A DESCRIPTIVE STUDY TO ASSESS THE PREVALENCE OF POST COVID-19 COMPLICATIONS AMONG COVID RECOVERED STUDENTS OF UNIVERSITY COLLEGE OF NURSING, BFUHS, FARIDKOT.

Abstract

Introduction: Nursing students who had been acquired with COVID-19 also faced post COVID-19 complications. After the recovery of COVID-19, the nursing students experienced multiple complications which include distress, frustration, irritability, loss of appetite, myalgia, hair loss, poor concentration etc. which affected their academic and clinical performance. The students have been worried that they are not capable enough in bed side work skill development because they were facing post COVID-19 complication. **Material and Methods:** A descriptive research design is used to assess the post covid complications among 90 nursing students at University College of Nursing, Faridkot, and Punjab. A convenient sampling is used to collect the data. The reliability of the tool was 0.94which was done by using split half method. **Data Collection Procedure:** Sociodemographic Sheet and Self-structured questionnaire to assess the post covid-19 complications among the recovered students. **Conclusion:** It was concluded from the study that majority (77.8%) of the participants had mild prevalence of complications related to COVID-19. The socio-demographic factors found to have statistically significant association with prevalence of complications were gender, age, course of study, type of family and annual family income.

Keywords: Post COVID-19 complications, Nursing Students.

Introduction

The respiratory infections include group of conditions which causes inflammation of the respiratory tract from nose to alveoli. There are different types of respiratory infections emerging due to certain reasons affecting the respiratory tract which gives rise to numerous infections and disease conditions such as common cold, pharyngitis, laryngitis, pneumonia, asthma, COPD, rhinitis, tuberculosis, sinusitis, diphtheria, tonsillitis but the deadliest among these infections was COVID-19. It was first detected in Wuhan city, China, on December 31,2019. It had rapidly spread globally with approximately 157,343,044 confirmed cases and 3,278,510 deaths till 7th may, 2021. [2]

COVID-19 is highly contagious viral illness of respiratory system with the most insidious outcomes and led to fatal consequences worldwide. The virus is known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease it causes is called

coronavirus disease 2019 (COVID-19). The World Health Organization (WHO) declared the COVID-19 pandemic on 11th March 2020.[3]

The majority of people infected with COVID-19 virus had experienced mild to severe Post COVID-19 complications. COVID-19 has been shown to vary widely, often with respiratory complications as a major feature. COVID-19 is notable in that number of patients have gone to develop long term complications of virus in initial period patients felt fatigue for months following initial infection, long-haul COVID-19 has come to represent wide complications and number of symptoms that may arise.

COVID-19 would have ramifications for physical, educational, social and physiological health. According to WHO, about 80% of infections were mild or asymptomatic, 15% resulted in moderate to severe complications requiring oxygen and about 5% were critical infections, which required ventilation. WHO strategies to control COVID-19 complications i.e., applying standard and transmission-based precautions, universal masking using medical mask, treat early stage of complications, safe home-based recovery, support mental health and provide hospitalized care to severe cases of COVID-19 complications.[12]

Nursing students were also more vulnerable to COVID-19 infection as they were working in hospitals as student nurses to treat patients who were infected with COVID-19 as a result they got infected too with COVID-19 which resulted in many healthy related problems as well as feeling of uncertainty, hopelessness and outburst in their future outcomes. Nursing students who had been acquired with COVID-19 also faced post COVID-19 complications. After the recovery of COVID-19, the nursing students experienced multiple complications which include distress, frustration, irritability, loss of appetite, myalgia, hair loss, poor concentration etc. which affected their academic and clinical performance. The students have been worried that they are not capable enough in bed side work skill development because they were facing post COVID-19 complication. There is significant increase in anxiety, depression, Post Traumatic stress syndrome and physical problems. Students infected with COVID-19 were more concerned about health problems as they had to do clinical duties after they had utilized their quarantine leaves provided by the college as they we facing the complications and had low immunity which made them prone to infection.[13]

Students are concerned about their education and clinical experience because they were not able to attend college and clinical task due to complications of COVID-19 which resulted after the recovery of COVID-19. Also, they were struggling to carry out their routine tasks post recovery due to poor health which affected their performance as student nurses. It can further result in poor clinical knowledge which will pose a devastating effect to the field of

nursing.

During our Post Basic B.Sc. Nursing study, we had seen many nursing students suffering from COVID-19 and its complications which were affecting their dimensions of health as well as their academic and clinical performances. Hence, we decided to conduct our research study on prevalence of post COVID-19 complications.

Material and Methods

Research approach

Research approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation. In the view of nature of the problem to accomplish objectives of study, a quantitative research approach was chosen for the present stay in order to assess the post covid-19 complications among the UCON students Faridkot, Punjab.

Research design

The research design is the blueprint that researchers select to carry out their research study. It helps the researcher in selection of subjects, manipulating variables and deciding upon type of statistical analysis to be used to interpret the data. The design used for the study was descriptive research design.

Research setting

Research setting is the physical location and conditions in which data collection takes place in a study. "The selection of an appropriate setting as per the objectives of the study is crucial because the study has a strong impact on perception of individuals.

The pilot study was conducted in Dasmesh College of Nursing, Faridkot to check the feasibility and reliability of the research tool.

Study population

90 students from B.SC Nursing, Post Basic B.SC Nursing and M.SC Nursing students were included in this study from UNIVERSITY COLLEGE OF NURSING, FARIDKOT, PUNJAB.

Sample and Sampling Technique

Sample is defined as representative unit of target population, which is to be worked upon by

researchers during their study is a part or subset of population selected to participate in research

study. Non probability sample was done. The sample was selected by convenient sampling technique.

Inclusion Criteria for Sampling:

Study will be conducted on the students who are:

1. Studying in University College of nursing, FARIDKOT.
2. Who tested positive for COVID-19 by RT-PCR test.
3. Faced COVID-19 complications within 3 months after recovery.
4. Willing to participate.

Exclusion Criteria for Sampling:

1. Not studying in University College of nursing, Faridkot.
2. Not having positive test reports of COVID-19 by RT-PCR test.
3. Had not faced any complications after COVID-19 recovery.
4. Not willing to participate.

Sample Size and Sampling Technique:

For the present study, 90 students have been selected by convenient method and sampling technique.

Selection and Development of tool

PART A: Socio-demographic profile PART B: Self-Structured Questionnaire

These tools were developed by the researchers keeping in mind the objectives of study and reviewing theoretical sources from internet and through discussion with guide and co-guide.

Description of the tool

Language of tool

Questionnaire was constructed in English.

Section A: General association of the students with covid-19 exposure.

It was related with the criteria for only those students who were positive with corona virus in a specific time period and duration.

Section B: Socio-demographic profile

It was related to sample characteristics, so was not included in the scoring system It consists of 8

items: Age, gender, religion, area of residence, course of study, type of family, annual family income, dietary habits, and any prior knowledge regarding post COVID-19 complications.

Part-d self-structured questionnaire

It included a questionnaire consist of dichotomous questions composed of 39 questions.

Maximum Possible Score = 39

Minimum Possible Score=0

Content Validity of tool

In order to measure the content validity, the tool was given to 5 experts in the field of Nursing Sciences, on the basis of their qualification, experience, clinical expertise and interest in problem area. Experts were requested to check each item of the tool for its relevance, clarity, feasibility and validity. Necessary changes were incorporated in final tool on the basis of suggestions given by experts and after discussing them with research guide and co-guide.

RELIABILITY OF TOOL

According to Polit and Hungler (1999), the reliability of an instrument is the degree of consistency with which instruments measure the target attribute Reliability is a major criterion for assessing the quality and adequacy of a tool. A tool only can be considered reliable if it measures an attribute with similar results on repeated use. The reliability of the tool was 0.94which was done by using split half method i.e.

$$r = 2r/1+r$$

ETHICAL CONSIDERATIONS

Ethical clearance was taken from research and ethical committee of University College of Nursing, BFUHS, Faridkot for the study was conducted. Apart from this, written consent was taken from each study subject and permission was taken from authorities of respected area to collect data Confidentiality and privacy of the study subjects are also maintained.

Pilot study

Pilot study was conducted on students of Dasmesh college of Nursing, Faridkot after taking formal administrative approval from principal of University College of nursing Faridkot to test the feasibility of research and to identify any problem that can arise during any study. The study

was conducted on 9 students as per inclusion criteria to see the effectiveness of criterion measures and to find out feasibility of tool and methodology.

Average time taken by individual study subject to complete tool was 10-15 mins.

The tool was found to be reliable valid and practicable. The language used in the test item was found to be appropriate and clear. The questions were 39inalized for the main project and arrangement was made for data collection.

Procedure for data collection

The data collection for the study was carried out in October 2022. Before commencing the task of data collection, formal permission was obtained from principal of University College of Nursing. Faridkot.

Data was collected from the students of UNIVERSITY COLLEGE OF NURSING, Faridkot, Punjab who fulfilled the inclusion criteria. The participants who were included in the pilot study were excluded from main study Participants who were meeting the inclusion criteria were selected by convenient sampling Consent from the participants was obtained and the purpose of the study was explained to them. Self-structured questionnaire to assess the post covid-19 complications among the recovered students.

Participants who were unwilling to complete the tool due to personal reasons were free to withdraw from the study. The inventory was taken from the participants and analysis was done further Confidentiality of the collected data was maintained and used only for the research purpose Data collection was done from 90 participants in October 2022.

DATA ANALYSIS

Data analysis is the process of organizing and synthesizing the data so as to answer research questions and test hypothesis. After data collection data was compiled, coded and master sheet was prepared in Microsoft excel for analysis. Data was analyzed using IBM's SPPS software by using descriptive and inferential statistical techniques.

- Demographic data and individual study subject's self-structured questionnaire score was analyzed by using descriptive statistics.

-The descriptive statistics included frequency and percentage distribution tables.

-Post covid-19 complications were assessed among the recovered students from corona virus students of UNIVERSITY COLLEGE OF NURSING, Faridkot and socio-demographic variables was carried out with the help of inferential statistics.

-The inferential statistics included independent samples T-test and Chi square test.

SECTION-1

Table 1: frequency and percentage distribution of sample socio demographic characteristics.

Characteristics/Variables		Frequency (N)	Percentage (%)
Gender	Female	87	96.7%
	Male	3	3.3%
	Total	90	100%
Age	18-20years	26	28.9%
	20-25years	60	66.7%
	>25years	4	4.4%
	Total	90	100.0%
Religion	Sikh	52	57.8%
	Hindu	35	38.9%
	Christian	3	3.3%
	Total	90	100.0%
Area of residence	Urban	50	55.6%
	Rural	40	44.4%
	Total	90	100.0%
Course of study	M.SC Nsg	5	5.6%
	Post Basic. B.SC Nsg	14	15.6%
	B.SC Nsg	71	78.9%
	Total	90	100.0%
Type of family	Nuclear	66	73.3%
	Joint	24	26.7%
	Total	90	100.0%
Annual family income	1-3 lakh	59	65.6%
	3-6 lakh	18	20.0%
	>6 lakh	13	14.4%
	Total	90	100.0%
Dietary habits	Vegetarian	52	57.8%
	Non-vegetarian	30	33.3%
	Eggetarian	8	8.9%
	Total	90	100.0%
Previous knowledge regarding complication of COVID-19	Yes	80	88.9%
	No	10	11.1%
	Total	90	100.0%

Table 1. shows the distribution of sample characteristics according to gender, age, religion, area of residence, course of study, type of family, annual family income, dietary habits and previous

knowledge regarding complication of COVID-19.

SECTION-2

Objective 1: To assess prevalence of post covid-19 complications among students recovered from COVID-19 in University College of Nursing, Faridkot.

TABLE 12: Level of complications, mean score, standard deviation, mean, mean percentage of post covid-19 complications among students recovered from covid-19 in UCON, FARIDKOT.

Level of Complication	NUMBER	Mean% of Total NO.	Mean SCORE	Std. Deviation
0-13 Mild	70	77.8%	5.54	4.106
14-26 Moderate	16	17.8%	16.00	1.897
27-39 Severe	4	4.4%	29.25	3.862
Total	90	100.0%	8.46	7.108

Table 12 shows that level of complications was categorized according to the severity. The mean score obtained by the participants was 8.46 and standard deviation was 7.108. Out of 90 participants, 77.8% had Mild complications, 17.8% had Moderate complications while 4.4% had severe complications.

The responses were quantified by giving score as follows: 1- Yes answer, 0-No answer.

Maximum possible score = 39

Minimum possible score= 0

The criterion measure was classified into level as follows:

Level	**Score**
Mild complications	0-13
Moderate complications	14-26
Severe complications	27-39

Prevalence of post covid-19 complications among recovered students of UCON was interpreted by the levels of complications i.e. mild complications were higher and severe complications prevailed less.

SECTION-3

Objective 2: To find out the association between the complications among students and selected socio-demographic variables.

TABLE 13: Relationship of complications score with selected socio-demographic variables

of nursing students of UCON, Faridkot.

Socio demographic variables		Level of Complication			n	df	Chi-square	P Value
Gender	Male	3	0	0	3	2	.887[a]	.642
	Female	67	16	4	87			
Age	18-20 yrs.	20	5	1	26	4	.439[a]	.979
	20-25 yrs.	47	10	3	60			
	>25 yrs.	3	1	0	4			
Religion	Sikh	40	9	3	52	4	1.371[a]	.849
	Hindu	27	7	1	35			
	Christian	3	0	0	3			
Area of residence	Urban	40	7	3	50	2	1.587[a]	.452
	Rural	30	9	1	40			
Course of study	M.Sc. Nsg	3	1	1	5	4	5.047[a]	.283
	Post Basic B.Sc. Nsg	13	1	0	14			
	B.sc Nsg	54	14	3	71			
Type of family	Nuclear	52	11	3	66	2	.210[a]	.900
	Joint	18	5	1	24			
Annual family income	1-3 lakh	43	13	3	59	4	4.144[a]	.387
	3-6 lakh	17	1	0	18			
	6 lakhs	10	2	1	13			
Dietary habits	Vegetarian	38	12	2	52	4	3.062[a]	.547
	Non-Vegetarian	25	3	2	30			
	Eggetarian	7	1	0	8			
Previous knowledge regarding COVID-19	Yes	62	15	3	80	2	1.171[a]	.557
	No	8	1	1	10			

Table no 13: Depicts that 87 (96.7%) female study subjects had 95.7% mild complications while 3 (3.3%) male study subjects had 3.3% mild complications. The chi square vale of

.887was found to be significant at p=.642 level. Thus, it was concluded that there was association between the complications and gender of nursing students.

DISCUSSION

In the present study,77.8% of the nursing student had mild covid-19 complications whereas only 4.4% students developed severe complications. These findings are supported by a similar study conducted by **Heneka MT,** in 2020 conducted a systematic study to investigate probable late and long-term complications od post COVID-19 which were done on the recovered 280 students of Suffolk university in Boston and concluded that potentially late complications in which the majority of covid-19 students suffered from severe muscle pain 25%, skin rashes 9% and respiratory anomalies 66%.[27]**Fabricio Gonzale- Andrade:** conducted an observational study in 2021 in Quito, Ecuador. 1,366 non hospitalized participants between 12-85 years, diagnosed with covid-19 infection by molecular RT-PCR were included in the study. The study's findings revealed that socio-demographic health related risk, age, gender, work type and residential factors have significant effect on post COVID-19 complications. The most common complications were fatigue 67.3%, headache 45.2%, and body ache 42.3%, and sleep disorders 69.3%. the study concludes that majority of the nursing students who took part in the study suffered from covid-19 complications.[28] Mamta Chaudhary, L Gopichandran: Conducted a analytical study a college of nursing AIIMS, New Delhi, in 2021 where 600 patients were taken as study sample who were suffering from COVID-19 complications in which result shown that patients developed ARDS 58%, cardiovascular16%, neurological 12%, gastrointestinal complications 11% followed by multiorgan damage 3%.[29]

CONCLUSION

It was concluded from the study that majority (77.8%) of the participants had mild prevalence of complications related to COVID-19. The socio-demographic factors found to have statistically significant association with prevalence of complications were gender, age, course of study, type of family and annual family income.

REFERENCES

1.Vakili.K,Fathi.M,Pezeshi.A, Hajiesmaeili.M,Sajehmiri.F et.al.Critical complications of covid-19.Rev Cardiovasc Med.2020sep30;21(3):433-442. Available from:[http://:doi:10.31083/J.rcm.2020.03.129]

2.Farid.H,Khan.M,Jamal.S,G.Robia.Oral manifestations ofcovid-19.Rev Med Virol.2022 Jan;32(1):e2248. Available from:[http://:doi:10.1002/rmv.2248.Epub2021 May24]

3.Karuna.S,Theodare.D, Hunidzarira.P,Hu.Jiaani,Kim.V,Takalani.A.et.al.post-covid symptoms profiles and duration in a global convalescent covid-19 obsevtional cohort.J Glob health.2023.Jun;13;06020. Available from:[http://:doi:10.7189/Jogh.13.06020]

4.M.Kshipra.Kotechi.D,Patil.M.COVID-19 and Mental Health;BMJ yale.Feb,2021. Available from:[http://:doi.org/10.1101/2020.08.05.20160499]

5.Heneke.T.M, Golenbock.D.Latz.E.Morgan.D.Brown .R.et .al. Immediate and long term consequences of COVID_!(infections for the development of neurological disease. Alzheimeirs Res.Ther.2020 June4;12:69.Available from: [http://:doi.101186/s13195-020-006033]

6. Wu.C, Chen, X.Song, Y. Risk factors associated with acute respiratory distress syndrome and death in patients with COVID-19 pnuemonia. Journal of Emergency Medicine.13 March,2020. Available from: [http://:doi.10.1001/Jamainteenmed.2020.0994]