

ISSN 2320-8643 (Print) ● ISSN-2320-8651 (Electronic)

Volume 10 / Number 01 / January-June 2022

INTERNATIONAL JOURNAL OF NURSING CARE

Website: www.ijonc.com

International Journal of Nursing Care

Editorial Team

Editor

Mrs Ashia Qureshi

Dean Cum Principal, Prakash Institute of Nursing, Physiothrepy And Rehabilitation & Allied Medical Sciences

E mail: editor.ijonc@gmail.com

Editorial Board

- **Shreedevi Balachandran,** *Clinical Instructor,* College of Nursing, Sultan Qaboos University, Muscat, Oman
- **Ramesh Venkatesaperumal,** Assistant Dean for Undergraduate Studies, College of Nursing, Sultan Qaboos University,Sultanate of Oman.
- **Saleema Allana,** *Senior Instructor*, AKUSONAM, The Aga Khan University Hospital, School of Nursing and Midwifery, Stadium Road, Karachi Pakistan
- **Maxie Martis,** *Asst. Professor,* College of Nursing, Khamis Mushayt, King khalid University, Kingdom of Saudi Arabia
- **Ms Athira Rani,** *Assistant Professor,* Govt.College of Nursing, Thiruvananthapuram
- **Mrs. Jaita Mondal,** *Associate Professor*, Department of Community Health Nursing; Maitri College of Nursing; Anjora, Durg, Chhattisgarh.
- **Rakesh Joshi,** *M.Sc.Neuroscience (N), Asst.Lecturer, Trainee* Hosp. Admin At GBH American Hospital, Udaipur
- **Mrs. Maxie Andrade,** *Asst. Professor,* Manipal College of Nursing, Manipal
- **Ms Daisy Josphine Lobo,** *Associate Professor,* Medical Surgical Nursing Dpt, Manipal College of Nursing Manipal, Manipal
- **Anurag Bhai Patidar,** *Lecturer,* College of Nursing, Dayanand Medical College and Hospital, Ludhiana, Punjab
- **Latha T,** *Assistant Professor* - Senior Scale, Manipal College of Nursing Manipal, Manipal University, Udupi - 576 104 Karnataka
- **Vadivukkarasi Ramanadin,** *Assistant Professor,* OBG, Mata Sahib College, Punjab
- **Jayasree R,** Salalah Nursing Institure ,Oman
- **Satish V,** *Academic Officer* for Allied Health Sciences,National Institute of Open Schooling, Noida
- **Prof.Nandini M,***Vice-Principal cum HOD*-Child Health Nursing, Aswini College of Nursing Nadathara (PO) Thrissur, Kerala, India
- **Mr. Vineeth Joseph,** *Asst. Professor,* St. Thomas College of Nursing, Kurishumoodu P O, Chethipuzha- Changanacherry, Kottayam
- **Suvarna S Pinnapati,** *Lecturer,* Mahatma Education Trust's, A V School of Nursing Station Road, Bagalkot,
- **Tejasvi.T,** *Lecturer,* Pediatric Nursing, Geetanjali College of Nursing, Udaipur
- **Dr. Mala Thayumanavan,** *Dean,* Manipal College of Nursing, Bangalore
- **Upendra Singh Rahar,** *Principal,* S.N. College of Nursing, Sri Ganganagar (Rajasthan)
- **Dr. Suresh K. Sharma,** *Professor & Vice Principal,* College of Nursing, Dayanand Medical College & Hospital, Civil Lines, Ludhiana, Punjab 141001
- **Mrs. R.Jeyadeepa,** *M.Sc Nsg,* MBA, PGDHM, (doing Ph.D), Vice Principal, College of Nursing, Vilayodi, Chittur, Palakkad
- **Ms. Nirmala Jyothi,** *Principal cum Professor,* College of Nursing, Apollo Hospitals Bilaspur, Seepat Road, Bilaspur - 495006
- **Pramilaa R,** *Professor and Principal* in Josco College of Nursing, Bangalore
- **Prof. G. Muthamilselvi,** *Principal,* Vinayaka Mission's College of Nursing, Kirumampakkam, Puducherry 607 402.
- **Mrs. Binu Mathew,** Principal, Bethany college of Nursing, Borsi, durg, Chhattisgarh
- **Mrs. Josephine Jacquline Mary. N.I,** *Principal cum Associate Professor,* SI-MET College of Nursing, UDMA P.O.,Near Railway Gate, Udma,Kasaragod Dist.KERALA STATE.Pincode-671 319.
- **Manjeet Kaur,** *Principal,* Mata Sahib College of Nursing, Punjab.
- **G Srinivasan,** *Vice Principal,* Bishop Benziger College of Nursing, Kollam
- **Ms Chitra Felicia,** *Professor & HOD,* Medical - surgical nursing, Mother Theresa Post Graduate & Research Institute Of Health Sciences, Puducherry
- **Mahipal Singh,** *Principal,* Akhil Bharati Vidyapeeth College of Nursing, Jaipur Road, Sikar (Raj.) Mob. 09414663646
- **Dr Juliana Linnette D'Sa,** *Professor* (Research in Nursing), Yenepoya Research Centre Yenepoya University Deralakatte, Mangalore
- **Vijayaraddi B Vandali,** *Principal,* Surendera Nursing Training Institute,Sri Ganganagar Rajasthan-335001
- **Dr. P Chitra,** *PhD, Professor,* Department of Child Health Nursing, Amrita College of Nursing
- **Ravindra HN.,** *Principal,* Sumandeep Nursing College, Vadodara, Gujarat
- **Chetan. S. Patali,** *Principal,* A V School of nursing, behind Durga Vihar,Station road Bagalkot
- **Prema P,** *Principal,* Muzaffarnagar Nursing Institute, Muzaffarnagar
- **Dr. I. Clement,** *Principal,*Columbia College of Nursing,Mariappanapalya, Gnana bharathi Bangalore,
- **Ashwini Patil** *HOD,* Department of Obstetrical and Gynecological Nursing, Maniba Bhula Nursing College,Uka Tarsadia University,Bardoli, Dist-Surat

International Journal of Nursing Care is a double blind peer reviewed international journal which has commenced its publication from January 2013. The journal is half yearly in frequency. The journal covers all aspects of nursing care. The journal has been assigned ISSN 2320-8643 (Print Version) and ISSN 2320-8651 (Online Version). The journal is Indexed in many international data bases.

All rights reserved. The views expressed by authors in journal are not necessarily views of International Journal of Nursing Care. The advertisements are purely commercial in nature and journal does not guarantee their efficacy.

ISSN 2320-8643 (Print Version) and ISSN 2320-8651 (Online Version). Frequency: Half Yearly

Published at

Institute of Medico-legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall, Sector- 32, Noida - 201 301 (Uttar Pradesh)

International Journal of Nursing Care

www.ijonc.com

CONTENTS

Volume 10, Number 1 **January-June 2022**

1. Effectiveness of Moist Heat Application on Visibility and Palpability of Peripheral Veins before Intravenous Cannulation among Patients at Selected Hospitals of City 1
Dahiwal Ravina Chandrakant, Adhav Prajakta N

2. A Study to Assess the Knowledge and Practice of Nurses on Prevention of Ventilator Associated Pneumonia (VAP), and to Seek Its Relationship with the Selected Factors at Selected Hospitals of Delhi and NCR 9
Jacqulin John, Sunita Srivastava

3. Problems and Compliance on Online Education among Nursing Students 16
Jessy Thomas

4. Identification of Physical Problems of Patients with Acute Stroke 28
Nihitha Jose, Mini. G

5. Objective Structured Clinical Exam : A Cross Sectional Study To Evaluate Undergraduate Nursing Students Experience 37
Rosy K O, Nandini M, Princy Francis M, Divya T N

6. Awareness of Ideal Body Weight among Adolescents During COVID-19 Lockdown with a View to Develop an Information Pamhplet..... 48
Soumya Sonalika, Sushree Sangita Mishra

Effectiveness of Moist Heat Application on Visibility and Palpability of Peripheral Veins before Intravenous Cannulation among Patients at Selected Hospitals of City

Dahiwal Ravina Chandrakant[1], Adhav Prajakta N[2]

[1]M.Sc. Nursing Student, India, [2]Assistant Professor, Department of Medical Surgical Nursing, Sinhgad College of Nursing, Pune, India

Abstract

Background: Peripheral venous cannulation is indispensable in the practice of modern medicine but it may not be free of complications and identification of the veins can be difficult at times. Aim: The purpose of this study was to identify the effectiveness of moist heat application on visibility and palpability of peripheral veins. Method: the study design was quasi experimental, non-randomized control group design. Sample comprised of 60 patients undergoing intravenous cannulation from selected hospitals ofPune. Convenience sampling technique was used for the study. The patients in experimental group wereprovided moist heat application for 10 minutes before undergoing intravenous cannulation whereas control group received no intervention.Data was collected before intravenous cannulation by using five point vein assessment scale for visibility and palpability of veins. Result. In experimental groupaveragevisibility & palpability score of veins was 1.67 with 0.76 standard deviation before intervention which changed to average of 4.5 with 0.57 standard deviation in posttest. t value for the test was 27.840 with 29 degree of freedom. Corresponding p-value was less than 0.05. Thus highly significant difference was found between pre and post-test scores of patients regarding visibility and palpability of peripheral veins in Experimental group. At posttestin the experimental group average visibility & palpability score was 4.5 with 0.57 SD and that in control group was 2.47 with 0.90 SD. t value for this test was 10.437 with 58 degree of freedom. Conclusion: The findings of the study showed that the moist heat application is significantly effective on improving visibility and palpability of peripheral veins among patients undergoing intravenous cannulation.

Key words: *Moist heat application, visibility, palpability, peripheral veins, intravenous cannulation.*

Introduction

Many patients admitted in the hospital undergo cannulation. Intravenous cannulation is done in casualty, ICU or the ward according to the need of the patient. Intravenous cannulation is used for the administration of intravenous drugs like intravenous therapy, antibiotics, blood transfusion, fluid replacement and chemotherapy drugs. Peripheral intravenous cannulation is the most common intravenous access method in both hospital and paramedic services. Compared to other routes of administration, the intravenous route is the fastest way to deliver fluids and medication throughout the

Corresponding author:
Dahiwal Ravina Chandrakant
M.Sc. Nursing Student
Department of Medical Surgical Nursing,
Sinhgad College of Nursing,Pune,India
E-mail: ravinadahiwal123@gmail.com

body.[1]

Peripheral venous access is one of the most frequent procedures performed in hospitals. Above 90% of hospitalized patients may require a peripheral cannula to deliver IV therapyand more than 1 billion venipunctures per year are performed to obtain blood samples for testing. Although, peripheral venous access may be difficult, time-consuming, and frustrating, for instance, in neonates and children, obese patients, dark skin patients, i.e. drug abusers, shock patients, and patients previously treated with chemotherapy.[2]

Intravenous cannulation is commonly used procedure at wards, casualty and among preoperative surgical patients. It is painful procedure and patients have fear and anxiety about needle sometimes. Anxiety can reduce visibility & palpability of veins making it difficult for IV cannulation. Application of moist heat on veins is very effective method to improve the visibility & palpability of veins. [3]

Moist heat therapy has been believed to be more effective at warming tissues than dry heat, because water transfer heat more quickly than air. Heat therapy increases the effect on muscle, joint, and soft tissues. Heat is typically applied by placing a warming device on the relevant body part. The therapeutic effects of heat include increasing the extensibility of collagen tissues; reducing pain and increase the blood flow.[4]

In Ludhiana research was conducted among chemotherapy patients who were having necessities of intravenous cannulation. The researcher used randomized control trial design to carry out the study. The setting of the study was DMC hospital Ludhiana and population was patients who were undergoing peripheral intravenous cannulation. Sample size was 100 and divided into 50 control and 50 experimental group. Simple random sampling i.e. flip and coin method was used. Vein assessment scale used for checking visibility and palpability of veins before and after interventions and the result showed that moist heat therapy was effective in intravenous cannulation for visibility and palpability to reduce the pain and unnecessary pricking of the patients.[5]

Many factors may cause a difficult peripheral venous access. Previous venipunctures and cannulations may have caused thrombosis of the vein. Obesity and previous chemotherapy may cause intimal damage and alter subcutaneous fat distribution, thus reducing the visualization of peripheral veins or making it impossible. Anesthesiologists and infusion nurses play an important role in these scenarios because of their vast experience in inserting venous lines in their daily practice. Unfortunately, their assistance is commonly asked only when multiple venous punctures have already been attempted by less experienced operators and the patients may have lost their will to collaborate.[6]

Nurses commonly face challenges placing peripheral intravenous (IV) lines in adults and children, multiple venipuncture attempts can heighten patient anxiety and suffering, delay vital treatment, and increase costs. Numerous factors such as small, fragile or hidden veins can predispose patients to developmental venous anomaly, and collapsed veins due to dehydration. Application of moist heat increase the visibility & palpability of veins & have no any side effect.[7]

Problem Statement

Effectiveness of Moist heat application on visibility and palpability of peripheral veins before intravenous cannulation among patients at selected hospitals of city.

Objectives:

1. To assess the visibility and palpability of peripheral veins before moist heat application among

patients at selected hospitals of city.

2. To assess the visibility and palpability of peripheral veins after moist heat application among patients at selected hospitals of city.

3. To find effectiveness of moist heat application on visibility & palpability of peripheral veins among patients at selected hospitals of city

4. To find association of study findings with selected demographic variables.

Hypothesis:

H_0: There is no significant effect of moist heat application on visibility and palpability of peripheral veins before intravenous cannulation among patients at selected hospitals of city.

H_1:There is significant effect of moist heat application on visibility and palpability of peripheral veins before intravenous cannulation among patients at selected hospitals of city.

Material and Methods

Study Setting & sample

The study was conducted at selected hospitals of Pune city. The sample of the study constituted patients undergoing intravenous cannulation who fulfilled the inclusion criteria.The sample size was 60. Sample were randomly assigned to experimental and control group (30 each). Non probability convenient sampling method was used. The inclusion criteria for the study was patients in age group of 18 to 55 years, patients undergoing intravenous cannulation, able to understand Marathi, Hindi or English language. The exclusion criteria of the study includedthe patients contraindicated for heat therapy, undergoing emergency cannulation, having vein assessments score 5 and known case of bleeding disorder and peripheral vascular disorders etc.

Design

Approach - quantitative approach

Quasi experimental, non-randomized control group design.

Validity and Reliability

The content validity of the instrument was carried out by the experts from the Medical Surgical nursing and MD Medicine and Surgery.

The reliability was estimated using inter rater method & score was 0.95.

The Multisteam thermometer was calibrated by biomedical engineer. Certificate No.TM-04

Procedure:

The study was conducted at selected hospitals of the city. Data collection period was 10 February to 1 March 2021 Pre-test: The investigator assessed the visibility and palpability of peripheral veins among control and experimental group by using vein assessment scale and score was recorded immediately in the observationchart. The articles were assembled and the water was prepared (39.5°C). The participants were explained about the procedure (consent already obtained earlier), supine position is given to patient on bed. The experimental group received the moist heat (gauze piece soaked in water of 39.5°C) for a period of 10 minutes. Gauze is soaked in 39.5^0C warm water and applied for five minutes continuously at venipuncture site then the gauze piece is taken out again and dipped in 39.5°Cwarm water and reapplied for another five minutes. Total 10 minutes heat was applied. The post-test assessment of visibility and palpability of peripheral veins was checked immediately after the intervention. The findings were recorded immediately after the procedure.Simultaneously findings were recorded among control group.

Data Analysis:

The data was analyzed using descriptive and inferential statistics.Frequency and percentage used to assess the demographic characteristics of patients undergoing intravenous cannulation. Mean, standard deviation, paired and unpaired t test were used for assessing the effectiveness of moist heat application ANNOVA test was used to check the level of significance with demographic variables of sample.

Findings

Demographic characteristics

Table no.1 Analysis of the demographic characteristics (N=30, C=30)

Sr. No.	Variable	Experimental Group		Control Group	
		Frequency	%	Frequency	%
1.	**Age**				
a.	18-27 years	04	13.33	06	20
b.	28 -37 years	09	30	08	26.67
c.	38-47 years	09	30	09	30
d.	48 years & above	08	26.67	07	23.33
2.	**Gender**	23	76.67	16	53.33
a.	Male	07	23.33	14	46.67
b.	Female				
3.	**Occupation.**				
a.	Government employee	04	13.33	07	23.33
b.	Private employee	12	40	10	33.33
c.	Self-employee	09	30	03	10
d.	Unemployed	05	16.67	10	33.33

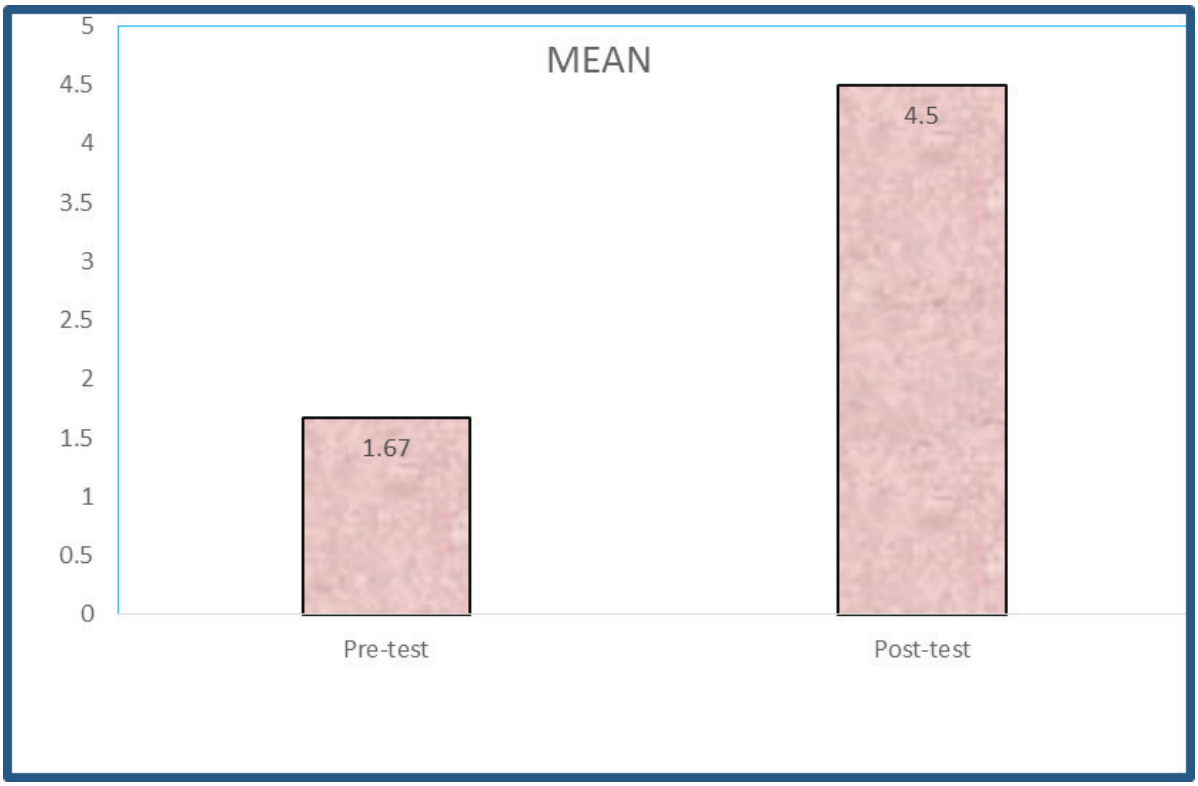
Cont... **Table no.1 Analysis of the demographic characteristics (N=30, C=30)**

4.	**Habits**				
a.	Alcohol consumption	07	23.33	03	10
b.	Tobacco chewing	03	10	03	10
c.	Smoking	10	33.33	07	23.33
d.	Fast food eating	10	33.33	17	56.67
5.	**Previous history of cannula insertion**	27	90	30	100
a.	Yes	03	10	00	00
b.	No				
6.	**Vein selected for intravenous cannulation**				
a.	Cephalic vein	08	26.67	08	26.67
b.	Basilic vein	15	50	18	60
c.	Antebrachial vein	05	16.67	04	13.33
d.	Medial cubital vein	02	6.67	00	0
7.	**Types of regular exercise performed**				
a.	Active exercise	08	26.67	07	23.33
b.	Running/weight lifting / Zumba)	06	20	05	16.67
c.	Passive exercise (no any exercise performed)	07	23.33	04	13.33
d.	Range of motion (yoga) Walking	09	30	14	46.67
8	**Duration of Hospitalization**				
a.	01 to 5 days	26	86.67	27	90
b.	06 to 10 days	02	6.66	00	0
c.	11 to 15 days	02	6.66	03	10

Table no. 1 shows that inexperimental group majority 30% of patients were in the age group of 28 to 37, 38 to 47 years and control group majority 26.67% in age group of 28-37 years. In experimental group majority 76.67% of them were male,and control group majority 53.33% were male. In experimental group majority 40% were privateemployee, and control group majority 33.33 % were private employee. In experimental group majority 33.33% had habits of fast food eating and smoking,and control group majority 56.67% had habits of fast food eating. In experimental group majority 90% of them had previous history of cannulation,control group majority 100% of them previous history of cannulation. In experimental group majority 50% of them had Basilic vein selected for cannulation, in control group majority 60%. In experimental group majority 30 %ofthem were doing walking exercise, in control group majority 46.67%. In experimental group majority 86.67% ofthem had1 to 5 days duration of hospitalization, in control group majority 90%.

Graph A. Analysis of the effectiveness of moist heat application on visibility and palpability of peripheral veins among patients undergoing intravenous cannulation.

In pretest Average visibility & palpability of vein score was 1.67 with 0.76 standard deviation. In posttest average visibility & palpability score is 4.5 with 0.57 standard deviation.



Bar diagram showing the effectiveness of moist heat application on visibility & palpability of peripheral vein.

Posttest mean of experimental group was 4.5 and Standard deviation was 0.57 with 58 degree of freedom and posttest mean of control group was 2.47 and standard deviation was 0.90 with 58 degree of freedom.

Table no.2 Analysis of mean, standard deviation and thesignificance of the effectiveness of moist heat application on visibility and palpability of peripheral veins in Experimental and Control group.

SN	Post test	Mean	SD	't' value	P Value	DF
1	Experimental group	4.5	0.57	10.437	≤ 0.05	58
2	Control group	2.47	0.90			

Table no 2showing the effectiveness of moist heat application on visibility and palpability of peripheral vein in experimental and control group in experimental group mean (4,5) was higher as compare to control group mean (2,47) t value was 10.437 with 58 degree of freedom. Corresponding p value is small (less than 0.05significant difference is found between post-test scores of patients regarding visibility and palpability of peripheral veins in experimental group & control group.

Association between the effectiveness of moist heat application on visibility and palpability of peripheral veins among patients undergoing intravenous cannulation with their demographic variables related to age, gender, occupation , habits, previous history of cannula insertion ,vein selected for cannulation ,types of regular exercise performed and duration of hospitalization.

In the study p-values corresponding to all the demographic variables are large (greater than 0.05), none of demographic variables was found to have significant association with the visibility & palpability of peripheral veins among patients undergoing intravenous cannulation. Irrespective of the demography of the undergoing intravenous cannulation patients, the moist heat application was found effective in improving visibility & palpability of peripheral veins.

Discussion

The study aimed to assess theeffectiveness of moist heat application on visibility and palpability of peripheral veins. Participants of the study were patients undergoing intravenous cannulation majority in theage group in experimental group 30% patients were in age group of 38 to 47 years and control group 26.67% were 28 to37 years, 76.67% of patients were male in experimental group and 53.33% male in control group, in experimental group 40% private employee and control group 33.33% private employee and unemployed. 33.33% habit of fast food eating, smoking in experimental group and 56.76% habits of fast food eating in control group, 90% having previous history of cannula insertion in experimental group, 100% in control group.50% was basilic vein in experimental group and 60% in control group. 30% patient's type of regular exercised performed was

waking in experimental group and 46.67% in control group, 86.67% patients duration of hospitalization was 1 to 5 days in experimental group and 90% in control group.

Conclusion

The findings of the study revealed that the moist heat application was effective on visibility & palpability of peripheral veins among patients undergoing intravenous cannulation. Thus study suggest that moist heat application is an complimentary alternative therapy that's help the nurse in the easy to visibility and palpability of peripheral veins during intravenous cannulation, in an easy,cost effective way without any complication.

Ethical Consideration: The ethical permission for conducting the research was sought from Ethics Committee. After the approval, the permission was sought from authorities of hospitals. Written consent was obtained from sample selected for study. The patients were informed about their right to discontinue the study if they wish. They were also assured about the confidentially of information given by them.

Source of Funding: Self

Conflict of Interest Disclosure: Nil

References

1. G. Ducel, J. Fabry, Prevention of hospital-acquired infections,a practical guide, 2nd 2011 page no 33-44..Availablefrom:https://www.researchgate.net/publication/2620 63855
2. Lamperti M, Pittiruti M, Difficult peripheral veins, British Journal of Anaesthesia, Volume 110, Issue 6, June 2013, Pages 888–891, https://doi.org/10.1093/bja/aet078
3. Bailey R,"The Types of Blood Vessels in Your Body." ThoughtCo, Feb.11,2020,thoughtco.com/blood-vessels-373483. http://biology.about.com/od/humananatomybiology/ss/blood_vessels.htm
4. Justus F. L, "Thermotherapy." AccessScience. McGraw-Hill Education, 2014 ; May 2015.).
5. Simarpreet K, Ruchika R,Prabhjot S, and Jasbir.K,Effect-of-moist-heat-therapy-. International Journal of Advanced Research (IJAR)2018 Available from Journalijarcom. blogspot.com. Available from: https://journalijar-com.blogspot.com
6. Amany YS, Mohammed AF, Maher S, The Effects of Local Warm Compresses on Peripheral Intravenous Cannulation of Patients, IOSR Journal of Nursing and Health Science (IOSRJNHS) e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 7, Issue 6 Ver. X, page number 1-13.
7. Gabrielle W, Difficult Peripheral Venous Access,Journal of the Association for Vascular Access, December 2008, page number 198-203.

A Study to Assess the Knowledge and Practice of Nurses on Prevention of Ventilator Associated Pneumonia (VAP), and to Seek Its Relationship with the Selected Factors at Selected Hospitals of Delhi and NCR

Jacqulin John[1], Sunita Srivastava[2]

[1]Bsc(N), Msc (N), Plot no 218 A, Flat no. G-1, Shalimar Garden, Extension 1, Near Dayanand Park, Sahibabad, Ghaziabad, UP , [2]Professor, Amity College of Nursing, Manesar, Gurgaon, Haryana

Abstract

Introduction: Ventilator associated pneumonia is one of the most frequent hospital acquired infections occurring in intubated patients within 48 hours of endotrachial intubation[1][2]. Because VAP is associated with higher mortality, morbidity and costs[3], there is a need to keep a check on skills and knowledge upgrading among the healthcare professions and especially nursing personnel on regular intervals, as they are the prime care givers to the patients in intensive care units. Several healthcare agencies have developed evidence based guidelines to prevent nosocomial infections in healthcare settings and with which various healthcare facilities had formulated certain care bundles to fend off VAP. [4][5][6]

Methodology: In this study the knowledge & practice of nursing personnel on prevention of Ventilator Associated Pneumonia were assessed using a structured knowledge questionnaire &structured observational checklist. Data from three selected tertiary care hospitals of Delhi & NCR region were analyzed &interpreted using descriptive & inferential statistics at 0.05 level of significance.

Results: Majority of the nurses were found to have adequate knowledge (54%) and practice (74%) scores. However there was no positive co-relation found for knowledge and practice of the nurses in preventing VAP, although factors as qualification, experience of nurses &any special training on prevention of VAP were found to have association with knowledge & practice of nurses.

Conclusion : Knowledge and practice of nurses needs to be explored so as to deliver quality care to patients on ventilator.

Keywords: *Ventilator Associated Pneumonia, VAP, Knowledge on VAP, Practice of Nurses, Mechanical Ventilation, VAP Care Bundles.*

Introduction and Background of the study

Hospital acquired pneumonia is a significant public issue in Asian countries. A National and local surveillance on epidemiology, etiology and diagnosis of hospital acquired pneumonia reported that in Asia, Ventilator Associated Pneumonia acquired at the rate of 5 – 10 cases per 1000[7]. In Asian countries hospital acquired pneumonia is associated with crude mortality rate up to 70 % and attributable rate as high as 33 – 35 %[8]. According to survey done (2008) in

Corresponding Author:
Jacqulin John
Email: jacqulinjohnc@gmail.com

India, the overall incidence of Ventilator Associated Pneumonia mortality rate ranges from 37 – 47.3%[9]. A country with great diversity, India has one hand state of the art corporate hospitals and on the other, there are basic health care centers which are all starved for resources. Lack of awareness and knowledge among health care staffs is one of the most prominent issues of our country[10][11].

Ventilator associated pneumonia (VAP) is defined as a type of pneumonia in a patient receiving mechanical ventilation that was not present at the time of admission to hospital or that occurs 48 hours after intubation and mechanical ventilation[12][2]. It is characterized by a new or a progressive pulmonary infiltrate, fever, leukocytosis and purulent tracheo-bronchial secretions[13]. It carries a high mortality rate ranging 6% - 68% and may be as high as 74% in high risk populations, indicating a serious health hazard among ventilated patients[14]. VAP rates range from **1.2 to 8.5 per 1,000 ventilator days** and are reliant on the definition used for diagnosis. Risk for VAP is greatest during the first 5 days of mechanical ventilation (3 %) with the mean duration between intubation and development of VAP being 3.3 days. This risk declines to 2 %/day between days 5 to 10 of ventilation, and 1 %/day thereafter. Earlier studies placed the attributable mortality for VAP at between 33-50 %, but this rate is variable and relies heavily on the underlying medical illness**, (by *Scottish Intensive Care Society Audit Group/NHS National Services Scotland VAP Prevention Bundle)***

In the past 10 years, a great deal of progress has been made in understanding VAP. New concepts of infection-related ventilator-associated complications (IVACs) and ventilator-associated events (VAEs) have been proposed as outcome indicators for prevention strategies. For VAP prevention, the concept of bundle of care was defined. It enabled great successes in VAP prevention; however, the insufficient compliance observed in clinical practice needs to be addressed in order to define easier-to-apply procedures[15][2][5].

Objectives

This study was done to assess level of knowledge and practice of nurses on prevention of Ventilator Associated Pneumonia (VAP) and also to determine the relationship between knowledge & practice and relationship with selected factors.

Material and Methods

In this descriptive survey study, a Descriptive co relational design was applied to find a co relation between the variables under study as well as to see the effect of the independent variables. A total of 100 nurses from critical areas as surgical ICU, Cardiac ICU & Medical ICU from purposively selected 3 hospitals participated in the main study.

A total of 100 Intensive care nurses working in various intensive care units of selected hospitals of Delhi and NCR were selected. Age, sex, professional qualification, years of experience, type of ICU and any special training in prevention of nosocomial infection of nurses were the Independent variables whereas, nurses' Knowledge and Practice were the dependent variables. The inclusion criteria's were the nursing personnel availability and consent for the study along with minimum 6 months of experience in ICU. Purposive sampling technique was used to select the nurses for the study.

The conceptual framework is based on **System Model** adopted from WHO publication (1995). It provide guidance for development, utilization and evaluation via survey and objectives of the study a structured knowledge questionnaire and a structured observational checklist were developed to assess the knowledge and practical application regarding prevention of ventilator associated pneumonia (VAP).

The structured knowledge questionnaire had total

30 questions which were all MCQ's, each item had one correct answer and score of One (1) was awarded to a correct response and Zero (0) was assigned to each wrong answer. The maximum possible score was 30. The knowledge scores were categorized as good (21-30), average (11-20), and below average (< 20). The areas of knowledge included in the questionnaire were: identification, signs and symptoms, risk factor and etiology affecting VAP along with understanding of VAP bundles and demonstration of best practice in it.

In structured observational checklist there were 46 practice items which were been observed for done or not done, hence a score of 1 was been awarded if certain step was completed and 0 if not. The main areas covered in the checklist were: hand washing, ET suctioning[16], oral care[17], handling of NG tube, handling of mechanical ventilator, PPE usage, practical knowledge of nurses and documentation.

Administrative approval was taken before commencing the study. Also informed written consents were taken from all the selected nurses working in ICU's after assuring them the anonymity and confidentiality of obtained information.

Validity of demographic data sheet, structured knowledge questionnaire and structured observational checklist were established with a group of 9 (nine) experts, 8 (eight) from the field of Nursing and one Physician from the field of Medicine. Also the reliability of the Structured Knowledge questionnaire was established by using K R 20 formula which was 0.86, found to be highly reliable and for structured observational checklist, Inter Observer Reliability technique was used. A 100% agreement on the tool was established via this technique. Once a consensus was obtained among all the healthcare experts on all the items of the questionnaire and checklist, it was further tried out on a sample of 20 staff nurses.

The demographic profile which was collected from the selected nursing personnel were related to their age, sex, professional qualification, years of experience, type of ICU and any special training in prevention of VAP.

The knowledge questionnaire was administered to the selected nurses earlier in their break time and observations were made on the same day of their practical applications while giving nursing care to the patients as per the steps mentioned in validated structured observational checklist. They were observed on their work during their duty hours while following VAP bundle care, by the researcher to fulfill the criteria of assessing their skills and practice. The results of all the nurses who were selected were included for final analysis.

Data Analysis

Data was coded in the excel sheet and descriptive and inferential statistics were used to analyze it. It includes analysis and interpretation of description of samples characteristics by using frequency and percentage, while findings related to level of knowledge and practice of staff nurses, and the association of knowledge and practice with the selected factors was done by using Chi square test at 0.05 % level of significance.

Results

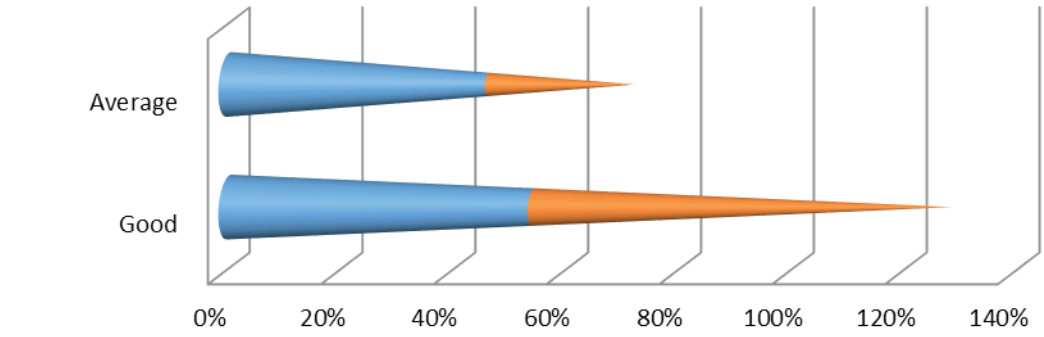
The maximum number of nurses in ICU belonged to the age of group of 21 - 25 yrs (52%), among which 51% were found to be male nurses. Most of the nursing personnel were having B.Sc. Nursing as the basic qualification (48%), although only 18% of them were having professional experience in ICU of more than 5 year or more. And most of the nurses (60%) had attended some kind of special training program in relation to prevention on ventilator associated

pneumonia.

Table 1: Demographic profile of the nursing personnel working in ICU's

S. NO.	SAMPLE CHARACTERSTICS	FREQUENCY (Percentage)
1	Age	
	21 - 25 yrs.	52 (52%)
	26 - 30 yrs.	43 (43%)
	31 - 35 yrs.	5 (5%)
2	Gender	
	Male	51 (51%)
	Female(mean age 23.56 yrs)	49(49%)
S. NO.	SAMPLE CHARACTERSTICS	FREQUENCY (Percentage)
3	Professional Qualification	
	GNM	36 (36%)
	B.Sc. Nursing	48 (48%)
	P.B.Sc. Nursing	16 (16%)
4	Yrs. of Experience In ICU	
	6 month - 1 yr	15 (15%)
	2 yr - 4 yr	66 (66%)
	5 - 7 yrs	14 (14%)
	Above 7 yrs	5 (5%)
5	Working Area	
	Medical ICU	28 (28%)
	Surgical ICU	38(38%)
	Cardiac ICU	34(34%)
6	Special Training	
	No	40(40%)
	YES	60 (60%)
	If Yes	
	a. Workshop	23 (38.33%)

	b. Short Term Course	37 (61.66%)



	Good	Average
Knowledge	54%	46%
Practice	74%	26%

Figure 1: Cone graph showing Frequency and Percentage of Level of Knowledge and Practice of Nurses Regarding Prevention of Ventilator Associated Pneumonia

The majority of the nursing personnel havehad good knowledge scores (54%) which had fallen in normal distribution with the Mean of 21 and same for Median i.e. 19. Also seeing the uniformity in Practice score i.e. 74% of the nurses were found to have good level of practice in prevention of VAP with Mean scores of 39, Median at 40. Therefore, the groupwas found to be homogenous.

No co-relation was found between nurses' knowledge and practice regarding prevention of VAP when calculated under co-efficient of co-relation (p = 0.05 / r = 0.000). Although when an association was computed between knowledge and practice of nurses with independent variables it was found that the Chi – square values were significant at 0.05 levels with professional qualification, years of ICU experience and exposure to any special training related to prevention of nosocomial infections. However there was no association was found with age, gender and working area of the nurses.

Discussion

The findings of the study suggests that the lion's share of nurses have good knowledge regarding prevention of ventilator associated pneumonia as assessed by a structured knowledge questionnaire and results of the level of practice of nurses (as assessed through a structured observational checklist) were also found indistinguishable from the knowledge scores. These findings differ from the many other research findings done worldwide and by many researchers like **Jam Gatell. M.R. et. al. (1999), Labeau S. et al. (2006), Lam Soh K. et. al. (2010), Joyce Mary Joy (2014)** and many more, as they concluded that the nurses were having inadequate knowledge and practice.[18]

Findings of the present study also exhibits that there was no relationship between knowledge and practice of staff nurses which is unvarying with the study conducted by **Gomes, Viviana Paula Ribeiro (2010).**

The study also revealed that the attribute (demographic) variables such as professional

qualification , years of experience in ICU's and exposure to any special training regarding prevention of nosocomial infections (VAP) were found to be significant which was highly supported and coincides with the findings of research conducted[18]. Whereas, the other factors like age, gender and working area of the staff nurses were proved to be non-significant statistically. It was consistent with the study done by **Gomes, Viviana Paula Ribeiro (2010).**

Hence, the study stresses the concern on evidence based practice and quality of care delivered to the critically ill patient. With increasing advancement in health sciences, including nursing science, there is a rising need for constant updating of new information to develop new skills in order to provide best care to patients as well as for the growth of their careers. In nursing education, more and more students must take part in various research studies to assimilate latest guidelines and test them in practical scenario. Also nursing lecturers and clinical facilitators should incorporate evidence based measures to prevent VAP or VAE in ICU's on regular basis incorporate learning opportunities in the units to raise the topic[5] [22]. Furthermore, resources such as articles, journals and electronic assets such as computers and internet should be made accessible in the units for staff members. Articles on prevention of VAP/ VAE should be discussed in unit meetings as part of staff education.

Recommendations and Conclusions

A similar study can be repeated on a larger sample including various hospitals both government and private sector. Also comparisons can be made in staff nurses' competencies and teaching strategies alongside testing their level of knowledge and practical skills development prior to and after educational programs on evidence based guidelines for prevention of VAP/ VAE.

Evidence based guidelines provided by copious agencies like WHO, CDC, OSHA, FDA, Mayo'sClinic, NHSN, NHS, NABH and many more must be imbibed in our healthcare routine functioning**.** [2][19][20][21][5][6][22]

References

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1592694
2. http://www.who.org
3. https://www.lungdiseasesjournal.com/ventilator-associated-pneumonia-and-in-hospital-mortality-which-risk-factors-may-predict-in-hospital-mortality-in-such-patients.html
4. Centres of Disease Control and Prevention, CDC National Nosocomial Infections Surveillance(NNIS) System Report, data Summary from January 1992 through June 2004, issued October 2004, Am J Infection Control 2004:32:470-485.
5. http://www.cdc.gov/nhsn
6. http://www.nabh.co
7. Times of India, 2012 "Infection Rate in Hospital", by Lambey Farida, 4th December.
8. https://pubmed.ncbi.nlm.nih.gov
9. Chawla, R. et.al. "Epidemiology, Etiology and Diagnosis of Hospital Acquired Pneumonia and Ventilator Associated Pneumonia in Asian Countries", American Journal of Infection Control (2008); 36(4). 93-100.
10. Staudinger, T. et.al. "Effect of an Education Program Aimed at Reducing the Occurrence of Ventilator Associated Pneumonia", Critical Care Medicine (2010); 30. 2407-2412.
11. Julian T. et.al " A study to evaluate the Effectiveness of self instructional module on prevention and management of Ventilator Associated Pneumonia in terms of knowledge and practice of staff nurses and patient outcome

in critical care units of selected private hospitals of Delhi", Unpublished Dissertation, University of Delhi, 2012.

12. American Thoracic Society: Infectious Disease Society America "Guidelines for Management of Adults with Hospital Acquired, Ventilator Associated and Healthcare Associated Pneumonia", American Journal of Critical Care Medicine (2005); 171. 388-416.
13. CDC Guidelines for preventing health care associated pneumonia, 2003. Recommendations of the CDC and the Healthcare Infection Control Practices Advisory. MMWR 2004; 563 (No. RR-3).
14. Mangles, C.J. et.al. "Critical Care Clinician's Knowledge of Evidence Based Guidelines For Preventing Ventilator Associated Pneumonia", American Journal of Infection Control (2010); 19(3). 272-276.
15. Guidelines for the Prevention of Ventilator Associated Pneumonia in Adults: Health Protection Surveillance Centre February 2011, pp 1-20.
16. Alexious, V.G. et. al. "Impact of Patient's Position on Ventilator Acquired Pneumonia: A Metaanalysis of Randomized Controlled Trials ", Journal of Critical Care (2009); 24(4). 515-522.
17. Ranjit, S. et.al. "The Effective of Comprehensive Oral Care Protocol On Patient's at Risk for Ventilator Associated Pneumonia", Journal of Advocate Healthcare (2011); 12(4). 27-30.
18. Blot, S.I. et.al. "Nurses Ration and Risk Of Ventilator Associated Pneumonia in Critical Patients", American Journal of Critical Care (2011); 20(1). 1-9
19. http://www.cid.oxfordjournals.org
20. http://www.ncbi.nlm.nih.gov
21. http://www.aacn.org
22. https://www.cdc.gov/nhsn

Problems and Compliance on Online Education among Nursing Students

Jessy Thomas

Vice Principal, KIMS College of Nursing, Thiruvanthapuram

Abstract

A descriptive study was conducted to assess the problems and compliance on online education among nursing students, KIMS nursing college Thiruvananthapuram. The objectives of the study were to find out the problems of online education, to assess the compliance of online education, to find out the association between problems and compliance of online education and selected sociopersonal variables. The sample size consists of 110 nursing students. The study used a purposive sampling technique through a structured questionnaire consisting of 3 sections; section A consist of Sociopersonal variable such as age, year of study, gender, monthly income, area of residence, and gadgets used for online learning; section B is a structured questionnaire of 10 multiple choice questions on problems of online education; Section C consists of 15 "Yes /No" question on compliance of online education. Data was collected and analysed using descriptive and inferential statistics. The selected socio-personal variables in the study include age, gender, year of study, income, area of residence, gadgets used for learning.

The result show that 58.181% participants faced network, electricity, recharge issues, 56.36% spend 5-7 hours for an average online section, 57.27% felt that online education was good, 70% partially completed the class syllabus, 64.545% reported too much content, 49.090% preferred whatsApp,.30.90% felt a sense of isolation, 53.62% had partially affordable economic burden,76.3% experienced headache, eye strain and backache,52.73% doesn't get enough time to engage in physical activity and about 40.90 % had average compliance, 33.63% good and 25.45% had poor compliance.

The study showed that there is a significant association between compliance on online education and age ($P<0.05$). There is no significant association between compliance on online education and gender, year of study, income, area of residence and gadget used.

Key words: *Problems, Compliance, Nursing students, online education*

Introduction

Online Education has grown significantly over the last decade .Online learning is the latest trend of educational delivery for gaining knowledge and degree.[1]Online learning is defined as "Learning experiences in synchronous or asynchronous environments using different devices.(example Mobile phones ,laptops etc.) With internet access .In these Environment, students can be anywhere to learn an Interact with instructors and other students. (Singh and Thurman, 2019).[2]

The evolution of Internet has provided an opportunity for offering online learning. Medical and nursing education seek out appropriate actions to conduct effective e- learning via e-lectures, e-tutorials, e-care base learning, etc., so that continued education can be provided without getting much affected during COVID-19 pandemic. The aim of the study is to

understand about the attitudes of nursing students on online education and to know whether they are willing to change their learning methodology from the traditional learning methods. The sudden change to this new normal way of learning has its own positives and negatives. When the online learning has opened many new doors and opportunities, it has disrupted the peer learning and social interaction among the students. Spending too much time in front of mobile phones, laptops and tabs will surely result in physiological issues among the students.[3]

Background of the study

Online Education is the acquisition of knowledge which takes place through electronic media and technologies .Online platforms for teaching-learning includes Google classes, zoom , recorded classes, Whats-app.[4]

Online learning is using the internet and it is associated gadgets for instructional functions without geographical restrictions, particularly after the outbreak of the Coronavirus pandemic which brought about a disruption of training with inside the study room around the world. While the arrival of COVID 19 has required a nurse faculty to be innovative, bendy nimble and agile for example teachers have needed to pass in-individual classes online, conceptualize and after opportunity scientific enjoy and redefine. The study aimed to assess the problems and compliance of nursing students on online learning experience during the COVID 19 period. Virtual fact and augmented study rooms nowadays have to make greater interplay among teachers and college students as near actual study rooms like enjoy as possible. The assignment but is minimized through using many e-coaching and re-mastering apps. On line, mastering is a transient alternative useful resource to meet the challenges of the COVID 19. Nursing education has been using internet related data source for research purposes, but now, this has become an essential element of basic professional training.[5]

- A Descriptive study on "students perception and preference for online education in India during COVID 19 Pandemic" .Among 307 graduate assessed using structured and unstructured preliminary questionnaire. Various devices preferred by Respondents for attending online classes were smartphones (57.98%), laptop (35.83%), tablet (4.89%) and desktop (.65%). Mobile data pack was source of internet for 82% Respondent. 62% said that whatsapp was the best way to communicate class update .57.52% indicates lack of connectivity as a major hindrance in online learning. The second and third constraints were data limit (55.95%) and data speed (55.50%).T.Muthuprasad. [7]

- The university of Hyderabad carried out an in –house survey with about 2500 students on issues related to online learning .Though 90% of the respondants have a mobile phone , about 63% of them could only access online classes in frequently or not at all . Interestingly, among the concerns raised about online Instructions, 40% reported unreliable connectivity as being a major deterrent while 30% cited the cost of data. Significantly 10% reported uncertain electricity supply as a concern .[8]

Need and Significance

Even before COVID-19, there was already high growth and adoption in education technology. There is an unplanned and rapid move to online learning – with no training, insufficient bandwidth and little preparation which may result in a poor user experience that is unconducive to sustained growth in rendering quality education in nursing profession.

- "A Descriptive study on "Problem faced by students through electronic media " was

conducted by Surakash Subedi , Suvash Nayaju , Sweta Subedi, Sanjeev Kuar Shah and Jennifer Mathias Shah at Nepal .The study was mainly focused to the nursing teachers and students of Nepal. The sample size was 1116 respondents. Primary quantitative data was obtained by self -administered questionnaire through online survey method. The results were, almost half of the teachers (42.3%) got disturbed for their online class because of electricity problems, 48.1% because of internet problems. More than half of the students (63.2%) were affected because of electricity and 63.6% internet problems, only 64.3% students had internet access for their online classes and it conclude that e- learning is a good opportunity to continue education but in the context of developing countries like Nepal it is not fully effective unless the factors affecting are taken into account.[10]

- A multinational study, "Students perception on online education" among 223 undergraduate students of Portuguese, UAE, Ukraine Collected through online survey with 10 closed questions about undergraduate Students perception and receptivity towards enrolling in online education. Survey result were 27.27% Portugal, 28.57% Ukraine, 32.63% UAE students have difficulty in contacting the instructors. 30.91% Portugal, 21.43% Ukraine, 36.84% UAE have difficulty in interacting with the peers. 30.91% Portugal, 65.71% Ukraine, 41.05% UAE students have difficulty to stay motivated. 32.73% Portugal, 24.29% Ukraine, 47.37% UAE students have difficulty getting immediate feedback. 52.73% Portugal, 14.29% Ukraine, 55.79% UAE students prefer face to face classes.[11]

- Since this is a new concept ,it is significant to assess the problems of online education and determine their adaptability to this new system so that the knowledge and clinical skills of nursing students will be enhanced by improving the efficiency and effectiveness of educational interventions in the phase of social and scientific challenges .[14]

Statement of the Problem

A study to assess the problems and compliance on online education among nursing students in a selected nursing college, Trivandrum.

Objectives

- To find out the problems of online education.
- To assess the compliance of online education.
- To find out the association between compliance of online education and selected socio-personal variables.

Hypotheses

H1: There is a Significant association between problems and compliance on online education and related socio -personal variable Such as Age, Gender, Year of study, Monthly income, Area of residence, Gadgets used for Learning.

Assumptions

- Students are new to online education.
- Online learning is very easy for everyone.
- Online learning offers students the accessibility of time and Place in education compared to offline classes.

Methodology

Research approach

Quantitative research approach

Research design

Non experimental descriptive study design

Setting of the study

KIMS College of Nursing, Trivandrum

Population

- **Target population :** Nursing students
- **Accessible population :** Second year and third year Nursing Students of KIMS College of Nursing

Sample size: 110 nursing students

Sampling technique: Purposive sampling techniques.

Criteria for sampling selection

Inclusion Criteria

1. Those who are able to access Internet Facilities

2. Those who are able to understand English Language

Exclusion criteria

1. Students who are not willing to participate in the study.

Research Tool

The research Tool used for this study is Structured Questionnaire.

Data collection procedure

Data collection conducted from 15th March to 16th March after obtaining permission and ethical clearance from the Institution Review Board and Head of Department of KIMS College of Nursing .Informed Consent from each participants obtained .The Questions given to the Participants through Google form after the submission of Informed Consent.

Techniques for Data Analysis

Data analysis planned based on the objectives of the study. After collection of the data, it is organized tabulated and summarized by a master data sheet and by using descriptive and inferential statistics using the latest SPSS version with the help of a statistician. Descriptive statistics used for percentage and frequency distribution .Inferential Statistics using Chi-Square Test.

Data Analysis and Interpretation of data:

Organization of study findings

Section A: Distribution of subjects based on socio personal variables.

Section B: Distribution of subjects based on problems of online education.

Section C: Distribution of subjects based on association between compliance and selected socio

personal variables.

SECTION A: Distribution of subjects based on socio personal variables

- In age group, majority of samples belongs to 20 – 21 years (68.18%), 17-19 years (29%) and the least belongs to age group of 22-24 years (2.72%)
- In gender, majority of samples belong to female group (98.18%) and least belongs to male group (1.81%)
- In year of study majority of samples belongs to third year BSc Nursing students (58.18%) and least belongs to second year BSc Nursing students (41.81%)

- In income majority of samples have monthly income of >20,000 ,37.27% have monthly income of Rs 5,000-10,000 , 28.18% have monthly income of less than 5,000 , 18.18% have monthly income of Rs 10,000- 20,000 and 16.36% have monthly income of above Rs 20000
- In area of residence, majority of samples belongs to rural(51.81%) and least of the samples belongs in urban area (48.18%)

GADGETS

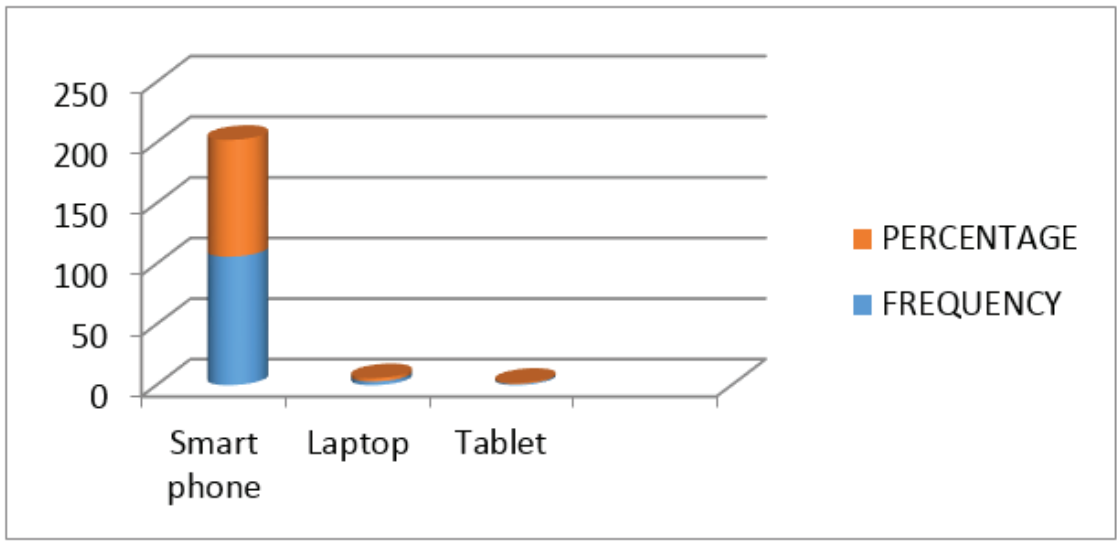


FIGURE 1: The cylindrical diagram showing frequency and percentage distribution of subjects according to gadget used for online education

SECTION B: Distribution of subjects based on problems of online education

Table: 1 **n=110**

Variables	Frequency (f)	Percentage (%)
1. Time duration		
1-3 hrs	5	4.545
3-5 hrs	28	25.45
5-7hrs	62	56.36
7-10hrs	15	13.63
2. Problem faced		
Network issues	44	40
Electricity issues	1	0.90
Recharge issues	1	0.90
All of the above	64	58.18

Most of the students (56.36%) spend their time for about 5-7 hrs and (58.18%) faced the problems like network issues, electricity issues and recharge issues during online classes.

Variables	frequency (f)	percentage (%)
3. Overall about online education		
Excellent	1	0.90
Good	63	57.27
Below Average	33	30
Poor	13	11.81
4. Able to complete syllabus		
Completed	15	13.63
Partially completed	77	70
Not able to complete	18	16.36
.5. About class syllabus		
Satisfied	35	31.81
Too much content	71	64.54
Less content	4	3.63

57.27% of students felt good about online education.70% students partially completed the syllabus.64.54%students had too much content on online class.

Variables	frequency(f)	percentage(%)
6. Most preferred platform		
Whatsapp	54	49.09
Google classroom	30	27.27
Zoom	5	4.45
Moodle	0	0
All of the above	21	19
7. Sense of Isolation		
No	32	29.09
Yes	34	30.90
Sometimes	44	40
8. Economic Burden		
Affordable	38	34.54
Partially affordable	59	53.62
Not affordable	13	11.81

49.09% students preferred whatsapp as their platform for online class .44% students felt sense of isolation and 53.62% students were partially affordable in their economic status.

Variables	frequency (f)	percentage (%)
9. Health Problem		
Headache	7	6.36
Eye strain	18	16.3
Backache	1	0.9
All of the above	84	76.3
10. Time to engage in physical activities		
Most often	4	3.63
Sometimes	48	43.63
Not at all	58	52.73

76.3% students faced the health problems like headache, eye strain and backache.52.73% students not get enough time to engage in physical activities.

SECTION C: Distribution of subjects based on compliance of online education.

Table 2: shows distribution of subjects based on compliance of online education.

n=110

Compliance	frequency (f)	percentage (%)
Good	37	33.64
Average	45	40.91
Poor	28	25.45

Inference: Among 110 samples 40.91% had average compliance, 33.64% had good compliance and 25.45 % had poor compliance.

SECTION D: Association between compliance on online education and selected socio personal variables

Table 3: Chi square test showing association between compliance on online education and age. **n=110**

Variables (Age)	Good Frequency	Average Frequency	Poor Frequency	df	calculated chi square
17-19 years	9	16	7		
20-21 years	27	29	19	4	X^2=9.5865
22-24 years	1	0	2		

SECTION D: Association between compliance on online education and selected socio personal variables

Table 4 shows that the computed Chi square value (9.586) is more than table value (9.49) at the df 4. The test is statistically significant (P<0.05).Hence there is significant association between compliance on online education and age.

Results

The study results are organized under following headings:

Section A: Socio personal variables

- In age group, majority of samples belongs to 20 – 21 years (68.18%), 17-19 years (29%) and the least belongs to age group of 22-24 years (2.72%)
- In gender, majority of samples belong to female group (98.18%) and least belongs to male group (1.81%)
- In year of study majority of samples belongs to third year BSc Nursing students (58.18%) and least belongs to second year BSc Nursing students (41.81%)
- In income majority of samples have monthly income of >20,000 ,37.27% have monthly income of Rs 5,000-10,000 , 28.18% have monthly income of less than 5,000 , 18.18% have monthly income of Rs 10,000- 20,000 and 16.36% have monthly income of above Rs 20000
- In area of residence, majority of samples belongs to rural(51.81%) and least of the samples belongs in urban area (48.18%)
- In gadgets used for learning, the majority of samples belongs to smartphone(96.3%),2.72% belongs to laptop and least samples belongs to tablet(0.90%)

Section B: Distribution of subjects based on the problems of online education

The result show that 58.181% participants faced network, electricity, recharge issues. 56.36% participants spend 5-7 hours for an average online section. 57.27% participants felts that online education was good. 70% participants were partially completed the class syllabus. 64.545% participants reported too much content. 49.090% preferred whatsApp as the platform for online education. 30.90% felt a sense of isolation. 53.62% had partially affordable economic burden.76.3% participants experienced headache, eye strain and backache.52.73% doesn't get enough time to engage in physical activity during online classes.

Section C: Distribution of subjects based on compliance on online education

Among 110 samples, 37 participants (33.64%) had good compliance,45 participants(40.91%) had average compliance and 28 participants(25.45%) had poor compliance on online education.

Section D: Association between compliance on online education and selected socio personal variables.

The selected socio personal variables in the study include age , year of study , gender , income ,area of residence and gadgets used for online education . There is a significant association (P<0.05) between compliance on online education and age. There is no significant association (P>0.05) between compliance on online education and socio-personal variables such as year of study, gender, income, area of residence and gadgets used for online education.

Discussion

The present study was taken up in an effort

to assess the problems and compliance of online education among nursing students Trivandrum.

Objectives were:

1. To find out the problems of online education.

2. To assess the compliance of online education.

3. To find out the association between compliance of online education and selected socio personal variable

- The result showed that among 110 samples 29% belongs to age group 17-19 years 68.18% belongs to 20-21 years, 2.72% belongs to 22-24 years. With regard to gender 98.18% are females, 1.81% males. With regard to year of study, 58.18% belongs to 3rd year , 41.81% were 2nd years. With regard to income 37.27% had monthly income between 5000-10000, 28.18% had monthly income <5000,18.18% had 10000-20000, 16.36% had monthly income >20000.With regard to area of residence 51.81% sample living in rural area,48.18% living in urban area. With regard to gadget used for learning 96.3% samples used smartphones ,2.72% used laptops , 0.90% used tablets. The selected socio-personal variables in the study include age, gender, year of study, income, area of residence, gadgets used for learning. The result show that 58.181% participants faced network, electricity, recharge issues. 56.36% participant spends 5-7 hours for an average online section. 57.27% participants felts that online education was good. 70% participants were partially completed the class syllabus. 64.545% participants reported too much content. 49.090% preferred whatsApp as the platform for online education. 30.90% felt a sense of isolation. 53.62% had partially affordable economic burden.76.3% participants experienced headache, eye strain and backache.52.73% doesn't get enough time to engage in physical activity during online classes. About 40.90 % of the participants had average compliance, 33.63% had good compliance and 25.45% had poor compliance. The study showed that there is a significant association between compliance on online education and age ($P<0.05$). There is no significant association between compliance on online education and gender, year of study, income, area of residence and gadget used.

- This study is in congruent with a study conducted in India by T.Muthuprasad. A Descriptive study on "students perception and preference for online education in India during COVID 19 Pandemic" .Among 307 graduate assessed using structured and unstructured preliminary questionnaire. Various devices preferred by Respondents for attending online classes were smartphones (57.98%), laptop (35.83%), tablet (4.89%) and desktop (.65%). Mobile data pack was source of internet for 82% Respondent. 62% said that whatsapp was the best way to communicate class update .57.52% indicates lack of connectivity as a major hindrance in online learning. The second and third constraints were data limit (55.95%) and data speed (55.50%).T.Muthuprasad. [7]

- "A Descriptive study on "Problem faced by students through electronic media "
was conducted by Surakash Subedi , Suvash Nayaju , Sweta Subedi, Sanjeev Kuar Shah and Jennifer Mathias Shah at Nepal .The study was mainly focused to the nursing teachers and students of Nepal. The sample size was 1116 respondents. Primary quantitative data

was obtained by self -administered questionnaire through online survey method. The results were, almost half of the teachers (42.3%) got disturbed for their online class because of electricity problems, 48.1% because of internet problems. More than half of the students (63.2%) were affected because of electricity and 63.6% internet problems, only 64.3% students had internet access for their online classes and it conclude that e- learning is a good opportunity to continue education but in the context of developing countries like Nepal it is not fully effective unless the factors affecting are taken into account.[10]

Summary

Online education is electronically supported learning that reliance on the internet for teacher –student interaction and the distribution of class materials.

The present study was done to assess problems and compliance on online education among 2 nd year and 3 rd year B sc nursing students in KIMS College of nursing, Trivandrum. The study used quantitative research approach and non-experimental descriptive research design. The study used a non – probability purposive sampling technique. The study excluded students who are not willing to participate. The tool consists of structured questionnaire to assess socio-personal variables, problems and compliance on online education. The data collection was done from 15/3/21-16/3/21.The data was analyzed using descriptive and inferential statistics including chi- square technique. Among the 110 samples 33.63% participants have good compliance, 40.90% participants have average compliance, and 25.45% participants have poor compliance. The result showed that among 110 samples 29% belongs to age group 17-19 years 68.18% belongs to 20-21 years, 2.72% belongs to 22-24 years. With regard to gender 98.18% are females, 1.81% males. With regard to year of study, 58.18% belongs to 3rd year, 41.81% were 2nd years. With regard to income 37.27% had monthly income between 5000-10000, 28.18% had monthly income <5000,18.18% had 10000-20000, 16.36% had monthly income >20000. With regard to area of residence 51.81% sample living in rural area,48.18% living in urban area. With regard to gadget used for learning 96.3% samples used smartphones, 2.72% used laptops, 0.90% used tablets. The selected socio-personal variables in the study include age, gender, year of study, income, area of residence, gadgets used for learning. In the age X^2 =9.586, year of study X^2=0.2, gender X^2=2.73, income X^2= 10.99, area of residence X^2=3.98,gadgets used for learning X^2=4.587. There is significant association between compliance on online education and age. There is no significant association between compliance on online education and socio-personal variables such as year of study, gender, income, area of residence, gadgets used for learning.

Conclusion

The study focused to assess the problems and compliance on online education among nursing students. The study concluded that majority of the sample have average compliance on online education. The also suggested that there is significant association between compliance on online education and age. There is no significant association between compliance on online education and socio-personal variables such as year of study, gender, income, area of residence, gadgets used for learning.

Nursing implication

Nursing Implication The study implication

for nursing practice , nursing education , nursing administration and nursing research.

Nursing practice

• Nurses can implement online education to improve their in-service and continuing education.

• Increasing numbers of nurses and nursing student live at distances from educational institutions providing basic or continuing nursing education.

Nursing Administration

- Nurse administrators can conduct workshops to ensure more information on online education.
- Nurse administrators can make use of different modes to conduct online education.
- Nurses must utilize average resources including budget to facilitate teaching on various aspects of online education among nurses.

Nursing Education

• Nurse educators make use of online methods for efficient e-learning during pandemic and

Calamities.

• Nurse educators got a different experiences in teaching, examinations through online education ,

enabling them to get more skills on technologies.

• Nurse educators provide better student outcomes, including better scores on the certification and

credentials testing and increased preparedness for real -world practice by understanding the problems.

Nursing Research

•To find out the indepth aspects of online education.

• Efficient input into nursing research helps to identify different aspects of online education.

• The findings of the study serve as a scientific basis for the professionals and students.

Recommendations

- A similar study can be conducted through direct enquiry rather than using Google forms.
- An observational study can be conducted for a definite period.
- A similar study can be conducted for another professionals and school level students.

Conflict of Interest: None

Source of Funding: This study was self financed

Ethical Clearance: Taken from College Committee.

References

1. Cathy Li, Farah Laiani, COVID-19 Pandemic has changed education forever, 2020 April 29.
2. Jahanzeb Jahan "research proposal on online education " MS-AL.
3. Singh, Thurman .A Systematic Literature Review of Definitions of Online Learning. Oct 2019 American Journal of Distance Education. 33 (4):289-306. 3.
4. Sander Tamm, 'What is E-Learning?' e-student. org December 21,2019.
5. Dewi Ratnasavi, Haryanto, " Analysis of utilization of gadget as effective learning media in innovation achievement "volume 2019.
6. Wagdi sawahel, "social media offers platform for online learning –study, Egypt, university world news, African edition 10th September 2020.

7. Muthuprasad T, "students perception and preference for online education in India during covid-19 pandemic ', social science and Humanities open 3, (2021) 1-11.
8. Vinod Pavarala, 'Proposal for online classes Elicit mixed responses from UOH students: survey April 19, 2020.
9. International Journal of recent technology and engineering (IJRTE) –Vol 8 page no .256.
10. Surakash Subedi, Suvash Nayaju, Sweta Subedi, Sanjeev Kuar Shah. Jennifer Mathias Shah at Nepal .Problems faced by students towards electronic media.
11. Patricia Fidalgo, Joan Thormann, Jose Alberto herncastre. International Journal of Educational Technology in Higher Education: A Multinational study.

Identification of Physical Problems of Patients with Acute Stroke

Nihitha Jose[1], Mini. G[2]

[1]Lecturer, KIMS College of Nursing, Trivandrum, Kerala. [2]Professor, College of Nursing, Ananthapuri Hospitals and Research Institute, Trivandrum, Kerala

Abstract

Background: Stroke patients experience a variety of physical problems which affect their activities of daily life. As there is need for identifying the physical problems of patients with acute stroke in the initial stage, the present study was undertaken to identify the physical problems of patients with acute stroke. **Objectives:** the objectives of the study were to identify the physical problems of patients with acute stroke. **Methods:** This descriptive study was conducted at neurology department of a tertiary care hospital in Kerala. 60 patients with acute stroke was selected by consecutive sampling technique. Physical problems of stroke patients were identified by standardised tools; National Institute of Health Stroke Scale (NIHSS) and Barthel index. Appropriate descriptive and inferential statistical methods were used to analyze the data. **Results:** The major physical problems identified were immobility (81.7%), lower extremity weakness (75%), upper extremity weakness (71.6%), loss of bladder control (66.7%), loss of bowel control (65%), feeding problem (63.3%) and communication problems like dysarthria (55%) and aphasia (53.3%). **Conclusion:** The study stresses the importance of identification of various existing and emerging physical problems encountered by acute stroke patients and the preparation of a nursing care protocol, which can be utilized in future, for managing the major physical problems.

Key words: *Acute stroke; NIHSS; Barthel index; Physical problems; Nursing care protocol.*

Introduction

Cerebrovascular disorders are an umbrella term that refers to any functional abnormality of the central nervous system that occurs when the normal blood supply to the brain is disrupted. Stroke is the primary cerebrovascular disorder affecting worldwide. Stroke is the second leading cause of death, accounting for 11.13 % of total deaths, and the main cause of disability worldwide. The major type of stroke is ischemic, which occurs in about 87% of all stroke cases.[1]A higher proportion of younger individuals suffer from stroke among developing countries as compared with developed countries.[2]Data from India on stroke among the young are mostly limited to ischemic stroke.[3] A retrospective record based study among stroke patients in the age group of 15- 45 years, conducted at Mangalore shows that among 109 stroke cases, 56% were ischemic stroke, 22.9% were haemorrhagic and 21.1% were embolic stroke.[4]

Stroke can result in a large variety of symptoms and signs but the most common and widely recognized impairment caused by stroke is motor impairment, which typically affects the control of movement of the face, arm and leg of one side of the body and affects

Corresponding author :
Nihitha Jose
email: nihithalimston3108@gmail.com

approximately 80% of patients to varying degrees. The presence of sensory impairments, as well as visual and perceptual disorders (including agnosia, apraxia and neglect) may also affect participation in rehabilitation. These deficits commonly affect mobility, reading and driving abilities, which may result in poor quality of life, low mood and social isolation.[5]Depending on the affected area of the brain, an individual who experiences a stroke may suddenly be left with paralysis or weakness in the upper and/or lower extremities, incontinence, visual impairment, loss of sensation in or awareness of one side of the body, difficulty in swallowing and difficulty in understanding what is said and in communicating with others. [6]

Recent evidence suggests that 72.7% of stroke survivors in rural India have severe disability and unmet needs for stroke care.[7]Permanent disability occurs in 15-30% of the stroke survivors and physical disabilities have significant impact on patients, families and informal care givers. Early recognition and diagnosis of stroke using validated tools can help save life and limit disability.[8] Organized provision of care in a stroke unit have been found to increase the number of patients who survive, return home, and regain functional independence in their everyday activities.[7]However, implementation of such organized care for stroke is limited and inadequate in low and middle income countries, especially in a country like India where resources for rehabilitation are scarce.[9]

Physical problems and complications due to stroke is a global challenge in the nursing care of patients with stroke. Identifying the physical problems and timely intervention is of robust need in caring the patients with stroke. The objective of the study was to identify the physical problems of patients with acute stroke.

Materials and Methods

This descriptive study adopted quantitative approach for identifying the physical problems of patients with acute stroke. The study was conducted in the neurology department of a tertiary care hospital in Kerala. Sample consists of patients between the age group of 30 - 80 years with acute stroke, within 48 hours of onset admitted in neurology department during the period of study.

Using the formula for simple proportion the sample size calculated was 60 and they were recruited consecutively based on the inclusion criteria. Critically ill patients with cognitive impairment and patients with previous history of stroke were excluded.

Data collection instruments

- **Socio-demographic and clinical data questionnaire**

A structured questionnaire was used to collect the socio-demographic and clinical data from the participants. Questionnaire consists of 2 parts, Part A deals with socio-demographic information of participants; age, gender, religion, marital status, place of residence, educational status, type of family, occupation, monthly income, and dietary habits. Part B concerned with clinical data consists of 7 questions and information include date of admission, CT/MRI diagnosis of stroke, type of stroke attack, comorbidities, family history of stroke, adverse health habits, previous experience of any mild symptoms of stroke and Current GCS score. Clinical data was collected from hospital records and information from patients and informant (for patients having problems in communication).

- **National Institute of Health Stroke Scale (NIHSS)**

NIHSS is a tool used by healthcare providers to objectively quantify the impairment caused by a

stroke. The scale composed of 11 items which include level of consciousness, gaze, visual fields, facial weakness, motor performance of the extremities, sensory deficit, coordination (ataxia), language (aphasia), speech (dysarthria), and hemi-inattention (neglect). Each item scores between 0 and 4. For all parameters, a value of 0 is normal; so, the higher the score, the worse the neurological deficit (the highest possible score is 42).[10] Based on the score in the NIHSS, the severity of physical problem is graded as No physical symptoms (0), Minor physical problem (1- 4), Moderate physical problem (5-15), Moderate to severe physical problem (16-20), Severe physical problem (21-42).

- **Barthel Index (BI):** The BI is a widely used scale to measure functional disability among patients with stroke and other neuromuscular or musculoskeletal disorders. It measures the extent to which a person can function independently and has mobility in their activities of daily living (ADL) i.e. feeding, bathing, grooming, dressing, bowel control, bladder control, toileting, chair transfer, ambulation and stair climbing. A client scoring 0 points would be dependent in all assessed activities of daily living, whereas a score of 100 would reflect independence in these activities. [11]

In the present study, selected problems like immobility, problems with bowel and bladder control and feeding problems were included. As per Barthel Index score, the physical problems based on functional dependency level is categorised as no physical problems (80-100), minor physical problems (60-79), moderate physical problems (40-59), moderate to severe physical problems (20-39), severe physical problems (0-19).

MAJOR FINDINGS

Table 1: Findings related to sociodemographic characteristics of participants

n = (60)

Variables	Groups	Frequency (%)
Age in years	≤ 50	12 (20)
	> 50	48 (80)
Gender	Male	40 (66.7)
	Female	20 (33.3)
Religion	Hindu	36 (60)
	Muslim	13 (21.7)
	Christian	11 (18.3)
Residence	Rural Urban	39 (65) 21 (35)
Marital status	Married Unmarried Widow/widower	55 (91.7) 3(5) 2 (3.3)

Cont... **Table 1: Findings related to sociodemographic characteristics of participants**

Education	No formal education Up to Secondary Graduate Professional	2 (3.3) 49 (81.7) 3 (5) 6 (10)
Occupation	Housewife Manual labour Office work Business Professional Unemployed	16 (26.7) 16 (26.7) 5 (8.3) 7 (11.7) 14 (23.3) 2 (3.3)
Type of family	Nuclear Joint/Extended	29 (48.3) 51.7 (31)
Informant	Patient Relatives	36 (60) 24 (40)
Diet	Vegetarian Non vegetarian	2 (3.3) 58 (96.7)

Table 2: The clinical data of the participants (n = 60)

Variables	Group	Frequency (%)
Adverse Health Habits	Smoking Tobacco Alcoholism Smoking & Alcoholism Tobacco use & Alcoholism None	9 (15) 1 (1.7) 10 (16.7) 8 (13.3) 1 (1.7) 31 (51.7)
Comorbidity	Diabetes Hypertension Diabetes and hypertension Diabetes, hypertension and dyslipidemia CAD Other comorbidities No comorbidities	5 (8.3) 11 (18.3) 13 (21.6) 9 (15) 4 (6.7) 10 (16.6) 8 (13.3)
Family history of stroke	Yes No	8 (13.3) 52 (86.7)
GCS	< 8-9 10-12 13-15	1 (1.7) 9 (15) 50 (83.3)
Type of stroke	Ischemia Haemorrhagic	44 (73.3) 16 (26.7)

Table 3: Physical problems based on severity as per NIHSS Score(n=60)

Physical problems	f	%
Dysarthria	33	55
Aphasia	32	53.3
Facial paralysis	25	41.6
Weakness of lower extremity– Left	23	38.3
Weakness of upper extremity– Left	22	36.7
Weakness of lower extremity– Right	22	36.7
Weakness of upper extremity– Right	21	35
Limb ataxia	21	35
Unilateral/ bilateral neglect	19	31.3
Gaze paralysis	16	26.7
Hemianopia	14	23.4
Sensory loss	7	11.7

Table 4: Distribution of participants based on categorization of selected physical problems on dependency level as per Barthel Index (n =60)

Physical problems related to dependency level	f	%
Mobility on level surfaces	49	81.7
Bladder Control	40	66.7
Bowel Control	39	65
Feeding	38	63.3

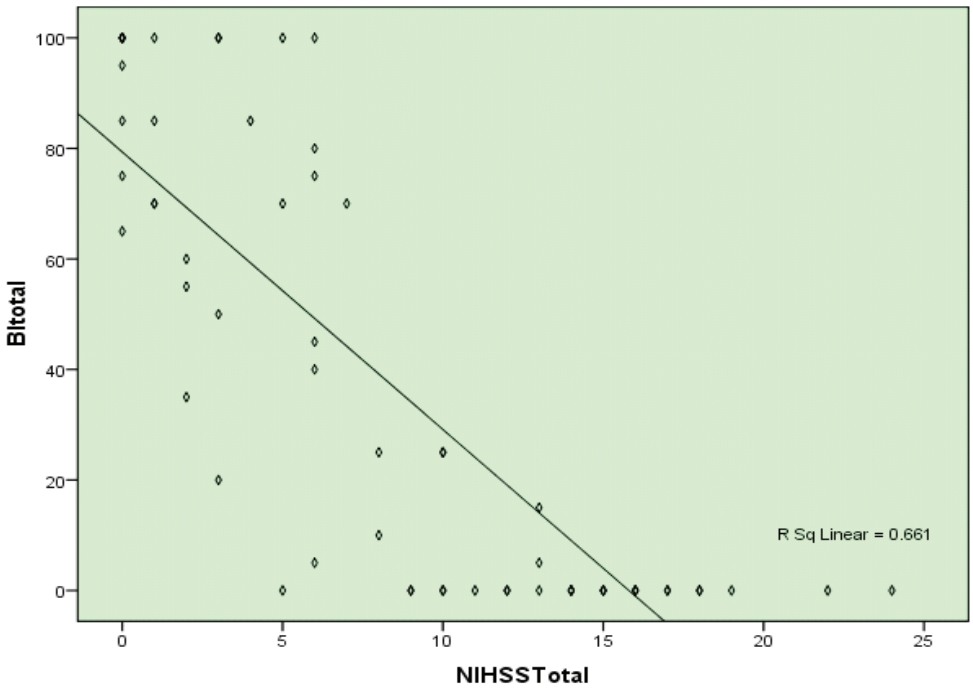
Major physical problems identified based on NIHSS Score and Barthel Index

Table 5: Distribution of participants based on major physical problems (n =60)

Sl No	Physical problems	f	%
1	Immobility	49	81.7
2	Lower extremity weakness	45	75
4	Upper extremity weakness	43	71.6
5	Loss of bladder control	40	66.7
6	Loss of bowel control	39	65
7	Problems with Feeding	38	63.3
8	Dysarthria	33	55
9	Aphasia	32	53.3

Relationship between severity of physical problem based on NIHSS and physical problems related to dependency level based on Barthel Index

- There was a statistically significant negative correlation between severity of physical problem based on NIHSS score and physical problems related to dependency level based on Barthel Index score ($r = - 0.846$, $p < 0.001$).



Spearman's rho, $r = - 0.846$ $p < 0.001$

Figure 1: Correlation between NIHSS score and Barthel Index Score

As shown in above figure, there was a statistically significant negative correlation between severity of physical problem based on NIHSS score and physical problems related to dependency level based on Barthel Index score.

Discussion

In the present study 80 % of participants were above 50 years and 20% were below 50 years, 66.7% were males. Considering the clinical variables in the present study, 51.7% participants had no adverse habits. Major comorbidities found were hypertension (18.3%), diabetes (8.3%) and 21.6% were having diabetes and hypertension together. 13.3% had family history of stroke, GCS of 83.3% participants were between 13-15 and 1.7% were having poor GCS. It was found that 73.3% of the participants were having ischemic stroke whereas 26.7% with haemorrhagic stroke.

The observation was found to be in line with several studies where the major comorbidity among stroke patients were hypertension (73.18%) in rural areas and diabetes in urban area.[12] Stroke was higher among participants having a family history of stroke. Majority of participants (56.9%) had good GCS between13-15. Several studies shows that ischemic stroke was found to be more than the haemorrhagic stroke.[4,13,14,15,16,17]

In the present study, major physical problems identified among patients with acute stroke were immobility, (81.7%), lower extremity weakness (75%) and upper extremity weakness (71.6%). A cross sectional study shows that 50% of stroke patients had physical impairments and needed varying degrees of care for their activities of daily living.[18]A study conducted by Horner point out that functional impairments were greater in stroke patients in black race.[19] This finding was also confirmed in a study, where most of the patients had hemiplegia in arm (weakness 43%, or no movement 54%) and in leg (weakness 73%, no movement 23%).[5]

Other major problems identified in the present study were loss of bladder control (66.7%) and loss of bowel control, (65%). Major communication problems noticed in the current study were dysarthria (55%) and aphasia (53.3%). Flowers et al observed the incidence, co-occurrence, and predictors of dysphagia, dysarthria, and aphasia after first-ever acute ischemic stroke patients and the results revealed the incidence of dysphagia as 44%, dysarthria 42%, and aphasia 30%.[20]Another study findings shows that more than 50% of patients were suffering from speech problems (dysarthria 21%, dysphasia 31%).[21]

Visual problems identified in the present study include gaze paralysis (26.7%) and hemianopia (23.4%). Findings in a study to identify homonymous visual field defects among stroke patients highlighted that for persons experiencing first ever stroke, 8.3% had homonymous visual field defects and those with a history of stroke in the past shows the defect as 52%.[21] Lincoln et al has supported this finding where the incidence of hemianopia was 19%.[22]

The findings concluded that the majority of participants had motor impairment including immobility and weakness of extremities, problems in communication, elimination problems (bowel and bladder) and feeding problem. The study stresses the importance of managing various existing and emerging physical problems encountered by stroke patients.

Conclusion

The findings concluded that the majority of participants had motor impairment including immobility and weakness of extremities, problems in communication, elimination problems (bowel and bladder) and feeding problem. The associated factors that influence the severity of physical problems were also elicited as a part of the study. The study stresses the importance of managing various existing and emerging physical problems encountered by stroke patients and help them to regain their health as before thereby achieving a better quality of life.

Source of Funding: Self

Conflict of Interest: There are no conflicts of interest

Ethical Clearance: Taken from the ethical committee of College of nursing, Ananthapuri Hospitals and Research Institute, Trivandrum

References

1. Habibi-Koolaee M, Shahmoradi L, NiakanKalhori SR, Ghannadan H, Younesi E. Prevalence of stroke risk factors and their distribution based on stroke subtypes in Gorgan: a retrospective hospital-based study—2015-2016. Neurology research international. 2018 Jul 26;2018.
2. Truelsen T, Bonita R, Jamrozik K. Surveillance of stroke: a global perspective. International Journal of Epidemiology. 2001 Oct 1;30(suppl_1):S11.
3. Nayak SD, Nair M, Radhakrishnan K, Sarma PS. Ischaemic stroke in the young adult: clinical features, risk factors and outcome. Natl Med J India. 1997 May 1;10(3):107-2.
4. Kumar HH, Kalra B, Goyal N. A Study on

Stroke and its Outcome in Young adults (15–45 Years) from coastal South India. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine. 2011 Jan; 36(1):62.

5. Brewer L, Horgan F, Hickey A, Williams D. Stroke rehabilitation: recent advances and future therapies. QJM: An International journal of Medicine. 2012 Sep 27; 106(1): 11-25.
6. Clarke PJ, Black Se, BadleyEm, Lawrence JM, Ivan Williams J. Handicap in stroke survivors. Disability and rehabilitation. 1999 Jan 1;21(3):116-23.
7. Taylor FC, Suresh Kumar K. Stroke in India fact sheet (updated 2012). South Asia Network for Chronic Disease, Public Health Foundation of India. 2012:1-2.
8. Party IS. National clinical guideline for stroke. London: Royal College of Physicians; 2012 Sep.
9. Wall HK, Beagan BM, O'Neill HJ, Foell KM, Boddie -Willis CL. Addressing stroke signs and symptoms through public education: the Stroke Heroes Act FAST campaign. Preventing chronic disease. 2008 Apr;5(2).
10. National Institutes of Health Stroke Scale [Internet]. En.Wikipedia.org.2019 [cited 25 May 2019]. Available from: https://en.wikipedia.org/wiki/ National Institutes of Health Stroke Scale.
11. Barthel Index – an overview | ScienceDirect Topics [Internet]. Sciencedirect.com. 2019 [cited 25 May 2019]. Available from: https://www.sciencedirect.com/topics/medicine-and-dentistry/barthel-index
12. Blake H, McKinney M, Treece K, Lee E, Lincoln NB. An evaluation of screening measures for cognitive impairment after stroke. Age and ageing. 2002 Nov 1;31(6):451-6.
13. Sridharan SE, Unnikrishnan JP, Sukumaran S, Sylaja PN, Nayak SD, Sharma PS Incidence, types, risk factors, and outcome of stroke in a developing country: the Trivandrum Stroke Registry. Stroke. 2009 Apr 1;40(4):1212-8.
14. Kamalakannan S, Gudlavalleti AS, Gudlavalleti VS, Goenka S, Kuper H. Incidence & prevalence of stroke in India: A systematic review. Indian Journal of Medical Research. 2017 Feb 1;146(2):175.
15. Meirhaeghe A, Cottel D, Cousin B, Dumont MP, Marécaux N, Amouyel P, et al. Sex differences in stroke attack, incidence, and mortality rates in Northern France. Journal of Stroke and Cerebrovascular Diseases. 2018 May 1;27(5):1368-74.
16. Pandian JD, Sudhan P. Stroke epidemiology and stroke care services in India. Journal of stroke. 2013 Sep;15(3):128.
17. De Haan R, Horn J, Limburg MM, Van Der Meulen JM, Bossuyt P. A comparison of five stroke scales with measures of disability, handicap, and quality of life. Stroke. 1993 Aug;24(8):1178-81.
18. Langhorne P, Stott DJ, Robertson L, MacDonald J, Jones L, McAlpine C, et al. Medical complications after stroke: a multicenter study. Stroke. 2000 Jun;31(6):1223-9.
19. Horner RD, Matchar DB, Divine GW, Feussner JR. Racial variations in ischemic stroke-related physical and functional impairments. Stroke. 1991 Dec;22(12):1497-501.
20. Flowers HL, Silver FL, Fang J, Rochon E, Martino R. The incidence, co-occurrence, and predictors of dysphagia, dysarthria, and aphasia after first-ever acute ischemic stroke. Journal of communication disorders. 2013 May 1;46(3):238-48.
21. Gilhotra JS, Mitchell P, Healey PR, Cumming RG, Currie J. Homonymous visual field defects and stroke in an older population. Stroke. 2002

Oct 1;33(10):2417-20.

22. Lincoln NB, Blackburn M, Ellis S, Jackson J, Edmans JA, Nouri FM, et al. An investigation of factors affecting progress of patients on a stroke unit. Journal of Neurology, Neurosurgery & Psychiatry. 1989 Apr 1;52(4):493-6.

Objective Structured Clinical Exam : A Cross Sectional Study To Evaluate Undergraduate Nursing Students Experience

Rosy K O[1], Nandini M[2], Princy Francis M[3], Divya T N[4]

[1]Principal cum HOD-Dept of Community Health Nursing, [2]Vice Principal cum HOD - Dept of Child Health Nursing, [3]Lecturer-Dept of Medical Surgical Nursing, [4]Asst Professor - Dept of Child Health Nursing, Aswini College of Nursing, Thrissur, Kerala, India

Abstract

Introduction: OSCE is an assessment tool in which the components of clinical competence such as history taking, physical examination, performing procedures, interpretation of lab results, health education, communication and attitude are tested using agreed check lists and rotating the student round a number of stations some which have observers with check lists. **Aim:** The present study was conducted to evaluate the experience of undergraduate nursing students on objective structured clinical examination as an assessment method for their clinical skills. **Material & Methods:** A Cross sectional descriptive design was used in the study. A convenient sampling method was followed, to select 237 students of different academic levels of BSc Nursing program during the academic year 2019 – 2020 of Aswini college of Nursing, Thrissur. The questionnaire was administered through Goggle forms after testing the validity. **Results:** Majority of the students responded positively towards the OSCE attributes, organization, quality, validity, reliability and exam. Student's experience OSCE as not scary and frightening; and also they partially agree with using OSCE more often in upcoming years. Majority of students partially agree that OSCE felt as real as well as authentic and covered wide range of clinical skills. Students positive feedback of the OSCE experience recommend the usefulness of OSCE as a summative & formative evaluation method in nursing field.

Keywords *: OSCE, Students experience, Students feedback, Undergraduate nursing students, evaluation, cross sectional study*

Introduction

One of the essential components of learning and educational program is evaluation and examination. There are various methods for evaluating clinical skills among which objective structured clinical examination has been recognized as the most reliable method for evaluation of the clinical skills[1]. Objective Structured Clinical Examinations (OSCE) is a multi-system examination using real or simulated patients which evaluates clinical skills, attitudes and cognitive abilities[2]. OSCE has been used for many decades within healthcare programmes as a measure of student's clinical performance. Now a days it is well established and increasingly used in nursing education as an assessment tool.

Corresponding Author:-
Prof. DR. Nandini.M
Vice Principal, HOD Child Health Nursing
Aswini College of Nursing, Nadathara (PO)
Thrissur-680751, email id: nandinim31@gmail.com
Contact no: 9895667669

Nurses are among the health care professionals who provide health care to patients with different kinds of serious health conditions. Students undergoing training in nursing have to study new subjects, examinations, getting practical experience in caring for patients with various disease conditions as well as other challenges[3]. In nursing education, different teaching methods are adopted to help the students to gain knowledge, skills and attitudes relevant for competent nursing practice in a safe manner[4]. Research revealed that OSCE is an effective tool for appraisal of nursing students clinical skill. An OSCE usually comprises a circuit of short stations, in which each candidate is examined on a one to one basis with one or two examiners. Candidates rotate through the stations, completing all the stations on their circuit. As the name suggest, an OSCE is designed to be *objective*- all candidates are assessed using exactly the same stations with the same marking scheme. In an OSCE, candidates get marks for each step on the mark scheme that they perform correctly, which therefore makes the clinical skills more objective, rather than subjective, *structured*-stations in OSCE have a very specific task. The OSCE is carefully structured to include parts from all elements of the curriculum as well as a wide range of skills. A *clinical examination*-the OSCE is designed to apply clinical and theoretical knowledge.

During their education, undergraduate nursing students acquire skills essential for providing patient care. The key dimension of clinical competence in nursing education includes cognitive, affective and psychomotor domains. Assessment of clinical competence is an essential requirement of health professional education[5]. Because they need to demonstrate competency and confidence in the performance of clinical skills. The pyramid of competence, which outlines four levels at which a learner can be assessed: knows, knows how, shows how and does and is a framework that identifies the stages of skills students should achieve. In progressing up the pyramid to show how, students demonstrate their knowledge and understanding by performing in a stimulated setting such as an OSCE[6].

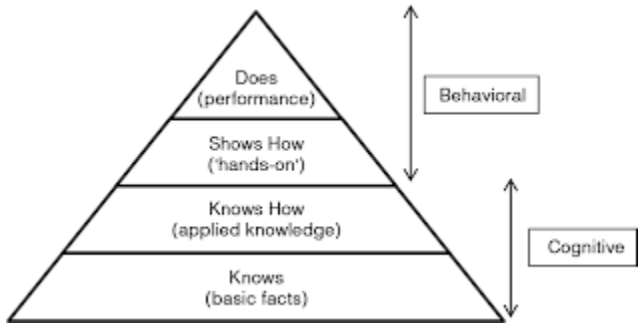


Figure 1 : The development of Clinical Skills/ Competence / Performance

It is often seen that examiners variability based on subjectivity can significantly affect the OSCE scoring. It was a real concern for those involved in education that the integration of theory and clinical courses together should happen in the same position. However, due to limited sites for clinical placements, varying clinical hours and absence of consistent assessment of practice tool, objective evaluation of clinical competence among nursing students remains a major challenge for nurse educators[7].

The NMC (2010) states that learning outcomes should be assessed using a variety of assessments, providing that OSCEs are used appropriately they are valuable in assessing students' performance and underpinning knowledge of clinical skills[8].The OSCE has gained acceptance as a benchmark for clinical skills assessment in medical and nursing education as a preparatory tool before engagement in the real patient care[9,10]. Researches postulated that OSCE allow the students to make the connection between what they practice during OSCE and their clinical placements, so they develop confidence in dealing with situations in the clinical field[11].

The field of nursing education is changing every day to meet the rapidly changing needs of the health

care industry and large society. Novel corona virus prompted a sudden shift in Nursing education in Kerala context, by adopting OSCE as an appraisal tool for clinical competencies. The assessment of clinical competence is therefore an important concern in nursing education and the utilization of OSCE needs to be valid and reliable to enhance the quality of health professional education. Hence it is the responsibility of the nurse educators and clinical instructors to ensure that adequate preparation for OSCE is vital in terms of psychological preparation, familiarity with the equipment and checklist used for assessment and procedure. This reflective piece aims to explore the evaluation of OSCE experience of undergraduate nursing students.

Problem statement :

A study to evaluate the experience of objective structured clinical examination among undergraduate nursing students in a selected nursing college, Thrissur.

Aim of the study :

To evaluate the experience of undergraduate nursing students on objective structured clinical examination.

Materials and Methods

Research Design

A Cross sectional descriptive design was used to achieve the study objective.

Setting

The study was conducted at Aswini College of Nursing, Thrissur, Kerala, which is affiliated to Kerala University of Health Science, Thrissur.

Study Sample

A convenient sampling method was followed with 237 students who enrolled in First, Second, Third and Fourth-year BSc Nursing program during the academic year 2019 – 2020. Data were collected after the completion of practical exam through OSCE. All students in the academic year performed mock OSCE as a part of practical schedule.

Ethical Consideration

The study protocol was approved by the Institutional ethical committee. The researcher assured voluntary participation and confidentiality of each member who agree to participate in the study. The sample were informed about the purpose of the study. The questionnaire was in Google form and it was shared in the Whatsapp group of each batch.

Tool of data collection

A self-administered questionnaire through Google form was used to collect data. The tool include 2 parts :- Sociodemographic data and Students evaluation of OSCE experience.

Part 1 : Sociodemographic data which includes age, gender and year of study

Part 2 : Student evaluation of the OSCE experience questionnaire which is a standardised, valid and reliable tool developed by Pierree et al[12]. It was modified based on focus group feedback by the researcher for the current study. This questionnaire comprises 50 items that focuses on 5 main parts ; OSCE attributes (8), Organisation of OSCE(7), Quality of performance of OSCE (16), OSCE validity and reliability (9), OSCE exam (10). The result were graded on the Likert scale, graded from 1-3; for agree 3, partially agree 2 and disagree1.Validity of tool was checked by the experts in nursing field who reviewed the instrument for clarity, relevance, comprehensiveness and applicability.

Statistical Analysis

Data were analyzed from the Google forms.

Descriptive analysis was performed in percentage.

Results

The results of study samples are presented in the tables.

N = 237

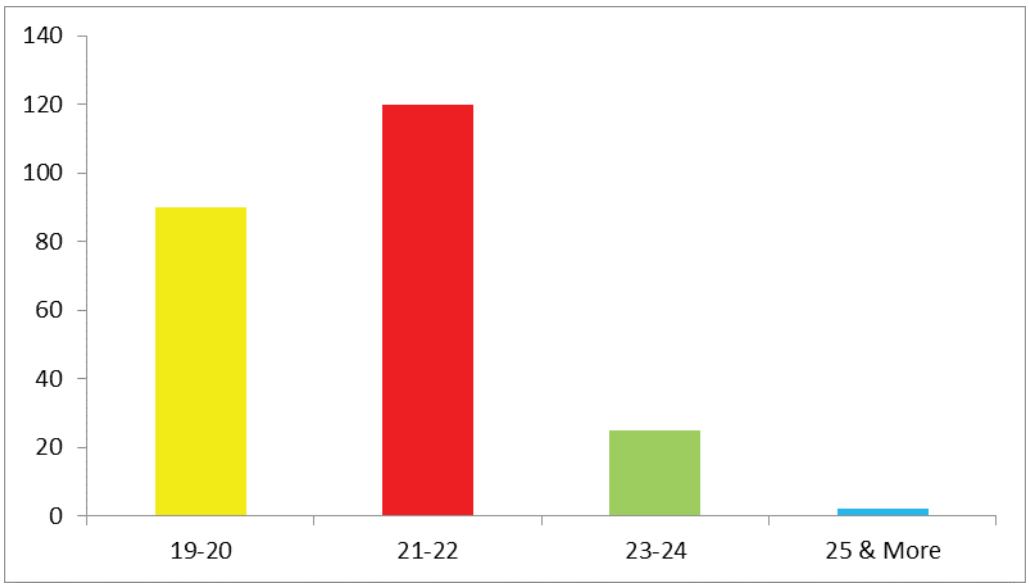


Figure 1 : Distribution of nursing students based on age

N = 237

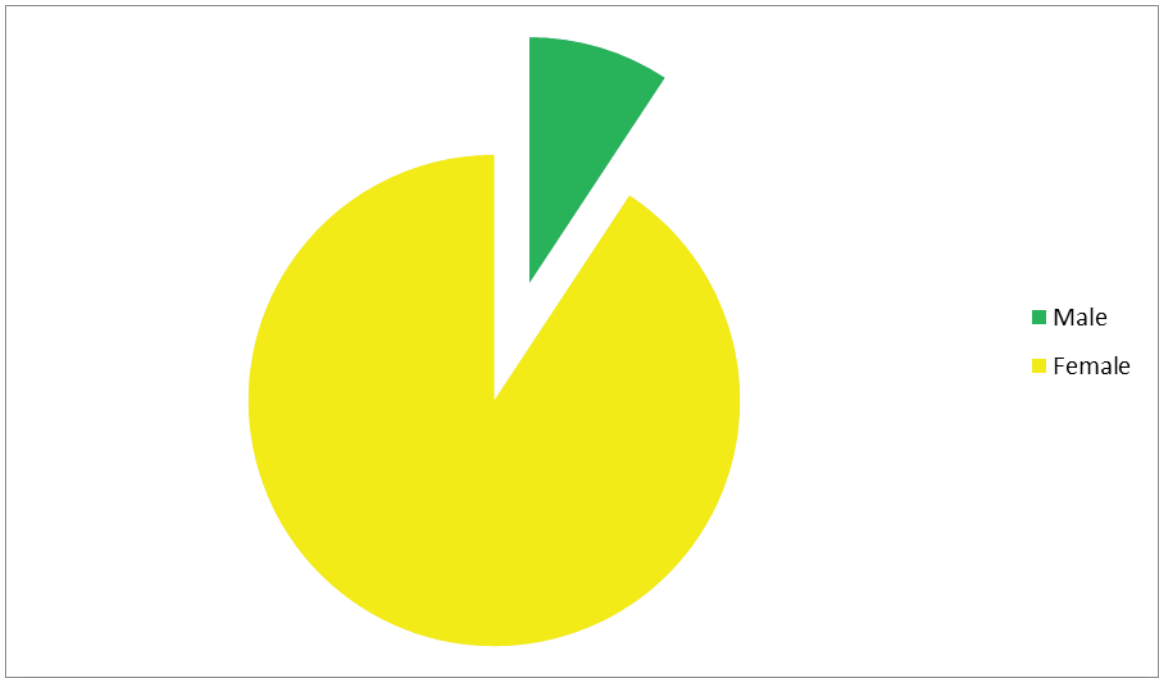


Figure 2 : Distribution of nursing students based on sex

Table 1 : Distribution of nursing student's responses related to OSCE attributes N = 237

Sl. No	Nursing Student's responses related to OSCE attributes	Agree		Partially Agree		Disagree	
		n	%	n	%	n	%
1	Well systematic and step by step	206	86.9	31	13.1	0	0
2	Well administered	172	72.5	65	27.5	0	0
3	Fair in testing knowledge and skills	149	62.9	85	35.8	3	1.3
4	Is consistent with teaching and learning process	170	71.7	63	26.6	4	1.7
5	Covered wide range of clinical skills	94	39.7	116	48.9	27	11.4
6	Less stressful than other exams	161	67.9	67	28.3	9	3.8
7	Provide opportunities to learn	166	70.0	66	27.9	5	2.1
8	Highlights the area of weakness	143	60.4	83	35.0	11	4.6

Table (1) indicates the distribution of nursing student's responses related to OSCE attributes. It depicts that majority of sample206 (86.9%) agree that the OSCE was well systematic and step by step. About 172 (72.5%) of sample agree that OSCE is well administered. Sample 170(71.7%) agrees agree OSCE is consistent with teaching and learning process and two – third of sample 166 (70%) agrees OSCE provides opportunities to learn. Only 94(39.7%) of sample agrees to the fact that OSCE could cover only wide range of clinical skills, whereas 27(11.4%) sample disagree to this statement.

Table 2 : Distribution of nursing student's responses related to organisation of OSCE

N = 237

Sl. No	Nursing student's responses related to organisation of OSCE	Agree		Partially Agree		Disagree	
		n	%	n	%	n	%
1	Introduction information about the OSCE was very useful	184	77.7	51	21.5	2	0.8
2	Availability of mannequin, instruments and articles were adequate	136	57.4	91	38.4	10	4.2
3	Queries related to OSCE were answered by the OSCE supervisor	185	78.1	51	21.5	1	0.4
4	Environment was comfortable for the conduct of OSCE	190	80.2	41	17.3	6	2.5
5	Student friendly	176	74.2	58	24.5	3	1.3
6	Setting and context of each station felt real as hospital	72	30.4	142	59.9	23	9.7
7	The number of OSCE station was sufficient	185	78.1	46	19.4	6	2.5

Table (2) depicts distribution of nursing student's responses related to organisation of OSCE. It demonstrates that majority of sample190 (80.2%) agrees environment was comfortable and 185 (78.1%) agrees the number of OSCE station was sufficient; however, only 72 (30.4%) agrees setting and context of each station felt as real as hospital, 142(59.9%) partially agree and 23(9.7%) disagree. Majority of sample190 (74.2%), 184(77.7%) and 185 (78.1%) agrees OSCE as student friendly, useful introduction and queries were answered respectively.

Table 3 : Distribution of nursing student's responses related to quality of OSCE performance

N = 237

Sl. No	Nursing student's responses related to quality of OSCE performance	Agree		Partially Agree		Disagree	
		n	%	n	%	n	%
1	Tasks reflected as they were taught	145	61.2	89	37.5	3	1.3
2	Time at each station was adequate	120	50.6	90	38	27	11.4
3	Instructions were clear and unambiguous	194	81.9	39	16.4	4	1.7
4	Task asked to perform at each station was fair	180	75.9	54	22.8	3	1.3
5	Sequence of stations was logical and appropriate	178	75.1	56	23.6	3	1.3
6	OSCE feedback has a positive impact on learning	170	71.7	66	27.9	1	0.4
7	No specific communication barriers as procedures were performed on mannequin	134	56.5	92	38.9	11	4.6
8	Remembers the steps of procedures effectively	170	71.8	56	23.6	11	4.6
9	OSCE experience was scary and frightening	32	13.5	99	41.8	106	44.7
10	OSCE should be used more often in the clinical years	103	43.5	113	47.8	21	8.7
11	Improve student – faculty relationship	164	69.3	66	27.8	7	2.9
12	Suitable platform for corrections	185	78.1	47	19.8	5	2.1
13	Understand the student's own strength and weakness	182	76.8	51	21.5	4	1.7
14	Applicability and cooperativeness of selected scenarios	163	68.8	71	29.9	3	1.3
15	Was a new learning	212	89.4	22	9.3	3	1.3
16	Was enjoyable	141	59.5	80	33.8	16	6.7

Table (3) clarifies distribution of nursing student's responses related to quality of OSCE performance. It demonstrates 212(89.4%) of sample agrees OSCE was a new learning and 170 (71.7%) considered feedback has positive impact on learning. More than half of sample145 (61.2%) agrees tasks reflected as they were taught and 194 (81.9%) agrees instructions were clear and unambiguous. Among three- fourth 178 (75.1%) sample agrees sequence of stations was logical; however only 120 (50.6%) agree time at each was adequate. Majority of sample182 (76.8%) agrees that students understand own strength and weakness. Majority of sample141 (59.5%) agrees OSCE was enjoyable and 106 (44.7%) disagree OSCE was scary and frightening. Most of sample113 (47.8%) partially agree that OSCE usage more often in the clinical years.

Table 4 : Distribution of nursing student's responses related to OSCE validity and reliability

N = 237

Sl. No	Nursing student's responses related to OSCE validity and reliability	Agree		Partially Agree		Disagree	
		n	%	n	%	n	%
1	OSCE scores are standardized	172	72.6	62	26.1	3	1.3
2	Personality, social relations and gender will not affect OSCE	175	73.8	49	20.7	13	5.5
3	Provide true measure of essential skill in practice	145	61.2	80	33.7	12	5.1
4	Scoring was based on checklist	193	81.4	43	18.2	1	0.4
5	Objective assessment rather than subjective	170	71.7	63	26.6	4	1.7
6	Helpful in increasing student confidence and competence	166	70.0	64	27.1	7	2.9
7	Credibility is unquestionable	125	52.7	108	45.6	4	1.7
8	Feel ease and comfortable to perform procedures	162	68.3	70	29.6	5	2.1
9	Stations can be tailored to level of skills to be assessed	151	63.7	86	36.3	0	0

Table (4) indicates distribution of nursing student's responses related to OSCE validity and reliability. It demonstrates that majority of sample193 (81.4%) agrees scoring was based on checklist and 170 (71.7%) of sample agrees as an objective assessment. Majority of sample172 (72.6%), 175 (73.8%), 145(61.2%) agrees OSCE scores are standardised, personality, gender will not affect and provide true measure of essential skill in practice respectively. Among two- third of sample166 (70%) agrees in increasing confidence and competence and 162 (68.3%) sample feel ease and comfortable to perform procedures.

Table 5: Distribution of nursing student's responses related to OSCE exam

N = 237

Sl. No	Nursing student's responses related to OSCE exam	Agree		Partially Agree		Disagree	
		n	%	n	%	n	%
1	Orientation before examination were adequate and clear	207	87.4	28	11.8	2	0.8
2	Informed the venue for conduct of OSCE	210	88.6	25	10.5	2	0.8
3	Case scenarios reflected real- life clinical conditions	141	59.5	85	35.9	11	4.6
4	OSCE circuit helped to move between the stations	186	78.5	48	20.2	3	1.3
5	Typed instructions between stations were clear	191	80.6	41	17.3	5	2.1
6	Chance of failure in the exam is less as compared to other tests	157	66.2	67	28.3	13	5.5
7	Checklist I got were helpful for exam preparation	198	83.5	36	15.2	3	1.3
8	Sequencing of examination	190	80.2	45	19.0	2	0.8
9	OSCE scores reflect individual performance at the exam	177	74.7	58	24.5	2	0.8
10	On the spot health education topics were difficult to perform	120	50.6	101	42.6	16	6.8

Table (5) illustrates distribution of nursing student's responses related to OSCE exam. It demonstrates majority of sample207 (87.4%), 210 (88.6%), 191 (80.6%) agrees orientation were adequate and clear, informed OSCE venue and typed instruction between station were clear respectively. Majority of sample186 (78.5%) agrees OSCE circuit helped to move between stations and 190 (80.2%) agrees with the sequencing of the examination. Only 141 (59.5%) of sample agrees case scenario reflected real-life clinical conditions and 120 (50.6%) agrees on the spot health education were difficult to perform.

Discussion

This study findings showed majority of sample (90.7%) were females and the result is in line with Hatamleh et al who reported that in their study also the majority of the respondents were females (85.5%)[13]. The study also revealed that majority of sample 86.9% and 72.5% agree that the OSCE was well systematic, step by step and well administered respectively. This finding in agreement with Awad A L et al, 95.4% of sample has the opinion that the examination was well organised and well structured[14]. Similar to the study conducted by Fidment, where the students agreed that the examinations were well administered[15]. Present

study shows 62.9% of sample agree OSCE is a fair method of testing knowledge and clinical skills. Another study by Majumder MAA et al convenience with the finding, 68.5% agrees OSCE examination was fair[16]. The result of the present study shows only 39.7% of sample agree to the fact that OSCE could cover wide range of clinical skills. This finding is in contradict by a study conducted by Majumder MAA et al, where 77.8% agrees OSCE covered wide range of clinical skills[16]. In this study, 67.9% of sample agrees OSCE as less stressful, however; this finding was not supported by the study conducted by Majumder MAA et al, where 5.6% only agree OSCE was less stressful compared with other examinations[16].

The current study also revealed positive responses from the samples related to organisation of OSCE. The majority of sample (80.2%) agrees environment was comfortable for the conduct of OSCE. This finding was consistent with Awad A L et al, where 84.1% agree exam environment was well adequate[14]. In this study 78.1% agrees queries related to OSCE were answered by the OSCE supervisor and finding is supported by Majumder MAA et al study as 61.1% showed faculties answered queries related to OSCE[16]. The present study showed 57.4 % only agrees availability of mannequin, instruments and articles were adequate; whereas Majumder MAA et al study showed 70.4% agreed availability of good equipments including simulators[16]. Present study reveal 30.4% of sample agrees that setting and context of each station felt real as hospital and supported by Awad AL study as 61.4% agrees setting and context at each station felt authentic[14].

According to the present study findings, regarding the quality of OSCE performance, more than half of sample (61.2%) agrees tasks reflected as they were taught. This finding was not in the line with Mohamed HF that only 47.7% agrees the assigned task reflected what is taught in their courses[17]. More than three – fourth of samples agrees instructions were clear and unambiguous (81.9%), task asked to perform at each station was fair (75.1%), sequence of stations was logical and appropriate(75.9%). These findings are incongruent with Mohamed HF et al as 74% agrees instructions were clear, 67% agrees tasks to be performed were fair and 70% agrees the stations sequence was logic and appropriate[17]. In this study 76.8% of sample agrees that OSCE aids in understanding own strength and weakness; this finding was not supported with Mohamed HF study as only 46% only agrees OSCE highlighted areas of weakness[17]. Study finding also depicted 89.4% sample agrees OSCE provides new learning and this finding was in disagreement with Majumder MAA et al study as 33.3 % only agrees OSCE provided the opportunities to learn[16].

The current study showed more than half of sample showed positive response with OSCE validity and reliability. Majority agreed regarding the OSCE scores are standardized, Personality, social relations and gender will not affect OSCE, provide true measure of essential skill in practice, scoring was based on checklist and objective assessment rather than subjective assessment. Same results were admitted by Hosseini et al[1], Jansiraninatarajan M et al[18] , Majumder MAA et al, Mohamed HF and Awad A L who reported that OSCE was a fair and objective in nature.

The result of the current study showed positive student's responses to OSCE exam. Majority of sample 87.4%, 88.6%, 80.6% agrees orientation were adequate and clear, informed OSCE venue and typed instruction between station were clear respectively. This piece of result was highlighted by Majumder MAA et al, Mohamed HF and Awad A L, who concluded orientation and instructions were clear and adequate.

Conclusion

Objective structured clinical examination is an effective and acceptable perspective of clinical evaluation in nursing students learning. It is operable in nursing education especially during pandemic era to train nursing students encircling clinical knowledge and skills as authentic as hospital setting. The students participated in this study agreed with terms of OSCE as a good evaluative tool for clinical performance. OSCE emphasize high level of preparation and hard work of faculty members for its success. The findings brews a path towards comparative studies between different subjects, different batches as well as with conventional method. This piece of fact highlights the need of evaluating OSCE experience from clinical instructors view point for information enrichment. This warrants furthers studies with qualitative approach for broader understanding of OSCE experience.

Conflict of Interest: There is no conflict of interest

Source of Funding: Self

References

1. Hosseini SA, Fatehi N, Eslamian J, Zamani M. Reviewing the nursing students' views toward OSCE test. Iranian journal of nursing and midwifery research. 2011 [cited 2021 June 26];16(4):318. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles /PMC3583103/
2. Mondal R, Sarkar S, Nandi M, Hazra A. Comparative analysis between objective structured clinical examination (OSCE) and conventional examination (CE) as a formative evaluation tool in pediatrics in semester examination for final MBBS students. Kathmandu University Medical Journal. 2012 Oct 2 [cited 2021 June 26];10(1):53-6. Available from : http://dx.doi.org/10.3126/kumj.v10i1.6917
3. Pranaviya KP, Nandini M. Assessment of academic stress among BSc Nursing students. International Journal of Nursing education. 2017 Jan – Mar; 9(1): 82 - 84
4. Bdair IA, Abuzaineh HF, Burqan HM. Advantages and Disadvantages of the Objective Structured Clinical Examination (OSCE) in Nursing Education: A Literature Review. International Journal of Trend in Scientific Research and Development. 2019 Jan – Feb [cited 2021 June 26]; 3(2): 270. Available from: www.ijtsrd.com e-ISSN: 2456 - 6470
5. Mitchell ML, Henderson A, Groves M, Dalton M, Nulty D. The objective structured clinical examination (OSCE): optimising its value in the undergraduate nursing curriculum. Nurse education today. 2009 May 1 [cited 2021 June 26];29(4):398-404. Available from : https://www.sciencedirect.com/science/article/abs/pii/S0260691708 001512
6. Miller GE. The assessment of clinical skills/competence/performance. Academic medicine. 1990 Sep 1 [cited 2021 June 26];65(9):S63-7. Available from: http://winbev.pbworks.com/f/Assessment.pdf
7. Casey PM, Goepferd AR, Casey PM, Goepfert AR, Espey EL, Hammoud MM, Kaczmarczyk JM, Katz NT, Neutens JJ, Nuthalapaty FS, Peskin E. To the point: reviews in medical education—the Objective Structured Clinical Examination. American journal of obstetrics and gynecology. 2009 Jan 1 [cited 2021 June 26];200(1):25-34. Available from: https://www.sciencedirect.com/science/article /abs/pii/S0002937808020024.
8. Liddle C . The Objective Structured Clinical Examination. Nursing Times. 2014 Aug 22 [cited 2021 June 26]. Available from: https://www.nursingtimes.net/roles/nurse-educators/the-objective-structured-clinical-examination-22-08-2014/

9. Bartfay WJ, Rombough R, Howse E, LeBlanc R. The OSCE approach in nursing education: Objective structured clinical examinations can be effective vehicles for nursing education and practice by promoting the mastery of clinical skills and decision-making in controlled and safe learning environments. The Canadian Nurse. 2004 Mar 1 [cited 2021 June 26];100(3):18. Available from : https://www.proquest.com/openview/71fad4505511035c7fb3ddc7e57086e4/1?pq-origsite=gscholar&cbl=41610

10. Wessel J, Williams R, Finch E, Gémus M. Reliability and validity of an objective structured clinical examination for physical therapy students. Journal of Allied Health. 2003 Dec 1 [cited 2021 June 26];32(4):266-9. Available from : https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/612971

11. Barry M, Noonan M, Bradshaw C, Murphy-Tighe S. An exploration of student midwives' experiences of the Objective Structured Clinical Examination assessment process. Nurse Education Today. 2012 Aug 1 [cited 2021 June 26];32(6):690-4. Available from : https://www.sciencedirect.com/science/article/abs/pii/S0260691711002292.

12. Pierre RB, Wierenga A, Barton M, Branday JM, Christie CD. Student evaluation of an OSCE in paediatrics at the University of the West Indies, Jamaica. BMC medical education. 2004 Dec [cited 2021 June 26]; 4(1): 1- 7. Available from : https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-4-22

13. Hatamleh W, Abu Sabeeb Z. Perception of Nursing Faculty Members on the Use of Objective Structured Clinical Examinations (OSCE) To Evaluate Competencies. OSR Journal of Nursing and Health Science (IOSR-JNHS). [cited 2021 June 26]; Volume 3;21–6. Available from: https://d1wqtxts1xzle7.cloudfront.net/36919147/E03642126.pdf.

14. Awad LA, Ahmed S, Alshamandy AA, Abolwafa NF. Perception of undergraduate nursing students towards objective structured clinical examination (OSCE). Journal of Nursing and Health Science. 2017 [cited 2021 June 26] ;6:52-60. Available from : https://www.researchgate.net/profile/Nagat-Farouk-Abolwafa/publication/335465307

15. Fidement S. The objective structured clinical exam (OSCE): A qualitative study exploring the healthcare student's experience. Student engagement and experience journal. 2012 [cited 2021 June 26];1(1): 1- 8. Available from : http://shura.shu.ac.uk/5253/

16. Majumder MA, Kumar A, Krishnamurthy K, Ojeh N, Adams OP, Sa B. An evaluative study of objective structured clinical examination (OSCE): students and examiners perspectives. Advances in medical education and practice. 2019 [cited 2021 June 26];10:387. Available from : https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6556562/

17. Mohamed HF, Gonzales SG. Objective structured clinical examination as a clinical assessment method nursing students attitude and evaluation of the experience from different academic levels. International Journal of Nursing and Health Care Research. 2019 Apr 26. [cited 2021 June 26]. Available from : https://www.gavinpublishers.com/research-article

18. Jansiraninatarajan M, Thomas D. Integrative Review Literature on objective structured clinical examination and its implications in Nursing education. Journal of Nursing and Health Science. 2014 July- Aug [cited 2021 June 26]; 3(4):23 – 30. Available from : https://www.iosrjournals.org/iosr-jnhs/papers/vol3-issue4/Version-1/F03412330.pdf

Awareness of Ideal Body Weight among Adolescents During COVID-19 Lockdown with a View to Develop an Information Pamhplet

Soumya Sonalika[1], Sushree Sangita Mishra[2]

[1]Assistant Professor, Dept. of Community Health Nursing, College of Nursing, Kalinga Institute of Nursing Sciences(KINS), KIIT University, Bhubaneswar, Odisha, [2]Nursing Educator, IMS Hospital, Bhubaneswar, Odisha

Abstract

Staying at home during COVID-19 lockdown, there is every chance that adolescents will go on a binge and eventually come out gaining weight.A descriptive survey research design was adopted among 30 adolescents selected by purposive sampling technique in Khandagiri, Bhubaneswar, Odisha. The primary objective was to assess the level of knowledge among adolescents regarding awareness of ideal body weight during lockdown. A self-structured online questionnaire packet was administered to collect demographic information, dietary pattern & lifestyle and knowledge questionnaire on ideal body weight and its management & complications. Findings revealed that 53% were male and 40% belong to 17-18 years. 33% adolescents were studying Std-XI and 47% belonged to nuclear family, 36.6% had middle class family income. Majority 70% of adolescents were non-vegetarianand 60%were ordering food online.93% of them consumed fast food, sweets, baked food items. 63% of adolescents had adequate knowledge on ideal body weight. Majority 43% of them slept for 8-10 hours/day during lockdown. In the area wise distribution the item "Dietary management of ideal body weight" reveals highest mean score 7.3. There was association between knowledge score of adolescents with type of family and family monthly income.The results show that the nutrition education intervention is required to create awareness and develop concern about their body image and complications arising due to fast food consumption by ordering online.

Keywords:- *COVID-19, Lockdown, Physical activity, Lifestyle*

Introduction

The World Health Organization (WHO) on March 11, 2020 declared the outbreak of the novel 2019 coronavirus disease (COVID-19) a global pandemic[1,2]**.** India has recorded 216,919 total confirmed cases, 6,075 deaths, 104,107 cured cases, according to Union Ministry for health and family welfare[3].

Considering the factors emerging due to COVID-19 and in order to stop a fast-growing transmission of the disease and the subsequent overwhelming of hospitals and health care systems, several countries have opted for strict lockdown

Corresponding Author:
Mrs. Soumya Sonalika
Assistant Professor KINS, KIIT University, Bhubaneswar, Odisha
Email id:- ssonalika@outlook.com

measures. The government declared lockdown measures on March 17th, requiring the closure of all but essential public places, businesses and services, including schools and universities, workplaces, non-food shops, open and green spaces, recreational spaces and local (outdoor) food markets. The population was required to stay home and thus led to the disruption in their daily routine[4].

Adolescence, transitional phase of growth and development between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19[5]. Adolescents comprise 21% of the world's total population(about 243 million). About 1.3 million adolescents died from preventable or treatable causes during 2012 as per WHO Reports[5,6].

Adolescents are country's adults for tomorrow. Less knowledge on ideal body weight causes adolescents suffer from some nutritional problems such as obesity or malnourishment. Factors influences obesity in adolescents includes sedentary behavior, easy access to fast-foods and much use of vehicles and online apps[7,8].

Studies showed that 40% of the participants gained up to 5 kg and 16% added 2.1-5 kg.Lifestyle may be substantially changed due to the containment measures, with the consequent risk of sedentary behavior[9]. The height and weight are two significant perspectives on which the body image is based [10].

Eating a healthy diet is very important during COVID – 19 pandemic. Healthy diet are important for supporting immune system. Good nutrition also can reduce the likelihood of developing other health problems, including obesity, heart disease, diabetes and some type of cancer[11].

Objectives:-

- To assess the level of knowledge among adolescents regarding awareness of ideal body weight.
- To find out significant association between knowledge score of adolescents regarding awareness of ideal body weight with demographic variables.
- To develop an information pamphlet.

Hypothesis:-

H1: There would be significant association between knowledge scores of adolescents with selected demographic variable.

Research Methodology

A quantitative research approach withdescriptive survey research design was adopted among 30 adolescents selected by purposive sampling technique in KhandagiriVihar,Khandagiri, Bhubaneswar, Odisha.

Inclusion criteria

- Adolescents adhered to COVID -19 lockdown rules by State Government & Govt. of India.
- Those studying from Std 10th- 12th.

Tool Construction

A self-structured online questionnaire package was administered.The following steps were taken to develop the tool: Review of literature, opinion and suggestion from experts and the investigator own experience in the community field.The tools consist of the following:

Section-A:- a) Demographic information consist of age, gender, religion, type of family, educational status, Per Capita monthly income.b) Dietary pattern includes preparation of food,Fast food/Sweets/Baked food items consumption and number of meals/day, online order;

c) Lifestyle consists of hours of sleep and physical activity.

Section-B:-Close ended questionnaire in the form of multiple choice questions (MCQ) was developed in this study. Knowledge questionnaire consist of meaning, classification, factors affecting ideal body weight, dietary management, lifestyle management(exercise and yoga) for ideal body weight and complications of obesity and malnourishment. This section has 30 items.

Scoring procedure: To assess the level of knowledge of adolescents, there were four distractions given in each item. Each correct response is awarded score of 'one' and wrong response score of 'zero'. The level of knowledge was grouped into items: Inadequate (0-10 scores), Moderately adequate(11-20 scores), Adequate(21-30 scores) based on knowledge scores.

Data collection procedure

Written permission was sought from the President, KhandagiriViharUnayanaSamiti. With prior informed consent from each participant was obtained assuring them about the confidentiality of the information. Virtual Interview Schedule (online video call platform) was used as method of collecting data. The investigator distributed information pamphlet regarding Ideal body weight through Whatsapp and e-mail. All participants were very cooperative and the investigator expressed her gratitude for their cooperation.

Analysis And Interpretation

Table 1: Distribution of subjects according to the socio determinants

N=30

Socio-determinants	Frequency (f)	Percentage(%)
Dietary Pattern		
Vegetarian	9	30
Non-Vegetarian	21	70
Intake of Food (No. of times/day)		
3	7	23.3
4	8	26.6
5	12	40
6	3	10
Preparation of food		
At home	12	40
Order online (using food apps)	18	60

Cont... **Table 1: Distribution of subjects according to the socio determinants**

N=30

Fast food/Sweets/Baked food items consumption Yes No	 28 2	 93.3 6.7
Ordered fast food online Rare Sometimes Often Always	 5 6 8 11	 16.6 20 26.6 36.6
Hours of sleep 5-7 8-10 11-13	 9 13 8	 30 43.3 26.6
Physical Activity Increased Decreased Not Modified Don't know	 4 23 0 3	 13.3 76.6 0 10

Findings from socio-demographic variables revealed that 40% belong to 17-18 years and 53% were male. Majority 50% were Hindu. 33% adolescents were studying in Std-XI and 47% belonged to nuclear family, 36.6% had middle class family income.

Table No. 1 shows that Majority 70% of adolescents were non-vegetarian and 23% were consuming (breakfast, lunch, dinner) thrice a day, maximum 40% of adolescents took meals 5 times a day and 60% were ordering food online where as 40% prepared food at home. 93% of adolescents consumed fast food, sweets, baked food items. 63.6% always ordered fast food online where as 16.6% rarely ordered fast food online.

Majority 43% of them slept for 8-10 hours/day during lockdown and 76.6 % had decreased physical activity.

Table no-2 Frequency and Percentage distribution of adolescents according to their level of knowledge

N=30

Levels of knowledge	Score	Score in (%)	Frequency	Percentage (%)
Inadequate	0-14	<49%	4	13.3
Moderately adequate	15-22	50% - 74%	07	23.3
Adequate	23-30	75% - 100%	19	63.3

Table no.3:- Area wise distribution of mean, mean percentage of knowledge score regarding ideal body weight

N=30

Area wise distribution	Mean	Mean (%)
Meaning ideal body weight	2.4	80
Classification of ideal body weight	1.7	34
Factors affecting ideal body weight	1.8	90
Dietary management of ideal body weight	7.3	66.3
Exercise and Yoga for ideal body weight	3.1	62
Complications of obesity and malnourishment	3.0	75

In the area wise distribution from Table no-3the item “Dietary management of ideal body weight” reveals highest mean score 7.3. The highest mean percentage was 90% for the item “Factors affecting ideal body weight”.

Table no.4: - Association between socio-demographic variables and the knowledge score N=30

Demographic variables	Chi-square value	Tabulated value p≤0.05	Inferences
Age	5.3	9.49	Not significant
Sex	1.18	5.94	Not significant
Education	7.53	9.49	Not significant
Type of family	26.68	9.49	Significant
Religion	2.8	9.49	Not significant
Family monthly income	11.35	9.49	Significant
Dietary pattern	3.83	5.99	Not significant

Table no.4 depicts Chi-square(χ^2) values were 26.68 and 11.35 respectively at 0.05 significant level which implies there was association between knowledge score of adolescents with socio-demographic variables-type of family and family monthly income.

Conclusion

There are many contributing factors that lead to such weight gains. However, it's pretty much essential to identify the right mechanism to reduce body fat. There was low level of physical activity and perceived weight gained during the lockdown period. A healthy body and calm mind is the only key to fight against COVID. So making an effort for 10 or 20 minutes of workout at home is the only fitness mantra to persuit.

Ethical Clearance- Taken from Institutional Ethical Committee

Source of Funding- Self

Conflict of Interest- Nil

References

1. World Health Organization, Who.int. [cited 2021 Apr 10]. Available from: https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
2. World Health Organization, Who.int. [cited 2021 Apr 10]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019
3. Shalini Nair, Indianexpress.com. 2021 [cited 2021 Apr 18]. Available from: https://indianexpress.com/profile/author/shalini-nair/
4. Deschasaux-Tanguy M, Druesne-Pecollo N, Esseddik Y, Szabo de Edelenyi F, Alles B, Andreeva VA, et al. Diet and physical activity during the COVID-19 lockdown period (March-May 2020): results from the French NutriNet-Sante cohort study [Internet]. bioRxiv. 2020. Available from: http://dx.doi.org/10.1101/2020.06.04.20121855
5. Csikszentmihalyi, Mihalyi. "Adolescence". Encyclopedia Britannica, 20 Feb. 2021,

Available from: https://www.britannica.com/science/adolescence. [Accessed 18 April 2021]

6. Sivagurunathan C, R. Umadeviet. all Adolescent health: Present status and its related programmers in India. Are we in the right direction? Journal of Clinical and Diagnostic Research : JCDR. 2015;9(3.
7. Aljaaly, EAM, University College London,Ucl.ac.uk. [cited 2021 Apr 10]. Available from: https://discovery.ucl.ac.uk/id/eprint/1370576/2/AL-Jaaly.1370576.Redacted__PhD_thesis.pd
8. Administrator. World health organization - eastern Mediterranean region,Who.int. [cited 2021 Apr 18]. Available from: https://www.emro.who.int/nutrition/news/nutrition-advice-for-adults-during-the-covid-19-outbreak.htm
9. Di Renzo L, Gualtieri P, Pivari F, Soldati L, Attinà A, Cinelli G, et al. Eating habits and lifestyle changes during COVID-19 lockdown: an Italian survey. J Transl Med. 2020;18(1):229.
10. Pareek P. A study on anemia related knowledge among adolescent girls. Int j nutr food sci. 2015;4(3):273.
11. World health organization,Who.int. [cited 2021 Apr 10]. Available from: https://applications.emro.who.int/dsaf/emropub_2011_1274.pdf.

Call for Papers/Article Submission

IJONC invites articles, case reports, newspaper clippings, report to medico legal activities to update the knowledge of readers.

The following guidelines should be noted:

- The article must be submitted by e-mail only. Hard copy not needed. Send article as attachment in e-mail.
- The article should be accompanied by a declaration from all authors that it is an original work and has not been sent to any other journal for publication.
- As a policy matter, journal encourages articles regarding new concepts and new information.
- Article should have a Title
- Names of authors
- Your Affiliation (designations with college address)
- Abstract
- Keywords
- Introduction or back ground
- Material and Methods
- Findings
- Conclusion
- Ethical Clearance
- Source of Funding
- Conflict of Interest
- References in Vancouver style.
- Please quote references in text by superscripting
- Word limit 2500-3000 words, MSWORD Format, single file

All articles should be sent to : editor.ijonc@gmail.com

Our Contact Info:

Institute of Medico-Legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall
Sector- 32, Noida - 201 301 (Uttar Pradesh)
Ph. +91 120 429 4015
Email: editor.ijocd@gmail.com, Website: www.ijocd.com

INTERNATIONAL JOURNAL OF NURSING CARE

Logix Office Tower, Unit No. 1704, Logix City Centre Mall
Sector- 32, Noida - 201 301 (Uttar Pradesh)
Ph. +91 120 429 4015
Email: editor.ijocd@gmail.com, Website: www.ijonc.com

CALL FOR SUBSCRIPTIONS

International Journal of Nursing Care is a double blind peer reviewed international journal which has commenced its publication from January 2013. The journal is half yearly in frequency. The journal covers all aspects of nursing care. The journal has been assigned ISSN 2320-8643 (Print Version) and ISSN 2320-8651 (Online Version). The journal is indexed in many international data bases.

Journal Title	Print Only
International Journal of Nursing Care	**INR 5000**

NOTE FOR SUBSCRIBERS

- Advance payment required by cheque/demand draft in the name of " **Institute of Medico-Legal Publications"** payable at New Delhi.
- Cancellation not allowed except for duplicate payment.
- Claim must be made within six months from issue date.
- A free copy can be forwarded on request.

Bank Details

Name of account :	**Institute of Medico-Legal Publications Pvt Ltd**
Bank:	**HDFC Bank**
Branch	Sector-50, Noida-201 301
Account number:	**09307630000146**
Type of Account:	Current Account
MICR Code:	110240113
RTGS/NEFT/IFSC Code:	HDFC0000728

Please quote reference number.

Send all payment to :

Institute of Medico-Legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall
Sector- 32, Noida - 201 301 (Uttar Pradesh)
Ph. +91 120 429 4015
Email: editor.ijocd@gmail.com, Website: www.ijonc.com

Printed: Printpack Electrostat G-2, Eros Apartment, 56, Nehru Place, New Delhi-110019

Published at: Institute of Medico Legal Publications Pvt. Ltd., Logix Office Tower, Unit No. 1704, Logix City Centre Mall, Sector- 32, Noida - 201 301 (Uttar Pradesh) Ph. No: +91 120- 429 4015