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Knowledge Regarding Delirium Among Nurses of Selected Hospital of Bagmati Province, Nepal

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Abstract

Background: Delirium is common problem and reversible state among patient which may arise from prolong hospital stay, strenuous procedure, disrupted circadian rhythm, underlying medical condition and Hospital environment itself while recognizing and diagnosing delirium is a challenging process primarily reliant on the patient's symptom profile. The studies from across the world shown that nurses' knowledge regarding delirium is inadequate. This study is one of the very few Nepali addressing this issue. So, this study is aimed to find out the knowledge regarding Delirium among Nurses of Selected hospital of Bagmati Province, Nepal.

Methodology: A Descriptive cross-sectional study design was used to conducted among 70

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nurses of Green City Hospital, Kathmandu, Nepal by using non-probability convenient sampling technique. Data were collected using semi-structured questionnaire to assess the Socio- demographic data and level of Knowledge on Delirium. The Collected data were entered in SPSS software version 20 and analyzed by using descriptive statistics such as frequency, percentage mean and standard deviations and inferential statistics (Chi square) was used for measuring association between selected independent variables with level of knowledge then it is presented in tables.

Result: The study findings reveals that more than half of the respondents (67.1%) had high knowledge, one third of the respondents (32.9%) had moderate level of knowledge regarding Delirium. There is statistically significant association between the level of knowledge regarding Delirium and education level (p=0.039) and practicing area (p=0.016) at 0.05 (Chi Square 'P' Value)

Conclusion: This study concludes that more than half of the respondents had high level of knowledge. However, one third of the respondents had moderate level of knowledge regarding Delirium. To make all nurses knowledgeable, they could be trained through the in-service education programs specifically on Delirium.

Key words: Knowledge, Delirium, Nurses.

Introduction

1.1. Background

Delirium is recognized as acute confusion, denotes a sudden and perplexing state arising from diverse factors such as medical conditions, illnesses, substances, substance abuse, or a combination of these causes. It constitutes a multifaceted clinical syndrome marked by disruptions in consciousness, attention, cognitive function, or perception. The onset of delirium occurs rapidly, and its symptoms may vary throughout the day (Balasanova & Park, 2021).

Recognizing and diagnosing delirium is a challenging process primarily reliant on the patient's symptom profile. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders outline five fundamental criteria for delirium as attention disturbance, acute onset representing a significant change from baseline attention, fluctuating in severity throughout the day, cognitive disturbance, not explained by pre-existing neurocognitive disorder, and evidence indicating a physiological consequence of another medical condition, substance intoxication, or multiple causes (Yu et al., 2023).

It is noteworthy that delirium affects up to 55% of older hospitalized patients with a prevalence of 31% in those over 65 years old It is linked to an elevated risk of permanent cognitive and functional impairment, especially in individuals over 90 years old.(3) Despite its prevalence, early recognition offers the opportunity to prevent delirium in a significant proportion of cases additionally, timely intervention addressing the underlying disease often leads to the reversibility of delirium (Lange et al., 2023).

Delirium is widely acknowledged in patients across various age groups in critical care settings, referred to as acute brain damage or coordinated brain syndrome regarded as a medical

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emergency, particularly among critically ill individuals, delirium serves as an indicator of brain dysfunction (Krupa et al., 2022).

A study carried out in Nepal has revealed that more than half of respondents (65.9%) had moderate knowledge and more than one quarter (34.1%) had poor knowledge while approximately 16% of hospitalized critically ill patients in the country suffer from delirium.[5]

1.2 Statement of the Problem

Despite of being extremely common, Delirium may often go unrecognized and failure to diagnose it due to poor knowledge and inadequate bedside assessment by medical staff, it not only increases the morbidity and mortality rate but also source of distress to caregivers and medical team. Although, delirium is a problem that requires early and active intervention from health care provider especially nursing staff. Some studies showed that average knowledge was found among nurses.

1.3 Rational of the Study

Delirium is a reversible state that fluctuates and occurs over a brief period of time. Many studies show that delirium in critically ill patient is an independent predictor of higher mortality; longer ICU and hospital stay, and is associated with multiple clinical complication. The studies from across the world have shown that nurses' knowledge regarding delirium is inadequate. The study done in India on 2024 revealed that among 211 nurses only 130 (61.65%) had average knowledge regarding delirium[6] while worldwide, delirium was reported to affect up to 64% of ICU patients in 2021.[2] This is a common occurrence that affects 78% to 87% of patients in intensive care units. The study shows that delirium affected up to 80% of patients in intensive care units in 11 South and North American countries as well as Spain (Shrestha & Shrestha, 2017).

The data reveals that most of the nurses lacked in depth knowledge on delirium which anticipates worse outcomes for patients during their hospital stay. However, in the context of Nepal, very limited studied have found especially in the area of knowledge. Early recognition of delirium and institution of preventive measures improve the quality of care. So, there is a need for such studies to be conducted as this will contribute to filling the gap to some extent.

1.4 Significance of the Study

The finding of this study will be useful to concerned authorities to take required actions regarding delirium.

The finding of the study will be helpful to provide baseline data and reference materials for further research.

1.5 Objectives of the Study

1.5.1 General Objective

To assess the Knowledge regarding Delirium among Nurses working in Selected Hospital of Bagmati Province, Nepal.

1.5.2 Specific Objectives

To assess Socio-demographic information of respondents.

To identify the level of Knowledge regarding Delirium among respondents.

To measure the association between level of Knowledge and Selected Demographic Variables.

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1.6 Research Questions/Hypothesis

What is the level of Knowledge regarding Delirium among the Nurses of Selected Hospital of Bagmati province, Nepal.

1.7. Variables

1.7.1 Independent Variables

A. Socio-Demographic Variables

Age, Ethnicity, Religion and Marital status

Academic qualification

B. Others Variables

Work experience

Practicing area

Trainings / in-service

Use of delirium scale

C. Source of Information

Mass media: Internet

Journals: Health Magazines

Curriculum

Colleagues/seniors

1.7.2 Dependent Variable

Knowledge regarding Delirium.

1.8 Conceptual Framework

Conceptual framework provides the guideline to process in attending the objectives of the study based on concept. It is scientific representation of the steps, activities and outcome of the study. The conceptual framework presents in fig.1 shows that Knowledge regarding Delirium may depend or influence by various Socio-demographic Variables and Source of information.

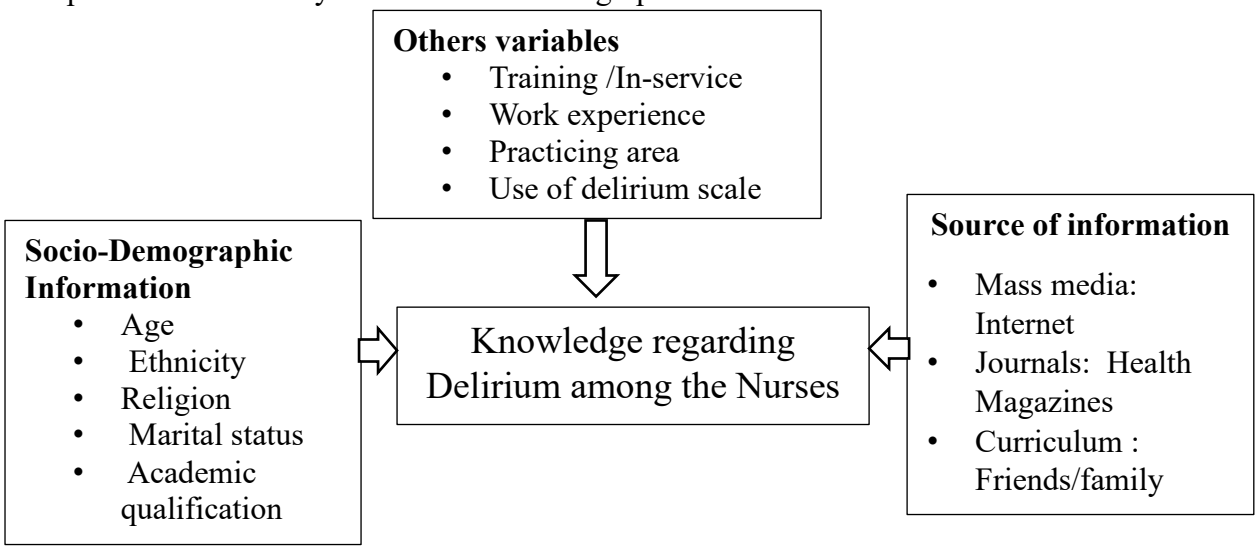

Figure 1: Conceptual framework on Knowledge regarding Delirium among Nurses in selected Hospital of Bagmati province

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Literature Review

2.1 Introduction

A literature review is a type of academic writing that helps to gain and understand the existing knowledge relevant to a particular topic or area of study and to present that knowledge in the form of written report. A literature review discusses and analyzes published information in a particular subject area. This chapter reviews studies pertinent to Knowledge regarding Delirium among the Nurses of selected Hospital in Bagmati. The purpose of literature review is to extend comprehensive knowledge on the phenomena being studies.

2.2 Review of literature

A descriptive cross-sectional survey on the Knowledge, Attitudes, and Practices of ICU Nurses regarding Subsyndromal Delirium was conducted on August 10, 2021, among 20 Hospitals in the province of Henan, China. Total 740 ICU nurses took part in the questionnaire survey. The convenient sampling approach was used. The ICU Nurses Knowledge, Belief and Practices Survey Scale for Subsyndromal Delirium, which was created by Ning et al. was used to gather data. The main outcome measures were transformed into a scale with percentages. The findings of this study on knowledge dimension shows (score 49.6±15.0), 37.7% of the nurses considered themselves to be at an intermediate level (≥45) while 28.9% considered themselves to be at an excellent level (≥60) (Balasanova & Park, 2021).

A cross-sectional study on Nurses' Attitudes and Knowledge regarding Delirium in Older Adults was carried out in Greece in January 2023. The study included 835 nurses who worked in acute general wards across the four largest public hospitals as sample participants. The study employed the Nurses Knowledge of Delirium Questionnaire (NKD) and the Attitude Tool of Delirium (ATOD). According to the study's findings, the majority of nurses knew very little about delirium. The average percentage of participants who answered correctly was 42.2%. Of them, only 38% correctly defined delirium, 41.6 correctly reported the tools used to identify delirium, and 42.5 correctly identified the factors that contribute to the development of delirium (Yu et al., 2023).

A cross-sectional study was conducted on Knowledge, Challenges, and Practices regarding the Care of Patients with Delirium among 371 ICU Nurses in Poland in 2023. Data were gathered using two materials: Nursing Practices and Perceptions toward Delirium in the Intensive Care Unit (Devlin et al., 25) and Nurses' Knowledge of Delirium (Hare et al., 24). Based on the study's findings, nurses' knowledge of delirium ranged from 3/37 to 30/37 points, with a median knowledge score of 16 (13–20) points. Regarding delirium knowledge, respondents with a master's degree in nursing scored significantly higher than those with a bachelor's degree in nursing as registered nurses [median 18 (14; 21) and 15 (12; 19); $Z = 4.71$; [$p<0.0001$]. In addition, nurses working at University Hospital had better knowledge scores than nurses working at other hospitals (Lange et al., 2023).

A quantitative descriptive survey on Awareness of Delirium was carried out among 53 Nurses from a 13-bed Medical ICU in an Acute Tertiary Teaching Hospital in South East Asia. A 40-item, 5-point Likert scale was used to assess the participants' awareness of the warning signs,

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symptoms, risk factors, and adverse effects of delirium. The study's conclusions demonstrate a positive response; the mean score, out of 40 questions, was 27 (67.3%). The mean scores were 9.52 (63.5%, n = 15), 11.43 (63.5%, n = 17), and 6.0 (75%, n = 8) for signs and symptoms, risk factors, and adverse outcomes, respectively. The study's ICU nurses seemed to have little understanding of the warning signs, symptoms, risk factors, and negative consequences of delirium in critically ill patients (Krupa et al., 2022).

A descriptive cross-sectional study on Nurses' Knowledge of Intensive care Delirium was carried out at Tribhuvan University Teaching Hospital (TUTH), Nepal in 2017. A self-administered questionnaire was used, and 85 nurses who worked in the critical care unit took part in the study. Data was gathered using non-probability purposive sampling. Of the eighty-five responders, sixty-five percent had moderate knowledge, thirty-one percent had poor knowledge, and none of the participants had good knowledge. The research findings suggest that nurses' knowledge regarding delirium in intensive care units was moderate or low (Shrestha & Shrestha, 2017).

The descriptive study carried out on Knowledge of Delirium among ICU Nursing Staff in multispecialty general hospital in 2024. The study was conducted in 220 nurses. A convenient sample approach was used for this study. The data collection tools included, Delirium Knowledge Questionnaire, along with the sociodemographic variables. Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26, and results were presented as means and percentages. The findings of present study revealed that out of 211 nurses 130 (61.6%) had an average knowledge about delirium. Out of the 211 nurses 108 (51.2%) had average knowledge about clinical features of delirium and 105(49.8%) had average knowledge about etiology of delirium. More than half of the nurses (53.1%) had awareness regarding the medical management of delirium. In the domain of knowledge regarding non-medical management, 81 (38.4%) had excellent knowledge and 114 (54%) respondents had average knowledge regarding the prevention of delirium (Mathew et al., 2024).

A quantitative descriptive survey was conducted on Assessment of Nurses Knowledge Regarding Delirium among 36 staff nurses employed in Critical Care units at Baqubah Teaching Hospital on 2021. All qualified nursing staff meeting specified criteria and working in Critical Care clinical areas at the selected hospital were included as sample for the study. A response rate of 80% (n=36) was achieved. The study concludes that non participants had high knowledge, 91.2% had moderate knowledge and 8.8% had low knowledge on delirium (Ismail & Fadhil, 2021).

A descriptive study on Assessment of Nurses' Knowledge and Practices regarding Care of Patient with Delirium was carried out at AL-Thawra Hospital, Yemen in 2020. The study was done in 60 nurses working in the Intensive Care unit. The convienient sampling approach was used. The data collection tools included, the demograghic and work related charactersticts data, Nurses' knowledge questionnaire of delirium, and observational checklist for assessment of nurses' practices caring for delirium patients. The study findings revealed that majority of nurses had poor knowledge and practices, with significant decrease in the total mean score (29.72±7.00 and 48.38±20.20) (Abdullah et al., 2020).

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The descriptive cross-sectional study was conducted on Nurses' Knowledge and Ability to Diagnose Delirium in Intensive Care Units of Iraq Teaching Hospitals in Babylon, Al-Diwaniyah, and Karbala cities, Iraq, in 2022. . The study was done in 154 nurses working in the Intensive care units. The study data were collected using a demographic questionnaire, case vignettes, and the delirium knowledge questionnaire (DKQ) to assess respondents' characteristics, delirium recognition, and delirium knowledge. The data were analyzed using an independent t-test and Pearson correlation coefficient in SPSS software, version 22. The significance level was set at $P<0.05$. The findings of this study revealed that, the Mean ± SD score of nurses' overall knowledge was 46.73±14.34. The Mean ± SD score for their understanding of delirium's incidence, symptoms, signs, and effects was 43.57±17.70, whereas the Mean ± SD score for knowledge of its risk factors and causes was 49.7±18.74. Likewise, overall ability to recognize delirium had a Mean ± SD score of 1.44±1.13. The study showed that there was a significant relationship between knowledge of delirium, participation in a delirium training course (P=0.008), and work experience in ICUs (P=0.046) (Ghezeljeh et al., 2023).

A descriptive correlation study was conducted on Knowledge, Attitudes, and Practices of Nurses regarding ICU Delirium at Kunming Tertiary Hospitals in Yunnan Province among 256 nurses in 2023. In this study the Demographic Data Record Form, the Critical Care Nurse Practice Skills of Delirium Management Scale (CCNPSDMS), the Attitude of ICU Nurses towards Delirium (AINTD), and the Critical Care Nurses Knowledge of Delirium Scale (CCNKDS) measurement tools were used. Spearman's rank-order correlation test and descriptive statistics were used to analyze the data. According to the study's findings, participants' knowledge of ICU delirium was at a high level (M = 65.61, SD = 7.83) and their attitude toward it was neutral (M = 23.04, SD = 2.40). However, their practice of ICU delirium was at a relatively low level (M = 114.84, SD = 27.44) (Papaioannou et al., 2023).

Research Methodology

3.1 Research Design

A Descriptive cross-Sectional study design based on quantitative approach was adopted in this study.

3.2 Study Area/ Setting

The study was conducted among the Nurses of Green city Hospital. It is well equipped multispecialty 100 bedded private hospital located in Basundhara, Kathmandu. It was established on Magh 16, 2069 BS with a motive to provide a wide range of service and highest quality care with compassion utilizing high-level medical practices and procedure to the people. Approximately more than 100 nurses are working in different wards such as General ward, high care unit/Postoperative ward and Intensive care unit.

3.3 Target Population

The target population of this study was all the nurses working at Hospital of Nepal.

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3.4 Study Population

The study population for this study was the nurses, who currently working at ICU, General ward, and High care/Postoperative ward of Green city Hospital.

3.5 Sampling Technique

Non-probability convenient sampling technique was adopted to select the setting and the total enumeration technique was used to select the sample.

3.6 Sample Size

Total number of nurses in General ward was 26
Total number of nurses in Intensive care unit ward was 22
Total number of nurses in High Care/Postoperative ward was 22
Hence, the sampling technique was total enumeration technique, total **sample were 70.**

3.7 Inclusion Criteria

Those who are willing to participate in the research.
Those who are available during data collection.

3.8 Research Instruments / Tools

A Semi-structured questionnaire was used to collect data which includes questionnaire on Socio demographic information and to assess level of Knowledge regarding Delirium. The 'Nurses Knowledge of Delirium' (NKD) tool was used.[7] It contains 34 statements correct, incorrect and unsure referring to the definition of Delirium, the tools for Delirium identification and the presence of Delirium and risk factors leading to Delirium development.
The questionnaire were divided into two part:
Part I: Questionnaire related to the Socio-demographic information.
Part II: Structured Tool on Nurses knowledge of Delirium (NKD) [7]
The Score Interpretation:
High Knowledge: Score 45 to 68
Moderate Knowledge: Score 23 to 44
Low Knowledge: Score 0 to 22

3.9 Validity and Reliability of Tools

Validity of the instrument was established by consulting with research guide, subject experts, and review of literature and research faculty members for clarity, relevance, comprehensiveness, understandability and ease of administration.
The research instruments was pre-tested on 10% (n=7) of total nurses working in Horizontal Hospital which was located Tarkeshwor, Nepal. After pretesting, the instrument was reviewed and necessary modification was done to ensure better understanding of question among respondents. Then, instrument was finalized for data collection**.**
Reliability: Cronbach's alpha coefficient was 0.86, an indication that the questionnaire is highly reliable. [7]

3.10 Ethical Considerations

The study was conducted after getting the approval of research proposal from Research Committee of Norvic College of Health Science and Technologies.
The required permission to conduct the study was obtained from Green City Hospital.

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The objectives of the study was clearly be explained to the respondents and their will to participate or not to participate in the study was respected.
Every precaution was taken to protect the right of the respondents before asking question.
Written informed consent was obtained from the respondents prior to data collection.
Privacy and confidentiality of the respondents was maintained by using code numbers in the questionnaire.
Respondents were not forced to participate in the research study.
The respondents were not harmed during this study.
All the respondents were informed of their right to refuse of the research and can withdrawal from the study at any time they want.
The collected data was used only for the purpose of this research.

3.11 Data Collection Procedure

The permission was taken from research committee of Norvic College of Health Sciences and Technologies to conduct the study.
The permission from Green city Hospital was taken to conduct the study.
Objectives of this study was clearly explained to the respondents before data collection.
Informed written consent was taken from respondents and developed tools was used for data collection.
The respondents were transparently described that the information will be provided only for the research purpose, anonymity would be strictly maintained for encouraging the accurate response for the question and they were not harmed by the research study.
Questionnaire was distributed to the respondents in the presence of the researcher and completed questionnaire was collected after 20- 30 mins of distribution.
The study was conducted within the period of 2 weeks.
The data was collected in free time of respondents.

3.12 Plan for Data Processing and Analysis

After collection of the data, the data was checked for the completeness, consistency and accuracy. Necessary coding was done, data was edited, organized, classified and tabulated and entered in computer software, SPSS (statistical Package for social science) version 16 the finding was analyzed using descriptive statistic like frequency, percentage, mean and standard deviation. The inferential statistic like chi-square test was used to determine the association between Socio demographic variables and Level of Knowledge. After the analysis of the data, the finding were presented through the tabulation.

3.13 Plan for Dissemination

Library (college)
Research advisors
Study area

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Data Analysis and Interpretation

4.1 Introduction

This chapter is mainly concerned with the analysis and interpretation of data collected from the respondents. After collecting the data, all the questionnaires were checked, coded, classified and tabulated and it was entered in Microsoft excel. Then, it was transferred to SPSS Version 20 and by using descriptive and inferential statistical methods using SPSS.

The finding of the study was analyzed and arranged under the following **Parts:**

Part I: Socio-demographic Characteristics of Respondents

Part II: Respondents' Knowledge regarding Delirium

Part III: Respondents' Level of Knowledge regarding Delirium and Association between level of Knowledge and Selected Socio-demographic variable.

Part I: Socio-demographic Characteristics of Respondents

It includes Socio-demographic information of the Respondents. It consists of table no. 1.1 to table no. 1.4.

Table 1.1: Socio-demographic Characteristics of Respondent

n =70

Variables	Frequency (f)	Percentage (%)
Age in years		
20-25	46	65.7
26-30	24	34.3
Ethnicity		
Brahmin/Chhetri	44	62.9
Madhesi	1	1.4
Dalit	2	2.9
Janajati	21	30.0
Others	2	2.9
Religions		
Hindu	57	81.4
Buddhist	8	11.4
Christian	3	4.3
Others	2	2.9

Table 1.1 shows that more than half of respondents (65.7%) belongs to age group 20 to 25, whereas above one third of respondents (34%) were 26 to 30 age group. Likewise, more than half of respondents (62.9%) belongs to Brahmin/Chhetri ethnic group, whereas one third of

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respondents (30%) are Janajati, while less than three percent respondents belong to another ethnicity. Similarly, majority of respondents (81.4%) are Hindus, while about three percent follows other religions.

Table 1.2: Contd... Socio-demographic Characteristics of Respondents

n = 70

Variables	Frequency (f)	Percentage (%)
Marital status		
Married	26	37.1
Unmarried	44	62.9
Education level		
PCL	38	54.3
BSC	17	24.3
BNS	15	21.4

Table 1.2 reveals that more than half of respondents (62.9%) are unmarried while above one third of respondents (34.1%) are married. Similarly, more than half of respondents (54.3%) have passed PCL level whereas above one fourth respondents (24.3%) have cleared BSC and BNS level.

Table 1.3: Contd... Socio-demographic Characteristics of Respondents

n = 70

Variables	Frequency (f)	Percentage (%)
Working experience		
0-5 month	6	8.6
6-12 months	15	21.4
1 year- 2years	16	22.9
Above 2 years	33	47.1
Practicing area		
General ward	26	37.1
Postoperative ward/ High care unit	21	30.0
Intensive care unit	23	32.9

Table 1.3 depicts that almost half of them (47.1%) have above two years of working experience, while below nine percent respondents have worked less than five months. Likewise, above one third of respondents (37.1%) are working in the general ward while others are working in intensive care unit or high care unit.

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Table 1.4: Contd... Socio-demographic Characteristics of Respondents

n = 70

Variables	Frequency (f)	Percentage (%)
Participated in training/in-service regarding delirium		
Yes	9	12.9
No	61	87.1
Use of scale to assess delirium		
Yes	21	30.0
No	49	70.0
What kind of scale have you used?		
CAM-ICU	5	7.1
RASS Score	6	8.6
DSM-5	8	11.4
Others	2	2.9
Have not use scale	49	70.0
Source of information		
Internet	15	21.4
Health Magazine	2	2.9
Academic curriculum	47	67.1
Colleagues/seniors	6	8.6

Table 1.4 illustrate that most of the respondent (87.1%) have not received any training or in service, while less than one fourth of respondent (12.9%) were participated in training/in service. The majority of respondent (70.0%) have not use any scale to assess delirium while below one fourth of respondents (11.4%) claimed using DSM -5. Whereas approximately less than nine percent have used RASS- Score and other scale to assess delirium. More than half of the respondents (67.1%) got information about delirium from academic curriculum. Meanwhile less than three percent got information from health magazine.

Part II: Respondents' Knowledge regarding Delirium

It includes the questions related to Knowledge regarding Delirium. It consists of table no. 2.1 to table no. 2.6.

Table 2.1: Respondents' Knowledge regarding Delirium

Components	**Correct n (%)**	**Incorrect n (%)**	**Not sure n (%)**
1. Fluctuation between orientation and disorientation is not typical of delirium.	19 (27.1%)	45 (64.3)	6 (8.6)

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2. Symptom of depression may mimic delirium.	47 (67.1)	14 (20.0)	9 (12.9)
3. Treatment for delirium always includes sedation.	19 (27.1)	39 (55.7)	12 17.1)
4. Patients never remember delirium episodes.	42 (60.0)	15 (21.4)	13 18.6)
5. Delirium is difficult to assess.	25 (35.7)	40 (57.1)	5 (7.1)
6. A Mini Mental Status Examination (MMSE) is the best way to diagnose delirium.	44 (62.9)	21 (30.0)	5 (7.1)

Table 2.1 shows that more than half of respondent (64.3%) answered fluctuation between orientation and disorientation is not typical delirium is incorrect while almost nine percent are not sure about this statement. Nearly one fourth of respondent (20.0%) do not agree that depression may mimic delirium whereas above one third of respondents (27.1%) answer that treatment of delirium always includes sedation. Similarly, above half of respondents (60.0%) believed that patient never remember delirium episode. While more than one third of respondents (35.7%) claimed delirium is difficult to assess, whereas one third pf respondents (30.0%) do not agree that a mini mental status examination is the best way to diagnose delirium.

Table 2.2: Contd…… Knowledge regarding Delirium n = 70

Question	Correct n (%)	Incorrect n (%)	Not sure n (%)
7. Delirium never lasts for more than a few hours.	22 (31.4)	42 (60.0)	6 (8.6)
8. A patient who is lethargic and difficult to arouse does not have a delirium.	21 (30.0)	36 (51.4)	13 (18.6)
9. Starting treatment with antipsychotics like haloperidol should be the primary intervention for all patients with delirium.	33 (47.1)	19 (27.1)	18 (25.7)

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10. Patients with delirium are always physically and/or verbally aggressive.	24 (34.3)	37 (52.9)	9 (12.9)
11. Delirium is generally caused by alcohol withdrawal.	19 (27.1)	42 (60.0)	9 (12.9)
12. Patients with delirium have a higher mortality rate.	21 (30.0)	40 (57.1)	9 (12.9)

Table 2.2 reveal that more than half of respondent (60.0%) believe delirium never lasts for more than a few hours while above half percent (51.4%) respondent do not agree that patient who is lethargic and difficult to arouse does not have a delirium. Nearly half percent (47.1%) answered antipsychotics like haloperidol should be the primary intervention. Furthermore, more than half percent (53.9%) respondent disagree that patient with delirium are always physically or verbally aggressive. Similarly above one third of respondents (27.1%) thought delirium is generally caused by alcohol withdrawal while half of the respondents (50.0%) do not believe patients with delirium have a higher mortality rate.

Table 2.3: Contd….Respondents' Knowledge regarding Delirium

n = 70

Question	Correct n (%)	Incorrect n (%)	Not sure n (%)
13. Behavioral changes in the course of the day are typical of delirium.	51 (72.9)	12 (17.1)	7 (10.0)
14. A patient with delirium is likely to be easily distracted and/or have difficulty following a conversation.	57 (81.4)	11 (15.7)	2 (2.9)
15. Patients with delirium will often experience perceptual disturbances.	57 (81.4)	11 (15.7)	4 (5.7)
16. Altered sleep/wake cycle may be a symptom of delirium.	50 (71.4)	16 (22.9)	4 (5.70
17. The most delusional age group is the youth group.	11 (15.7)	50 (71.4)	9 (12.9)
18. Poor focus often represents delirium.	38 (54.3)	27 (38.6)	5 (7.1)

Table 2.3 demonstrate that approximately more than seven percent of respondent do not agree that behavioral changes in the course of the day are typical of delirium while majority of respondent (81.4%) agree that patient with delirium is likely to be easily distracted or have difficulty following a conversation. Likewise less than one fourth of respondents (15.7%) disagree that patients with delirium will often experience perceptual disturbances whereas most

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of the respondents (71.4%) claimed that altered sleep/wake cycle may be a symptom of delirium. Similarly below one fourth of respondents (15.7%) believe that most delusional age group is the youth group while more than half respondents (54.3%) admit that poor focus often represents delirium.

Table 2.4: Contd….. Respondents' Knowledge regarding Delirium

n = 70

Question	Correct n (%)	Incorrect n (%)	Not sure n (%)
19. A patient having a repair of a fractured neck of femur has the same risk for delirium as a patient having an elective hip replacement.	23 (32.9)	27 (38.60	20 (28.6)
20. The risk for delirium increases with age.	56 (80.0)	12 (17.1)	2 (2.9)
21. 3. A patient with impaired vision is at increased risk for delirium.	22 (31.4)	35 (50.0)	13 (18.6)
22. The greater the number of medications a patient is taking, the greater their risk of delirium.	30 (42.9)	33 (47.1)	7 (10.0)
23. A urinary catheter in situ reduces the risk of delirium.	17 (24.30)	49 (70.0)	4 (5.7)
24. Gender has no effect on the development of delirium.	38 (54.3)	26 (37.1)	6 (8.6)

Table 2.4 illustrate that more than one third of respondents (32.9%) believed that patient having a repair of a fractured neck of femur has the same risk for delirium as a patient having an elective hip replacement while majority of respondents (80.0%) thought risk for delirium increases with age. Meanwhile half of respondents (50.0%) disagree that patient with impaired vision is at increased risk for delirium. Nearly half of respondents (47.1%) oppose the statement greater the number of medications a patient is taking, the greater their risk of delirium whereas above half of respondents (54.3%) thought gender has no effect on the development of delirium.

Table 2.5: Contd….. Respondents' Knowledge regarding Delirium

n = 70

Question	Correct n (%)	Incorrect n (%)	Not sure n (%)
25. Poor nutrition increases the risk of delirium	39 (55.7)	22 (31.4)	9 (12.9)

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26. Dementia is the greatest risk factor for delirium.	52 (74.2)	14 (20.0)	4 (5.7)
27. Males are more at risk for delirium than females.	31 (44.3)	32 (45.7)	7 (10.0)
28. Diabetes is a high risk factor for delirium.	17 (24.3)	40 (57.1)	13 (18.6)
29. Dehydration can be a risk factor for delirium.	29 (41.4)	31 (44.3)	10 (14.3)
30. Hearing impairment increases the risk of delirium.	46 (65.7)	14 (20.0)	10 (14.3)

Table 2.5 shows that more than half respondents (55.7%) agree with statement that poor nutrition increases the risk of delirium while almost majority of respondent (74.2%) believe that dementia is the greatest risk factor for delirium. Nearly half of respondent (45.7%) disagree that males are more at risk for delirium than females. Similarly almost one fourth of respondents (24.3%) believe that dehydration can be a risk factor for delirium whereas above half of respondents (65.7%) thought hearing impairment increases the risk of delirium.

Table 2.6: Contd……Respondents' Knowledge regarding Delirium

n = 70

Question	Correct n (%)	Incorrect n (%)	Not sure
31. Obesity is a risk factor for delirium.	22 (31.4)	37 (52.9)	11 (15.7)
32. A family history of dementia predisposes a patient to delirium.	50 (71.4)	15 (21.4)	5 (7.1)
33. Patients who have a mechanical ventilation are more likely to have delirium.	33 (47.1)	24 (34.3)	13 (18.6)
34. Anesthesia and narcotics are not related to delirium.	20 (28.6)	40 (57.1)	10 (14.3)

Table 2.6 depicts that more than half of respondents (52.9%) do not agree that obesity is a risk factor for delirium while majority of respondents (71.4%) thought that family history of dementia predisposes a patient to delirium. Likewise nearly half of respondent (47.1%) believe that patients who have a mechanical ventilation are more likely to have delirium whereas above one fourth of respondents (28.6%) agree that anesthesia and narcotics are not related to delirium.

Part III: Respondents' Level of Knowledge regarding Delirium

It includes respondents' level of Knowledge regarding Delirium and is categorized as High, Moderate and low level. It consists of table no. 3.1.

Table 3.1: Respondents' Level of Knowledge regarding Delirium

n=70

Level of knowledge	Frequency (f)	Percentage (%)
High (45-68)	47	67.1
Moderate (23-44)	23	32.9
Low (0-22)	0	00.0

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Table 3.1 depicts that more than half of the respondents (67.1%) had high knowledge, above one third of respondents (32.9%) had moderate knowledge while none of the respondents had low level of Knowledge regarding Delirium.

Part IV: Association between Selected Socio-demographic variables and level of Knowledge

It includes the association between respondents' Selected Socio-demographic Variables and level of Knowledge regarding Delirium. It consists of the table no. 4.1 to table no. 4.3.

Table 4.1: Association between Selected Socio-demographic variables and level of Knowledge

	Level of Knowledge			
Variables	**High**	**Moderate to Low**	**Value**	**p-value**
Age				
20-25 age	30	16	0.225	0.635
26-30 age	17	7		
Ethnicity				
Brahmin	30	14	5.579	0.233
Others	17	9		
Religion				
Hindu	39	18	5.675	0.129
Others	8	5		

***Chi-square test 'P' significant at <0.05 level**

Table 4.1 reveals that there is no significant association between the level of Knowledge regarding Delirium among Nurses with age and ethnicity and religion (p-Value >0.05).

Table 4.2: Association between Selected Socio-demographic variables and level of Knowledge

n =70

	Level of Knowledge			
Variables	**High**	**moderate to low**	**Value**	**p-value**
Marital status				
Married	18	8	0.82	0.775
Unmarried	29	15		
Working experience				
>2 years	24	9	1.329	0.722
<2 years	23	14		

***Chi-square test 'P' significant at <0.05 level**

Table 4.2 reveals that there is no significant association between the level of Knowledge regarding Delirium among Nurses with marital status and working experience (p-Value >0.05).

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Table 4.3: Association between Selected Socio-demographic variables and level of Knowledge

n = 70

	Level of Knowledge			
Variables	**High**	**moderate to low**	**Value**	**p-value**
Education level				
PCL	24	14	6.492	0.039
Others	23	9		
Practicing area				
ICU	18	5	8.296	0.016
Others	29	18		

***Chi-square test 'P' significant at <0.05 level**

Table no 4.3 demonstrate that education level and practicing area had significant association with level of Knowledge with' p' value = 0.039 and 0.016 respectively using Chi-square test, where the respondents with PCL level had more knowledge than others. Similarly, respondents working in Intensive care unit had more knowledge as compare to other unit.

Discussion, Conclusion and Recommendation

This chapter deals with the discussion of the findings, conclusion of the study and recommendation provided to improve the existing situation and for further study. A descriptive cross-sectional study was conducted to identify the Knowledge regarding Delirium among Nurses of Green City Hospital, Kathmandu, Nepal. The data was collected among 70 nurses working in intensive care unit, high care/ postoperative unit and general ward using a semi-structured questionnaire.

5.1 Discussion

The finding of the study has been discussed below:

Discussion Regarding Socio-demographic Variables of Respondents

The finding of this study demonstrate that more than half of the respondents (65.7%) were of age group of 25 years old and younger, whereas more than one third of respondents (34%) were below the age of 30. However this result is nearly consistent with the similar study from Baqubah, Iraq which revealed that nearly half of respondents (47%) were age group 25 years old or younger while above one third of respondents (41.2%) were age group of 30 or below.[7] In this study more than half of respondents (62.9 %) were unmarried while more than one third of respondents (37.1%) were married. Similarly, this result correspond in some extent with the study findings of Yemen, Egypt in 2020 showed that all most half of respondents (48.3%) were single while 45% of them were married. [8]

Likewise, the present study illustrate that nearly half respondents (47.1%) had above two years of work experience while less than one fourth of respondents (21.4%) had below one year of work experience which is correspond in some extent with the study findings of Baqubah, Iraq in 2021 shows that majority of respondent (73.5%) had one to three year of experience, none

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had below one year of experience.[7] Similarly, above half of the respondents (54.3%) had done Diploma while less than one of fourth respondents were (24.3%) were Bachelorette, which is contrast with the study done in Baqubah Iraq depicted that all most majority of respondents (67.6%) had bachelor degree while less than one fourth of respondents (23.5%) had done diploma. [7] The current study showed that more than one third of respondents (37.1%) are working in General ward, other are working in Intensive care unit (32.9%) and High care/Postoperative unit (30.0%) respectively which is contrast with study done in Yemen, Egypt in 2020 showed that more than half of respondents (66.7%) are working in critical care/Intensive care unit. [8]

As demonstrated by this study, majority of respondents (87.1%) hadn't taken any training or in service education regarding Delirium, while less than one fourth of respondents (12.9%) had participated in such kinds of training/ in-service education, which is nearly consistent with the similar study from Egypt in 2020 that most of respondents (98.4%) hadn't attend any training course/ in service regarding delirium.[8] The study illustrates that majority of respondents (70.0%) had never used any scale to assess delirium while one third of respondents (30.0%) had used scale to assess delirium however study in Baqubah Iraq showed that majority of respondents (94.1%) use scale to assess delirium. [7]

5.2 Discussion Related to Level of Knowledge regarding Delirium

The present study demonstrate that more than half of respondents (67.1%) had high level of knowledge while (32.9%) respondents had moderate to low level of knowledge but none of the respondents had low knowledge which is nearly consistent with study done in Baqubah, Iraq illustrated 64.1% had moderate knowledge and 18.7% had high knowledge.[7]

Discussion regarding Association between Socio-demographic Variables and Level of Knowledge regarding Delirium

The findings of this study show that there is no significant association between the levels of knowledge regarding Delirium among nurses with age, ethnicity, religion, marital status and working experience which corresponds with similar study conducted in Iraq in 2021 shows that there is no significant association found between levels of knowledge and age, ethnicity, religion, marital status.[9] Likewise, the study shows significant association between education level (p=0.039) and practicing area (0.016) respectively however the study done in Nepal in 2017 which shows statistically significant association between work experience (p= 0.001) education level (p=0.007). [5]

5.3 Limitation of the Study

Although the study findings are incredible but it cannot be generalized in the large population as the study sample was limited to nurses of selected hospital only.

Non-probability convenient sampling technique was adopted for the research setting so the sampling error might have occurred.

5.4 Recommendations of the Study

On the basis of the findings of the study, few recommendations are offered for the further study: Although about (67.1%) of the respondents had high knowledge, more than one third of the respondents (32.9%) had moderate knowledge, yet majority of participants (87.1%) hadn't

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taken any training/ in service education, in future training/in service education programs, including content related to Delirium in the educational course can be done to increase and maintain the knowledge regarding Delirium among all Nurses.

Besides above followings can be recommended:

The similar study can be done using probability sampling technique.

The study can be replicated in large scale covering nurses of many Hospitals to generalize the findings.

Transparency Statement: The authors confirm that this study has been conducted with honesty and in full adherence to ethical guidelines.
Data Availability Statement: Authors can provide data.
Conflict of Interest: The authors declare there is no conflicts of interest.
Authors' Contributions: All the authors work jointly.

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