use these resources, or school nursing teams may direct schools and teachers to them (Hoekstra et al., 2016).

Similarly, the school principals were very happy with the school nurses working together because the service is cost-effective. They appreciate nurses' work as a female, they can provide compassionate care, and students can freely express their problems and believe more than other

teachers. Most Principals feel comfortable when the school has sports functions, extracurricular activities, and scout programs because the school nurse is there to manage minor trauma and first aid treatments. The study's findings are comparable to this statement that school nurses are in a good position to regularly evaluate symptoms, ensure that medicine is taken as prescribed, provide health education, and support healthy attitudes and behaviors. Pediatric doctors can incorporate recommendations for school nursing services into the treatment regimens of their patients (Schainker et al., 2005).

The body of research acknowledges the rising number of students seeking mental health services from school nurses. It's critical to identify and address the factors that help or impede school nurses from attending to students' mental health needs, considering the rising number of mental health concerns that they face. According to research, school nurses regard themselves as dependable members of the school community. They consider maintaining standards of practice fundamental to their role and acknowledge the critical importance of competence in providing mental health services. Practice suggestions include guaranteeing community access to school nurses and offering evidence-based training to school nurses on handling students' mental health issues (Kaskoun & McCabe, 2022). The motivation of school nurses and parents was evaluated through the interviews, and they thought they were important and family centered. After the meeting, they felt inspired and equipped to support their kids' healthy behaviors (Moberg et al., 2022).

The main challenges faced by school nurses were lack of coordination, supervision, and monitoring from superiors, education, and training opportunities. The major difficulties some of the principals reported were the turnover of the school nurses, communication and coordination problems at the provincial and local levels, and lack of adequate supervision and monitoring. Some schools have to look after 3700 or more students; according to the standard, there should be 1 500, so at least 2 school nurses are needed. One of the studies has shown that feeling abandoned by their bosses when things get tough, the participants disclosed that because certain schools lacked running water, power, or bathrooms, they did not have the support of their supervisors. The participants observed that staff members' dedication, support, and frequent visits on behalf of management might favorably towards the delivery of quality school health services (Dibakwane & Peu, 2018).

Similarly, the school principals complained to the working nurse that the high turnover rate of school nurses, despite good service, was due to a lack of communication, coordination, and supervision from the province and related authorities. Also, there was a limited supply of medicine and equipment. It could also be a sign of inadequate care

coordination. Care coordination across multiple contexts is hampered by some issues, such as insufficient communication mechanisms between providers, logistics, and confidentiality (Schainker et al., 2005). According to the school nurses, they require additional resources, including time, to support teenagers' mental health at school. They believed that supporting mental health was an essential aspect of their profession, but there isn't enough time for it because it is not always evident. Additionally, they stated that additional resources were needed to foster professional collaboration and involve parents in the care of adolescents (Anttila et al., 2020). Professional direction and leadership is required to enable school nurses to provide the critical link between health and strengthening student learning. Advantages of this model include: improved professional development, standardization and consistency of care, and professional career pathway opportunities (Kool et al., 2008). For more effectiveness of the school nurses program, there is the need for the provision of sufficient human resources and facilities (Sanni et al., 2022).

The findings showed that two-thirds (70%) of schools do not meet quality standards (full-time school nurse-to-student ratio 1/500). More than half (53.3%) of schools do not use consultative services (physicians, health, and education agency experts). About health personnel who are certified in First Aid and CPR, nearly two-thirds of the schools (63.3%) do not have certified personnel. Meanwhile, almost all schools maintained cumulative health records and followed rules and school procedures, and the school service program underwent an annual evaluation in most of the schools (93.3%). Schools that aim to be health-promoting institutions will create health-promoting programs, go beyond health knowledge and skills to include the school's physical and social environment, and foster relationships with the local community. The comprehensive goals of many of the contemporary school health promotion programs, including all health-promoting schools projects, are to avoid sickness and to promote the health and well-being of children, staff, and even parents. This means that the severity of the issues or illnesses cannot be the only factor used to determine their impact (*"Health Evidence Network Report" (2006)*).

A school health nurse or supervisor is available for consultation in most schools (93.3%) and Screening is conducted as described in the standard of practice in (97.6%) of schools. Likewise, in most schools (93.3%), students with specific health needs, such as students with disabilities or those managing chronic illness, are identified and have individual healthcare plans. Meanwhile, the school nurse is responsible for placing students with health needs appropriately in most schools (90%). In about 95 % of the schools, the teacher carried out routine inspection of the pupils. The study concludes that the practice of the various components

of school health services was poor. The health care personnel available in these schools were inadequate but the situation was generally better in the private schools. Routine inspection by teachers was the most common form of health appraisal. This may suggest that more health personnel must be employed to provide for the health of school children in developing countries (Kuponiyi et al., 2016b) . The findings also showed that more than half of the school teachers (57%) had low participation in school health services and only (2%) had good participation in school health services. Most teachers faced the problems such as lack of infrastructure, improper training, and knowledge i.e. 86% and 80% respectively (Khurshid, 2018).

If school health services are to truly improve the health of children and adolescents, they must comprehensively address the most pressing problems of this population. For policymakers and leaders in school health to make evidence-based recommendations on which services should be available in schools, who should deliver them, and how they should be delivered, more Systematic Review studies must be done. These Systematic Reviews must assess routine, multi-component school health services and the characteristics that make them effective, with special attention to content, quality, intensity, method of delivery, and cost (Levinson et al., 2019).

One of the studies conducted in Nepal on School health and nutrition program implementation in schools, the positive impact included improved students' health and education outcomes, improved school environment, and enhanced community awareness. However, key informants also identified key impediments in implementing the program: a lack of coordination between stakeholders, resources, limited training opportunities, and doubts regarding the program's sustainability. The four major challenges identified by the stakeholders were a lack of coordination between stakeholders, a lack of resources, a lack of training opportunities, and low sustainability of the program. Despite these challenges, all the stakeholders acknowledged that the SHN program positively affected students, schools, and communities (Shrestha et al., 2019).

## **IMPLICATIONS**

The study findings might provide baseline data to assess the effectiveness of the school nurse program. This study would give feedback and suggestions to the school nurse coordinator, the Provincial Health Ministry, policymakers, and implementers of the Provincial Government to redesign the program. The dissemination of the study's findings to the target group, policy makers, school principals, and school nurses might

help improve the existing condition of school health services and improve the roles of school nurses according to their reported challenges and suggestions.

## LIMITATIONS

Because of the turnover rate of school nurses, around 24 School Nurses left their jobs, the target sample for data collection could not be met. During the study's permission period, 145 school nurses were working. The principal's non-response rate was high, around 38%, as the quantitative data was collected through an online survey via Google Docs.

## CONCLUSIONS

The study concludes that both school nurses and principals agreed that the nurses played various roles at school including first aid treatment and management of minor trauma and injuries, assessing the health status of the students, providing health teaching on nutrition, personnel hygiene, drug/alcohol abuse and its prevention etc, conducting health exhibition time to time, performing screening. The findings of the observation have shown that two-thirds of schools do not meet quality standards. The mean Perceptions of roles of school nurses was higher in principals than school nurses that mean there is high demand of school nurses in government school. There is need to raise awareness regarding the role of nurses in both groups.

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## **ACKNOWLEDGEMENTS**

The researchers would like to offer sincere gratitude to the University Grant Commission (UGC) Nepal for providing the great opportunity of Faculty Research Grant to conduct this study. The researchers were also indebted to Nepal Health Research Council (NHRC) for providing an ethical clearance certificate to proceed with this research. Researchers would like to be thankful to all school principals, and school nurses of Government Schools of Province 1, Nepal for their permission, cooperation, and valuable time for data collection.

## **Conflict of Interest statement**

The authors declared that they have no any Conflict of Interest.

## **Funding Statement**

This study was funded by University Grant Commission (UGC) Nepal