



A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING COVID-19 AND ITS VACCINATION AMONG UNDERGRADUATE NURSING STUDENTS STUDYING IN COLLEGE OF NURSING, ADESH UNIVERSITY, BATHINDA, PUNJAB.

Ms. Charnjeet kaur , Mr Shahid Mohiuddin Khan, Mr Shahid U Nabi, Mr Shahid Naseer Lone, Mr Shahid Hussain Mandoo, Ms Shabnum Bano, Ms Shabnum Manzoor

ABSTRACT

Introduction

Corona Virus disease 19 abbreviated as covid-19 is single stranded RNA virus. It has emerged in Wuhan city of China on December 2019. From China it has spread to Worldwide. In India the first confirmed case was presented on 27 January 2020 in Kerela. Covid-19 was declared as public health emergency on 30 January 2020 by Director General of W.H.O and on 11 march 2020 it was declared as global pandemic by W.H.O.

Aim of the study

To evaluate the level of knowledge among undergraduate nursing students regarding covid-19 and its vaccination.

Material and Methods:- Quantitative research approach and descriptive research design was used to assess the knowledge regarding covid-19 and its vaccination among the undergraduate nursing students studying in College Of Nursing Adesh university Bathinda. A formal permission had been taken from college authorities. Sample size comprised of 80 students which were selected by convenient sampling technique. Data was collected by using socio-demographic variables and self structured questionnaire. Analysis was done by using descriptive and inferential statistics method.

Result:- The present study revealed that 91% of participants were having average knowledge followed by 6% were having below average knowledge and only 3% were having good knowledge. There are two variables, area of residence and previous exposure to teaching programme regarding covid-19 which showed significant association with knowledge of students and other variables were not significant.

Conclusion:- It was concluded that majority of the students were having average level of knowledge regarding covid-19 and its vaccination.

INTRODUCTION

Corona Virus disease 19 abbreviated as covid-19 has emerged in Wuhan city of China on December 2019. From China it has spread to Worldwide. In India the first confirmed case was presented on 27 January 2020 in Kerala. Covid-19 was declared as public health emergency on 30 January 2020 by Director General of WHO and on 11 March 2020 it was declared as global pandemic by WHO¹.

Globally, as of 11 March 2021, there have been 117,799,584 confirmed cases of covid-19, including 2,615,018 deaths, reported to WHO. As of 10 March 2021, a total of 300,002,228 vaccine doses have been administered². In India as of 12 March 2021 Corona virus confirmed cases: 11,308,846 deaths: 158,326 recovered: 10,953,303³. The COVID-19 pandemic was confirmed to have spread to the Indian state Punjab on 9 March 2020, when an Indian man returning from Italy was tested positive. As of 09 March 2021, the Ministry of Health and Family Welfare has confirmed a total of 1,94,753 cases including 6,030 deaths and 1,78,271 recoveries in Punjab. The economy of Punjab has been severely affected by the COVID-19 pandemic⁴.

Corona viruses are enveloped positive single stranded large RNA viruses that can affect both humans and animals⁵. Covid-19 is caused by a virus called severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). Corona virus has caused the epidemic disease namely severe acute respiratory syndrome (SARS) and mild east respiratory syndrome (MERS) in past two decades⁶.

Some possible risk factors for disease severity were identified which include; smoking, higher age, hypertension, diabetes, cardiovascular disease, cerebrovascular disease, COPD, chronic renal failure and tuberculosis⁷.

The signs and symptoms of Covid-19 are highly variable ranging from no symptoms to life threatening illness. Some early symptoms are fever, cough, sneezing, dyspnea, headache, fatigue, myalgia and anosmia. Bilateral lung infiltration with ground glass appearance can be seen on chest CT scan.

Corona virus spreads through water droplets. When an infected person sneezes, coughs or talks water droplets from respiratory tract are exhaled out and the person near to infected person inhales the same droplets and gets infected. Droplets from infected person can also land on the surfaces and objects the person who comes in contact with these surfaces or objects are at risk of developing Covid-19 if they touch their eyes, nose, and mouth before washing their hands⁸.

Covid-19 is a new potential indication. Various therapeutic agents have been evaluated for the treatment of code

19 none of yet have been shown to be efficacious. Although chloroquine and hydroxychloroquine have only moderate in vitro activity against SARS-CoV-2 and presently there is no any specific evidence of significant clinical efficacy however remdisivir was seen superior to placebo in shortening the recovery in adults hospitalized with covid-19⁹.

Recommended preventive measures for covid-19 include.

- Avoid contact (within about 6 feet) with anyone who is having covid-19 symptoms.
- Frequent hand washing with soap and water.
- Covering one's mouth when sneezing or coughing.
- If hand washing is not possible use alcohol-based hand sanitizers.
- Refrain from touching your nose, eyes and mouth.
- Touch surfaces should be clean and disinfected frequently
- Wearing face mask in public
- Limiting or avoiding handshakes and touching face
- Staying home and away from others if sick
- Bing watch full for symptoms like cough and fever¹⁰.

Different vaccines are also now available for the prevention of covid-19 pandemic. Two vaccines have got approval for use from FDA in USA.

- The pfizer-bioNtech covid vaccine.
- The moderna covid-19 vaccine.

In India Covaxin and oxford astrazeneca vaccine have also got approval for use having efficacy of about 81%¹¹.

Need of the study

Wahed W Y A et al (2020),A descriptive cross-sectional study aimed to assess the knowledge, perception, and attitude of the Egyptian HCWs, who are the frontline defense against the Corona virus disease, towards the COVID-19. A convenient sampling technique was used to select participants. A self-administered questionnaire was used which was developed by the authors after reviewing previously conducted research. Pre test was done on 20 HCWs and online data collection method was used. Statistical Package for Social Science (SPSS) software version 16 method was used to analyze the data. The overall knowledge level of HCWs was generally good especially among physicians. A positive attitude was detected among allied health professionals more than physicians. Risk perception was high among HCWs.¹⁴

It has been observed by primary researchers in last one and a half year the new disease was prevailing that is Covid-19 which is caused by corona virus. It hugely impacted the lives of people worldwide from various

aspects. It was felt that health personal those who are serving the public as frontline workers should have good knowledge regarding this communicable disease and its management as responsibility to save people's lives relay on them.

Considering the fact that nurses constitute the majority of healthcare providers, they have a critical function in healthcare systems. They also need to provide essential treatment in an emergency. Since the covid-19 is declared as public health emergency and is highly contagious disease so nurses must be well equipped with essential knowledge and skills in managing this emergency. So, we decided to assess the knowledge regarding this covid-19 pandemic among the undergraduate nursing students enrolled in college of nursing Adesh University Bathinda.

❖ STATEMENT

A Descriptive study to assess the knowledge regarding covid-19 and its vaccination among undergraduate nursing students studying in College Of Nursing, Adesh University, Bathinda, Punjab.

❖ AIM

To evaluate the level of knowledge among undergraduate nursing students regarding covid-19 and its vaccination.

❖ OBJECTIVES

1. To assess the knowledge of undergraduate nursing students regarding covid-19 and its vaccination in College of Nursing, Adesh University, Bathinda, Punjab.
2. To find out association of level of knowledge regarding covid-19 and its vaccination among the undergraduate nursing students with their socio-demographic variables in College of Nursing, Adesh University, Bathinda, Punjab.

❖ OPERATIONAL DEFINITIONS

1. **ASSESS:** In present study it means to check the knowledge regarding covid-19 and its vaccination among the undergraduate nursing students in College of Nursing, Adesh University Bathinda, Punjab.
2. **STUDENT:** An individual who is studying at university or other place of higher education.
3. **SETTING:** The present study will be conducted in College Of Nursing, Adesh University Bathinda, Punjab.
4. **COVID 19:** In present covid-19 is a disease caused by a new strain of corona virus
5. **KNOWLEDGE REGARDING COVID 19 AND ITS VACCINATION:** In present study knowledge regarding covid-19 is awareness about different aspects of (corona virus infection) covid-19 and what type of vaccination can be used for its management

ASSUMPTIONS

1. The majority of undergraduate nursing students will be having significant level of knowledge regarding covid-19 and its vaccination
2. There will be significant association of level of knowledge of undergraduate nursing students regarding covid-19 and its vaccination with their socio-demographic variables.

❖ INCLUSION CRITERIA

1. Undergraduate nursing students who were willing to participate in the research
2. Undergraduate nursing students who were present on the day of data collection

❖ EXCLUSION CRITERIA

1. Students who were absent on the day of data collection.

REVIEW LITERATURE

Wahed W Y A et al (2020), A descriptive cross-sectional study aimed to assess the knowledge, perception, and attitude of the Egyptian HCWs, who are the frontline defense against the Corona virus disease, towards the COVID-19. A convenient sampling technique was used to select participants. A self-administered questionnaire was used which was developed by the authors after reviewing previously conducted research. Pre test was done on 20 HCWs and online data collection method was used. Statistical Package for Social Science (SPSS) software version 16 method was used to analyze the data. The overall knowledge level of HCWs was generally good especially among physicians. A positive attitude was detected among allied health professionals more than physicians. Risk perception was high among HCWs.¹⁴

Malik UR et al (2020), the aim of study was to examine the knowledge, attitude, practices, and risk assessment of HCPs regarding corona virus and its associated disease (COVID-19). The study was conducted in Punjab, Pakistan from 21 March 2020 to 20 April 2020. The study, was developed an online Google form of the questionnaire that we shared with healthcare professionals. The Google form was shared with the participants through the WhatsApp platform and the participants were requested via cellular phone calls to fill the online survey. Out of a total 500 healthcare professionals approached, 385 completed the online survey. The study reported the deficiencies in the awareness and preparedness of medical professionals regarding COVID-19 in Pakistan and demonstrated that frontline health workers were not well- prepared to prevent and control the infection. It is suggested that the government should take necessary measures to train all healthcare stakeholders for the emergency preparedness and any other environmental or health-related calamity.¹⁶

Singh Abishek et al. A study was conducted on knowledge & perception among medical students on Covid-19. The study was conducted among 392 undergraduate medical students in April 2020, using a 28 items structured questionnaire with close ended responses based on WHO course material. Most medical students had minimal awareness regarding the source of reliable information with satisfactory knowledge levels and discrepancies in perception of corona virus. Most medical students can act as a potential reservoir to fill the gaps in health care

services in the hour of need²².

MATERIAL AND METHODS

In present study: “A Descriptive study to assess the knowledge regarding Covid-19 and its vaccination among undergraduate nursing students studying in College Of Nursing , Adesh University Bathinda, Punjab.” a Quantitative research approach and descriptive one group post test only design was used. This study was conducted in College of Nursing, Adesh University , Bathinda among 80 Nursing students studying in undergraduate Nursing programs. The target population was students of undergraduate nursing students studying at College of Nursing, Adesh University Bathinda. The study subjects were selected by using purposive sampling technique on the basis of inclusion and exclusion criteria of the study. The selected subjects’ knowledge was assessed by using self structured questionnaire.

The data collection tool was grouped in two sections

- **Section A: Demographic variables:** Age, Gender, Religion, Use of social media, Area of residence, Education of father, Education of mother, Previous exposure to teaching programme regarding Covid-19 & Exposure to Covid-19 infection
- **Section B: Self structured knowledge questionnaires** to assess the level of knowledge regarding Covid-19 among the undergraduate nursing students in College Of Nursing , Adesh University Bathinda, Punjab.

ANALYSIS AND INTERPRETATION OF DATA

Table-1: Percentage and frequency distribution of subjects as per their socio- demographic variables.

Table No. 1-Percentage and Frequency distribution of subjects as per their sociodemographic variables N=80			
S.No.	Socio- demographic variables	Frequency (n)	Percentage %
1	Age (In Years)		
	a) 18-21	64	80%
	b) 22-25	16	20%
2	Gender		
	a) Male	38	47.50%
	b)Female	42	52.50%
3	Religion		
	a) Sikh	13	16.25%
	b) Muslim	66	82.50%
	c) Hindu	1	1.25%
	d) Other	0	0.00%
4	Use of Social Media		
	a) Whats app	8	10%
	b) Facebook	2	2.50%

	c)Instagram	8	10%
	d)All of the above	62	77.50%
5	Area of residence		
	a) Urban	45	56.25%
	b) Rural	35	43.75%
6	Education of father		
	a) Illiterate	7	8.75%
	b) Primary Education	11	13.75%
	c) Secondary Education	28	35%
	d) Graduate	34	42.50%
7	Education of Mother		
	a) Illiterate	20	25%
	b) Primary Education	20	25%
	c) Secondary Education	30	37.50%
	d) Graduate	10	12.50%
8	Attended any teaching regarding COVID-19		
	a) Attended	35	43.75%
	b) Not attended	45	56.25%
9	Exposure to COVID-19		
	a) YES	18	22.50%
	b) No	62	77.50%

Table.1- shows that in age group out of 80 participants 64 were having age between of 18-21 years and 16 were having age group of 22-25 years.

Considering the gender, 38 participants belong to male category and 42 participants belong to female.

Considering the religion, out of 80 participants 66 were Muslims 13 were Sikh and 1 was in the category of Hindu.

Considering the use of social media out of 80, most of the participants (62) were using all the three social media platforms i.e. Whatsapp, Facebook and Instagram, 8 were using Whatsapp only, 2 were using Facebook only and 8 were using Instagram only.

Considering area of residence, more than half participants 45 belong to urban area and 35 belongs to rural area.

Considering the education of father 7 participant's fathers were non literate, 11 participant's fathers were having primary education, 28 participant's fathers were having secondary education and 34 participant's fathers were Graduate.

Considering the education of mother, 20 participant's mothers were non literate, 20 participant's mothers were having primary education, 30 participant's mothers were having secondary education and 10 participant's

mothers were Graduate.

Considering the exposure to any teaching program regarding covid-19, out of 80 participants 35 participants were those who have attended teaching program and 45 have not attended any teaching program.

Considering the covid-19 exposure out of 80 participants, 18 participants were exposed to covid-19 and 62 were not exposed to covid-19.

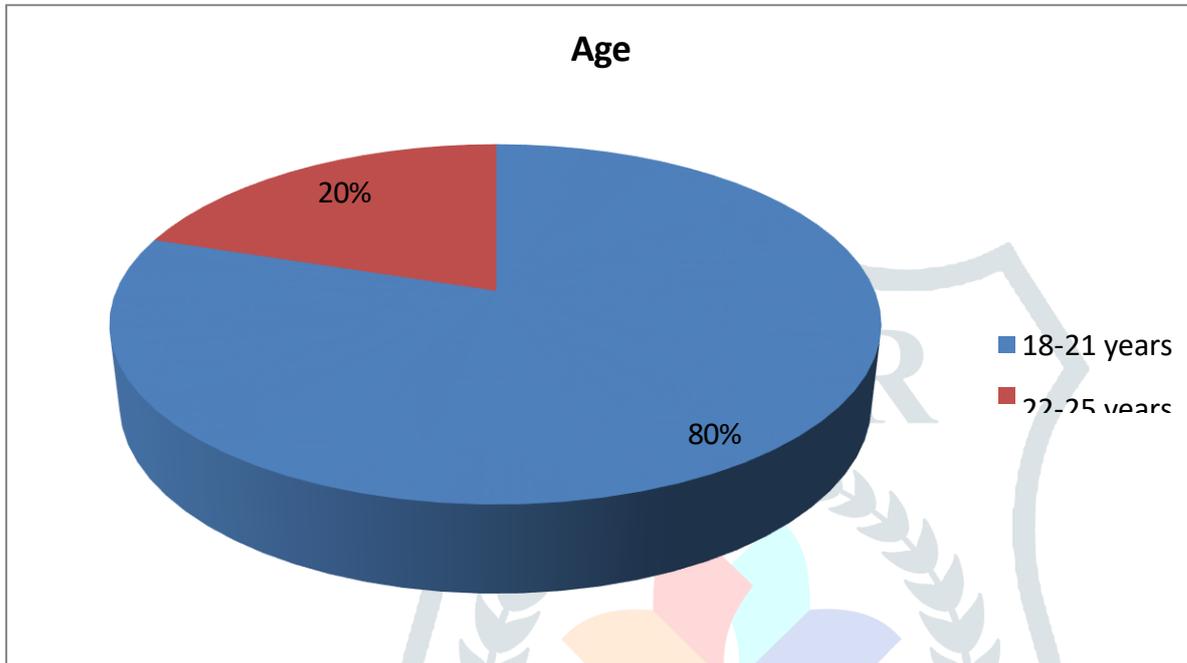


Figure 1:- Pie chart, showing percentage distribution, according to their age.

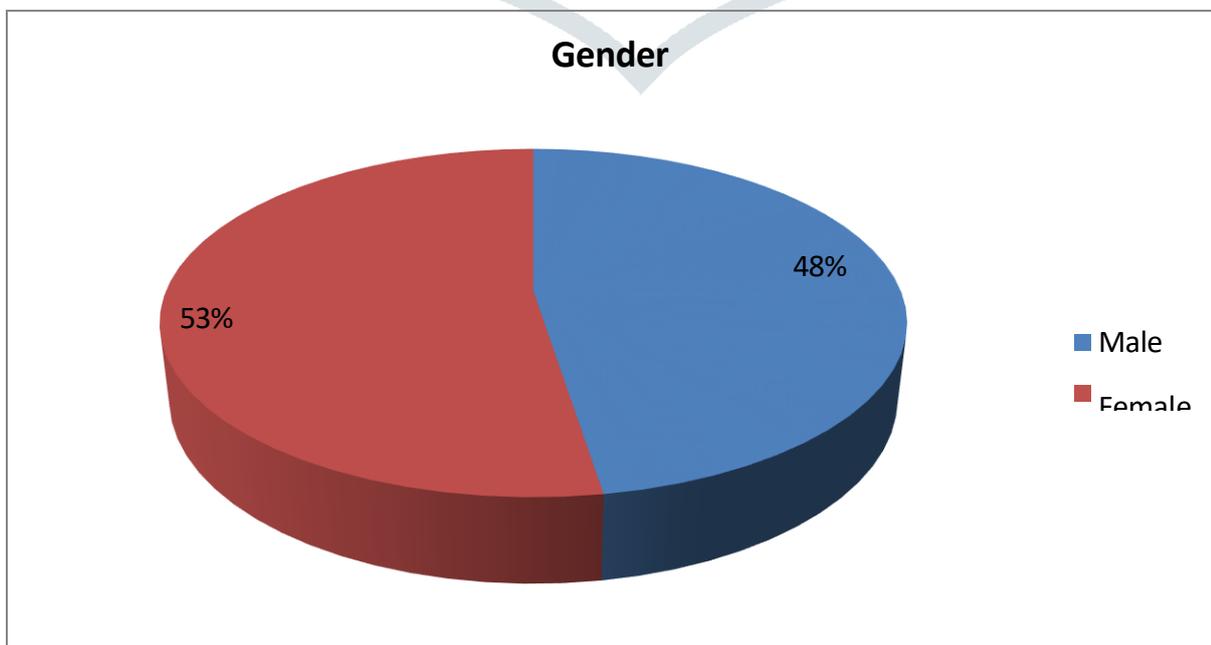


Figure-2:- Pie chart, showing percentage distribution, according to their gender.

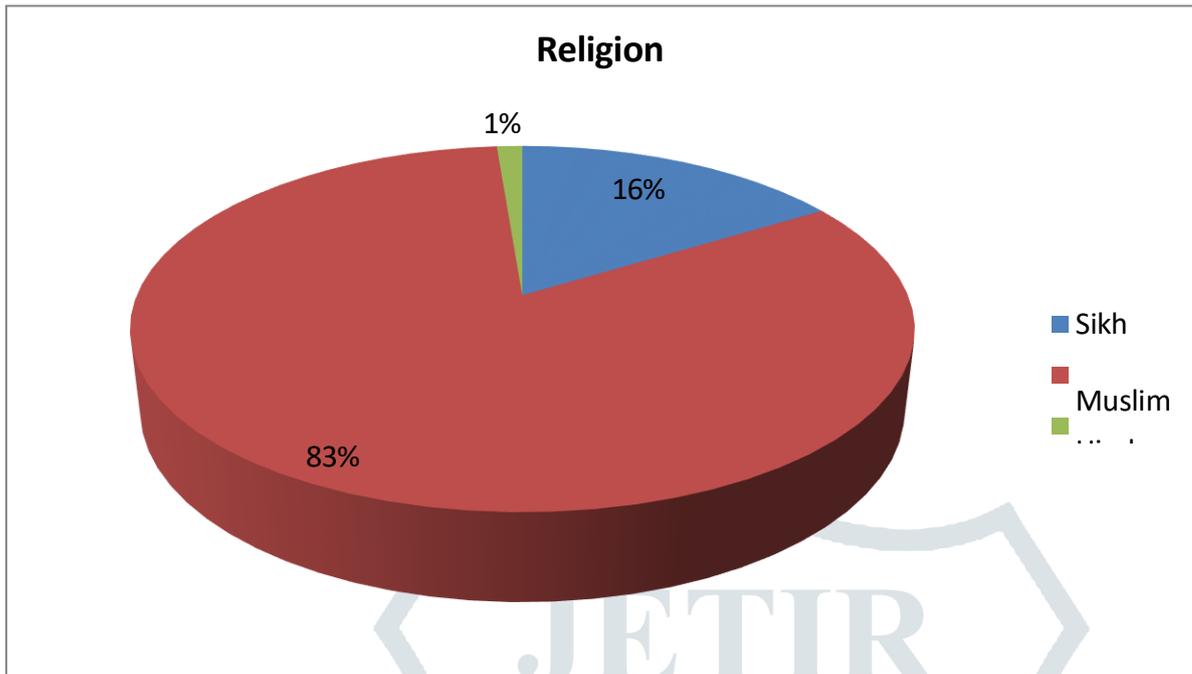


Figure - 3:- Pie chart, showing percentage distribution, according to their religion.

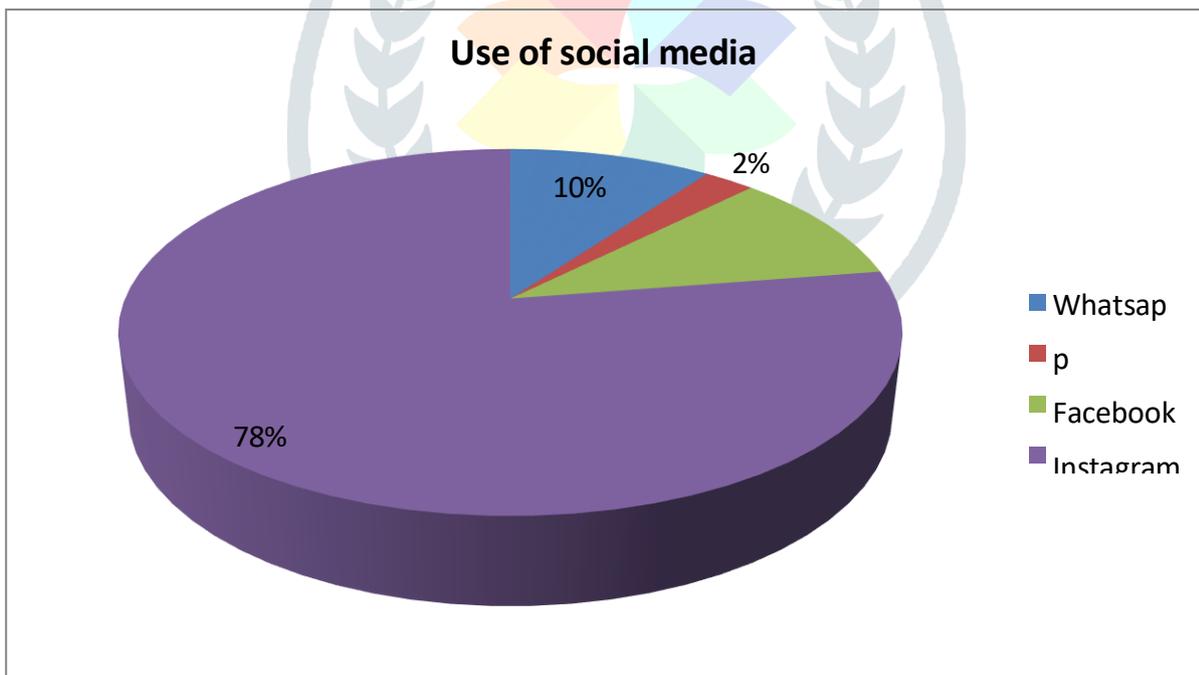


Figure-4:- Pie chart, showing percentage distribution, according to the use of social media.

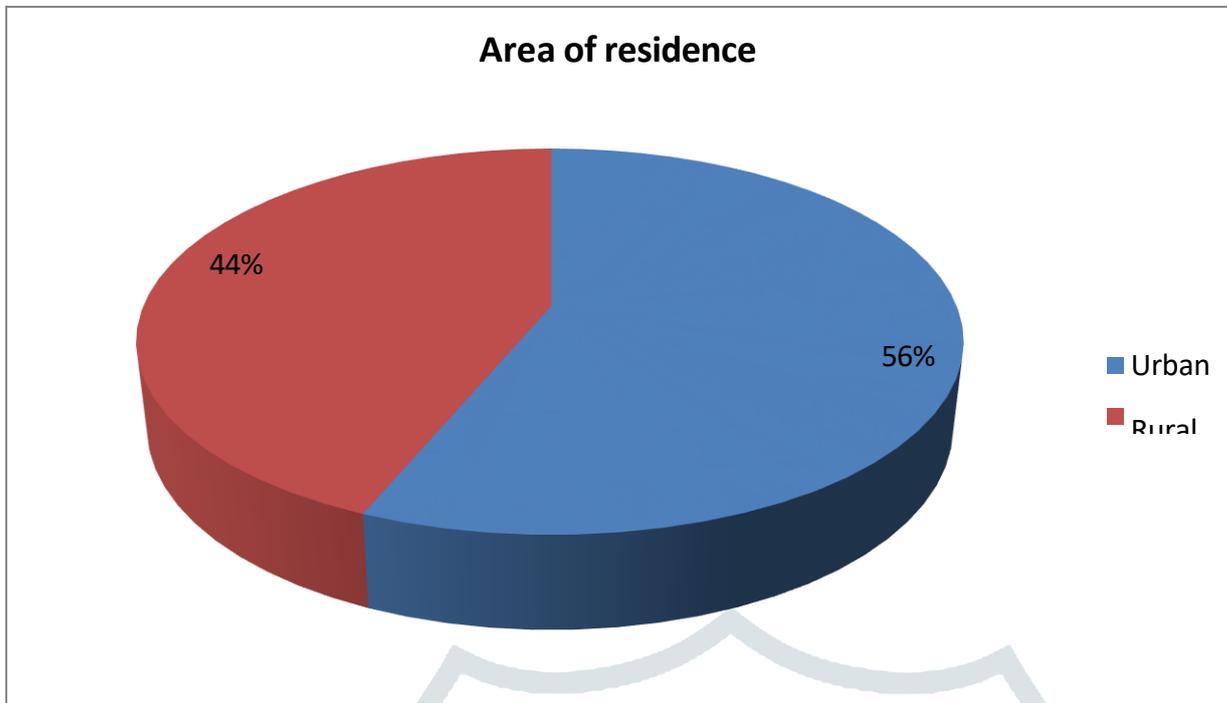


Figure-5:- Pie chart, showing percentage distribution, according to their area of residence

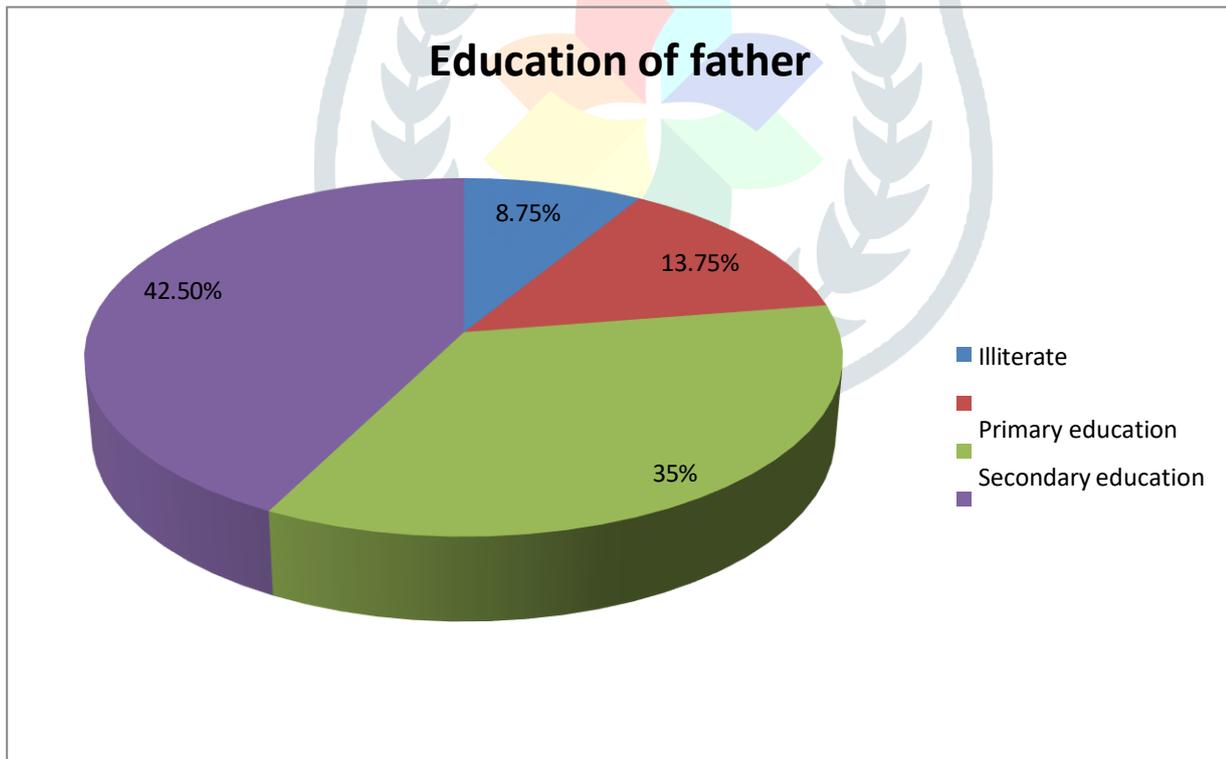


Figure-6:- Pie chart, showing percentage distribution, according to their education of father.

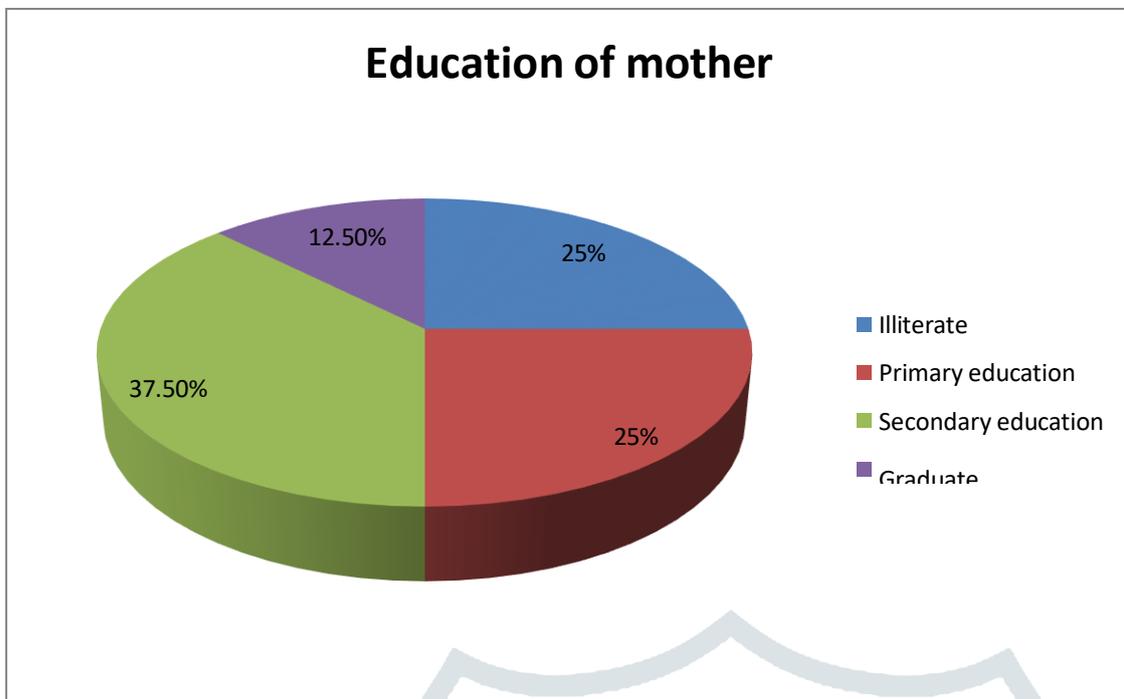


Figure-7:- Pie chart, showing percentage distribution, according to their education of mother.

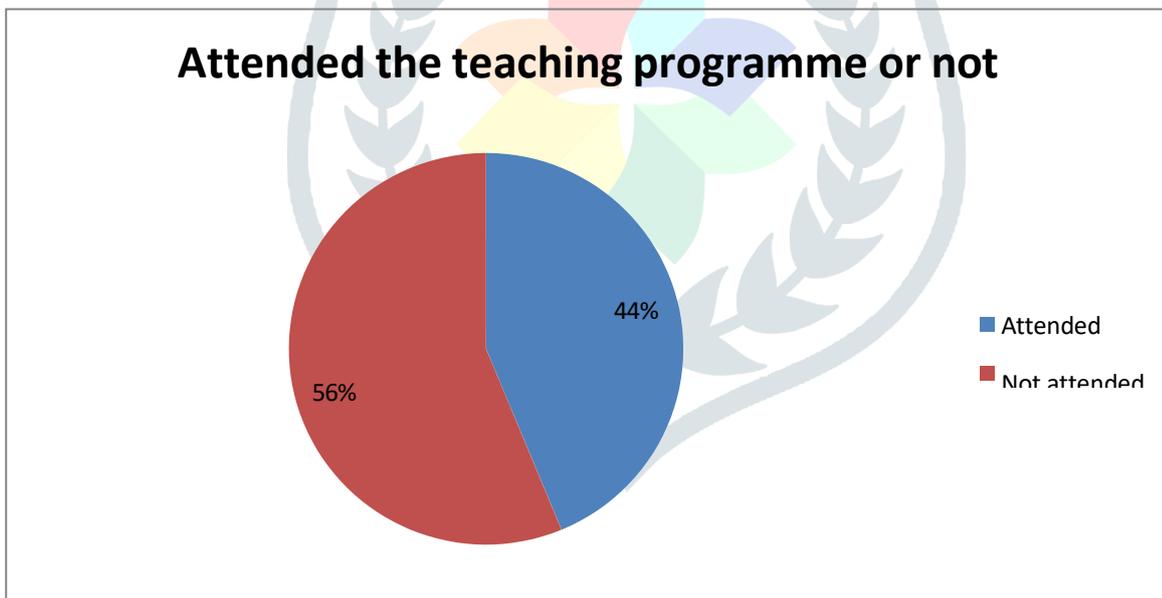


Figure 8:- Pie chart, showing percentage distribution, according to attended any teaching programme.

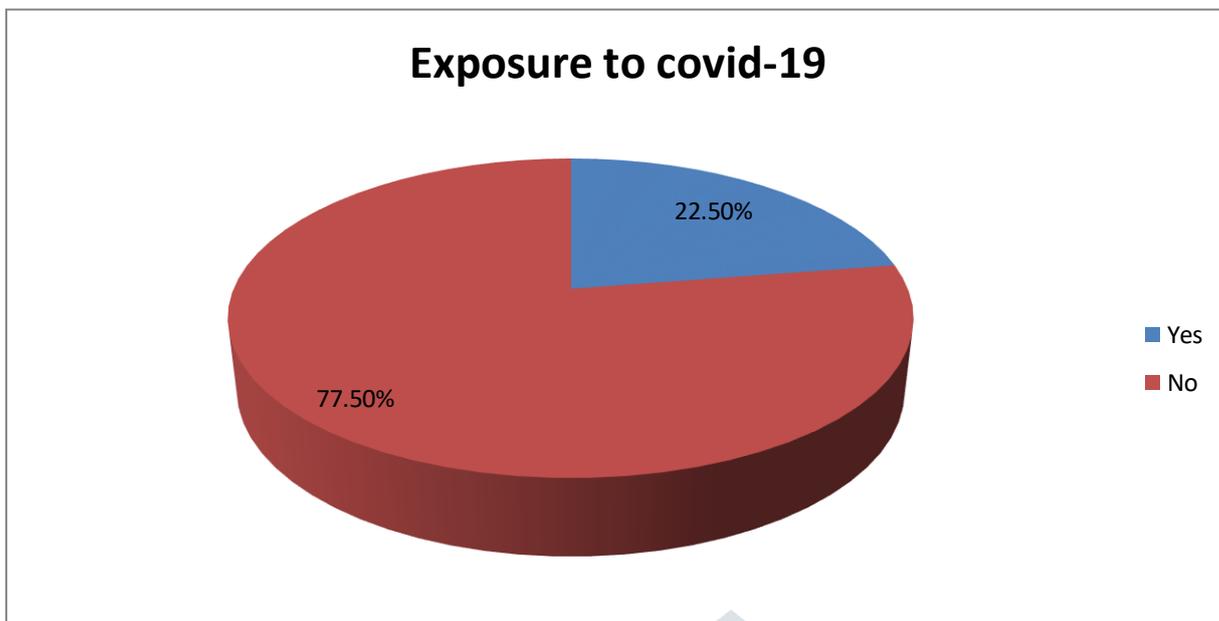


Figure 9:- pie chart showing percentage distribution, according to exposure Covid-19

Table :2 : The Frequency distribution of subjects according to their level of knowledge regarding COVID -19 and Its Vaccination .
N=80

S.No.	Level of knowledge	Range of Questionnaire score	Frequency (n)	Percentage (%)
1	Good	28-40	2	2.5%
2	Average	14-27	73	91.25%
3	Below Average	0-13	5	6.35%

Table.2- shows that Frequency distribution of knowledge questionnaires among the undergraduate nursing students regarding Covid-19 and its vaccination. Table also depicts that 91% of participants are having average knowledge followed by 6% are having below average knowledge and only 3% are having good knowledge.

Therefore assumption 1 has been accepted.

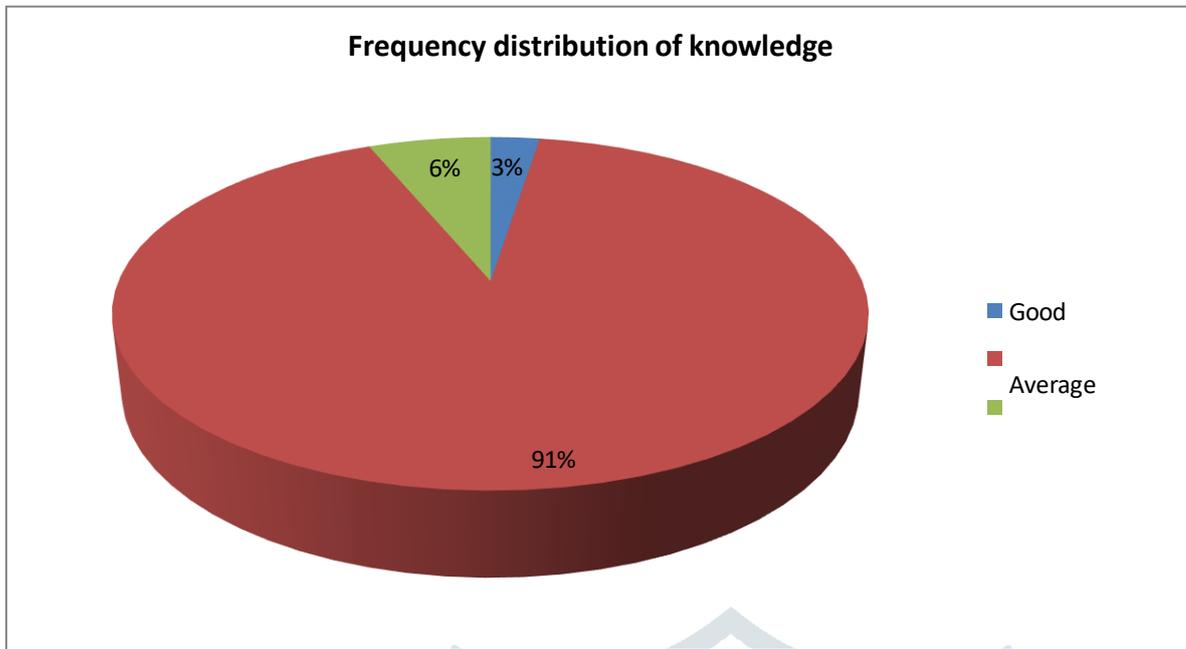
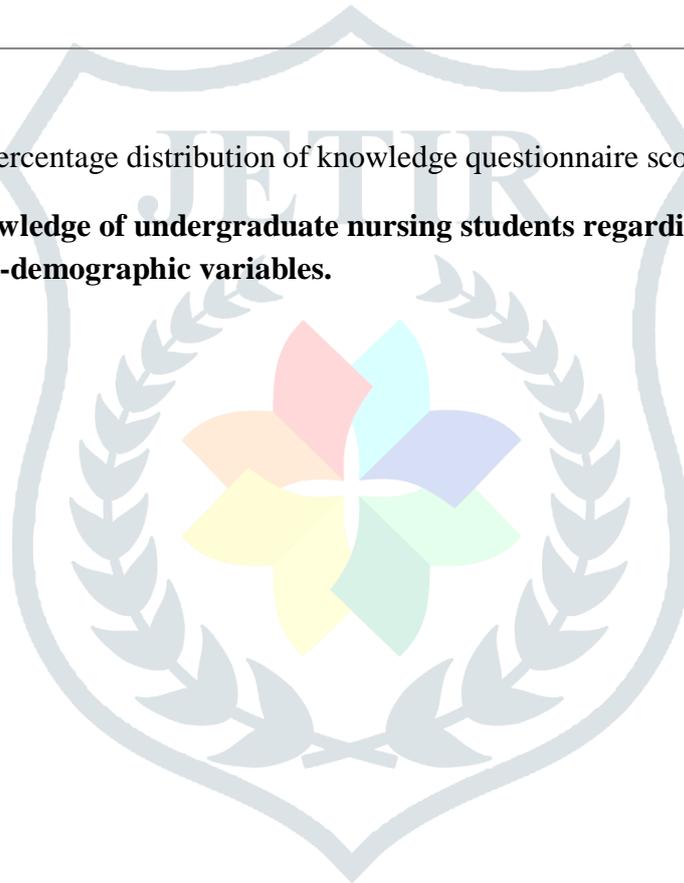


Fig.10:- pie chart, showing percentage distribution of knowledge questionnaire scores

Table.3- Association of knowledge of undergraduate nursing students regarding covid-19 and its vaccination with their socio-demographic variables.

Level of significance = 0.05

N=80



Selected variables	Good	Average	Below Average	χ^2	Df	p-value
Age						
18-21	1	58	5	4.69	2	0.095
22-25	2	35	1			
Gender				3.56	2	.1686
Male	0	12	1			
Female	0	0	0			
Religion				1.105	6	.981
Sikh	0	0	0			
Muslim	0	1	0			
Hindu	0	7	1			
Other	0	2	0	4.864	6	0.561
Use Of Social Media	0	7	1			
Whatsap	2	41	2	13.734	2	0.001
Facebook	0	0	0			
Instagram	0	7	0			
All of the above	0	9	2	6.259	6	0.394
Area Of Residence						
Urban area	0	27	1	8.068	6	0.233
Rural area	0	20	0			
Education Of Father	0	19	1			
	0	26	2	13.734	2	0.001
Previous Exposure To Teaching Programme Regarding Covid-19						
Attended	0	32	3	0.622	2	0.732
Exposure To Covid-19 Infection						
Yes	0	17	1			

Table 3- Revealed that level of knowledge among undergraduate nursing students regarding covid-19 and its vaccination is not significantly associated with age, gender, religion, use of social media, education of father, education of mother and exposure to covid-19 infection however it is having significant association with area of residence and previous exposure to teaching programme regarding covid-19. Therefore assumption 2 has been accepted.

DISCUSSION

The results of the study were compared in terms of findings and to the relevance of earlier studies conducted in the field. The findings were also considered in relation to objectives, need for the study, literature related to the study and conceptual frame work.

The present study was conducted to assess the knowledge regarding covid-19 and its vaccination among the

undergraduate nursing students in College Of Nursing , Adesh University Bathinda Punjab.

To assess the knowledge of undergraduate nursing students regarding covid-19 and its vaccination.

Present study, conducted among undergraduate nursing students revealed that among all participants 91.25% were having average level of knowledge, 6.25% were having below average knowledge and only 2.5% were having good knowledge.

A descriptive cross-sectional study aimed to assess the knowledge, perception, and attitude of the Egyptian HCWs, who are the frontline defense against the Corona virus disease, towards the COVID-19. A convenient sampling technique was used to select participants. A self-administered questionnaire was used which was developed by the authors after reviewing previously conducted research. Pretest was done on 20 HCWs and online data collection method was used. Statistical Package for Social Science (SPSS) software version 16 method was used to analyze the data. The overall knowledge level of HCWs was generally good especially among physicians. A positive attitude was detected among allied health professionals more than physicians. Risk perception was high among HCWs¹⁶.

To find out association of level of knowledge regarding covid-19 and its vaccination among undergraduate nursing students with their socio-demographic variables studying in College Of Nursing Adesh University Bathinda.

In present study the overall result illustrated that only two variables that is area of residence and previous exposure to teaching programme regarding covid-19 showed significant relation towards knowledge questionnaire and rest of the variables showed non-significant relation towards knowledge questionnaire.

A study was conducted by Vikrant Kulthe to assess the basic knowledge about corona virus among undergraduate nursing students in Kamalnayan Bajaj College of nursing Aurangabad Nashik India. In this study association between knowledge score with the selected demographic variables was one of the major component to be assessed. Chi square test was used for the association results, that shows that all the p values were larger than 0.05. Therefore none of the demographic variable was found to have significant association with the knowledge score related to corona virus²¹.

MAJOR FINDINGS, SUMMARY AND CONCLUSION

MAJOR FINDINGS:

- Majority of the students were having average level of knowledge.
- Majority of the students belong to age group of 18-21 years.
- Majority of the participants were female students.
- Majority of the students belong to Muslim religion.
- Majority of the students were using all the three social media platforms which include Whatsapp, Facebook and Instagram.
- Majority of the students were belonging to urban area.
- Majority of the student's father were graduates.

- Majority of the student's mother were having secondary education.
- Majority of the students had not attended any teaching programme regarding covid-19
- Majority of the students were not exposed to covid-19 infection.

CONCLUSION

The present study concluded that majority of the participants are having average level of knowledge regarding covid-19 and its vaccination.

The present study also concluded that only two variables that is area of residence and previous exposure to teaching programme regarding covid-19 showed significant relation towards knowledge questionnaire and rest of the variables showed non- significant relation towards knowledge questionnaire.

Implications

The study has major findings for Nursing Education, Nursing Administration, and Nursing Research.

Nursing Education

This will give an idea what needs to be done to improve the knowledge and practice of student nurses.

Nursing Administration

It will help to avoid the errors in nursing care, and on the basis of knowledge, responsibilities can be given to the particular student.

Nursing Research

It will provide the basis to conduct more research studies about the covid-19.

Limitations

- The study was limited to the B.Sc. Nursing undergraduates.
- The study was limited to the College Of Nursing Adesh University Bathinda only.
- The sample size was limited to 80 subjects only due to time and Covid protocols.

Recommendations

- A similar study can be Conducted on large sample size.
- Similar study can be conducted in different setting.
- A comparative study can be Conducted to assess the knowledge regarding covid-19 and its vaccination among Nursing undergraduates and Nursing post graduates.

References

1. https://en.wikipedia.org/wiki/COVID-19_pandemic
2. <https://covid19.who.int/>
3. <https://www.mohfw.gov.in/>
4. https://en.wikipedia.org/wiki/COVID-19_pandemic_in_Punjab,_India
5. Thirumalaisamy P Velavan et al The Covid-19 Pandemic
6. Boulos MN, Geraghty EM. Geographical tracking and mapping of coronavirus disease COVID-19/severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic and associated events around the world: how 21st century GIS technologies are supporting the global fight against outbreaks and epidemics.
7. D Wolff et al, risk factors for covid-19 severity
8. Early symptoms of covid-19: What u need to no, Reviewed by Meredith good win, MD , PAAFP-written by Anna smith on 6 may
9. Nicholas j et al, Covid-19 prevention and treatment: A critical analysis of chloroquine and hydroxychloroquine clinical pharmacology
10. Early symptoms of covid-19: What u need to no, Reviewed by Meredith good win, MD , PAAFP-written by Anna smith on 6 may written by Anna smith on 6 may
11. Corona virus (covid-19) vaccine: what to know, medically reviewed by C white, MD, MPH, written by D Dresden.
12. Jain j et al, COVID-19 vaccine hesitancy among undergraduate medical students: results from a nationwide survey in India; <https://doi.org/10.1101/2021.03.12.21253444>; pdf cited on 15/03/2021.
13. Daugherty SE et al, SARS-CoV-2 infection and risk of clinical sequelae during the post-acute phase: a retrospective cohort study.<https://doi.org/10.1101/2021.03.12.21253448>.pdf cited on 15/03/2021
14. Wahed W Y A et al (2020) Assessment of Knowledge, Attitudes, and Perception of Health Care Workers Regarding COVID-19, A Cross-Sectional Study from Egypt; Journal of Community Health: july 2020.
15. Ahwal S, Bist D et al, COVID 19 knowledge assessment: A step towards protecting health care workers. J Appl Sci Clin Pract 2020.1(1).
16. Malik U R ¹et al. Knowledge, Attitude, and Practices of Healthcare Professionals on COVID-19 and Risk Assessment to Prevent the Epidemic Spread: A Multicenter Cross-Sectional Study from Punjab, Pakistan; Int. J. Environ. Res. Public Health 2020, 17, 6395: Pg 1-13.
17. Tamang N¹ et al .COVID-19: a National Survey on perceived level of knowledge, attitude and practice among frontline healthcare Workers in Nepal; BMC Public Health (2020) 20:1905
18. Nashwan A J et al Nurses' willingness to work with COVID-19 patients: The role of knowledge and attitude; Nursing Open. 2021;8:695–701.
19. Olum R et al Chekwech G, Wekha G,Nassozi DR and Bongomin F (2020) Coronavirus Disease-2019:Knowledge, Attitude, and Practices of Health Care Workers at Makerere University Teaching Hospitals, Uganda. Front. Public Health:April 2020

,Vol 8:181

20. Buertey, A., Sadick, F., Ayamba, A., Nuhu, S., Abdul-Rahaman, A., and Imoro, M. A. (2020). Knowledge, Attitudes and Practices of Nurses in the Tamale Metropolis Towards Coronavirus Prevention. *Diverse Journal of Multidisciplinary Research*, Vol. 2, Issue 6, Pages 34-47.]
21. Vikrant Kulthe 2020. A study was conducted to assess the basic knowledge about corona virus among under graduate nursing students in Kamalnayan Bajaj College of nursing Aurangabad Nashik India. *International journal of current research*. Volume- 12.issue-9.september 2020.
22. Singh Abishek, Gupta Vikas evaluation of knowledge and perception among medical undergraduate students towards covid-19 in southern Haryana India, *Indian journal of health sciences and biomedical research KLEU*, Volume 13, issue 2, page 91-97.
23. Narayana Anjhana, chandran Nikhil covid-19. Perception and knowledge among various college going medical students; A questionnaire based study. *The journal of medical research*, volume 6, issue 5, page 197-202.
24. Mundakir Mundakir, Ferry Etendi; Study of Knowledge, attitude, anxiety & perception of mental health needs in Indonesia during covid-19, *Indonesian nursing journal of education and clinic (INJEC)* volume 6, issue 1 june 2021.
25. Noreen Khola, Zil-e- rubab; knowlwdge, attitude and practices against the growing threat of covid-19 amaong medical students of Pakistan, *PIOS one*, December 11 2020, page no 1-12.
26. Aqsa kabir, a comparative cross-sectional study to assess the knowledge, attitude and practices among medical and non medical students of Karachi, Pakistan, regarding covid-19, *I Med Pub journals, archives of medicine* ISSN 1989-5216, volume 12, no 5:26, 2020.
27. Neupane harish Chandra, shrestha niki; knowledge of health care professionals and medical students of covid-19 in a tertiary care hospital in Nepal, *JNMA*, vol 58, issue 227, july 2020, page 480-486.
28. Dr. d sudhakar; a tudy to assess the knowledge regarding covid-19 transmission management and preventions among B.sc (N) students, Thiruvallur district Tamil Nadu, *world journal of pharmaceutical and medical research*, vol 6, issue 8, 2020, page 95-96.
29. Kanikwu nwamaka phoebe, Juliana c nwazuruoke, knowledge of corona virus disease 2019 and practice of prevention process among nursing students of south Nigeria, *the Nigerian health journal*, vol 20, no 1, 2020, page 26-35.