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THE CLIFF

Nursing Journal of Kathmandu University

Innovations in Nursing: Shaping the Healthcare Landscape through Research

House DR

The field of nursing has long been recognized for its critical role in patient care, but its contributions extend far beyond the bedside. Nurses today are at the forefront of research and innovation, driving advancements that shape the entire healthcare landscape. The International Council of Nurses highlights this expanded role, noting that “Advocacy, promotion of safe environments, research, participation in shaping health policy, patient and health systems management, and education are also key nursing roles.”¹ This broader scope underscores the dynamic nature of nursing as a profession that actively contributes to evidence-based medical practices.

Nursing research is characterized by its methodological diversity and interdisciplinary nature.² Nursing research draws from various disciplines, including psychology, sociology, education, and health sciences. The interdisciplinary approach is necessary because the challenges in healthcare are multifaceted, requiring comprehensive solutions that consider physical, emotional, social, and environmental factors.

As evidenced in *The Cliff*, research in nursing often involves qualitative studies to understand patient experiences, quantitative analyses to evaluate the effectiveness of interventions, and mixed-methods approaches to combine the strengths of both. This methodological versatility allows nursing research to address a broad spectrum of issues, from improving pain management techniques to enhancing communication between healthcare providers and patients.

Education and technology are also key areas of innovation in nursing research. Advances in simulation and virtual learning have revolutionized education, providing students with immersive, hands-on experiences that prepare them for real-world challenges. Evaluation of online platforms and integration of technology provide guidance for best practices to improve access and quality of learning opportunities.

Generating evidence-based guidelines, nursing research ensures that clinical practices are effective and up to date. For example, research on infection control has led to improved protocols that significantly reduce hospital-acquired infections, thereby enhancing patient safety and reducing healthcare costs.³ Studies demonstrating the cost-effectiveness of nurse-led interventions in managing chronic diseases can lead to policy shifts that allocate more resources to nursing services, ultimately improving patient care and outcomes.^{4,5}

The dedication of nurses in research ensure that the future of healthcare is evidence-based and patient-focused. By integrating diverse research methods, influencing clinical practice and policy, and leveraging education advancements, nursing research shapes the healthcare landscape in profound ways to improve patient care. The continuous support and promotion of nursing research is an investment in a healthier, more efficient, and more equitable system for all.

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Prevalence and its Associated Factors for Poisoning in Children Admitted to Pediatric Department of Tertiary Level Hospital in Nepal

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ABSTRACT

Background

Childhood poisoning is a major health issue all over the world including Nepal.

Objective

To assess the prevalence and its associated factors of poisoning in children admitted to the pediatric department of Dhulikhel Hospital, Nepal.

Method

A quantitative cross-sectional study was conducted at Dhulikhel hospital. The data was gathered using structured questionnaires administered through face-to-face interview with parents of children aged from birth to 16 years who ingested poisonous substances. Data analysis was done in SPSS.

Result

From April 2020 to March 2023, a total of 46 cases of poisoning were admitted. The prevalence of poison cases accounted for 3.04% of all pediatric admissions during that time, with over half of the affected children being female. One introverted child resorted to poison for self-harm. The leading causes of poisoning were family disputes and neglect from caregivers. The time between poison ingestion and arrival at a healthcare facility ranged from one to five hours. Vomiting was a prevalent symptom following poison consumption. A significant majority of children (91.3%) showed improvement during their hospital stay. Age, sex, education, and the child's disposition exhibited a noteworthy correlation with the poisoning condition ($p < 0.001$).

Conclusion

Accidental poisoning affected mainly younger children, while intentional poisoning was more common among adolescents. Organophosphorus compounds were frequently used by adolescent. It's essential to establish regulations for the purchase and storage of poisonous substances.

KEY WORDS

Children, Parents, Poisoning

INTRODUCTION

Poisoning is the fourth leading cause of unintentional injury in high and middle-income countries amidst road traffic accident, fires and drowning; fatality is more in low-and middle-income countries.^{1,2} Poisoning is the one of the most prevalent clinical problem during childhood period which requires interventional treatment. It is the one of the global health problem and major cause of hospital admission.^{3,4} It is preventable emergency pediatric condition which if timely managed reduces childhood morbidity and mortality.⁵ Accidental poisoning is increasing in developing countries because of easy availability of chemical substances in market and lack of awareness among care givers.⁶ Global death rate of poisoning under 20 years of age is 1.8 per 100 thousands population. It is responsible for 0.33 to 7.6 % of total admission in pediatric department at various hospital across India including mortality occupied 0.64% -11.62%.^{7,8} The incidence rate of poisoning among children in Nepal from 0.74 to 3%. Most of the time child have poisoning by accidently in comparison to other age groups.⁹ The severity and outcomes of poisoning depends on nature of poisoning, dose, formulation and route of poisoning.^{3,10}

The study aimed to find out the prevalence and associated factors of poisoning among children admitted in Pediatric Department of Tertiary level Hospital, Dhulikhel, Nepal.

METHODS

A descriptive prospective cross – sectional hospital based study was conducted over a period of 32 months, from 2020/04/13 to 2023/03/13, at the department of pediatrics, Dhulikhel Hospital, Nepal. The children under 16 years of age who were admitted for all types of poisoning at the hospital were included except food poisoning cases. Ethical approval was obtained from the Ethical Committee of Kathmandu University, Dhulikhel Hospital and informed consent was obtained from the parents of the children. Data were collected using a structured questionnaire by face to face interview to the parents of the admitted children by researcher herself. The questionnaire included information about the socio-demographic factors of child (age, gender, ethnicity, education, and address), name of the poison, the nature of poisoning, duration of hospital stay, and outcomes of the child. Symptoms, circumstances of poison exposure, time of presentation, and poison outcomes were also noted. Certain characteristics of child were operationalized in this study. Introvert child: Introvert child is characterized by not expression of feeling, who feels comfortable being alone, not involve in the group and social events. Extrovert child: those characteristics of child who easily develops rapport with colleagues, confidently explained the emotion, feelings what she wants and involve in social events. Accidental poison: Those harmful substances like organophosphorus, insecticides, overdose of drugs, epileptic and narcotic drugs, which child can

access unintentionally. Intentional poison: Those harmful substances which child uses deliberately for self-harm.

Due to the impact of the COVID-19 pandemic, the data collection period was extended to accommodate the reduced number of admitted poisoning cases during that period compared to previous years. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25.

RESULTS

The total admitted child during the study period was 1513, among them the poisoning cases were 46. The prevalence of the study was 3.04% during this period.

Table 1 presents the distribution of the study population based on various characteristics. The majority of children admitted for poisoning were in the age group of 11 to 16

Table 1. Socio-demographic characteristics of poisoning cases (n=46)

Variable	Number (%)
Age group	
Mean age (in year) 9.24±5.53	
0-5 years	16 (34.8)
11- 16 years	22 (47.8)
6-10 years	8 (17.4)
Gender of Child	
Female	27 (58.7)
Male	19 (41.3)
Residence	
Rural	28 (60.9)
Urban	18 (39.1)
Ethnicity	
Janajati	20 (43.5)
Brahmin/ Chhetri	18 (39.1)
Dalit	8 (17.4)
Primary care taker	
Mother	32 (69.6)
Relatives	8 (17.4)
Grandmother	6 (13.0)
Education of Child	
Not starting school	16 (34.8)
Primary (Class 1-8)	19 (41.3)
Secondary (Class 9-10)	11 (23.9)
Occupation of Care taker	
Farmer	23 (50.0)
House wife	9 (19.6)
Labor	5 (10.9)
Service	3 (6.5)
Business	3 (6.5)
Unemployed	3 (6.5)

years, accounting for 47.8% of the cases. The study also revealed that slightly more than half of the poisoned children were female, making up 58.7% of the cases.

Regarding the geographical distribution, 60% of the admitted children hailed from rural areas. In terms of ethnicity, the majority belonged to the Janajati group, accounting for 43.5% of the cases.

In this study, mothers were the primary caregivers for a significant proportion of the children, making up 69.7% of the cases. As for education, a considerable portion of the poisoned children (41.3%) were enrolled in primary-level schooling.

Furthermore, 50% of the parents of the admitted children worked as farmers, indicating that agricultural occupations were prevalent among the parents. These findings shed light on the demographics and socio-economic factors of the children and their families who experienced poisoning cases at Dhulikhel Hospital, Nepal.

Table 2 summarizes the findings of a hospital-based study on childhood poisoning cases at Dhulikhel Hospital, Nepal. The study revealed that over half of the poisoning cases (56.5%) were intentional, with organo-phosphorus being the most common type of poison (56.5%), followed by insecticides and pesticides.

Regarding the nature of the affected children, the majority (41.3%) were found to be introverted. Suicidal poisoning was the most frequent reason for poison ingestion (45.7%), followed by accidental, experimental, and homicidal cases.

The study identified various reasons for poison ingestion, with the primary ones being family disputes and lack of caregiver attention (23.9%). Other reasons included inappropriate storage of poison, love affairs/tragedy, school stress, threats to parents, sibling quarrels, and feelings of helplessness.

Most children (45.7%) arrived at the hospital within one to five hours after consuming the poison. The hospital stay ranged from 1 to 46 days, with an average stay of 12.39 days (SD 10.31).

Encouragingly, more than 90% of the children (91.3%) showed improvement following hospital management, indicating the success of the provided treatment.

These findings underscore the significance of addressing intentional poisoning cases, particularly involving organo-phosphorus substances, and emphasize the importance of preventive measures and timely medical interventions to safeguard the well-being of children in Nepal.

Table 3 displays the prevalence of symptoms observed in children with poisoning at Dhulikhel Hospital, Nepal. Vomiting was the most common symptom (78.3%), followed by loss of consciousness and incontinence of urine, while 37% of the children showed no symptoms after poison consumption.

Table 2. Poisoning related characteristics of the children (n=46)

Variables	Number (%)
Condition occur of poisoning	
Intentional	26 (56.5)
Accidental	20 (43.5)
Types of Poisoning	
Organophosphorus	26 (56.5)
Insecticides	5 (10.9)
Pesticides	5 (10.9)
Drugs	2 (4.3)
Acids	1 (2.2)
Cannabis	1 (2.2)
Others	6 (13.0)
Nature of Child	
Introvert	19 (41.3)
Extrovert	10(21.7)
Can't determine the nature	17 (37.0)
Nature of poison Ingestion	
Suicidal	21 (45.7)
Accidental	19 (41.3)
Experimental	5 (10.9)
Homicidal	1 (2.2)
Reason of poison intake	
Family dispute	11 (23.9)
Lack of attention of care taker	11 (23.9)
Inappropriate storage of poison substance	6 (13.0)
Love affair	6 (13.0)
School stress	4 (8.7)
Threaten to parents	4 (8.7)
Quarrel with sibling	3 (6.5)
Depression/ Helpless	1 (2.2)
Time since poison consumption to arrival at hospital	
Within 1 hour	16 (34.8)
1-5 hours	21 (45.7)
More than 5 hours	9 (19.6)
Outcome of child	
Mean days of hospital stay 12.39+₋10.31.	
Improved	42 (91.3)
Death	2 (4.3)
LAMA	1 (2.2)
Refer	1 (2.2)

Table 3. Presenting Symptoms after poison consumption

Symptom	Number (%)
Symptoms of Child after consumption of poison	
Vomiting	36 (78.3)
Loss of consciousness	14 (30.4)
Incontinence of urine/stool	9 (19.6)
Frothing	2 (4.3)
Not any symptoms seen after consumption of poison	17 (37.0)

Table 4. Association between Condition for Poisoning and its risk factors

Risk factors	Condition for poisoning n (%)		p-value
	Accidental	Intentional	
Gender of child			<0.001
Male	15 (78.9%)	4 (21.1%)	
Female	5 (18.5%)	22 (81.5%)	
Child's Age			<0.001
0-5 years	16 (100%)	0	
6-10 years	4(50.0%)	4 (50.0%)	
11-16 years	0	22 (100%)	
Child education			<0.001
Not starting school	16 (100%)	0	
Class 1-8	4 (21.1%)	15 (78.9%)	
Class 9-10	0	11 (100%)	
Nature of child			<0.001
Introvert	0	19 (100%)	
Extrovert	3 (30.0%)	7 (70.0%)	
Can't determine	17 (100%)	0	
Ethnicity of child			0.244
Brahmin/Chhetri	5 (27.8%)	13 (72.2%)	
Janajati	11 (55.0%)	9 (45.0%)	
Dalit	4 (50.0%)	4 (50.0%)	
Types of poison			0.110
Organophosphorus	8 (30.8%)	18 (69.2%)	
Insecticides/pesticides	5 (50.0%)	5 (50.0%)	
Drugs and others	7(70.0%)	3 (30.0%)	
Parents literacy			0.072
Illiterate	5 (83.3%)	1 (16.7%)	
Literate	15 (37.5%)	25 (62.5%)	

The study revealed significant associations between various factors and the nature of poisoning in children. Females were more likely to ingest poison intentionally (81.5%), while males had accidental poisonings (78.9%). Children aged 0-5 years experienced accidental poisoning (100%), while those aged 11-16 years had intentional poisoning (100%). Children not yet in school had accidental poisoning (100%), whereas those in class 9-10 had intentional poisoning (100%). Intentional poisoning was more common in introverted children (100%), while accidental poisoning was prevalent in those with an undetermined nature (100%). The

DISCUSSION

Childhood poisoning is a significant cause of morbidity and mortality in developing countries like Nepal. This study aimed to determine the prevalence and its associated risk factors of poisoning among children admitted to Dhulikhel Hospital's pediatric department. The study found a prevalence of 3.04%, while similar research in another Nepalese hospital reported 3.4% of total admissions being attributed to poisoning in pediatric ward and PICU.^{2,3}

Our observation revealed that poisoning was most prevalent in children aged 11 to 16 years, with 100% of cases being intentional. Similarly, among children studying in class 9-10, 100% of poison ingestions were intentional, with suicidal purposes being the most common motive. This study's findings show associations between the child's age, education level, and the nature of the poison, which is consistent with another study conducted in eastern Nepal.^{11,12}

The study observed a higher predominance of female children, and over eighty percent of them had intentional poison ingestion. This finding indicates an association between the child's gender and the occurrence of poisoning. Young adults and females were found to be at higher risk of intentional poisoning, using poison as a means for committing suicide, as supported by other studies.^{13,14} In contrast to our findings, studies.^{15,16} showed a male predominance in all age groups. The difference in our study population could be attributed to cultural practices that limit the exposure of female children outside their homes, leading to higher prevalence of female children in the study.

Our study found that most of the children affected by poisoning came from rural areas, and their parents were predominantly involved in farming, which is consistent with findings from a tertiary care hospital in western Nepal.^{7,17} This similarity in results may be attributed to the geographical structure of the country, where rural areas are primarily engaged in farming activities, leading to higher exposure to insecticides and pesticides with potential lack of awareness about proper storage, making these substances.

Our study found that introverted children had a 100% likelihood of intentional poisoning, aligning with findings from Southwest China where most suicide cases involved adolescent females. The major reasons for poisoning in our study were family disputes, inappropriate poison storage, and lack of attention from caregivers, love tragedies, and feelings of helplessness. Organophosphorus was the most common ingested, both accidentally and intentionally.¹⁴

Most children arrived at the hospital within five hours after poisoning, with vomiting being the most common symptom. Ninety percent of the children showed improvement after hospital treatment, and hospital stays ranged from one to forty-six days.

Recommendation

More community-based studies on poisoning among children should be conducted in Nepal. The study should be conducted with a larger sample size for better generalizability of the results.

CONCLUSION

Poisoning is a significant cause of hospital admissions, with suicidal poisoning being more common in introverted female adolescents from rural areas. Accidental poisoning is prevalent among children under five years old. Major reasons for poisoning include family disputes, lack of attention of care giver, inappropriate poison storage, and tragedies. The accessibility of agricultural pesticides (organophosphorus) should be strictly regulated at the policy level, and family disputes can be addressed through proper counseling.

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Nurses' Responses and Experiences Amid the Fear of COVID-19: A Qualitative Study

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ABSTRACT

Background

Coronavirus 2019 was first reported in December 2019 in people with lung infections in Wuhan, China, and the World Health Organization declared a pandemic in March 2020. The burden of COVID-19 devastated the healthcare system with infected patients thus increasing the demand for the nursing workforce and workloads which have caused various challenges in coping with work demands..

Objective

The objective of the study was to explore nurses' responses and experiences amid the fear during the COVID-19 pandemic.

Method

The study was conducted using a qualitative descriptive phenomenological research approach. A total of twelve nurses who worked in the COVID-19 ward were purposefully selected from the various departments of Gandaki Medical College Teaching Hospital and Research Centre. Data was collected through face-to-face in-depth interviews using a semi-structured interview guide. Thematic analysis was used to analyze the transcribed material.

Result

Three themes were generated; i) Fear of COVID-19 at work, ii) Challenges at work, iii) Stigma due to COVID-19. Nurses experienced fear, anxiety, and depression and faced major challenges with personal protective equipment, delays in treatment, and social isolation. Negative thoughts were found among society people leading to discrimination.

Conclusion

Most of the nurses experience fear at work, scared of transmitting, manifestation of fear, overcome fear, faced challenges at work with staffing, lack of personal protective measures, issues with doctors, and stigma faced by nurses and their families due to COVID-19. The study recommended that hospitals should be prepared beforehand for an upcoming pandemic situation, and management should provide adequate supplies of equipment, training to staff, coping strategies, and stress management techniques.

KEY WORDS

COVID-19, Experiences, Fear, Nurses, Responses

INTRODUCTION

Coronavirus 2019 (COVID-19) was declared a pandemic and health emergency on March 11, 2020, which is a highly contagious disease and has spread worldwide.¹ On May 5, 2023, it is stated that the pandemic is not over but the global emergency is over for now.² Nurses are the frontline health workers for patient care during infectious disease and play a key role in treating and preventing the disease. Acute and critical conditions following the rapid spread, prolonged pandemic time, high rate of infectivity, lack of equipment especially at the beginning of the pandemic, increased number of patients, higher workload, increased mortality as well as the re-infection of patients at later stages which led to serious psychological distress, depressive symptoms.³ Nurses Experience concerns about infecting family members, social isolation, and transmission in their work setting.⁴ COVID-19 has impacted their health, professionals' relationships with family, friends, and relatives as well as stigma and discrimination from community people.⁵ Healthcare workers, especially nurses, in close contact with COVID-19 patients experienced fear associated with the disease. The trend of fear changes in the first week and fourth week after the outbreak of the disease showed a reduction of fear.⁶

METHODS

A qualitative descriptive phenomenological research approach was used to explore Nurses' responses and experiences during the COVID-19 pandemic. Data was collected from June to July 2023. The questionnaire was used to collect the viewpoints of Nurses working in the COVID-19 ward of Gandaki Medical College Teaching Hospital and Research Centre (GMCTHRC), a 750-bed teaching hospital located in Prithvi Chowk, Pokhara.

Data was collected from 12 participants selected purposively by using a Semi-structured face-to-face interviews questionnaire. The questionnaire was developed based on the researchers' experiences, literature review, and discussion among the investigators to meet the study objectives so that the respondent opinion could be explored and to maintain validity. Individual Participant's interview was taken at their feasible time during duty hours and were given a short introduction about the study. Face-to-face in-depth interview was performed with 12 Nurses who worked in COVID-19 ward of GMCTHRC meeting inclusion criteria to gain an in-depth analysis. Open ended questionnaire was used for collecting data to explore the real viewpoints of the participants on the research question. The interview session ranged from 30-45 minutes and was recorded with an audio recorder and later transcribed for further analysis after informed written consent from the participants. Ethical approval was taken from the Institutional Review Committee of Gandaki Medical College (GMC-IRC) Ref

no: 299/079/80. Respondent's dignity was maintained by giving the right to reject or discontinue their participation in the study at any time. Confidentiality was maintained by not disclosing the name and using the information only for study purposes.

Audio recordings were transcribed verbatim within 24 hours post-interview by the 2 authors who translated the transcriptions into English and again back translation was done to ensure linguistic accuracy and reliability. This study used Campbell Braun and Clarke's six phases of Reflexive Thematic Analysis to evaluate all transcripts thematically. Thematic analysis is a widely cited method for analyzing qualitative data. The six phases of reflective thematic analysis as described by Campbell Braun and Clarke are: (1) familiarizing oneself with the data, (2) generating codes, (3) constructing themes, (4) reviewing potential themes, (5) defining and naming themes, and (6) producing the report. The authors immersed themselves in the data to understand the depth and breadth of the content by transcribing audio data by listening several times and note-taking. Then generated initial codes to organize data. The "open coding" method was followed and broke down the data into discrete and created code. Codes were sorted into initial themes and sub-themes by writing themes and properties of themes then reviewing the entire data set as a whole by re-working and refining codes and themes. Identifying the story of each of the identified themes by collecting data and themes to organize the story. Then authors wrote the compelling information.⁷

RESULTS

Table 1 reveals that the ages of the nurses were 22 to 38 with a mean of 30, most of them belong to Hinduism, they had Bachelor-level degrees and most of them were married. Most of them own their own house, working experience was 10 years with a mean of 5.5 years, and most of them had no history of COVID-19 disease.

Three themes emerged from the data analysis, with eight subthemes under the four themes

Key themes and sub-themes are as follows:

Themes

1. Fear of COVID-19 at work

- a) Scared of transmitting
- b) Manifestation of fear
- c) Overcome fear

2. CHALLENGES AT WORK

- a) Issues of staffing
- b) Issues with personal protective measures/equipment
- c) Issues with Doctors

Table 1. Socio-demographic characteristics of the responded nurses.

N=12

Participant number	Age (in years)	Religion	Qualification in Nursing	Married	House	Total working experience in a hospital	History of COVID-19-19 disease
N1	38	Hinduism	ANM	Married	Own	10 yrs	No
N2	26	Hinduism	PCL	Unmarried	Own	4 yrs	No
N3	27	Hinduism	PCL	Married	Rented	5 yrs	No
N4	24	Hinduism	PCL	Unmarried	Rented	3 yrs	Yes
N5	22	Buddhism	PCL	Unmarried	Own	1 yr	Yes
N6	24	Hinduism	BSN	Unmarried	Own	1 yr	No
N7	30	Buddhism	BNS	Married	Own	3 yrs	No
N8	34	Buddhism	BNS	Married	Own	6 yrs	No
N9	28	Hinduism	BSN	Married	Own	4 yrs	Yes
N10	29	Hinduism	BNS	Married	Own	4 yrs	No
N11	25	Buddhism	BNS	Unmarried	Rented	2 yrs	No
N12	27	Hinduism	BNS	Married	Rented	3 yrs	Yes

Note. ANM= Auxiliary Nurse and Midwife, PCL= Proficiency Certificate Level in Nursing, BNS= Bachelor of Nursing Science, and BSN= Bachelor of Science in Nursing

3. Stigma due to COVID-19

a) Stigma in Family and Neighbors

1. Viewpoints regarding Fear of COVID-19 at work.

The viewpoints regarding fear of COVID-19 among nurses working in COVID-19 wards fell into 3 subthemes:

a. Scared of transmitting

Participants expressed their viewpoint that they were not scared of the outbreak as they believed that the virus would not spread to Nepal rapidly but some of them felt that they had faced similar pandemic situations before also. They expressed that after the spread of the virus, they were scared of transmitting the virus to their family, children, and elder people, especially after coming from work.

"... Maybe due to my age and maturity, I was not that scared of COVID-19 transmission. After hospital duty, I used to stay in the store room on different floors of the same house, take baths and wash my clothes, and stay there for longer periods time than only I used to meet my children." (N1)

b. Manifestations of fear.

Participants expressed extreme fear, anxiety, feeling feverish; chances of getting COVID-19, fear for family members, and excessive sweating which led to fear of getting pneumonia because of continuous use of PPE. Some of them had a common cold, fever, frustration, depression, and stress.

"...After work, I had a common cold and got so scared that I got COVID-19 so I took lots of hot lemons and turmeric water, while waiting for the test result, still got scared that I would test positive but the result came out negative." (N2)

c. Overcome fear

To overcome fear of transmission, the participants

expressed that they were provided with accommodation in the hospital itself but some of the participants had to go home to take care of their family and children after work. They expressed awareness by wearing personal protective equipment (PPE), and frequent handwashing to prevent transmission.

"...I was so scared of caring for the patients but with the help of training and following some protocols of hospitals like methods of wearing PPE, gloves and masks, staying isolated and staying in hospital after work helped me to overcome fear". (N3)

2. Viewpoints regarding challenges at work

The viewpoints regarding challenges at work among nurses working in COVID-19 ward fell into 3 subthemes:

a. Issues of Staffing

Participants expressed that there was an insufficient number of nurses to care for patients suffering from COVID-19. In the early days of COVID-19, participants had to work straight 14 days continuously which later on decreased to 6 days. They had to stay quarantined till the results came out negative and if the results were positive, participants were kept in isolation and a repeat test was done again after 2 weeks.

"...There were 4 staff for 15 patients despite this Healthcare professionals should work cooperatively to achieve the optimum level of patient health for that, they should not come late, should work 24hrs, work collaboratively, not be careless, and provide 24hrs ICU service. Health personnel should be provided with proper PPE to protect themselves while taking care of patients, machines should be working properly so, that we do not face the problem while caring for patients. (N8)

b. Issues with Personal Protective measures/ equipment

Participants expressed that they were provided with 2 PPE,

1 surgical mask, and 1 KN95 mask per person, and need to be disposed of after using it but later on, due to the scarcity of PPE faced by participants, they had to reuse PPE. The PPE was torn and worn out after repeated use.

"...Even though I was given sufficient PPE, I used to use only one PPE in the whole 12- hour shift to save without even going to the washroom. After 12 hours of duty when I went to the toilet, feel abdomen pain. When I was working, there was sufficient PPE but later on, there was a complaint of overuse of PPE." (N10)

"... PPE was reused and was seen torn and not meeting the guidelines of protective measures. We used to manage with 2-3 gloves per shift. We used to hold the bladder for a long time. During urgency only, we change it." (N4)

c. Issues with doctors

During a pandemic, participants expressed that the death rate was so high. There were cases of ventilated patients whose SPO₂ was less than 90% and when there was a fluctuation of SPO₂, Doctors were informed but they used to come late by 2-3 hours. Participants expressed that if the doctors had come on time, many patients would have been saved.

"... After working 12hrs continuously, used to feel so tired, and staying away from home made me feel homesick. If the doctor had come early, one life can be saved. I could not do anything to save lives, I used to blame myself. As I was floated from other areas, it was difficult to use the ventilator properly." (N5)

3. Stigma due to COVID-19

The viewpoints regarding stigma in family and neighbors due to COVID-19 fell into 1 subtheme:

a. Stigma in Family and neighbors

Some of the participants expressed that they were forced to leave their jobs due to family pressure to prevent from spread of disease to family members. Some of the participants expressed that they had experienced social stigma from the community especially shopkeepers from where groceries were purchased. Participants who were staying in rented houses had to stay in the hospital while working to prevent transmitting the virus. Owners of the houses used to avoid them. Participants expressed that their families were discriminated against in nearby shops while purchasing groceries by avoiding them in meetings.

"...Even though some family members thought that there is no cure for COVID-19, one can lose life and there is a very rare case of a full cure of COVID-19." (N11)

"...Working as a Treasurer in the Aama Samuha group (Mothers Group) in my community, most of them were uneducated so I was called in every program but after the pandemic, they started ignoring me and wished I would not be present in any meetings. Even one neighbor told me that coronavirus is spread by air without any close contact.

They always try to maintain excessive distance from me, never come closer instead I tried to maintain distance from them." (N7)

"... Although neighbors used to discriminate against us, we used to stay safely and peacefully in our own house as I don't live in a rented house." (N9)

"...Being a nurse, they made me feel untouchable and it was difficult to go to a nearby shop to purchase groceries as neighbors felt that I carried the virus they used to keep excessive distance from me but they feel a bit comfortable with others those who are not healthcare providers." (N12)

DISCUSSION

Study participants faced a wide range of challenges during the COVID-19 pandemic while caring the positive patients in terms of human resources, personal protective equipment, and some delay in treatment. Nurses reported extreme fear, anxiety, frustration, depression, stress, feeling feverish, and fear of getting pneumonia due to continuous use of PPE which led to excessive diaphoresis, having a common cold, and the way they adapted to fear such as drinking hot lemon and turmeric water. Nurses and their family members faced isolation and discrimination and they reported stigma from their family and neighbors. Nurses adopted various range of strategies to deal with the changes and some nurses felt guilty over the delay in treatment, compromised quality of care, and increased mortality rate. They had motivated themselves to work in the hospital and their family members too. These findings revealed that nurses were liable as front-line health workers to protect patients and society from the higher risk of the disease. Due to uncertainty about the new virus initially, they faced difficulties in coping with it but further on they adapted to the situation and gradually they learned to grow from it.

This finding is supported by a study done at the University of Jordan which showed that initially, nurses had experienced fear and uncertainty about the new virus and its effects which is common among Health care providers.⁸ Nurses reported that they had experienced a similar type of other pandemic disease although COVID-19 was new to them.⁹ Although some of the nurses had faced challenges while taking care of the patients, they were willing to take care of COVID-19 positive patients.¹⁰ Similarly, previous studies revealed that nurses were willing to work despite of high risk of being infected.¹¹

In contrast, studies conducted among nurses in Australia (44%), the Philippines (17.2%), and China (22.8%) were unwilling to work with COVID-19 positive patients.¹²⁻¹⁴ Because the novel coronavirus and the nature of the disease were life-threatening the nurses of this study had initially felt stress and anxiety during the pandemic.¹⁵ Jordanian nurses had quarantined themselves from their

families and others to prevent the transmission which has led to anxiety, stress, and social isolation. Many nurses felt that social isolation was a troublesome issue.¹⁶ Consistently, another Jordanian study was reported as one of the greater significant psychological challenges.¹⁷ Similarly nurses and their families experienced the stigma of COVID-19 in the society.¹⁶ Availability of PPE was important while providing direct care to patients has reduced relevant stress but due to longer use of PPE and extended shift in the isolation wards has caused physical discomfort to the nurses.¹⁵ The study reported that nurses considered them front-line workers as they provide direct nursing care, and psychological support, carry out daily activities, and communicate with families. Even other nurses reported similar experiences.¹⁸ This study was conducted among nurses at XTHRC who worked in the COVID-19 ward, which is one of its limitations.

CONCLUSION

This study was done to explore the nurse's response and experience amid the fear of COVID-19. Based on the above

findings, we concluded that most of the nurses experienced fear at work, were scared of transmitting, manifested fear, overcame fear, faced challenges at work with staffing, lack of personal protective measures, issues with doctors, delay in treatment and stigma faced by nurses and their families due to COVID-19.

Further studies should be investigated to assess the nurses' responses and experience amid the fear of COVID-19 in other hospitals on the same topic.

The study recommended that hospitals should be prepared beforehand for an upcoming pandemic situation, and management should provide adequate supplies of equipment, training to staff, coping strategies, and stress management techniques.

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Awareness Regarding Patients' Rights among Hospitalized Patients of Tertiary Level Hospital

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ABSTRACT

Background

Patient's rights are basic codes of conduct between patients and medical health workers as well as the institutions that provides medical and nursing care. After human rights were introduced by the United Nations in 1948, the WHO generated as part of Human rights and patient's bill of right which has been passed all over the world. The Public Health Service Act 2075, International Council for Nurses and Nepal Nursing Council 2019, help in protection and promotion of patients' rights.

Objective

To assess the awareness regarding patients' rights and its associated factors among hospitalized patients of tertiary level hospital.

Method

A cross-sectional study was carried out among 126 patients admitted to the medical, surgical and orthopedics ward of Dhulikhel Hospital to assess the awareness regarding patients' rights. Respondents were selected using population proportionate convenient sampling technique. Self-constructed questionnaire was used to collect the data by interview method and collected data were analyzed using descriptive statistics with Statistical Package for Social Science (SPSS) version 25 and inferential statistics with chi-square test.

Result

Among 126 respondents, more than half (51.59%) of the respondents have high awareness regarding patients' rights and rest of the respondents have low awareness regarding patients' rights. There was significant association between awareness regarding patient's rights and respondent's age, educational status, place of residence and frequency of hospital admission.

Conclusion

Just more than half of the respondents had high awareness regarding patients' rights. Health care providers should be concerned for the patients' rights.

KEY WORDS

Awareness, Hospitalized patients, Patients' rights

INTRODUCTION

Patient's rights are based on the satisfaction that the patients have with the treatment process, confidentiality, informed consent, privacy, dignity, autonomy and equality. Patients are vulnerable and they have more physical, mental and social needs than other individuals. Because of their vulnerability, they cannot meet their requirements. Thus, considering the patient's right is important.¹

The elements of patients' rights were first introduced on the oldest medical code i.e. Hippocratic Corpus or The Hippocratic Oath. The theme of patient's right has been developed on the concept of person, and the fundamental dignity and equality of all human beings as recognized in the Universal Declaration of Human rights in 1948. After the human rights has been introduced by United Nations in 1948, the WHO generated as part of Human rights and legislation on Patient's Bill of Right which has been passed all over the world.²

In Nepal, Nepal Medical Council was established in 1964 AD by the act of parliament. The Code of Ethics of Nepal Medical Council help in the protection and promotion of patient's right.³ The Public Health Service Act, 2075 BS, also included rights of the service recipients such as right to information, right to refusal, right to privacy, etc.⁴ Also, Code of ethics of Nepal Nursing Council, 2019 A.D, includes four principles for registered nurses and midwives in Nepal.⁵

For patients, it is very important to be aware of their own rights. This will increase the patient's dignity by allowing them to participate with health care providers in decision making responsibilities as well as increase the quality of health care services, reduces cost and decrease the length of hospital stays. However, the awareness of patient's right is negligible in developing countries. The imposition and implementation of existing laws that protect patient's right is also questionable.⁶ Nurses are primary care taker for the admitted patient, so nurses should aware the how patient awareness on their rights. If the patients are unaware their rights, nurses should advocate on their rights during the treatment process.

The objectives of the study were to assess the level of awareness regarding patients' rights and its associated factors among hospitalized patients in Dhulikhel Hospital.

METHODS

This descriptive cross-sectional study was conducted on patients of medical, surgical and orthopedic wards of Dhulikhel hospital. People who belonged to the age group of 18-60 years were included in the study. The study responded were 126 hospitalized patients of particular wards. The study done in Iraq where 72% of the responded

were unaware of the patients' rights was taken as reference for responded calculation in present study and 10% allowable error. Then the final sample size was 126 including 10% non-response rate.⁷

At first, hospitalized patients were divided as subgroups of inpatients of medical, surgical and orthopedics ward which were considered as strata. Then checked hospital record of previous one year admitted in these wards. From the record from each ward 34% from the record were taken as study responded conveniently from each sub-groups. Therefore, the responded for the data collection were selected by using population proportionate convenient sampling technique.

Questionnaire was developed by self for the collecting data on the basis of the literature such WHO, ICN code of ethics, Nepal Medical Council, Public Health Service Act and Nepal Nursing Council.⁵⁻⁷ Then the questionnaire was translated in Nepali version. Then the questionnaire was checked by Nepali expert for validity. For data connection both English and Nepali version were used in questionnaire. There were 33 questions which included 5 questions regarding socio-demographic information and 23 questions regarding patients' rights (Right to information and treatment, right to self-decision, right to confidentiality, privacy and safety, right to dignity and equality) and the responses were categorized as: Yes, No and I don't know.

The awareness was assessing on only knowledge related patients' rights with verbal responded. The scoring for the responses was done as correct response: 1 score and incorrect response: 0 score. Mean score was calculated and it was further characterized as: High awareness (total score \geq mean score) and Low awareness (total score $<$ mean score).²

Firstly, subgroups of medical, surgical and orthopedics wards were divided. Then, from the patient's medical file, they were confirmed for the inclusion criteria as age above 18 years. The respondents were selected conveniently by the researcher. For the study, ethical approval was obtained from the institutional review committee (IRC) of Kathmandu University School of Medical Sciences (KUSMS). The respondents were informed about the objectives of the study. Written consent was obtained from the respondents and reassured about confidentiality prior to data collection. During the period of data collection, the responded were asked to answer a questionnaire that addressed data on socio-demographic characteristics and awareness of patients' rights. Mean, frequency and percentage were used for descriptive statistics. Chi-square test was used for inferential statistics. Data analysis was done using Statistical Package for Social Science (SPSS) Version 25. Pre testing was done 10% of the responded which was not included in main study.

RESULTS

Total data were collection from 126 responded from three wards of the Dhulikhel hospital. From each ward 34% was taken as the responded.

Table 1. Socio-demographic Information of the Respondents (n=126)

Characteristics	Frequency	Percentage
Wards	52	41.3
Medical	52	41.3
Surgical		
Orthopedic	22	17.4
Gender		
Male	59	46.8
Female	67	53.2
Age group		
18-30 years	37	29.4
31-45 years	52	41.3
46-60 years	37	29.4
Educational status		
Illiterate	13	10.3
Can read and write only	29	23.0
Basic level	29	23.0
Secondary level	35	27.8
Higher level	20	15.9
Place of residence		
Rural municipality	26	20.6
Urban municipality	100	79.4
Frequency of admission		
One time	70	55.6
More than one time	56	44.4

Table 1 shows, out of 126 respondents, more than half that is 53.2% of the respondents were female and 46.8% of them were male. More than two-fifth (41.3%) belonged to 31-45 years of age and only 29.4% of them belonged to 46-60 years of age. Regarding the educational status, two-third (66.1%) of respondents was literate, 10.3% of respondents were illiterate, and 23.0% could read and write only. Four-fifth (79.4%) of respondents resides at urban municipality. More than half (55.6) were admitted to hospital for one time only.

Table 2. Awareness Regarding Patients' Right in different components (n=126)

Patient's Rights	Correct response	Incorrect response
Right to information and treatment	73.46	26.54
Right to Self-decision	62.24	37.76
Right to confidentiality, privacy and safety	70.40	29.60
Right to dignity and equality	83.56	16.44

Table 2 shows that 73.46% of respondents give correct response regarding right to information and treatment, 62.24% of respondents give correct response regarding right to self-decision, 70.40% of respondents gave correct response regarding right to confidentiality, privacy and safety and 83.56% of respondents gave correct response regarding right to dignity and equality.

Table 3. Overall Awareness regarding patients' Right (n=126)

Patients' Rights	Frequency	Percentage
Correct response	91	72.41
Incorrect response	35	27.59

Table 3 shows, out of 126 respondents, 72.41% of respondents gave correct response regarding patients' rights and 27.59% respondents gave incorrect response.

Table 4. Level of awareness regarding Patients' Rights (n=126)

Level of awareness	Frequency	Percentage
High	65	51.59
Low	61	48.41

Mean score: 20.28 Total score: 28

Table 4 shows that more than half (51.59%) of the respondents has high awareness regarding patients' rights and rest of the respondents has low awareness regarding patients' rights.

Table 5. Association between Level of Awareness regarding Patients' Rights and Selected Socio-demographic Variables (n=126)

Characteristics of respondents	High awareness	Low awareness	p value
Gender			
Male	34 (57.6%)	25 (42.4%)	0.203
Female	31 (46.3%)	36 (53.7%)	
Age groups			
18-30 years	25 (67.6%)	12 (32.4%)	
31-45 years	31 (59.6%)	21 (40.4%)	<0.001
46-60 years	9 (24.3%)	28 (75.7%)	
Educational status			
Illiterate	2 (15.4%)	11 (84.6%)	
Can read and write only	6 (20.7%)	23 (79.3%)	
Basic level	18 (62.1%)	11 (37.9%)	0.001
Secondary level	23 (65.7%)	12 (34.3%)	
Higher level	16 (80.0%)	4 (20.0%)	
Place of residence			
Rural municipality	6 (23.1%)	20 (76.9%)	0.001
Urban municipality	59 (59.0%)	41 (41.0%)	
Frequency of admission			
One time	30 (42.9%)	40 (57.1%)	0.028
More than one time	35 (62.5%)	21 (37.5%)	

Table 5 shows there was no significant relationship between awareness regarding patients' rights and their gender with the p-value of > 0.05 . However, it was significantly associated with age, educational status, place of residence and frequency of hospital admission with the p-value of < 0.05 each.

DISCUSSION

In the present study, more than half (53.2%) of the respondents were female and four-fifth (79.4%) of the respondents resided at urban municipality which is similar with the previous study conducted in Iran.¹ The result also showed that more than two-fifth (41.0%) of the respondents belonged to the age group of 31-45 years which is highest among other age groups and is consistent to the study conducted in India.⁸ Also, present study showed that two-third (66.1%) of respondents were literate which is different with the previous study conducted in Upper Egypt which reported that only one-fourth (25.2%) respondents were literate.⁶ Furthermore, the result concluded that just more than half (55.6%) of the respondents were admitted to hospital for one time only which is different than the result of previous study conducted in Pakistan which showed only one-fourth (25%) of respondents were admitted to hospital for one time only.⁹

The overall awareness regarding patients' rights concluded that just more than half (51.59%) of the respondents had high awareness regarding patients' rights which might be due to the reason that among all of the respondents, two-third (66.1%) of them were literate and four-fifth (79.4%) of them reside at urban municipality. This finding is corresponding to study conducted in Rupandehi, Nepal which also concluded that more than high (59.72%) had high awareness regarding patients' rights.² The similarity between these two studies might be due to same type of study population and study setting.

The present study showed no significant association between respondent's awareness regarding patients' rights and their gender which is consistent to study conducted in Iran.⁷ However, the same study conducted in Iran showed no significant association between awareness and age which is different than the present findings. This might be

due to the reason that the respondents of age group 18-30 years were more aware regarding patients' rights in this study however, all of the age groups were equally aware in study conducted in Iran.¹

The present findings also reported that there is significant association between awareness of the respondents and their educational status which is similar to study conducted in India.⁸ The similarity between the findings might be due to similar educational system and similar hospital settings in both study settings. The findings concluded that there is significant association of awareness of respondents with their place of residence and frequency of hospital admission. The findings are similar to study conducted in Upper Egypt which showed significant association between awareness of respondents and their place of residence. The respondents residing in urban municipality were more aware about patients' rights.⁶ The reason for this finding could be people living in urban area are more aware about the up-to-date information and have access to mass media. The respondents who had been admitted to hospital for more than one time were more aware of patients' rights which might be due to the frequent exposure of the respondents in the hospital settings. The finding is inconsistent to study conducted in Saudi Arabia which reported no significant relationship of awareness of the respondents with their frequency of hospital admission.¹⁰

CONCLUSION

The study was conducted with an objective to assess the awareness regarding patients' rights among hospitalized patients of tertiary level hospital. Just more than half of the respondents had high awareness on the patients' rights. The study showed significant association between awareness regarding patient's rights and their age, educational status, place of residence and frequency of hospital admission.

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Prevalence of Visual Inspection with Acetic Acid Positive and Awareness of Cervical Cancer among Reproductive Aged Women in a Community

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ABSTRACT

Background

Cervical cancer is a leading cause of death among women in developed and developing countries. It is one of the commonest malignancy and prime cause of cancer death among women in Nepal. Nepal Government has prioritized prevention of cervical cancer through screening but still coverage of cervical cancer screening is very low due to lack of awareness.

Objective

To find out prevalence of Visual Inspection with Acetic Acid (VIA) positive and awareness on cervical cancer among reproductive aged women.

Method

Descriptive cross-sectional study was conducted among 94 aged women attending the VIA test at camp. Convenient sampling technique was used to collect data. Face to face interview was adopted by using structured questionnaire. Test result was mentioned through camp register. Data was analyzed by using descriptive and inferential statistics.

Result

The study revealed that 4.3% respondents had positive VIA test result. The study found that 52.1%, 8.5% and 39.4% had good, average and poor level of awareness on cervical cancer respectively. Only 31.9% respondents gave correct answer about definition of cervical cancer. About 35.1% respondents answered virus is a causative organism and 4.4% respondents answered that multiple sexual partner is a risk factors of cervical cancer. Only 4.4% respondents answered that avoiding the long term use of OCPs as the preventive measure of cervical cancer. Few respondents (11.7%) answered correctly about appropriate age for Human Papiloma Vaccine. There was no significant association between level of awareness and socio-demographic variables.

Conclusion

This study concludes that the prevalence of VIA positive is low and only half of the respondents have good level of awareness regarding cervical cancer. So, that there is still the for conducting regular screening program as well as awareness raising programs on cervical cancer and its preventive measures.

KEY WORDS

Awareness, Cervical cancer, Visual inspection with acetic acid (VIA)

INTRODUCTION

Cervix is lower portion of uterus, which connects inner end of the vagina. Cervical cancer is detected in cervix cells.¹ Due to their link to cancer, HPV strains, 16 and 18 are regarded as high risk.² The global strategy encourages a minimum of two lifetime screens with a high-performance HPV test by age 35 and again by age 45 years.³ The stage of cervical cancer diagnosis is one factor that affects survival rates. Invasive cervical cancer patients had 92% 5-year survival rate when diagnosed early. The 5-year survival rate for cervical cancer is 58% if it has spread to nearby organs, tissues, or lymph nodes and 17% if the cancer has reached remote area of the body.⁴ Cost-effective preventive method of cervical cancer is HPV vaccination, pre-cancer screening, and treatment³ but skilled health staff and cervical cancer screening devices are few in low and middle-income countries, like Nepal.⁵

Cervical cancer is the fourth most common cause of death, 7.5% worldwide, 87% in less developed regions.³ WHO estimates crude incidence rate of cervical cancer in Nepal is 24.2 per 100,000 women per year, with 3,504 new cases diagnosed yearly and 1,872 deaths. The most common age group was 30-44 years (21.1%), 45-59 years (44.6%) and 60-74 years (29.4%).⁶ The visual inspection with acetic acid tool is effective for cervical cancer screening.⁷ Awareness of women regarding cervical cancer and screening as well as vaccination against the human papilloma virus is crucial factors for prevention, early detection and treatment of disease.⁸

METHODS

A descriptive cross-sectional research design was used to conduct study from April 2023 to December 2023. The data collection for this study was done in Godawari Municipality 12, among 94 respondents who participated in VIA test (cervical cancer screening) done in Thecho Health Post. Non-probability convenient sampling technique was adopted. The reproductive aged women (21-68 years) attending the cervical screening camp (done VIA test) were included in this study.

Structured interview schedule was used to collect the data using face to face interview technique Visual Inspection with Acetic Acid (VIA) test result was obtained from camp register. Content validity was maintained by consultation with three subject experts (2 gynecologists and 1 nurse midwife). The interview schedule consisted of two parts; part one consists of questions related to demographic variables and part two consists of questions related to awareness on cervical cancer. The VIA test result was scored as '1' for positive and '0' for negative result. Data related to awareness of cervical cancer was scored as '1' for correct answer and '0' for the wrong answer. The level

of awareness was categorized into three levels on the basis of percentiles. The first 33rd percentile (0.9474), the 66th percentile (1.0526) and the 100th (1.4737) were categorized as poor, average and good level of awareness respectively.¹¹

Ethical approval was obtained from Institutional Review Board of National Academy of Medical Sciences. The written permission was obtained from ward office of Thecho, Lalitpur. Verbal as well as written informed consent was taken from each participant. Only those participants who were interested to participate in the study were included in the study. A strong adherence to ethical protocols (human subject research ethics) was maintained. Human subject research ethics related to confidentiality and consent before collecting any information was followed. Care was taken to provide benefit to the participants and not to harm them. The collected data was accessible only to the researchers. The data was used only for the purpose of research as well as no personal information or personal identity was revealed during or after the research. The data was collected by the researchers and stored in password locked laptop.

The obtained data was coded and entered in SPSS software. Descriptive statistics such as percentage, frequency and mean was used where as inferential statistics such as chi square was used for data analysis. Standard procedure for data analysis was followed. Data was managed using statistical software SPSS.

RESULTS

Table 1 reveal that majority (62.8%) of respondents belong to 21-44 years of age with mean \pm SD of 42.28 ± 8.8180 . Likewise, most of the respondents (88.3%) belong to Janjati. Similarly, 98 % of the respondents are married. Majority of the respondents (89.4%) are Hindu. Nearly half of the respondents (47.9%) had SLC and above educational status and 25.5% have adult education. Regarding family status of the respondents, 63% belongs to joint family and 37% belongs to nuclear family. Majority of the respondents (60%) got information about cervical cancer from their friends.

Table 2 shows that among 94 respondents who attended cervical cancer screening (VIA Test), 4.3% had VIA positive result with mean of 1.96 and S.D \pm 0.02.

Table 3 shows among the respondents who had positive result, most of them (75%) were Janajati. They were advised to follow up in the health post for further treatment.

Table 4 reveal that only 31.9 % had given the correct answer about meaning of cervical cancer as abnormal growth of cells in the cervix. About 35.1% respondents answered that virus is causative organism of cervical cancer and 31.9% respondents have no knowledge on causative organism of cervical cancer. Most of the respondents, 12.8% answered that risk factor of cervical cancer is early marriage and sexual

Table 1. Socio-demographical Characteristics of Respondents (n = 94)

Variable	Frequency	Percentage (%)
Age in years		
21-44	59	62.8
45-68	35	37.2
Min-Mix(Mean ± SD: 21-68 (42.28 ± 8.8180))		
Marital Status		
Married	92	98
Divorced/Separated	1	1
Widowed	1	1
Ethnicity		
Brahmin	6	6.4
Chhetri	4	4.3
Janjati	83	88.3
Others	1	1
Religion		
Hindu	84	89.4
Buddhist	7	7.4
Christian	3	3.2
Educational status		
No education	3	3.2
Adult Education	24	25.5
Primary	12	12.8
Some Secondary	10	10.6
SLC and above	45	47.9
Family status		
Nuclear	35	37
Joint	59	63
Source of information		
Radio	1	1
Friends	56	60
Health person	33	35
Family members	4	4

Table 2. VIA Test Result of Respondents (n=94)

VIA Test result	Frequency	Percent
Positive	4	4.3
Negative	90	95.7

Mean ± S.D.=1.96 ± 0.20

Table 3. VIA Test Result According to Ethnicity

Ethnicity	VIA Test result		Total
	Positive	Negative	
Brahmin	1	5	6
Chhetri	0	4	4
Janjati	3	80	83
Others	0	1	1

Table 4. Respondents Awareness on Cervical Cancer (n=94)

Variables	Frequency	%
Meaning of cervical cancer		
Pain in the cervix	20	21.3
Swelling in the cervix	22	23.4
Abnormal growth of cells in the cervix*	30	31.9
Wound in the cervix	22	23.4
Causative organism of cervical cancer		
Virus*	33	35.1
Bacterial infection	29	30.9
Protozoa	2	2.1
Do not know	30	31.9
Risk factors of cervical cancer**		
Multiple Sexual Partner	16	4.4
Early Marriage and Sexual Exposure	46	12.8
Frequent pregnancies	24	6.7
Sexually transmitted infections	32	8.9
Sign and symptoms of cervical cancer**		
Post coital bleeding	14	3.9
Inter menstrual bleeding	13	3.6
Foul vaginal discharge	43	11.9
Lower abdominal pain	47	13.1
Preventive measures of cervical cancer**		
Avoid prolonged use of OCPs	16	4.4
Vaccination against virus causing cervical cancer	45	12.5
Avoid cigarette/tobacco smoking	18	5
Cancer screening	46	12.8
Vaccine prevents cervical cancer		
Yes*	40	42.6
No	54	57.4
The most appropriate age for giving cervi-cal cancer preventable (HPV) vaccine		
9 - 14 years*	11	11.7
14 - 19 years	31	33
19 - 24 years	14	14.9
24 - 30 years	38	40.4
Availability of cervical cancer screening test in Nepal		
Yes*	66	70.2
No	28	29.8
The best time for doing screening test		
During menstrual period	7	7.4
Immediately after menstrual period	26	27.7
10-20 days after first day of menstrual period (mid cycle period) *	50	53.2
Just before menstruation	11	11.7
Women who needs cervical cancer screening		
Unmarried women	5	5.3
Sexually exposed women*	61	64.9
Above 65 years	28	29.8
Unmarried women	0	0

*Correct answer **multiple response (all answer correct)

exposure where as 4.4% answered that multiple sexual partner is the risk factor of cervical cancer. About 13.1% answered that lower abdominal pain and 3.6% answered inter menstrual bleeding is sign and symptoms of cervical cancer. About 12.8%, 12.5%, 5% and 4.4% answered that cancer screening, vaccination, avoid cigarette/tobacco smoking, avoid prolonged use of OCPs prevent cervical cancer respectively. More than half, 57.4% re-spondents have no knowledge on the vaccine which prevents cervical cancer. About 11.7% respondents answered that 9-14 years is the most appropriate age for HPV vac-cine and 40.4% answered that 24-30 years is the most appropriate age for HPV vaccine. About 70.2% respondents answered that the cervical cancer screening test is available in Nepal. Most of the respondents, 53.2% answered that the best time for doing screen-ing test is 10-20 days after first day of menstrual period (mid cycle period), 64.9% an-swered that sexually exposed women needs to do cervical cancer screening.

Table 5 shows that slightly more than half of the respondents (52.1%) have good awareness of cervical cancer. About 39.4% of respondents have poor and only 8.5% of the respondents have average level of awareness of cervical cancer.

Table 6 shows that there was no significant association between level of awareness and socio-demographic

Table 5. Respondents’ Level of Awareness on Cervical Cancer (n =94)

Level of Aware-ness	Frequency	Percentage
Poor	37	39.4
Average	8	8.5
Good	49	52.1

Mean ± SD: 2.1277 ± 0.95303

variables (age, religion, ethnicity, educational status, family type) as p value is more than 0.05.

DISCUSSION

The study was designed to assess the prevalence of VIA positive and awareness of cervical cancer among reproductive age group women in a community. Data were collected from 94 respondents who attended the cervical cancer screening camp and results were tabulated, analyzed and interpreted.

Prevalence of VIA test positive

The present study shows that very few respondents (4.3%) had positive result of VIA test. The finding of this study is contradictory with another study conducted in Jumla which showed 12.45% respondents had VIA positive result.⁹ This might be because of the difference in education status of the respondents. As per the later study, slightly less than half of the respondents were illiterate (45.25%), while

Table 6. Association of Level of Awareness on Cervical Cancer with Socio-Demographic Variables (n=94)

Variable	Level of Awareness			df	p-vlaue
	Poor	Average	Good		
Age in years					
21-44	20	7	32	2	0.18
45-68	17	1	17		
Marital Status					
Married	36	8	48	4	0.65
Divorced/Sepa-rated	1	0	0		
Widowed	0	0	1		
Ethnicity					
Brahmin	4	0	2	6	0.61
Chhetri	2	0	2		
Janjati	30	8	45		
Others	1	0	0		
Religion					
Hindu	35	8	41	4	0.35
Buddhist	2	0	5		
Christian	0	0	3		
Educational status					
No education	3	0	0	8	0.31
Adult Education	8	2	14		
Primary	7	0	5		
Some Secondary	2	1	7		
SLC and above	17	5	23		
Family status					
Nuclear	18	1	16	2	0.1
Joint	19	7	33		
Source of information					
Radio	1	0	0	8	0.39
Friends	17	5	34		
Health person	17	3	13		
Family members	2	0	2		

Level of significance (Alfa) = 0.05

in this study similar percentage of the respondent had education level (45%) SLC or above.⁹ Also, availability of health facilities might have influenced the findings as Jumla is located in the rural area of Nepal and Kathmandu is the capital of the country with best health facilities available in the country.

Awareness on Cervical Cancer

In present study, 52.1% of the respondents had good level of awareness on cervical cancer. The finding is inconsistent with the finding of another study conducted at Chitwan where 34.4% respondents had adequate knowledge.¹⁰ This might also be because of the education status of the respondent; 14.6% of the respondents in Chitwan were illiterate¹⁰ compared to 3.1% in this study.

Regarding sign and symptoms of cervical cancer, 13.1%

respondents answered lower abdominal pain, 11.9% answered foul vaginal discharge, 3.6% answered inter menstrual bleeding and 3.9% answered post coital bleeding. This finding contradicts the findings with another study conducted in Kathmandu which showed 36.4% answered lower abdominal pain, 31.8% answered foul vaginal discharge, and supports finding regarding inter menstrual bleeding (4%) and post coital bleeding (1.2%).¹¹ These two studies are done in similar settings i.e Kathmandu. However, the slight difference might be related to the age group of the participants. The respondents in the later study belonged to 15-49 years where as those in this study belonged to 21-68 years.

In this study, slightly less than half of the respondents answered early marriage and sexual exposure as the risk factor of cervical cancer which was supports results from another study conducted in Nuwakot where 46.8% of the respondents answered early marriage as the risk factor.¹² In this study, 12.8% answered regular screening of cervix, 12.8% answered vaccination against cervical cancer, 5% answered avoid cigarette/tobacco smoking and 4.4% answered avoid prolonged use of OCPs to prevent cancer. The finding is consistent with another study conducted in Nuwakot, Nepal which showed regular screening of cervix (28.4%), vaccination against virus causing cervical cancer (2.1%), avoid cigarette/tobacco smoking (10.5%), avoid prolonged use of OCPs (6.8%) were prevent cervical cancer.¹²

In this study, 53.2% respondents answered that 10-20 days after first day of menstrual period (mid cycle period) is the best time for doing screening test. The finding is consistent with the study conducted in Nuwakot, Nepal which showed 55.3% respondents had same answer.¹² This similarities in

the findings might be related to similar setting. Nuwakot is neighboring district of Kathmandu.

In present study, there was no significant association between level of awareness and socio-demographic variables. The finding of this study is inconsistent with another study conducted at Budhanilkantha in Nepal which showed there is significant association between level of awareness with age (0.026), marital status (0.0045), age of marriage (0.014), occupation (0.017) where as there is no association between other demographic variables in ethnicity (0.573) and educational status (0.355).¹⁰ The inconsistencies in the findings might be due to differences in the sample size. A relatively large sample size (173) was taken in the study done in Budanilkantha compared to 94 in this study.¹⁰

CONCLUSION

Based on the results of this study, significant percentage of the respondents had VIA test positive for cervical cancer. About half of the respondents had good level of awareness on cervical cancer and availability of vaccine for prevention of cervical cancer each. The results thus imply that a regular community-level screening and awareness campaign on cervical cancer and its prevention is necessary.

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Perceived Social Support, Coping Mechanism, Depression, Anxiety and Stress among School Adolescents during COVID-19 in Kathmandu, Nepal

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ABSTRACT

Background

Novel corona virus (COVID-19) outbreak in Wuhan China in December 2019. Adolescence itself is a transitional period of multiple difficulties and vulnerable for various psychological problems. Assessment of psychological wellbeing of adolescents during COVID-19 is important. Social support, coping strategies and psychological wellbeing of adolescent during COVID-19 in Nepal is limited moderate to strong reference relating psychological issues on adolescents.

Objective

To find out perceived social support, coping mechanisms, depression, anxiety, and stress and to determine the relationship of coping mechanism and perceived social support with depression and anxiety, stress among school adolescents of Kathmandu.

Method

This study was a quantitative cross-sectional study. A total of 284 students were given to fill out the questionnaire via online in Private schools. Self-administered interview questions on Depression, Anxiety, and Stress, a Multidimensional scale of perceived social support, and Brief coping were used to collect the data through Google form. Analysis as done using SPSS version 21.0. Data was analyzed by using descriptive (frequency, percentage and mean). The Pearson correlation Coefficient was applied to identify relationship between variables after testing assumption.

Result

A total of 284 students were included with the mean age 15.4. We found 23.9% had moderate anxiety 15.1% had moderate depression and 10.2% had moderate stress. More than half of the adolescent (59.9%) used adaptive coping mechanism. Most respondent in this study perceived high level of social support and had significantly negative relationship with p-value < 0.001.

Conclusion

The results of the study conclude adolescence had moderate anxiety level during COVID-19. Social support and adaptive coping mechanisms are effective strategies to fight depression, anxiety, and stress. Increasing awareness about the psychological problems and protecting factors should be kept in attention.

KEY WORDS

Adolescents, Anxiety COVID-19, Coping Mechanism, Depression, Stress and social support

INTRODUCTION

Novel corona virus (COVID-19) outbreak in Wuhan China in December 2019.¹ It has become a pandemic affecting worldwide with 32,110,656 confirmed cases including 980,031 death by last week of September 2020.² Adolescence itself is a transitional period of multiple difficulties and vulnerable for various psychological problems. Chronic or acute stress, worry, unexpected bereavement, sudden school break, home confinement, increased access to internet and social media and worry for economic future of family and country are the consequences the adolescents may experience from lockdown and restrictions.³

Adolescence is the stage in life when they are very invested in social connections and in separating from their parents. So, COVID-19 social distancing requirements have a different emotional impact on them than on adults. Depending on their age and developmental stage, some adolescents may have a hard time understanding what the pandemic really means and how it impacts their world. The disrupted life and uncertainty during pandemic may lead to various psychological consequences. Post-traumatic stress disorders, depression and anxiety are the psychological impact of potential disasters on adolescents.³ Youths are reported to be prone to develop psychological problems and also those who underwent quarantine experienced greater psychological distress during COVID-19.^{4,5} Adolescents may use various coping strategies to cope with psychological impacts.⁶ Positive coping strategies leads to healthy behavior whereas negative coping strategies may lead to further psychological problem such as substance abuse, anxiety, depression and suicidal ideation. However, existing published studies related to coping mechanism adopted by adolescents during COVID-19 is limited. Social support act as protective factors for psychological wellbeing among adolescents.^{7,8} Social support can be received from parents, family, friends, relatives and significant others; and social support can be of emotional, instrumental, financial or information.⁹

For countries like Nepal, where health facilities are limited, and have diverse sociocultural practices, abrupt changes in daily life with unfamiliar circumstances may impact psychological well-being of adolescent. Therefore, assessment of psychological well-being of adolescents in current situation is important. Moreover, existing literature about social support, coping strategies and psychological wellbeing of adolescent during COVID-19 in Nepal is limited to generate evidence for further action. Hence, this study is aimed to identify social support, coping mechanism and psychological wellbeing of adolescents during COVID-19 in Nepal.

METHODS

This was a quantitative cross-sectional study which was conducted in two schools in Kritipur and a study population

was adolescents of age 12-18 years old conducted through online. The sample size was calculated using formula $n = \frac{z^2 p (1-p)}{d^2}$ where n = sample size z = Z statistics for level of confidence = 1.96, p = prevalence which is 41% from previous study,¹⁰ d = precision (0.05) $n = \frac{(1.96)^2 \cdot .56 \times (1-.56)}{(0.05)^2} = 378$ Adding 20% non-response rate (76) due to online responses the sample size was 454.

Altogether a sample of 284 adolescence respondent per availability were selected and who gave consent to participate with an informed consent send through a Google form to the students. Once the participants click the Google link, they were provided the information about the objectives of the study. The data collection duration was during the second wave of COVID-19 from 12th May 2021 to 14th June 2021. Students currently studying in grades 9 and 10 of the specified school, able to read and understand Nepali or English language and without cognitive impairment were included in this study. The tool used for data collection was a validated Brief Cope, Depression, Anxiety, and Stress scale (DAS), and Multidimensional scale of perceived social support (MSPSS). Self-administered questionnaire was based on a validated Depression, Anxiety, and Stress Scale (DASS 21) tool to measure depression, anxiety, and stress consists of the 21-item questionnaire designed to measure the emotional states of depression, anxiety, and stress. A four-point rating scale was used for depression, anxiety, and stress-related statements, where 0 (did not apply), 1 (applied to some degree), 2 (applied to a considerable degree), and 3 (applied very much). The scores for each of the three components were calculated by summing up the scores and multiplying by two to get the final score. Cutoff scores of > 9, > 7, and > 14 represent a positive screen of depression, anxiety, and stress, respectively.¹¹ Regarding Coping Mechanisms Brief Cope was measured with 14 different coping strategies. The scale has 28 items with 14 subscales with a four-point Likert scale from 1 (I haven't been doing this at all) to 4 (I have been doing this a lot). The scores range from 28-112 with higher scores indicating relatively greater use of particular coping strategies. The content validity index for the original subscale ranged from 0.50 to 0.90.¹² Perceived social support refers to the support persons perceive receiving from their family, friends, and significant others.¹³ It is measured by multidimensional perceived social support (MSPSS) which measures support from friends, family, and significant others. The scale has 12 items which consists of three subscales with a 7-point Likert scale from 1 (very strongly disagree) to 7 (very strongly agree) and scores range from 12 to 84 with higher scores specifying perceived more social support. The MSPSS is a standardized instrument that went through the process of content validity from the previous study.¹⁴ Internal consistency (Cronbach's alpha) in Nepali was 90.¹⁵

For socio-demographic profile semi-structured questionnaire was used. Ethical approval was obtained from the Institutional Review Committee of Kathmandu Nepal Health Research Council before data collection.

The objective of the study was explained to respondents online along with attached consent on Google form with the continuation of a questionnaire. Confidentiality and anonymity were maintained by not including the name, and email address nor mentioning any other identification or any contact number in questionnaire forms. The data were processed using the Statistical Package for Social Science (SPSS version 21). The data were analyzed using descriptive statistics such as frequency, percentage, and mean. In addition, the Pearson correlation Coefficient was used to assess the effects of each independent variable on the outcome variable.

RESULTS

Table 1 presents a total of 284 adolescent school children the mean age belongs to 15.4 years. More than half participants were female (59.2%). Majority of the participants' religion were Hindu (81.3%). More than one fourth of the participants were Brahmin 80 (28.2%). Most of the participants were from Grade 10 (54.9%). Among their parents, their father's literacy rate was high with (92.6%). Most of the father's occupation was business (36.3%) and mothers' occupations were housewife (46.1%). Almost two-third of participants' family type was nuclear (62.7). Most of the participants had own residence (79.2).

Table 1. Socio-demographic Characteristics of Respondents (n=284)

Characteristics	Frequency (n)	Percentage (%)
Sex		
Male	116	40.8
Female	168	59.2
Age (Mean age =15.4 SD = ±1.1)		
Religion		
Hindu	231	81.3
Buddhist	38	13.4
Christian	11	3.9
Muslim	4	1.4
Ethnicity		
Brahmin	80	28.2
Chettri	36	12.7
Jana Jati	78	27.5
Others	90	31.7
Academic Level		
Grade 9	128	45.1
Grade 10	156	54.9
Mother educational Level		
Literate	251	88.4
Illiterate	33	11.6
Father educational Level		
Literate	263	92.6
Illiterate	21	7.4

Fathers` Occupation		
Agriculture	10	3.5
Private service	59	20.8
Government service	48	16.9
Business	103	36.3
Others	64	22.5
Mothers` Occupation		
Housewife	131	46.1
Private job	60	21.1
Business	31	10.9
Government service	33	11.6
Agriculture	7	2.5
Others	22	7.7
Monthly Income		
less than 10000	29	10.2
10000-20000	67	23.6
21000-30000	72	25.4
above 30000	116	40.8
Family Type		
Nuclear	178	62.7
Joint	88	31.0
Extended	18	6.3
House ownership		
Owned	225	79.2
Rented	59	20.8

Table 2 presents the level of psychological outcomes based on the cut off points of Depression,

Anxiety and Stress (DAS) found moderate anxiety in 68 (23.9%), moderate depression in 43 (15.1%) and moderate stress in 29 (10.2%) of the Adolescence.

Table 2. Depression, anxiety, and Stress among respondents during COVID-19 (n=284)

DASS-21	Normal n(%)	Mild n(%)	Moderate n(%)	Severe n(%)	Extreme n(%)
Depression	162(57.0)	44(15.5)	43(15.1)	23(8.1)	12(4.2)
Anxiety	103(36.3)	36(12.7)	68(23.9)	26(9.2)	51(18.0)
Stress	206(72.5)	28(9.9)	29(10.2)	15(5.3)	6(2.1)

Table 3 presents the results the total of 59.9% adolescence used adaptive coping during COVID-19 situations whereas, 40.1% used maladaptive coping.

Table 3. Coping mechanism among respondents during COVID-19 (n=284)

Domains	Frequency (n)	Percentage (%)
Maladaptive Coping (28-56)	114	40.1
Adaptive Coping (57-112)	170	59.9

Table 4 presents the results total of high support from family, friends and significant others used by adolescence

during COVID-19 situation 59.5%, 50.4% and 43.7% respectively.

Table 4. Social support among respondents during COVID-19 (n=284)

PSS	Low support n (%)	Moderate support n (%)	High support n (%)
PSS from Family	32(11.3)	83(29.2)	169(59.5)
PSS from Friends	38(13.4)	103(36.3)	143(50.4)
PSS from significant others	43(15.1)	117(41.2)	124(43.7)

Table 5 presents the results of the bivariate Pearson correlation analysis indicated that the PSSS

Table 5. Relationship of Social Support and Coping mechanism with depression, anxiety, and stress among respondents during COVID-19

Domains	Depression		Anxiety		Stress	
	r	p-value	r	p-value	r	p-value
PSSS Friends	-0.29**	<0.001	-0.24**	<0.001	-0.25**	<0.001
PSSS Family	-0.32**	<0.001	-0.28**	<0.001	-0.28**	<0.001
PSSS Significant other	-0.19**	<0.001	-0.15*	0.012	-0.17**	<0.001
MPSS Total	-0.30**	<0.001	-0.25**	<0.001	-0.26C	<0.001
Adaptive Coping	0.26**	<0.001	0.34**	<0.001	0.35**	<0.001
Maladaptive Coping	0.64**	<0.001	0.61**	<0.001	0.63**	<0.001

family, friend, and significant other subscale scores had significant negative associations with the DASS-21 anxiety, depression, and stress symptom scores ($P < 0.05$). The adaptive coping dimension showed significant positive correlations with the DASS-21 depression ($r = .26$, $P < 0.001$), anxiety ($r = 0.34$, $P < 0.001$), and stress scores ($r = 0.35$, $P < 0.001$). Similarly, maladaptive coping also had significant positive correlations with depression ($r = 0.64$, $P < 0.001$), anxiety ($r = 0.61$, $P < 0.001$), and stress symptom scores ($r = 0.63$, $P < 0.001$).

DISCUSSION

The current study showed mild depression 15.5%, moderate depression (23.9%) and severe depression (8.1%), extremely severe depression 4.2%. This study was inconsistent with the study done in Lalitpur district among 105 school going adolescent's students during COVID-19 with the results 12.4% had mild, 19% had moderate, 5.7% had severe and 6.7% had extremely severe depression which is lower than current study.¹⁶ Likewise, the study was inconsistent with the results from Bangladesh done in

school going children, mild and moderate depression was reported in 28.6% and 27.9% respectively which was higher than in our study.¹⁷

Similarly, the current study showed 15.5% mild anxiety, 15.1% moderate anxiety, 8.1% severe anxiety and 4.2% had extremely severe anxiety levels. This study was inconsistent with the study done in university of Bangladesh where 18.1% of adolescent students were suffering from severe anxiety during COVID-19.¹⁷ Likewise, this study is contrast with the study done in Lalitpur district among adolescent students with the result 13.3% had mild, 14.3% had moderate, 2.9% had severe and 13.3% had extremely severe depression which was higher than in our study it might be due to data collection period during second wave of COVID-19 in our study.¹⁶

Similarly, 9.9% had mild stress, 10.2% moderate, 5.3% severe stress, and 2.1% extremely severe stress showed in current study. This study was inconsistent with the study done in Lalitpur district where, 11.4% had mild stress, 20.0% had moderate stress and 2.9% had severe stress.¹⁶ In current study the data was collected during second phase of COVID-19 and school closure leading respondents spend more leisure time at home, restriction in movement outside residence, online learning, and no social interaction.

Whenever a person faces stress and anxiety, they use various coping mechanisms. During the COVID-19 pandemic situation, about 59.9% of respondents, used adaptive coping mechanisms which include planning, acceptance, and positive reframing. It might be due to openly discussing their experience and challenges due to COVID-19 and in lockdown, young people face anxiety, tiredness, and anger but it is important to speak up, connect with others, and know that you are not alone. Coping styles are based on the cognitive evaluation of stressful situations where the relationship between an individual and the stressful situations constantly changes with the individual's actions. In Peru Russia and Kyrgyzstan the coping mechanisms for COVID-19 were used to the adolescent students with the same four coping domains emotion-focused coping, avoidance and problem-focused coping which are different from this study.¹⁸

The level of perceived social support among respondents during COVID-19 and the relationships between perceived social support based on the three subscales were found to have a negative relationship. This study is consistent with the findings reported by Wolf et al.¹⁹ the reason for perceiving a high level of social support could be the collectively familial culture in Nepal to and the responsibilities they may feel to respond with the same wave of helping those who have supported them, which in turn may increase their stress level.²⁰ Additionally, the study of Bukhari and Afzal also stated that perceived social support was negatively correlated in their study with depression, anxiety, and stress. When there is stressed, social support helps

adolescents underestimate the risks and types of stress by increasing their perceived coping abilities. Hence, getting support by receiving advice from people will make them feel that are able to cope with problems or the factors.²¹ The limitation of the study includes the data collection was done online where participations were less so sample size was not sufficient as expected. Despite this, researcher collect the data to assess the level of depression, anxiety, and stress among adolescents and coping mechanism during pandemic situation.

CONCLUSION

The present study revealed that among 284 adolescents moderate to severe depression, anxiety and stress found during COVID-19. The level of coping strategy used by adolescence during COVID-19 was adaptive coping whereas they have support from family, friends and

significant others. There was positive relationship between coping strategy with psychological outcome and negative relationship between social supports with psychological outcome. Higher educational institutions can take responsibility by encouraging students to implement long-term positive coping strategies for predictors of anxiety, depression, and stress and enhancing the student's wellbeing by reducing stress. Students are responsible for implementing COVID-19 infection prevention protocols and positive coping strategies to overcome anxiety, depression, and stress and improve their mental health.

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Knowledge and Practice on Aseptic Technique among Surgical Team Members in a Tertiary Level Hospital, Kavre, Nepal

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ABSTRACT

Background

Surgical team members play an important role in the prevention and control of surgical site infections as they take an active part in surgical patients care. Sterile technique plays a vital role in the prevention of surgical site contamination so all surgical team members must be knowledgeable about aseptic technique and have adequate practice.

Objective

To assess the knowledge and practice on aseptic technique and its association with selected socio-demographic variables among surgical team members at tertiary level hospital.

Method

A cross-sectional study was conducted from November to December 2022 among 106 surgical team members in the operating theatre. The respondents were selected using convenience sampling technique. Data was collected using structured questionnaire and presented using descriptive and inferential statistics.

Result

Among 106 respondents, 80% of surgical team members had high level of knowledge and 74% adequate level of practice on aseptic technique. There was a significant association between knowledge and level of education and category of the surgical team members. Practice on aseptic technique was statistically significant with gender and level of education of surgical team members. A weak positive correlation was found between knowledge and practice on aseptic technique.

Conclusion

High level of knowledge was observed in majority of the respondents however some respondents had inadequate level of practice regarding aseptic technique. Therefore, skill-based training might be needed. A weak positive correlation between knowledge and practice also necessitates the surgical team members to upgrade knowledge to keep them up-to-date with the new evidences in surgical environment.

KEY WORDS

Aseptic technique, Nepal, Operating theatre, Surgical team members

INTRODUCTION

Surgical site infections (SSI) occurs in surgical patients at the incision site within 30 days after surgery or within 90 days of post-operative procedure in the case of metallic implant insertion.¹ SSIs are caused by microorganisms that enter into the wound if the aseptic technique is not followed.² According to World Health Organization (WHO), SSI risk the lives of millions every year and contribute to the spread of resistance to antibiotics.³ It is the most surveyed and frequent type of healthcare associated infections (HAIs) in low- and middle-income countries. However, incidence is lower in high-income countries and remains the second most frequent type of HAIs in Europe and America.⁴ It accounts for 20% of all HAIs and is associated to a 2 to 11 fold increase in the risk of mortality.⁵

SSI causes significant mortality and morbidity in patients so strategies of decreasing their incidence should be considered. Every surgical team member must put their theoretical knowledge and practice on aseptic technique to provide optimum care and successful surgical outcomes.^{6,7} Aseptic techniques is the basis of modern surgery and compliance with its principles and infection control prevent SSI.^{6,8-10} A study conducted by Dhakal et al. in Nepal regarding the knowledge of aseptic technique among nurses reported 62% had high level of knowledge on aseptic technique.¹¹ However, no such study has been conducted in this hospital, hence this study was conducted with the aim to assess the knowledge and practice on aseptic technique and its association with selected socio-demographic variables among surgical team members in the operating theatre (OT).

METHODS

This was a cross-sectional study conducted among all surgical team members (nurses, surgeons, residents and medical officers) working in OT in tertiary level hospital, between 1st November to 30th December 2022. Approval from the Institutional Review Committee (IRC), Kathmandu University School of Medical Sciences (KUSMS) - IRC 106/2022 was obtained to conduct the study.

A total of 106 surgical team members working in OT were included in the study. Data was collected in the duration of one month and those members who were not willing to participate in the study were excluded from the study (there were a total number of 150 surgical team members working in the operating room). Convenience sampling technique was used to collect data and a written informed consent was obtained from the respondents before collecting data. A self-constructed and self-administered questionnaire consisted of three sections; section I: demographic characteristics of the respondents, section II: questions related to the knowledge on aseptic technique which included principles of aseptic techniques (14 multiple choice questions [MCQs] and 10 yes/no questions)

and section III: questions regarding practice on aseptic technique which also included yes/no questions regarding principles of aseptic techniques (15 yes/no questions). The lowest and highest possible scores for knowledge were 0 and 24 respectively, whereas for practice scores were 0 and 15 respectively. Correct answers were calculated to obtain total scores for knowledge regarding aseptic technique. A score of knowledge was transformed into percentage and interpreted as low knowledge if less than 33%, average if between 33-66% and high knowledge if > 66%.¹² Similarly, the score obtained from practice on aseptic technique questions was interpreted (taking median score) as inadequate practice if score was < 14 and adequate if the score was ≥ 14 .¹³

Data was analyzed using freely available Statistical Package for Social Sciences (SPSS) version 25. Proportions, mean, median and standard deviation (SD) were calculated to describe the sample. Chi-Square and Monte Carlo test were conducted to find out the association between level of knowledge and practice among respondents and selected socio-demographic variables. Spearman test was used to find out the relations between knowledge and practice of the respondents regarding aseptic technique. The level of significance was set at $p < 0.05$ at 95% confidence interval (CI).

RESULTS

During the study period, a total number of 106 surgical team members were included in the study. Nearly 44% of the respondents were in the age group of 25 to 30 years. The majority of respondents (59%) were female. Regarding the qualification of the respondents, 39% had completed bachelor's degree, followed by 34% certificate level and 27% master's degree. Likewise, as a category of surgical team members, 36% were nursing staff, 27% were surgeons, 28% residents and 9% were medical officers. Among them, majority of the respondents (72%) had working experience of ≤ 5 years. Similarly, more than one-third of respondents (37.7%) had attended workshop specific to aseptic technique (Table 1).

Knowledge on aseptic technique was measured with 14 MCQs and 10 yes/no questions among the respondents. Overall the level of knowledge was high. Among the respondents, 80% had high level of knowledge and 20% had average level of knowledge (Fig. 1).

The level of practice on aseptic technique was measured with 15 yes/no questions among the respondents. Majority of the respondents (74%) had adequate level of practice whereas 24% had inadequate level of practice on aseptic technique (Fig. 2).

There was a statistically significant association between level of knowledge on aseptic technique and level of education and category of surgical team members ($p \leq 0.05$) (Table 2).

Table 1. Demographic characteristics of the respondents (n=106)

Characteristics	Category	n	%
Age (Mean ± SD 29 ± 6.4 years)	< 25	23	21.7
	25-30	46	43.4
	31-35	19	17.9
	> 35	18	17
Gender	Male	43	40.6
	Female	63	59.4
Qualification	Master's degree	29	27.4
	Bachelor's degree	41	38.6
	Certificate level	36	34
Category of surgical team members	Nursing staff	38	35.8
	Medical officer	10	9.4
	Resident doctor	29	27.4
	Surgeon	29	27.4
Year of work experience	≤ 5	76	71.7
	> 5	30	28.3
Attended workshop specific to aseptic technique	Yes	40	37.7
	No	66	62.3

n-number, SD-Standard deviation

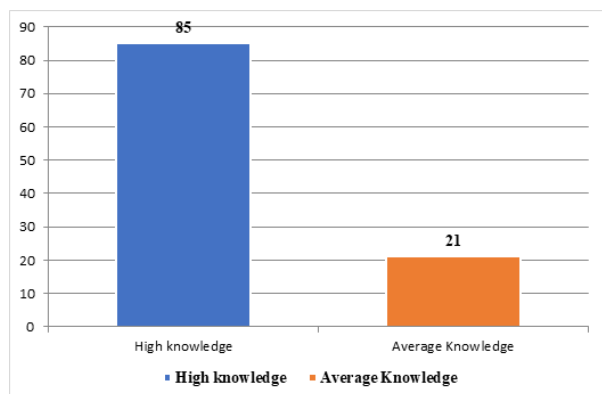


Fig. 1. Level of knowledge on aseptic technique among the respondents (n=106)

Similarly, there was a statistically significant association between level of practice on aseptic technique and gender and level of education ($p \leq 0.05$) (Table 3).

The relationship between knowledge and practice on aseptic technique among surgical team members was found to be weak positive ($r=0.208$) which was statistically significant ($p \leq 0.05$). As knowledge about the aseptic technique increases, practice also tend to become more positive, but the increase is not substantial (Table 4).

DISCUSSION

This is the first study to provide a snapshot of the knowledge and practice on aseptic technique among surgical team members in this tertiary level hospital.

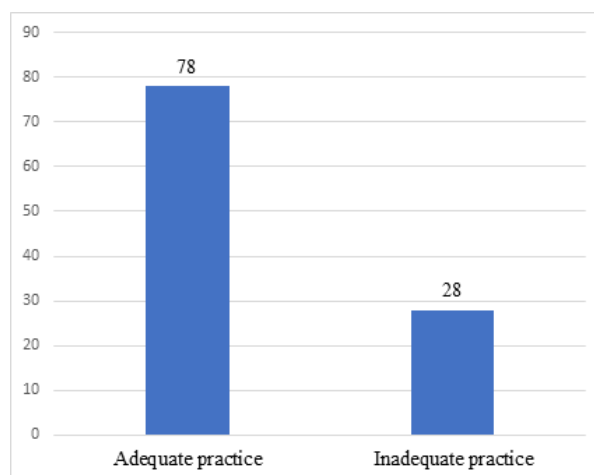


Fig. 2. Level of practice on aseptic technique among the respondents (n=106)

Table 2. Association between level of knowledge socio-demographic variables (n=106)

Variables	Average Knowledge n (%)	High Knowledge n (%)	p value
Age in completed years			
<25	3 (13)	20 (87)	0.703 [#]
25-10	11 (23.9)	35 (76.1)	
31-35	3 (15.8)	16 (84.2)	
>35	4 (22.2)	14 (77.8)	
Gender			
Male	7 (16.3)	36 (83.7)	0.451 [*]
Female	14 (22.2)	49 (77.8)	
Level of education			
Master's degree	5 (17.2)	24 (82.8)	0.034 [#]
Bachelor's degree	13 (31.7)	28 (68.3)	
Certificate level	3 (8.3)	33 (91.7)	
Category of surgical team			
Nursing staff	3 (7.9)	35 (92.1)	0.044 [#]
Medical officer	3 (30)	7 (70)	
Resident doctor	10 (34.5)	19 (65.5)	
Surgeon	5 (17.2)	24 (82.8)	
Year of work experience			
≤ 5	15 (19.7)	61(80.3)	0.976 [*]
> 5	6 (20)	24 (80)	
Attended workshop specific to aseptic technique			
Yes	8 (20)	32 (80)	0.970 [*]
No	13 (19.7)	53 (80.3)	

*Chi-Square test, [#]Monte Carlo test, n-number

This study showed some interesting findings, which warrant further discussion. First, 80% of the respondents had high level of knowledge on aseptic technique. The high level of knowledge observed among the respondents can be explained by the fact of the provision of periodic in-service education and orientation sessions on infection

Table 3. Association between level of practice socio-demographic variables (n=106)

Variables	Inadequate Practice f (%)	Adequate Practice f (%)	p value
Age in completed years			
<25	9 (39.1)	14 (60.9)	0.312 [#]
25-10	10 (21.7)	36 (78.3)	
31-35	6 (31.6)	13 (68.4)	
>35	3 (16.7)	15 (83.3)	
Gender			
Male	5 (11.6)	38 (88.4)	0.004*
Female	23 (36.5)	40 (63.5)	
Level of education			
Master's degree	6 (20.7)	23 (79.3)	0.036*
Bachelor's degree	7 (17.1)	34 (82.9)	
Certificate level	15 (41.7)	21 (58.3)	
Category of surgical team			
Nursing staff	15 (39.5)	23 (60.5)	0.099 [#]
Medical officer	3 (30)	7 (70)	
Resident doctor	4 (13.8)	25 (86.2)	
Surgeon	6 (20.7)	23 (79.3)	
Year of work experience			
≤5	18 (23.7)	58 (76.3)	0.310*
>5	10 (33.3)	20 (66.7)	
Attended workshop specific to aseptic technique			
Yes	8 (20)	32 (80)	0.244*
No	20 (30.3)	46 (69.7)	

*Chi-Square test, [#]Monte carlo test, n-number

Table 4. Correlation between knowledge and practice on aseptic technique among the respondents (n=106)

Characteristics	r value	p value
Knowledge	0.208	
Practice		0.03

prevention in this hospital. The infection prevention team work actively for the education of their staff in this hospital. This is considered a high level compared to the study conducted in Rwanda where 54% of respondents had moderate level of knowledge and in India where maximum staff nurses (63%) had average level of knowledge.¹⁴ Similar study conducted in Nepal by Dhakal et al. also reported a similar finding which revealed that more than half of the respondents (62.5%) had a high level of knowledge on aseptic technique.¹¹ Excellent theoretical knowledge on principles of aseptic technique is necessary to provide safe and effective nursing to the surgical patients during the intra operative period. This has to be continued since one of the factors impacting compliance with the aseptic technique is sound knowledge on its concepts and principles in any hospital settings.¹⁵

Second, 74% of the respondents in this study, had an adequate level of practice on aseptic technique. This is an encouraging finding and is higher than that reported by Abraham et al. in India (69%) and by Oluwafemi where there was poor compliance to aseptic technique among the respondents.^{16,17} However, 26% of the respondents had inadequate level of practice on aseptic technique. This finding is essential to note as evidence suggested failure to use the aseptic technique correctly could be responsible for problematic and intractable infections.⁶ Adherence to the sterile technique principles by the surgical team members must be observed frequently and improved, as it is the foundation of the prevention of HAIs and contamination of wounds by potentially pathogenic microorganism.¹⁸

Third, knowledge on aseptic technique was statistically significant with a level of education and category of surgical team members. Respondents who had completed proficiency certificate level and nursing staff had high level of knowledge than other level of education and category of the respondents. This may be attributed to the extensive training provided to the nurses during the induction or orientation period (twice in a year) to keep them updated with the different nursing skills including performance of sterile technique. Since failure to use the aseptic technique correctly in the operating theatre could be responsible for problematic and intractable infections, this result is essential to note. This result is similar to the findings of other studies.^{2,11} whereas, the finding was contrary in a study conducted by Singh et al.¹⁹

Fourth, practice on aseptic technique was statistically significant with the gender and level of education of the respondents. Male surgical team members had adequate practice in comparison with female respondents. This finding of present study is in agreement with a study which revealed that female respondents had a high level of practice.² Likewise, the finding was inconsistent with the similar previous study by Leodoro et al. in Philippines where there was no association between these two variables.⁶ The respondents who had completed bachelor's degree had adequate practice followed by master's degree in our study. This finding is also supported by another study.²

Fifth, and the major finding of this study was there was a weak positive correlation between knowledge and practice. This implicates that knowledge on aseptic technique exerts a positive impact on the extent of practice and application of aseptic technique. With improved knowledge, practice of the health care workers also improves. This result is similar to the findings of other studies.^{6,20-22} Furthermore, the theory also supported that expert develop skills and understanding of patient care over time through a sound educational base and a multitude of experiences.²³ This can be predicted that nurses involved in the study practiced aseptic technique to the greater extent based on sound theoretical knowledge on the concepts of the principles of the technique. However, this result is inconsistent with

other study findings where there was a strong negative correlation.^{2,9}

Our study has some limitations, as follows: 1) convenience sampling method was adopted to obtain the data for the study from only a selected university and therefore the results may not be generalizable to a similar population across hospitals in Nepal; 2) the questionnaire was used to assess practice of aseptic technique however observation method would have better to observe and record behavior, events in the study; and 3) the assessment of knowledge and practice of the aseptic practice may not reflect the actual compliance with aseptic measures and might not correlate with this self-answered knowledge evaluation.

CONCLUSION

The findings of this study revealed that even though the majority of the respondents had high level of knowledge, their practice were inadequate. Therefore, skill-based

training might be needed. Adherence to the sterile technique principles by the surgical team members also must be observed frequently and improved. Nursing staff had high level of knowledge than other category of the respondents. This reinforce the importance of continuing education among nurses to keep them updated with the new trends and developments in order to become increasingly efficient and effective at preventing HAIs. Furthermore, there was a weak positive correlation between knowledge and practice on aseptic technique therefore surgical team members must continue to upgrade knowledge to keep them up-to-date with the new evidences in surgical environment.

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Nurses' Practice during the Second and Third Stages of Labor at Patan Hospital

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ABSTRACT

Background

Good care practice during the second and third stages of labor is essential for favorable maternal and fetal outcomes. In addition, unnecessary and harmful practices can lead to complications to mothers and newborn babies.

Objective

To describe nurses' practice during the second and third stages of labor in a Teaching hospital.

Method

A descriptive observational study was conducted among 31 nurses in the Maternity ward of Patan Hospital using total enumerative sampling. The data collection period was from 1st September to 15th November 2019. A Non-participatory observation was done using the checklist for data collection and analysis was done using SPSS version 20.

Result

The study showed, that during the second stage of labor, all the nurses supported the baby's head with one hand and the perineum of the mother with another hand, 96.77% of nurses allowed spontaneous restitution of the baby's head and 38.71% performed delayed cord cutting. All the nurses kept the baby in immediate skin-to-skin contact with the mother. Whereas, only 9.68% and 16.13% of nurses washed their hands before assisting physiological birth and kept the baby in skin-to-skin contact after cutting the cord respectively. During the third stage of labor, only 6.45% of nurses palpated the abdomen for the presence of additional babies, whereas 96.77% gave Inj. oxytocin within one minute of the physiological birth of the baby.

Conclusion

The study showed that most of the nurses performed steps like supporting the fetal head and perineum during the birth of the head, spontaneous restitution, and Inj. Oxytocin IM within one minute of physiological birth. Whereas, delayed cord cutting, keeping the baby on skin-to-skin contact after cutting the cord, and examination of the placenta were done by only a few nurses.

KEY WORDS

Nurses, Practice, Second Stage of labor, Third Stage of labor

INTRODUCTION

Globally, every year more than 300,000 women die due to complications of pregnancy and childbirth and 2.5 million babies die during the first month of life. The leading causes of maternal death are hemorrhage, hypertensive diseases of pregnancy, sepsis anemia, and HIV. While prematurity, intrapartum-related complications, and sepsis are the three main causes of neonatal death.¹ It is estimated that roughly three-quarters of all global maternal deaths take place during physiological birth and in the immediate postpartum period.²

Quality intrapartum care practice with standard reduces maternal and neonatal mortality and stillbirth by over 80%, improves maternal and newborn outcomes by over 50%, reduces preterm birth by 24%, improves breastfeeding rates, improves psychological outcomes, reduces unnecessary interventions, and improves access to family planning methods.³

The MMR was found to be 151 per 100,000 live births in Nepal.⁴ The institutional physiological birth rate in Nepal is only 79%.⁵ The government of Nepal has focused on institutional physiological birth to reduce maternal and neonatal morbidity and mortality. Therefore, while access to care is critical ensuring good quality of care and ensuring good and evidence-based practices has a greater impact in terms of lives saved.³

The researcher found limited studies to evaluate the actual practice of the nurses. Thus, the study aimed to describe the practice of nurses during the Second and Third stages of labor in Patan Hospital.

METHODS

A descriptive observational study was conducted in Patan Hospital from 1st September to 15th November 2019 to assess the nurses' practice during the second and third stages of labor. A total enumerative sampling method was used including all the nurses working at the maternity ward of the Patan Hospital. A total of 31 nurses working at the time of data collection were included in the study.

Data collection was done after approval of the proposal from the research committee of the Lalitpur Nursing Campus and the PAHS institutional review committee (PNW1908081287). Permission for data collection was taken from the Nursing administration and ward In-charge whereas participants were blinded to avoid the Hawthorne effect. Non-participant observation was done using an observational checklist by the researcher herself. The checklist was developed by the researcher herself as per study objectives, literature review, and consultation with the advisor. The observation checklist relied on the literature review.

Each participant was observed only once. Socio-demographic data was collected from each participant after non-participant observation. Statistical Package for the Social Science (SPSS) version 20 was used for data analysis. The result was interpreted using descriptive statistics.

RESULTS

Among the 31 participants, the majority of nurses, 11 of each belong to the age group 26-30 and 36-40-years age group and mean age is 28.61±4.13. Regarding the educational status of the nurses, the majority of the nurses 22 have completed their bachelor's in nursing. Nearly half of the nurses (15) have total work experience between 6-10 years and more than 80% of nurses (26) have received HBB training. However, only one nurse has received SBA training (Table 1).

Table 1. Socio-demographic Characteristics of Nurses (N=31)

Variables	Frequency	Percentage
Educational level		
PCL Nursing	9	29.03
Bachelors	22	70.96
Total work experience		
Less than 5 years	8	25.81
6-10 years	15	48.38
More than 10 years	8	25.81
HBB training		
Yes	26	83.87
No	5	16.13
SBA training		
Yes	1	96.77
No	30	3.23

Regarding preparing necessary equipment, all the respondents prepared a physiological birthing set, Inj. Oxytocin and warmer for babies, while 87.10% of nurses prepared cord clamps and plain catheters. In the domain of providing emotional support and reassurance, most of the nurses (93.55 %) encouraged patients for deep breathing exercises during labor pain. However, very few nurses (16.13%) used motivational words such as "you are doing good" and only one nurse explained the procedure. All nurses used aprons, only a few nurses (22.58%) wore sterile gowns, only 5 and 1 respondents wore boots and masks respectively while none of the respondent used caps and goggles. Very few nurses (9.68%) washed their hands thoroughly with soap and water before assisting with physiological birth. Almost three-quarters of nurses (74.19%) put on a double layer of sterile gloves. All the nurses (100%) cleaned the woman's perineum from front to back placed the drapes on the woman's buttock, over the abdomen, and used one drape to receive the baby. 90.32% of nurses encouraged and taught the women for

appropriate pushing technique and more than half of the nurses ensured that the women’s bladder was emptied (Table 2).

Table 2. Nurses’ Practice during Getting Ready for Assisting Physiological Birth (N=31)

Variables	Yes n (%)	No n (%)
Preparing Necessary Equipment		
Physiological birth Set	31(100)	-
Cord Clamp	27 (87.10)	4(12.90)
Inj. Oxytocin	31 (100)	-
Warmer	31 (100)	-
Plain Catheter	27 (87.10)	4(12.90)
Provide emotional support and reassurance during physiological birth		
Encourage deep breathing and exercise.	29 (93.55)	2 (6.45)
Using motivational words e.g., “you are doing good”.	5 (16.13)	26(83.87)
Explaining the procedure and information about labor progress.	1 (3.23)	30(96.77)
Put on Protective barriers		
Apron	31 (100)	-
Gown	7 (22.58)	24(77.42)
Mask	1 (3.23)	30(96.77)
Cap	0 (0)	31 (100)
Boots	5 (16.13)	26(83.87)
Goggles	-	31 (100)
Preparing for birth		
Wash hands thoroughly with soap and water up to the elbow and dry	3 (9.68)	28(90.32)
Put on a double layer of sterile gloves	23 (74.19)	8 (25.81)
Clean women’s perineum	31 (100)	-
Place drapes from the physiological birth pack on the women’s buttock, abdomen, and use one drape to receive the baby	31 (100)	-
Encourage and teach women to push appropriately technique	28 (90.32)	3 (9.68)
Ensure the bladder is empty	16 (51.61)	15(48.39)

All nurses supported the head with the fingers of one hand during crowning and the remaining hand to support the perineum. After the birth of the head, less than half of the nurses (45.16%) wiped the mucus from the baby’s mouth, and about half of the nurses (51.61%) checked for the cord around the neck. Almost all respondents (96.77%) allowed spontaneous restitution of the head. All the Nurses assisted first downward of the head to deliver the anterior shoulder and the majority of them (80.64%) moved the topmost hand from the head to support the rest of the body as it slid out. All the nurses kept the baby in immediate skin-to-skin contact with the mother, immediately dried the baby, and covered it with clean and dry cloths. Only a quarter of the nurses (25.81%) changed or removed the outer gloves before cutting the cord. The majority of Nurses (61.29%)

cut the cord within one minute of the physiological birth of the baby. All the nurses clamped the cord at 3cm and 5 cm from the baby’s abdomen, cut between ties with sterile instruments, and applied chlorhexidine ointment. Only 16.13% kept the baby in skin-to-skin contact with the mother after cutting the cord (Table 3).

Table 3. Nurses’ Practice during the Birth of the Baby (N=31)

Variables	Yes n (%)	No n (%)
Assisting Birth of the head		
Support head with fingers of one hand during crowning	31 (100)	-
Use other hand to support perineum	31 (100)	-
Wipe the mucus from the baby’s mouth and nose	14 (45.16)	17(54.84)
Check for cord around the baby’s neck	16 (51.61)	15(48.39)
Allow spontaneous restitution	30 (96.77)	1 (3.23)
Completing the birth		
Assist first downward of the head to deliver anterior shoulder	31 (100)	-
Move the topmost hand from the head to support the rest of the baby’s body as it slides out.	25 (80.64)	6 (19.36)
Keep baby in immediate skin to skin contact with mother	31 (100)	-
Immediately drying the baby and cover with a clean, dry cloths	31 (100)	-
Change/remove outer gloves	8 (25.81)	23(74.19)
Clamp and cut the umbilical cord		
Delayed cord cutting (1-3 min)	12 (38.71)	19(61.29)
Clamp the cord at 3 cm and 5cm from baby’s abdomen (umbilicus).	31 (100)	-
Cut between ties with sterile instrument.	31 (100)	-
Apply chlorhexidine 4% ointment on the umbilicus stump.	31 (100)	-
Keep baby warm and skin to skin contact on the mother’s chest.	5 (16.13)	26(83.87)

Only a few nurses (6.452%) palpate the abdomen and none of the nurses check the ANC chart or USG report for confirmation of the absence of a second baby or subsequent babies. The majority of nurses (96.77%) administered Inj. Oxytocin IM within one minute of the birth of the baby, while only one nurse delayed the administration of oxytocin. All nurses applied counter traction to the uterus but only 29.03% had waited for contraction of the uterus before applying cord traction. If the placenta did not deliver in the first attempt only a few nurses (6.45%) waited for another strong uterine contraction to perform controlled cord traction. All the Nurses held the placenta with both hands, twisted them into rope, and moved it up and down to deliver it. The majority of respondents 93.55% and 90.32% checked for the contraction of the uterus and immediately massaged the uterus respectively. A quarter of the nurses (25.81%) examined the placenta membrane

and cord for completeness. However, all nurses examined the lower vagina and perineum for tears and estimated and recorded the blood loss and cleaned the women's perineum, and applied a pad to the vulva (Table 4).

Table 4. Nurses' Practice during The Third Stage of Labor (N=31)

Variables	Yes n (%)	No n (%)
Palpate the abdomen for the presence of additional baby (ies)	2 (6.45)	29 (93.55)
Confirm the absence of a second/subsequent babies through ANC chart or USG report	-	31 (100%)
Give oxytocin 10 units IM within 1 min	30 (96.77)	1 (3.23)
Apply counter traction	31 (100)	-
Wait for a strong uterine contraction (2-3 min), then apply cord traction.	9 (29.03)	22 (70.97)
If the placenta does not deliver in the first attempt, wait for a strong uterine contraction (2-3) min, then gently apply controlled cord traction	2 (6.45)	29 (93.55)
Hold the placenta with both hands and twist them into a rope and move them up and down.	31 (100)	-
Check, if the uterus is well contracted and bleeding.	29 (93.55)	2 (6.45)
Massage the uterus	28 (90.32)	3 (9.68)
Examine the placenta, membrane, and cord	8 (25.81)	23 (74.19)
Examine the lower vagina and perineum	31 (100)	-
Estimate and record blood loss	31 (100)	-
Cleanse the perineum and apply a pad to the vulva.	31 (100)	-

DISCUSSION

Regarding the preparation of necessary equipment, the present study showed that 100% of nurses prepared oxytocin injection before assisting physiological birth, this is consistent with the result of the study done in Nepal which revealed in 99% of cases oxytocin for injection was prepared before physiological birth of the baby.⁶

Considering the use of protective barriers, all the nurses used Apron. The result tends to resemble the study done in Indonesia, in which 77.3% wore aprons.⁷ The present study shows none of the nurses used goggles, very few nurses (16.13%) used boots and only 9.68% performed handwashing before assisting physiological birth. These results are supported by the study done in Indonesia which revealed a very limited number (only 15% used eye protection), 15.1% wore closed-toed shoes and only 11.5% performed hand washing.⁷ In the case of using face masks the study result varies from the study done in Indonesia that shows 21.3% used face masks while the present study revealed only 3.23% of nurses used face mask.⁷ While assisting the birth of the head all nurses supported the head with one hand during crowning and used the other hand to support the perineum. The results tend to

be coherent with a study done in France where 66.5% of midwives used the same technique.⁸ In the present study, all nurses allowed the spontaneous restitution of the head. This finding contrasts with the study conducted in France, which revealed only 30.3% of midwives allowed spontaneous restitution of the head while others used external restitution and exaggerated restitution.⁸ The sampling variation may be the reason for the different results.

Keeping the baby immediately in skin-to-skin contact is one of the most important steps to prevent neonatal hypothermia. The current study shows, that all the nurses kept the baby in immediate skin-to-skin contact and immediately dried the baby. The result is likely to match another study done in a university hospital in Nepal, which shows that 83.5% of cases received skin-to-skin contact.⁹ All the nurses applied Chlorhexidine ointment on the umbilical stump, which contrasts with the findings of NDHS 2022 where it was only 51%.⁵ The unavailability of chlorhexidine ointment throughout the country and study area variance may be the reason for this difference.

The exclusion of twins before giving IM Inj. Oxytocin is an important step to prevent distress or entrapment of the second unborn twin. This step was not carried out by 93.55% of nurses, the similar result was found in a study done in Butwal in Nepal, that shows in 80% of cases, the step was missed and contradicts a study done in Ethiopia where 37.3% of obstetrics care providers missed the step.^{6,10} The present study shows 96.77% administered Inj. Oxytocin within one minute of the physiological birth of the baby, this was supported by the finding of the study done in Brazil showing 94.4% of nurse-midwives give oxytocin.¹¹ However, in another study done in Nepal a different result was found which revealed, that in 70% of cases, oxytocin was administered within two min.⁶ Applying counter cord traction only during contraction of the uterus to prevent inversion of the uterus is an important step while delivering the placenta. The step is missing in 70.97 % of the current study, this varies with the findings of the study done in Butwal and Ethiopia where 50% and 54% missed the step respectively.^{7,10} Similarly, in the current study, all nurses apply counter traction, the same result was found in the study done in Butwal, Nepal, which revealed 98.5% applied counter traction, and in Ethiopia 89.4% applied counter traction.^{7,10} While delivering the placenta all the nurses hold the placenta by both hands. This tends to be consistent with the findings of a study done in Ethiopia, that shows 79.9% used the same method.¹⁰ In this study 93.55% checked the uterus for contraction after the physiological birth of the placenta and 90.32% performed the immediate uterine massage. This contradicts the findings of the study in Ethiopia, where only 30.5% checked for uterus contraction after the physiological birth of the placenta and only 43% performed the immediate uterine massage. The country variance may be the reason behind the varying results.¹⁰ Placenta examination was not performed by 74.2%

of nurses until there seemed to be any complications immediately after physiological birth. This contradicts the study done in Nepal where in the maximum number of cases (98.2%) placenta examination was done.⁷ The sample variation may be the reason for the variation.

The study was limited to nurses of the maternity ward of the Patan hospital only. So, the findings of the study could not be generalized to the entire population. The sample size was small so could not represent all the nurses of Nepal.

CONCLUSION

This study has highlighted variations in nurses' practices during the second and third stages of labor. During the second stage, the majority of participants successfully executed essential procedures; however, noteworthy gaps were identified in crucial aspects such as the use of motivational words, explaining procedures, washing hands thoroughly, ensuring protective barriers, and continuing skin-to-skin contact after cutting the cord. In the third stage, lapses were observed in palpating the abdomen

for the presence of an additional baby, confirming the absence of a second baby through a chart or ultrasound, waiting for a strong uterine contraction before applying cord traction, and examining the placenta, membrane, and cord. Addressing these specific shortcomings is essential for promoting positive maternal and neonatal outcomes. Thus the implementation of targeted training interventions may enhance adherence to established protocols of SBA, ultimately improving the overall quality of care provided during physiological birth.

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Nurse Midwives' Perceptions on Women Centered Care during Pregnancy and Childbirth: A Qualitative Study

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ABSTRACT

Background

Women centered care (WCC) during pregnancy and childbirth is highly appreciated by women as it provides women satisfaction with the care and positive childbirth experience. Nurse midwives are the main care provider during pregnancy and childbirth, they have a key role in utilizing WCC.

Objective

To explore nurse midwives' perceptions on WCC during pregnancy and Childbirth.

Method

A qualitative study was carried out with an in-depth interview, using purposive sampling technique with 10 nurse midwives having a basic understanding about WCC and working in the maternity unit of a tertiary level hospital. The interviews were recorded, transcribed in verbatim and analyzed using qualitative content analysis.

Result

Six categories emerged which were information on WCC, promoting normalization of pregnancy and childbirth, respectful maternity care (RMC), empowering women, barriers and benefits of WCC. Several sub categories emerged from the main categories which were awareness, information sharing, natural process, homely environment, protect women's rights an autonomy, group counseling, choice for birth companion, inadequate knowledge and skill, need of staff motivation, communication skill, inter-professional collaboration, positive experience and women's satisfaction.

Conclusion

Nurse midwives' perceived WCC as an important component for women's satisfaction and positive childbirth experiences. There is a need for ongoing professional development for nurse midwives and a supportive environment to ensure high-quality WCC.

KEY WORDS

Nurse midwives', Perceptions, Pregnancy and childbirth, Women centered care

INTRODUCTION

The experiences of pregnancy, giving birth and having a baby create lifelong memories for women. The impact of maternity experiences on women can be empowering and lead to feelings of self-worth and self-confidence but sometimes may cause negative maternal health outcomes such as postpartum depression and post-traumatic stress disorder.¹

WCC focuses on the woman's unique needs, expectations and aspirations; recognizes her right to self-determination in terms of choice, control and continuity of care; and addresses her social, emotional, physical, psychological, spiritual and cultural needs and expectations.² In low risks pregnancies, nurse midwives are the ones who provide care from pregnancy till postnatal period. As WCC has been recognized as a marker of quality in maternity services, it can bring positive outcomes in pregnancy and childbirth. Core characteristics of midwifery led birthing centers which focuses on WCC include optimizing normal biological, psychological, social, and cultural processes of reproduction and early life; timely prevention and management of complications; respect for women's individual circumstances and views; and working in partnership with women to strengthen women's own capabilities.³

In Dhulikhel hospital, midwifery-led birthing center started since May, 2022. Since the nurse midwives are the main care provider during pregnancy and childbirth, they have a key role in utilizing WCC. However, we have not encountered any studies that explored the Nurse midwives' perception on WCC in Nepal. So, researchers aimed to explore nurse midwives' perceptions and their readiness to provide women-centric midwifery led care to women during pregnancy and childbirth.

METHODS

A qualitative research design was used to obtain the perceptions of nurse midwives on WCC during pregnancy and childbirth using face to face In-depth interview (IDI). It included nurse midwives who have basic understanding about WCC and have been working in the maternity unit for at least 6 months using purposive sampling technique. Data were collected between May 15 and June 18, 2022. Interview dates were scheduled with the selected participants at their convenience, and IDI were conducted using a topic guide over 30-45 minutes. All interviews were recorded on a mobile voice recorder after the participants consented.

Before the IDI, two mock tests were done to revise and improvise the topic guide. Interview questions were "What are your views/opinions about WCC during pregnancy and childbirth?", "What do you think are the elements/components of WCC during pregnancy and childbirth?",

"What do you think are the influencing factors for providing WCC during pregnancy and childbirth?", and "How can WCC be provided during pregnancy and childbirth?"

The content analysis described by Graneheim and Lundman was used to analyze data.⁴ Both the author and co-author were involved throughout the analysis process. All the interviews were transcribed, and meaning units were extracted. Different codes were developed from these meaning units, which were further broken down into several subcategories and categories. Data saturation was achieved after IDI with ten participants.

Consideration of rigors

Trustworthiness was maintained by following the criteria including credibility, dependability, confirmability and transferability. Credibility was maintained by purposively selecting the respondents to contribute richer variation of the phenomena under the study. Prolonged engagement with the participants, persistent observation during the interviews, and detailed note-taking were employed. Dependability was maintained by having the researcher personally conduct all interviews, asking each participant the same questions, and maintaining close observation and documentation throughout the interviews. Confirmability was ensured by recording the interviews, creating detailed transcripts, and taking notes during the interviews, which included non-verbal expressions. The participants' actual statements were also included as quotations to verify that the results were not biased. Coauthor was involved throughout the process to maintain confirmability. Researcher maintained the transferability by providing description of setting, sampling, sample size, inclusion and exclusion criteria, interview procedure and findings of the study.

Prior to data collection, ethical approval was obtained from the ethical committee of the KUSMS (89/2021) and PG Committee of Kathmandu University School of Medical Sciences. Written approval was obtained from the head of department of Obstetrics and Gynecology, Dhulikhel Hospital. Written consent was taken from each participants prior to data collection. Privacy and confidentiality was maintained during and after the interview.

RESULTS

The participants age ranges from 26-30 years and education ranges from PCL to Master's degree programmes where they had three to six years of experience in the field. Six of the ten nurse midwives were married, while the remaining four were single among which three had children.

Category 1: Information on WCC

The information on WCC category describes the need of awareness among care receiving women and suggestions for information sharing. Nurse midwives indicated that there is lack of awareness related to WCC in care receiving

Table 1. Categories and subcategories

Categories	Subcategories
Information on WCC	Awareness Information sharing
Promoting normalization of pregnancy and childbirth	Natural process Homely environment
Respectful Maternity care	Protect women's rights Respect every woman
Empowering women	Individualized care and autonomy Group counseling Choice for birth companion
Barriers in providing WCC	Lack of availability of enough staffs Inadequate knowledge and skill Need of staff motivation Communication skill Inter-professional collaboration
Benefits of WCC	Positive experience Women's satisfaction

women, nurse midwives and higher and lower-level workers of hospitals. Respondents also explored the suggestion for information sharing to raise awareness on WCC.

Awareness

The participants were mostly in agreement that more efforts were needed to raise awareness of WCC. It can be effectively implemented if the women who give and receive the care are knowledgeable about it.

"People should be aware, like if I have come for delivery and I don't know that I can have birth in different positions, you know.... then I will tell what I know; so that's why here women are not that much aware too that they can have childbirth in other positions rather than lying down only." (P 7)

Health professionals and supporting staffs of hospitals should be aware about WCC. Women's rights and dignity may be violated if medical professionals are unaware of the components of RMC.

"We say women centered care, women centered care, but what is women centered care? even our health personnel don't know what it is actually" (P3)

Information sharing

Spending more time with the women helps to identify the actual problems and also gain the women's trust. Information sharing can be achieved by educating women about WCC from the very first ANC visit and, if feasible, by offering continuity of care. Women and nurse midwives should communicate back and forth. Sensitizing the leaders can help to improve the health centers by providing transportation services to those in need.

"For that now, local, that is in community level, we should sensitize the leaders, which might help nearby health centers along with transportation to be uplifted a little bit." (P 1)

Information can be shared using different methods and medias like TV, radio or by developing and distributing pamphlets and leaflets.

"Local...like what we can say...TV, radio, giving the message that the service (WCC) is provided in this place" (P 3)

Category 2: Promoting Normalization of Pregnancy and Childbirth

Pregnancy should be viewed as a normal function, not as an illness. In doing so, it reflects how homely environment and the philosophy of WCC can help to normalize the pregnancy journey regardless of the outcome. Nurse midwives indicated pregnancy and childbirth as a natural process and women feel more comfortable to deliver in a homely environment.

Natural process

Nurse midwives expressed pregnancy and childbirth as a natural physiological process and unnecessary interventions could be reduced as much as possible. They should be counseled right from their ANC visit that birth can occur naturally without any intervention if everything is normal. This may potentially assist in reducing the stress and anxiety of the pregnant women.

"All deliveries might not need induction, augmentation because this (pregnancy and birth) is a physiological process, isn't it? this being physiological process, hormones releases itself and labor initiate and normal delivery occurs" (P 4)

Homely environment

A homely environment is tried to be provided in WCC as much as practically possible according to the women's wish. It should be explained to the woman that she can give birth anywhere she wants (bed, floor, chair) and in any position she is comfortable in. In homes, the mother and baby are not separated from each other, and the postnatal bonding of the mother and baby is optimized.

"We (nurse midwives) allow companion, women can sit on floor also in mat if she wants and we create homely environment." (P 5)

Category 3: Respectful Maternity Care

Respectful maternity care can be provided through protecting women's right and respecting every women in WCC.

Protect women's rights

The nurse midwives recognized the need for protecting the women's rights. This did not just refer to the outcome of the pregnancy, but requires a respect for all stages of pregnancy and birth.

"For being women centered care, umm... one is women right should be respected, that rights should not be violated." (P 1)

Women can choose or refuse any care and treatment. Every care should be provided after the consent of the women.

"Before going to any intervention, care, treatment, and women's decision should be addressed, without women decision and consent none of them should be done." (P 1)

Respect every woman

Providing respect for every woman without discrimination, maintaining privacy, confidentiality and consented care are necessary.

Only informing women about what is being done is not sufficient. Consented care should be provided with respect to the woman's wishes. Forcing women to do anything against her wish is violating her right. According to nurse midwives, medical power is often used in the hospital setting by health care professionals to convince women, which is a breach of her rights.

"For procedure like per vaginal examination, normally in our practice what we do is, we only say lie down, we need to examine you from below, now you ...ummm... if she is agree or not should be asked first, isn't it?, sometimes she might not agree, if she doesn't agree, detail explanation of why it needs to be done should be done in an understandable way, after understanding and if she gives permission, then only we could examine her body but if she don't agree or avoid after detail explanation also, we cannot examine forcefully saying it should be done." (P 1)

A contrasting view also came on consented care from the participants that sometimes- forcing women for good reasons and good outcome is fine.

"If she says no, I think we force them by saying it has to be done, we counsel like you have to do what we say" (P 6)

Category 4: Empowering women

The respondents expressed that women in childbirth can be empowered by providing individualized care and autonomy in their care. The women should also be provided with an opportunity to share their experiences in a group counseling and letting them freedom to choose their companion during childbirth.

Individualized care and autonomy

To empower women, her actual problems and specific needs should be identified. Individualized care should be provided to each woman. Every individual can have different condition and need.

"To be specific, the need of that women should be addressed and I feel individualized care should be provided." (P7)

"Nurses should spend more time with woman to know the actual problem of the individual women as every woman might have different needs." (P3)

However, medical power is used to convince the women and the medical person guide the women but do not

involve women in decision making.

"If any complicated case comes, without hearing women's wish, force is done by saying it has to be done using medical power, although it is for the safety of mother and baby but...without involving women in decision making, we rule and track the women to provide which care....." (P 1)

Group counselling

Group counselling involves sharing of the experiences among women with similar conditions of pregnancy and childbirth journey. Group counseling is viewed as appropriate for women to share their experiences and help to gain knowledge and insight from similar women.

"We can choose group of similar women like primi mothers, multi mothers, woman with normal vaginal delivery or with cesarean section and allow them to share their own views and we can make conclusion that is group counselling" (P 3)

Choice for birth companion

Women feel more comfortable with the ones whom she knows well. Women's preferred birth companion has the potential to make them feel safe and more secure. It helps to ease out normal physiological birth and empower women.

"There should be one birth companion, the one who is preferred by the mother, either it could be her sister or her husband or her mother, like who she trusts, keeping the one whom she trusts the most." (P 4)

Category 5: Barriers in providing WCC

Barriers in providing WCC describes the reasons which hinders to provide WCC. The barriers for providing WCC are identified as; having lack of availability of enough staff, lack of knowledge and skill in nurse midwives, lack of communication skill, lack of appreciation of staffs and the need for inter-professional collaboration.

Lack of availability of enough staff

Lack of availability of enough staffs was expressed by the respondents as barrier for WCC. Effective WCC could only be provided in this context if the ratio of nurse: patients is minimal.

"When the ratio of nurse midwife and women does not match, that is also a challenge because in order to identify an individual's need and provide care, the ratio should be about 1:1....." (P 7)

Lack of knowledge and skill

Everyone wants to be treated by the most competent nurse midwives, who understand and expertly assist in solving their problems. For being capable, one should be good in knowledge and also in skill.

"When I'm going for a checkup, I search for a senior consultant or a highly trained nurse; then obviously the patients also come searching for the same ones; for

showing that I'm trained or I'm capable, we have to develop our skill and knowledge" (P 3)

Need of effective communication skill

The attitude and behavior of nurse midwives and health professionals have significant impacts on the efficacy of WCC. Communication is a key element of WCC as it is the only way to know the women's query and problem during pregnancy and childbirth. This helps to understand their need and satisfy them with the proper information and care.

"In pain, women don't listen to us, in that time if we talk loudly with them while giving them instructions.... If voice of our tone is loud little bit also, they think we scold them." (P 8)

Women wants their problems to be listened to and their queries to be answered in a humble, and comforting manner.

"We (health care provider) should be polite firstly and their problems should be listened." (P 5)

Need for staff motivation

Appreciation of good work inspires nurse midwives to provide better care in the future. If excellent work is done by the staffs, then they should be rewarded.

"Despite having workload, if we are appreciated for our work time to time then we feel like nice and working hard. So, what I feel is appreciation is also needed." (P 5)

Inter-professional Collaboration

Inter-professional collaboration is considered as imperative component in providing WCC. Pregnancy and childbirth are unpredictable and any low-risk pregnancy can have emergency situation at any time. Therefore, the respondents expressed that inter-professional collaboration of nurse midwives with other health care providers is needed.

"Nurse midwives should be able to coordinate with other health professionals." (P9)

"For addressing her need, coordination with obstetricians, or pediatrician for baby could be done." (P 7)

Category 6: Benefits of WCC

Pregnancy and birth are viewed as lifelong experience which women will remember throughout her life, regardless of the fondness of the experience. Respondents perceived WCC care has benefits like lifelong positive experience and satisfaction with the care provided.

Positive experience

The respondents explored that WCC helps women to have positive experiences as nurse midwives perceived WCC has the capacity to reduce fear, anxiety and stress which helps to improve maternal and fetal outcome which ultimately reduce maternal and fetal morbidity and mortality.

"If we give WCC to women, she will have less fear and anxiety. Because of this, I feel she will have less stress which will lead to better fetal outcome and she will feel safe." (P 5)

Women's satisfaction

WCC is perceived to be fruitful and optimal when women become satisfied with the care provided. The primary motto of WCC is to ensure women's satisfaction and assist in the provision of a positive childbirth experience. WCC helps to ease out the difficult part (labor) comfortably.

"The main objective is that she should be satisfied with care that we gave." (P 5)

Participants expressed that in order to be considered WCC, women should be satisfied with the care and able to gain positive childbirth experience.

"If women are not satisfied with the care provided, then it is not women centered care." (P6)

DISCUSSION

The discussions were made under different headings: concepts and components of WCC, barriers in providing WCC during pregnancy and childbirth and benefits of WCC.

1. Concepts and Components of WCC during pregnancy and childbirth

Pregnancy and birth is viewed as a normal physiological process, not as an illness. It was identified that normalizing pregnancy is more likely in midwife-led WCC units because, the women attending have more straightforward pregnancies.⁵

Nurse midwives in this study expressed that women will feel more comfortable in homely environment. Similar findings were found in a study where midwives reported that preparing the proper physical environment according to the woman's needs was important for WCC.⁶ Another study done in Australia about midwifery led WCC in low and middle income countries revealed that the effectiveness and quality of care provided by midwives was limited due to enabling environment.⁷

Protecting women's rights and providing respect to each and every woman were considered as key components of WCC. WHO recommendations on intrapartum care for a positive childbirth experience highlighted the importance of WCC to optimize women's experiences of labor and childbirth through a holistic human right approach. This includes the provision of respectful maternity care that maintains women's dignity, privacy and confidentiality, enabling informed choice and continuous support throughout labor and childbirth, and ensure freedom from mistreatment.⁸

The participants expressed the need of inter-professional collaboration for better care to the women. Similar findings revealed that seamless multidisciplinary care contributes to WCC.¹⁸

The attitude and behavior of nurse midwives or care provider impacts WCC. Empathy, being a good communicator, being understanding and sensitive, being non-judgmental, are all characteristics for nurse midwives to fully provide WCC which is similar to our findings.¹⁸

Clear communication is considered as one of the key elements for providing WCC by the participants. Similar findings suggested that the sharing of information was a mutual responsibility of both the woman and the midwife, recommending individual or group teaching sessions. The respondents described the breadth of skills such as listening, hearing, clarifying, talking, and providing verbal encouragement needed for providing effective care.⁶

2. Barriers in providing WCC during pregnancy and childbirth

Most of the respondents of this study felt that women receiving care are not aware about WCC which is one of the major barriers in providing WCC. This study was supported by Irish and worldwide studies that show women frequently do not request, acknowledge, or value WCC because of lack of knowledge.⁵ Another findings suggests that illiterate women or population and unaware of the existence of the facility deprives women from receiving WCC.¹⁰ Whereas a study conducted in Japan revealed that women giving birth in birthing center appreciated WCC highly and were satisfied with the care they received compared to birth at clinics and hospitals where women centered care was not available.¹¹

Our respondents perceived lack of time and workload as the main extrinsic barriers for providing WCC. To address this issue, the ratio of nurse midwives to women should be maintained according to national protocol, which stipulates two nurse midwives for every woman.¹² Similarly, a study revealed that lack of time for nurse midwives may potentially leads to misunderstandings and may have a negative impact on the physiological course of childbirth.¹³

Lack of staff competency in women-centered approaches are also considered as barriers in providing quality care during pregnancy and childbirth. Nurse midwives often lack the skills to handle complications and to assist women in their preferred delivery positions. Similarly, a study in Kenya revealed that women receiving low respectful and dignified care, low communication and autonomy resulted in dissatisfied care. So, it suggested the need of appropriate trainings to the health care providers on WCC approaches and understanding women's rights.¹⁴

3. Benefits of WCC during pregnancy and childbirth

This study revealed that WCC reduces the likelihood of interventions. Similar results found in the study where

midwife-led WCC had fewer interventions, which benefits women in normal labor with an uncomplicated pregnancy.¹¹ Similarly, evidence from high income countries found midwifery led maternity care to be a cost-efficient way to improve health outcomes, reducing medical interventions and increasing satisfaction with care.¹⁵

The respondents expressed that WCC during pregnancy and childbirth provides women satisfaction and helps to gain positive childbirth experience. Similar results revealed in a study conducted in Japan concluded that women had high satisfaction with midwifery led WCC. Satisfaction was felt largely because of prenatal counseling and choice of birth companion during childbirth.¹⁶ Likewise another study conducted in Japan confirmed that WCC during pregnancy and childbirth result in the empowerment of women, autonomy for the care provider and societal reform.¹⁷

Few respondents also expressed that WCC sometimes should be limited in practical ground. Similarly, a study from Sweden revealed that WCC may not be suitable all the times. Women participation and choice, helping women to share in the making of decision, organizational offering different care options and share decision making may be a complication (request for a CS without any medical indication).¹³

CONCLUSION

The aim of this study was to explore nurse midwives' perceptions on WCC during pregnancy and childbirth. Using a qualitative approach, IDI with nurse midwives revealed WCC as crucial and beneficial, enhancing women's satisfaction and childbirth experiences. However, barriers such as insufficient staff, lack of competency, poor communication skills, and lack of awareness hinders the provision of WCC. The respondents emphasized the importance of raising awareness among women, updating staff with evidence-based knowledge, promoting inter-profession collaboration, and improving competencies through training. This study highlights the need for ongoing professional development for nurse midwives and a supportive environment to ensure high-quality WCC. Future research should focus on developing and evaluating training programs to enhance midwives' skills in WCC.

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Perception and Satisfaction towards Online Teaching among Faculty of Undergraduate Program in Nepal

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ABSTRACT

Background

Online education was not a major form of education in educational institute in Nepal before COVID-19 pandemic. While during lockdown, educational institute in Nepal embraced the concept of the online education, however there are challenges with the online education in a developing country like Nepal.

Objective

To find out the perception and satisfaction towards online teaching among faculty of undergraduate program in Nepal.

Method

A quantitative cross-sectional study was conducted among 101 faculty of undergraduate program who were selected by using non probability, purposive sampling technique. The study was done via online survey tool from August 2021 to June 2022. Independent t-test and one-way ANOVA was used to analyze the perception.

Result

The study concludes that respondents had both positive and negative perception about the self-efficacy of online teaching method, while their perception of the usefulness of this method was negative. Few perception statements had significant relationship with age, rank and teaching experience of the faculty. All of the faculty (100%) were satisfied towards online teaching. Hence none of the respondents were neither highly satisfied nor unsatisfied with the online teaching.

Conclusion

The study concludes that respondents had both positive and negative perception towards online teaching. None of the respondents were neither highly satisfied nor unsatisfied with the online teaching. There was significant relationship between age, rank and teaching experience of the faculty with few perception statements.

KEY WORDS

Online teaching, Perception, Satisfaction

INTRODUCTION

COVID-19 is a public health emergency and pandemic.¹ It came abruptly with little or no preparation in place.² Many countries initiated lockdown and educational institutions halted on-campus activities.³ The educational systems in all countries were among the first concerns that had to be dealt.⁴ According to UNESCO monitoring, over 100 countries have implemented nationwide closures, impacting over half of world's student population.⁵ During this pandemic situation, online education has become a useful and practical tool for educational activities worldwide.^{6,7}

To combat the situation, the Government of Nepal declared lockdown in March 2021 to limit daily outdoor activities.⁸ Medical education was not an exception in being affected.⁹ All the medical institutions in Nepal very quickly embraced the concept of online education.⁹ However before the pandemic, online teaching was not a major form of education in schools and universities, therefore most of the teachers have no or minimal experience in online teaching.¹⁰ There are challenges with online education in a developing country like Nepal; such as information technology infrastructure, faculty's competencies and their training/support, students' access to computer/internet etc.¹¹

Kathmandu University School of Medical Sciences (KUSMS) had used online education since Nepal Government has announced lockdown. All the faculties took online classes through various modalities. Studies have been done on perspective of student regarding online education in KUSMS. However, perspective of faculties is also important if they are to continue using this method effectively. Hence it is imperative to assess the perspective of faculties towards online teaching.

METHODS

A quantitative cross sectional study design was used to find out perception and satisfaction towards online teaching and its associated factors of undergraduate program in Nepal from August 2021 to June 2022.

The sample size was determined by using the following formula: $n = Z^2 \sigma^2 / d^2$. Estimated standard deviation (σ) was taken 0.36242 based on the literature review.¹² So, calculated sample size was 106 (including 10% non-response rate). Faculty of undergraduate program of KUSMS who are involved in online teaching were selected by using non probability, purposive sampling technique. Purposes and objectives of the study were written at the top of the questionnaire. A self-administered questionnaire was used for data collection on the basis of research objectives. The tools consisted of socio-demographic information, questions related to perception and satisfaction towards online teaching. A

self-constructed structured questionnaire was developed by principle investigators to measure perception towards online teaching based on the review of the literature.^{3,13} It consists of Likert scale for the measurement of perception. It included sixteen statements using 5 point Likert scale (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree). The first 10 statements to assess the perception towards online teaching were related to perception about self-efficacy, while next 6 statements were related to perception about usefulness. The total score range from 16 to 80. The level of satisfaction was evaluated using an Online Faculty Satisfaction Survey (OFSS). It is a standardized questionnaire developed by D.U. Bolliger and O. Wasilik faculty from the University of Wyoming, USA.¹⁴ The questionnaire consists of 28 items scored on a four point Likert scale, ranging from 1 for strongly disagree to 4 for strongly agree (except items 15, 19 and 25 which are scored reversely). The scores of items are summed to give an overall score. The total score of the satisfaction scale ranged from 28 to 112. The participants scoring in the range of 28-56 will be classified as 'not satisfied', scores from 57-85 will be classified as 'satisfied', and scores from 86-112 will be classified as 'highly satisfied'. It is a validated and reliable questionnaire. The authors established the instrument's reliability by calculating internal consistency reliability; Cronbach's alpha coefficient of the overall scale was high (0.85).¹⁵

The study was done via online survey tool. A group of candidate who fit a set of inclusion criteria was contacted and after informing about research, they were invited to respond to weblink <https://docs.google.com/forms/d/1VkvKH7Z09OEBwiTMxUGLMZFFfOQPuEudmoDptB99iZ4/edit> and shared the link in mail and viber individually using internet system. To encourage participation, faculty were sent reminder at a week interval. Response rate of the study was 95%. So, the data was analyzed among 101 sample size. The collected data automatically saved in google drive.

An ethical clearance was obtained from IRC-KUSMS prior to the study. Permission to collect the data was taken from each respondent by informed consent provided at the beginning of questionnaire. Privacy and confidentiality of the respondents was maintained and they weren't forced to participate. Information of the respondents was used only for the research purpose. The faculty of KUSMS who are involved in undergraduate program were involved in the study. SPSS version 25.0 was applied for data analysis. Descriptive statistics percentage, frequency and mean were used to assess the sociodemographic variables. Independent t-test has been used to test the relationship perception of faculty with gender, age and teaching experience of the faculty, and one-way ANOVA for academic rank.

RESULTS

Table 1 shows that the mean age \pm SD of respondents was 38.40 ± 5.3 years. Most (70.3%) of the respondents were young adult. More than half (59.4%) were females. Nearly two-fourth (38.6%) of the respondents were working in MBBS program. Majority (95%) of them had master's degree. More than half (51.5%) of respondents were working as lecturer. The mean working experience \pm SD of respondents was 8.43 ± 5.2 years. More than half of the respondents had not previously been involved in online teaching (51.5%) and had not attended any training regarding online teaching (58.4%).

Table 1. Socio-demographic information of respondents (n=101)

Variables	Frequency (f)	Percentage (%)
Age (in completed years)		
Young adulthood (27-40)	71	70.3
Middle adulthood (41-60)	30	29.7
Gender		
Male	41	40.6
Female	60	59.4
Type of program		
MBBS	39	38.6
BDS	21	20.8
Nursing	30	29.7
Physiotherapy	10	9.9
Laboratory medicine	1	1.0
Medical Imaging Technology	-	-
Professional qualification		
PhD	5	5.0
Masters	96	95.0
Designation		
Professor	6	5.9
Associate Professor	19	18.8
Assistant Professor	24	23.8
Lecturer	52	51.5
Teaching experience		
≤ 15 years	90	89.1
> 15 years	11	10.9
Previously involved in online teaching		
Yes	49	48.5
No	52	51.5
Attended training regarding online teaching		
Yes	42	41.6
No	59	58.4

Table 2 shows that majority of the faculty (80.2%) agree that class time of distance online teaching are flexible. However less than half of the faculty (44.5%) agree that online course allows students to study at their own pace. Most of the faculty (70.3%) agree that theoretical contents of the

Table 2. Description statistics of perception towards online teaching (n=101)

Statement	Strongly agree	Agree	Neutral	Disagree	Disagree Strongly
One of the advantages, of distance online teaching is that "class times" are flexible	20.8%	59.4%	11.9%	5.9%	2.0%
The online course format allows students to study at their own pace	8.9%	35.6%	25.7%	22.8%	6.9%
The theoretical contents of the courses could always be offered online	5.9%	39.6%	24.8%	23.8%	5.9%
The practical contents of the courses could always be offered online	4.0%	4.0%	7.9%	44.6%	39.6%
The fact that an online course has no structured classroom type environment suits faculty	4.0%	30.7%	28.7%	30.7%	5.9%
Online courses appeal to students because there is no required classroom setting	0.0%	34.7%	31.7%	27.7%	5.9%
In the future, I will teach as many online classes as possible	0.0%	21.8%	36.6%	29.7%	11.9%
Online teaching courses require students self-learning more than in the "traditional" in-class course	13.9%	48.5%	18.8%	16.8%	2.0%
The technology required to take an Online teaching course increases the educational value of the experience	2.0%	47.5%	29.7%	18.8%	2.0%
Online teaching courses require the student to be more self-disciplined than in traditional courses	13.9%	28.7%	14.9%	29.7%	12.9%
The interaction/lectures with the faculty is more frequent in a regular classroom setting.	30.7%	38.6%	8.9%	14.9%	6.9%
The lack of student-to-student interaction would hinder their learning experience	23.8%	60.4%	8.9%	5.0%	2.0%
The textbook is more crucial in online teaching class than in a traditional class	5.9%	30.7%	32.7%	29.7%	1.0%
Tests in an online teaching course are more difficult for students.	12.9%	35.6%	14.9%	29.7%	6.9%
Preparation of tests in an online teaching course are more difficult to administer.	20.8%	48.5%	17.8%	10.9%	2.0%
Stress due to the corona pandemic affects the online teaching quality.	11.9%	56.4%	16.8%	13.9%	1.0%

Table 3. Description statistics of satisfaction towards online teaching (n=101)

Statement	Strongly agree	Agree	Disagree	Strongly Disagree
The level of my interactions with students in the online course is higher than in a traditional face-to-face class.	1.0%	8.9%	66.3%	23.8%
The flexibility provided by the online environment is important to me.	5.0%	62.4%	30.7%	2.0%
My online students are actively involved in their learning.	2.0%	27.7%	54.5%	15.8%
I incorporate fewer resources when teaching an online course as compared to traditional teaching.	3.0%	23.8%	60.4%	12.9%
The technology I use for online teaching is reliable.	7.9%	66.3%	23.8%	2.0%
I have a higher workload when teaching an online course as compared to the traditional one.	13.9%	34.7%	49.5%	2.0%
I miss face-to face contact with students when teaching online.	46.5%	48.5%	3.0%	2.0%
I do not have any problems controlling my students in the online environment.	2.0%	26.7%	53.5%	17.8%
I look forward to teaching my next online course.	5.0%	40.6%	46.5%	7.9%
My students are very active in communicating with me regarding online course matters.	3.0%	19.8%	67.3%	9.9%
I appreciate that I can access my online course any time it is convenient to me.	7.9%	65.3%	21.8%	5.0%
My online students are more enthusiastic about their learning than their traditional counterparts.	0.0%	12.9%	69.3%	17.8%
I have to be more creative in terms of the resources used for the online course.	2.0%	16.9%	63.3%	17.8%
Online teaching is often frustrating because of technical problems.	36.6%	55.4%	7.9%	0.0%
It takes me longer to prepare materials for an online teaching than for a face-to-face teaching.	8.9%	41.6%	45.5%	4.0%
I am satisfied with the use of communication tools in the online environment (e.g., chat rooms, threaded discussions, etc.).	3.0%	51.5%	44.6%	1.0%
I am able to provide better feedback to my online students on their performance in the course.	1.0%	31.7%	62.4%	5.0%
I am more satisfied with teaching online as compared to other delivery methods.	1.0%	14.9%	70.3%	13.9%
My online students are somewhat passive in their interaction.	21.8%	67.3%	9.9%	1.0%
It is valuable to me that my students can access my online course from any place in the world.	16.8%	75.2%	7.9%	0.0%
The participation level of my students in the class discussions in the online setting is lower than in the traditional one.	22.8%	64.4%	11.9%	1.0%
My students use a wider range of resources in the online setting than in the traditional one.	3.0%	43.6%	45.5%	7.9%
Technical problems do not discourage me from teaching online.	5.9%	35.6%	47.5%	10.9%
I receive fair compensation for online teaching.	0.0%	21.8%	60.4%	17.8%
Not meeting my online students face-to-face prevents me from knowing them as well as my on-site students.	25.7%	65.3%	6.9%	2.0%
I am concerned about receiving lower course evaluations in the online course as compared to the traditional one.	7.9%	73.3%	17.8%	1.0%
Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses.	6.9%	67.3%	24.8%	1.0%
It is more difficult for me to motivate my students in online environment than in the traditional setting.	18.8%	57.4%	17.8%	5.9%

course online always while only 8% agree with teaching practical content online. Less than 3/4th of the faculty (21.8%) agree that they will teach as many online classes as possible in future. More than 3/5th of faculty (62.4%) agree that online teaching requires more self-learning. Nearly half of the faculty agree that technology required to take an online teaching course increases the educational value of the experience and online course requires more self-disciplined from students. While considering the usefulness of online teaching. More than 3/5th of faculty

Table 4. Level of satisfaction towards online teaching among faculty of undergraduate program in Nepal (n=101)

Level of satisfaction	Frequency (f)	Percentage (%)
Highly satisfied	-	-
Satisfied	101	100.0
Not satisfied	-	-

(69.3%) agrees that there is lack of interaction with the faculty in online teaching and preparation of tests in online teaching course are difficult to administer. Majority of the faculty (84.2%) agree that there is lack of student-to-student interaction in online teaching which would hinder their learning experience. Nearly 3/4th of the faculty (68.3%) agrees that stress due to the corona pandemic affect the online teaching quality.

Table 3 reveals that regarding student-related issues, majority of the faculty (95%) agree that face-to face contact with students is missed when teaching online similarly 92% agree that online course is valuable as students can access online course from any place. Likewise, majority of faculty (87.2%) agree that the participation level of students in the class discussions in the online setting is lower than in the traditional one while 89.1% agree that students are somewhat passive during interaction in online classes. Similarly, majority of faculty (91%) agree that online teaching prevents from knowing students well. Regarding instructor-related issues, majority of faculty (92%) agree that online teaching is often frustrating because of technical problems. Regarding institutional-related issues, majority of faculty (81.2%) agree that they are concerned about receiving lower course evaluations in the online course as compared to the traditional one. Regarding general satisfaction questions, item no. 9, nearly half of the faculty (45.6%) agreed that they look forward to teaching in the next online course. However, to item no 18, less than 1/5th (15.9%) of the faculty responded that they were more satisfied with teaching online. Table 4 shows that all the

faculty (100%) were satisfied towards online teaching.

Table 5 shows the independent samples t-test analysis and one-way ANOVA carried to analyze the relationships between these demographic factors with the perception. It showed that there is significant relationship between the perception of faculty that the practical contents of the course could always be offered online with age (p=0.007) and teaching experience (p=0.037) of the faculty. Similarly, it revealed that there is significant relationship between the perception of the faculty that an online course has no structured classroom type environment suits faculty with age (p=0.047) and teaching experience (p=0.018) of the faculty. Likewise, it showed that there is significant relationship between the perception that online courses appeal to students because there is no required classroom setting with the age (p=0.007) of the faculty. It revealed that there is significant relationship between the perception that online courses require students' self-learning more than in the "traditional" in-class course with teaching experience and teaching experience (p=0.009) of the faculty. It also revealed that there is significant relationship between the perception that the technology required to take an online teaching course increases the educational value of the experience with rank (p=0.010) and teaching experience (0.041) of the faculty. It showed that there is significant relationship between the perception that tests in an online teaching course are more difficult for students with age (p=0.004), rank (p=0.032) and teaching experience (p=0.002) of the faculty. It also revealed that there is significant relationship between the perception

Table 5. Statistical significance of relationship between gender, age group, academic rank, and online teaching experience with perception among faculty of undergraduate program in Nepal

Statement	Sig (2 tailed)			
	Gender	Age	Rank	Experience
One of the advantages, of distance online teaching is that "class times" are flexible	0.535	0.674	0.930	0.265
The online course format allows students to study at their own pace	0.278	0.115	0.091	0.134
The theoretical contents of the courses could always be offered online	0.148	0.277	0.340	0.056
The practical contents of the courses could always be offered online	0.213	0.007	0.120	0.037
The fact that an online course has no structured classroom type environment suits faculty	0.636	0.047	0.139	0.018
Online courses appeal to students because there is no required classroom setting	0.670	0.007	0.864	0.057
In the future, I will teach as many online classes as possible	0.135	0.731	0.281	0.863
Online teaching courses require students self-learning more than in the "traditional" in-class course	0.450	0.429	0.599	0.009
The technology required to take an Online teaching course increases the educational value of the experience	0.604	0.495	0.010	0.041
Online teaching courses require the student to be more self-disciplined than in traditional courses	0.947	0.339	0.228	0.827
The interaction/lectures with the faculty is more frequent in a regular classroom setting.	0.183	0.947	0.900	0.326
The lack of student-to-student interaction would hinder their learning experience	0.415	0.488	0.775	0.063
The textbook is more crucial in online teaching class than in a traditional class	0.107	0.770	0.788	0.153
Tests in an online teaching course are more difficult for students.	0.534	0.004	0.032	0.002
Preparation of tests in an online teaching course are more difficult to administer.	0.679	0.727	0.935	0.814
Stress due to the corona pandemic affects the online teaching quality.	0.594	0.044	0.250	0.499

that stress due to the corona pandemic affects the online teaching quality with age ($p=0.044$) of the faculty.

DISCUSSION

The study reveals that respondents had positive perception on various statement about the self-efficacy of online teaching, which may be due to their previous experience with the method in agreement with the Felege and Olson.¹⁶ Their responses were as follows: 80.2% agreed with the time flexibility of online teaching, which matches the result of the Felege and Olson, where they think it can produce effective and creative work.¹⁶ 49.5% agree that the technology required for the online teaching course increases the educational value of the experience. Regarding the appropriateness of the online teaching to the different parts of curriculum, 70.3% of the respondents agree that theoretical contents of the courses could always be offered online, while 29.7% do not agree. As for practical content 84.2% of the respondents disagree and only 8.0% agree. 42.6% agree that e-learning courses require the student to be more self-disciplined, which is a good opportunity for the students to gain lifelong learning skills of self-motivation and independent learning. However, the respondents had negative perception on few statements about self efficacy of online teaching, which was in contrast with the finding by Osman et al. Their responses were as follows: only 21.8% of the respondents considered teaching as many online classes as possible in the future, this might be as most of the faculty has not attended any training related to online teaching yet. As for the advantages of the online teaching for the students, 44.5% found that the online course format allows students to study at their own pace. 34.7% of the faculty agree that online courses appeal to students because there is no required classroom setting,

From the demonstrated results on the second section of the perception investigation, we conclude that staff members had negative perceptions regarding the usefulness of the online teaching. A considerable percentage of the faculty (69.3%) think that there is a lack of interaction with the instructor during the e-learning class. Once Again, most of the respondents (84.2%) that agrees that the lack of student-to-student interaction would hinder their learning experience. The same findings were found in the Osman et al. study where 36.6% agree that the use of a textbook is more crucial in e-learning class than in a traditional class compared to 30.7% who disagree. Concerning the assessment as a part of the learning process, 69.3% of the respondents think that the preparation of tests in an e-learning course are more difficult to administer and that they may doubt the assessment quality, the similar conclusion was found in the Osman et al. While only 48.5% think that the assessment tests in an e-learning course are more difficult for students. This result fit the results from an exploratory case study carried out at the by Baig et al. to

study the impact of Blackboard (Bb) formative assessment. They found improvement of their performance in the final exam due to formative online.¹⁷ Most of the staff members (68.3%) agree that the stressful situation due to the corona pandemic affects the e-learning quality, while only 14.9% disagree.

The demographic characteristics of the respondents showed that there is significant relationship between age, rank and teaching experience of the faculty with few perceptions statement. This was not the situation in the study conducted by Osman et al. where they found that there was no significant impact on perception with all demographic characteristics.

For a review of quantitative findings of satisfaction of faculty towards online teaching, the data in this study shows that nearly half of the respondents (46.5%) strongly agreed with the following statements related to student related issues: "I miss face-to-face contact with students when teaching online" which is similar to study done by Vess et al. which showed that 59% agreed with the statement in institution 1 and 47% in institution 2.¹⁸ While analyzing the instructor related issues, the study showed that majority (92%) of the respondents agreed that online teaching is often frustrating because of technical problems which is quite different from the study by Saini et al. which revealed that only 15.7% agreed with the statement.¹⁵ This different might be because less than half of the respondents of this study have previously attended online teaching and attended training regarding online teaching.

For specific institutional factors related to online faculty satisfaction, concerned about receiving lower course evaluations in online course compared to traditional one was identified as the biggest contributing factor affecting satisfaction. This finding is different from the finding by Vess et al. which showed that perceived workload 55% in institution 1 and 18% in institution 2 and adequate compensation for online teaching were identified as the biggest contributing factors affecting satisfaction.¹⁸

Finally, two survey questions were directly related to general satisfaction. Findings from this study showed that 45.6% agreed that they looked forward to teaching their next online courses. This is similar to the study done by Vess et al which showed that 48% in institution 1 agreed with this statement.¹⁸ Likewise the study findings revealed that 15.9% agreed that they prefer online teaching over other delivery methods which is similar to study findings by Vess et al. which showed that 11% respondents from institution 1 and 18% from institution 2 agreed with the statement.¹⁸

In the present data set, it was found that all most all faculty (100%) were satisfied with the online teaching. However, none of them were neither highly satisfied nor unsatisfied with the online teaching. This finding was quite similar with the finding by Saini et. al. which showed that majority

(93.1%) of teacher were satisfied with online teaching and a few (3.8%) were highly satisfied and 3.1% were not satisfied with the online teaching.¹⁵

CONCLUSION

The study concludes that respondents had both positive and negative perception about the self-efficacy of online teaching method, while their perception of the usefulness of this method was negative. This may be due to the lack of experience, the short time for preparation and the stressful COVID-19 pandemic situations. There is significant relationship between age, rank and teaching experience

of the faculty with few perceptions statement. One of the key findings of the current study is that none of the respondents were neither highly satisfied nor unsatisfied with the online teaching. Therefore, it is recommended to develop various institutional mechanisms viz structured training, technical support, effective online evaluation systems, faculty remuneration systems, and mechanism to motivate the faculty.

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Effectiveness of Video Assisted Teaching Program on Knowledge Regarding Good Touch and Bad Touch among School Age Children in Selected Schools of Kathmandu Metropolitan City

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ABSTRACT

Background

Child sexual abuse is maltreatment with involvement of child in sexual activities where consent is or is not given by the children. It is one of the serious child rights violations. Those children who suffered from child maltreatment have a risk of disruption in early brain development. Due to which increases a risk of behavioral, physical and mental health problems in adulthood.

Objective

To assess the effectiveness of video assisted teaching program on knowledge regarding good touch and bad touch among school age children.

Method

A non-randomized control group quasi experimental study was used. Thirty-eight students from one school were selected experimental group which received educational intervention and thirty-nine students from another school were selected control group which did not receive any intervention. Knowledge was assessed before and two weeks after the intervention using self-administered questionnaire. Descriptive statistics (frequency, percentage, median, inter quartile range) and inferential statistics (Wilcoxon matched test) were applied using Statistical Package for Social Science Version 25 for data analysis.

Result

The overall scores of the students in experimental group increased from median score 12 to 18 after the video assisted teaching while there was negligible increase in median score from 11 to 12 in control group.

Conclusion

The results of the study conclude that the video assisted teaching program was effective in increasing the knowledge of students on good touch and bad touch among school age children.

KEY WORDS

Bad touch, Good touch, Knowledge, Quasi experimental study, Video assisted teaching

INTRODUCTION

Child sexual abuse is maltreatment with involvement of child in sexual activities where consent is or is not given by the children and one of the serious child rights violations.¹ According to WHO, in 2014, one in five women and one in thirteen men reported having sexually abused as a child at age 0-17 years. One in two children aged 2-17 years suffered violence in past years. One in four adults was physically abused as children.¹

Over recent years, the number of cases of violence against children has increased and the submerged cases may be higher than the cases being reported. Those children who suffered from child maltreatment have risk of disruption in early brain development.² A worldwide school-based survey showed at least one in ten girls and one in twenty boys experience sexual abuse in childhood.³

Good touch and bad touch are one of the sensitive topics in society. Now a days, parents hesitate to discuss about the topic with their children.⁵ In school curriculum it does not include the knowledge of good touch and bad touch. The most important time in human development is school age. A childhood experience shapes their beliefs about themselves, others and the world. Young children are at risk or targets as they are unable to differentiate between what is right and what is wrong.⁴

Video assisted teaching is an effective teaching strategy in school age children. It easily catches the attention, easy memory recall, increases motivation towards the study and helps in deeper learning of children.¹⁰ The various studies show that the level of knowledge in children markedly increased after the teaching program.⁵⁻⁹ Therefore this study aims to evaluate the effectiveness of planned video assisted teaching program regarding good touch and bad touch on knowledge among school age children.

METHODS

A non-randomized control group quasi experimental study was conducted in July and August 2022. The study was conducted among school age children (6-12 years) in Kathmandu metropolitan city. The students who were available during data collection time and who were willing to participate in the study were included in the study. The students who were visually challenged or have hearing difficulty/impairment were excluded from the study. Ethical approval was obtained to conduct the research from the Institutional Review Committee (91/21) at Kathmandu University School of Medical Sciences.

Convenience sampling technique was used for selection of the students. The total number of seventy-seven school age children were taken from two schools. Thirty-eight school age children were taken as an experimental group from Kaustuv Academy and thirty-nine school age children were taken as a control group from Lyceum Paradise Academy.

Data collection was done by using self-administered questionnaire. The validity of the tool was established through literature review, the subject expert, and consulting with colleagues for cross-checking and verification of the tool. The structures questionnaire was administered in both English and Nepali language which included socio-demographic information and knowledge on good touch and bad touch. Pre-testing of the questionnaire was done in 10% of the sample in a different school. Data was collected by researcher using a self-constructed questionnaire where the hard copy of the questionnaire was provided to the experimental group in school during allocated time i.e. 9 am to 4 pm. The time duration for respondents to complete the questionnaire was 25 to 30 minutes. At first, the pretest knowledge was assessed from a questionnaire by self-administration. After pre-test knowledge assessment, educational intervention (video assisted teaching) was provided to the experimental group only in a classroom setting. The duration of the video was 10 minutes 27 seconds. The video was shown to children through a light emitting diode projector. The researcher trained in violence research and a psychiatric nurse experienced in counselling students stayed after the questionnaire administration and video intervention to offer support to students who wanted to disclose their experiences or sought help for other related reasons. After 2 weeks, the posttest was assessed by using the same questionnaire in both groups.

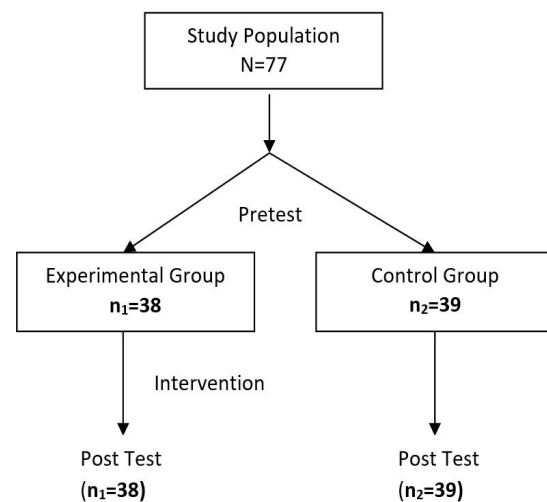


Fig. 1. Type of hysterectomies among the patients who underwent hysterectomies at Dhulikhel hospital, Kave, Nepal: 2012 – 2016 (n=541)

The collected data were analyzed in Statistical Package for Social Sciences version 25 by using descriptive and inferential statistics. Median, frequency inter-quartile range and percentage were calculated for descriptive analysis while Wilcoxon matched-pair signed-rank test was used for inferential statistical analysis. Formal permission for the study was taken from the concerned authorities of the selected schools. The respondents were below 18 years informed consent was obtained from the principals

as guardians. Verbal permission and assent was taken from the respondents prior to data collection.

RESULTS

The results were analyzed by using descriptive and inferential statistics. Considering the sex, slightly less than two-third (63.2%) of the respondents were males in experimental group. Likewise, almost fourth-fifth (79.5%) of the respondents in the control group were male. Majority (86.8%) of respondents were Hindu. More than one-third (34.2%) respondent's father completed primary level education in the experimental group and slightly higher than third-fifth (61.5%) respondent's father completed higher level education in the control group.

Table 1. Socio-demographic information of the respondents Experimental Group (n₁ = 38), Control Group (n₂ = 39)

Socio-demographic Characteristics	Experimental Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
Sex				
Male	24	63.2	31	79.5
Female	14	36.8	8	20.5
Age (in completed years)				
9	3	7.9	1	2.6
10	20	52.6	20	51.3
11	12	31.6	16	41.0
12	3	7.9	2	5.1
Religion				
Hindu	33	86.8	38	97.4
Buddhist	2	5.3	1	2.6
Islam	2	5.3	---	---
Christian	1	2.6	---	---
Family Type				
Joint	18	47.4	15	38.5
Nuclear	20	52.6	24	61.5
Education of father				
Illiterate	2	5.3	---	---
Informal	1	2.6	1	2.6
Primary Level	13	34.2	5	12.8
Intermediate	10	26.3	9	23.1
Higher Level	12	31.6	24	61.5
Education of Mother				
Illiterate	3	7.9	---	---
Informal	1	2.6	---	---
Primary Level	9	23.7	10	25.6
Intermediate	14	36.8	11	28.2
Higher Level	11	28.9	18	46.2
Occupation of Father				
Farmer	2	5.3	1	2.6

Service Holder	14	36.8	25	64.1
Businessman	13	34.2	12	30.8
Others	9	23.7	1	2.6
Occupation of Mother				
Housemaker	10	26.3	22	56.4
Farmer	3	7.9	---	---
Service Holder	14	36.8	10	25.6
Businessman	9	23.7	6	15.4
Others	2	5.3	1	2.6

Table 2. Comparison of pretest and posttest knowledge scores in experimental and control group. n₁=38 n₂=39

	Pretest Knowledge score Median (IQR)	Posttest Knowledge score Median (IQR)	P value
Experimental Group	12 (3.25)	18 (1)	< 0.001
Control Group	11 (3)	12 (2)	0.317

The distributions of knowledge scores in both groups were not normal upon Shapiro wilk test.

*wilcoxon matched-pair signed-rank test

The median pretest and posttest knowledge score of experimental group was 12 which increased to 18 in posttest. The inter quartile range in pretest was 3.25 and in posttest was 1. This difference was statistically significant (p value < 0.001). In the control group, the median pretest and posttest score was 11 and 12 respectively. Hence, there was no significant difference in knowledge score between pre and posttest of control group (p value 0.317). So, Wilcoxon matched-pair signed-rank test was used.

DISCUSSION

This is a non-randomized control group quasi experimental study which found that the median score in experimental and control group prior to intervention was 12 and 11 out of total 18 respectively. Prior to intervention on both experimental and control group there was inadequate (less than 75% of the full score) which denotes there is inadequate knowledge on good touch and bad touch among school age children. A study on level of knowledge regarding good touch and bad touch among adolescence conducted in Chennai, India showed that half of the adolescents had inadequate knowledge regarding good touch and bad touch.⁷

The video assisted teaching was successful in increasing the knowledge regarding good touch and bad touch in the experimental group. We found that after providing

educational intervention in the experimental group, the median score increased from 12 in pretest to 18 in posttest with median difference of 6 and found to be statistically significant with p value < 0.01 . Meanwhile in the control group, the median score in pretest was 11 and in posttest was 12 with mean difference of 1 and was not found to be statistically significant. A 10 minutes 27 seconds video assisted class related to good touch and bad touch was enough to sufficiently increase the knowledge regarding good touch and bad touch among the school age children. This session was effective considering the prior knowledge the children had before intervention.

The finding was supported by a similar study done in 2021 to assess the effectiveness of video assisted teaching programs on good touch and bad touch among school age children of Jodhpur, India which revealed that more than one third of the students in pretest had average knowledge and in posttest more than half of the students had excellent knowledge after the intervention. Another study done in NewDelhi, India revealed that after providing intervention the median score significantly increased from 6 in pretest to 12 in post test with median difference 6.2 Similar studies conducted in India showed that there is significant difference in the knowledge after the structured teaching programme among school children.^{10,14}

The findings of this study were supported by various studies conducted in different places in India. Those studies shows that video assisted teaching program has brought significant changes in the level of knowledge regarding good touch and bad touch among children and it can be used as an effective teaching learning method as

it enhances the knowledge among school children with in short period of time.^{5,6,8,11-15}

Video assisted teaching programme related to good touch and bad touch should be included as a regular teaching in schools as an effective method of teaching among school age children. However, the post test was conducted after 2 weeks of post-test which should be conducted after 4 weeks due to time limitation.

CONCLUSION

Seventy-seven students participated in the study where 38 children from one school were taken as experimental group and were provided with video assisted teaching while other 39 children from another school were taken as control group to whom intervention was not done. The overall knowledge scores of the children of the experimental group significantly increased after educational intervention, compared with control groups. This suggested that the video assisted teaching program was effective in increasing knowledge. Video assisted teaching programme related to good touch and bad touch should be included as a regular teaching in schools as an effective method of teaching among school age children.

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