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Information needs and seeking behaviour of nursing students of Bhubaneswar, Odisha during Covid-19 pandemic outbreak

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Abstract

In December, the outbreak of a new Corona virus disease called as Covid-19 in China triggered the infection and deaths of many including medical personnel. The disease is extremely infectious since in extreme cases it can be fatal and there are no specific medications. Being the front line workers this poses a huge risk to the lives and welfare of nurses and has a significant effect on their emotional reactions and coping with strategies. This study would also explore emotional reactions and coping with styles for nursing students. A famous parameter that motivated people to practice protective behaviour either directly or indirectly was Covid-19 data searching across the four forms of digital media. This is a study based on survey of 24 nursing institutions. In order to curb its spread, timely access to quality healthcare information during an outbreak plays an important role. The outcome revealed that women showed more serious fear and anxiety than men. The purpose of this study was to analyse the criteria of information needs and seeking behaviour of nursing students in Bhubaneswar during the pandemic outbreak of Covid-19. For data collection, a pre-tested questionnaire was used. The result shows that students are strongly eager to know about information on causes of covid-19 virus; social media and internet are two main sources of information, most of the students seek information to help someone who was looking for information and the commonly barrier of information is lack of time.

Keywords

Corona virus, Information Needs, COVID-19, Information Seeking Behaviour, India.

Introduction

Information is the key facet of human life. Information is needed to manage every aspect of life such as management of food, health, education and agriculture etc. Acquiring information through various methods is the primary step of human life. Information is acquired either through direct observation or by using different methods such as different information sources, channels, etc. Information seeking behaviour is a process of study which emphasizes on user's needs of information, different desires to acquire knowledge i.e. his attitude and behaviour. In the present context, the prevalent situation of Covid-19 has become a pandemic issue. It has triggered the society to acquire more information and guidelines to save the human society. In connection to this, the present study has been emphasized on knowing the eagerness of the students of nursing about

the reason behind Covid-19, to know their dependence on different sources, their purpose of seeking information on Covid-19 and the barriers in collecting direct filtered information.

Review of related literature

Qian & Gui(2020) conducted a study and the title of the study was “Identifying health information needs of senior online communities users: a text mining approach”. The main purpose of the study was to identify the health information needs of senior online community users. The result shows that the users are divided into four parts, coping with aging, dietary nutrition, physical exercise and mental health. They are only concern about the physical health issues. **Ayinde, Keriafe & Abduldayan (2020)** conducted a study about “Information needs and sources of electorates in Nigeria”. The main purpose of the study was to examine the information needs and sources of electorates in Nigeria and identify challenges electorates faced when obtaining electoral information and news. The result shows that WhatsApp, Face book and friends were sources electorates used most in obtaining election-related news and information. **Olaimat,Aolymat,Shahbaz & Holley(2020)** conducted a study about “Knowledge and information sources about Covid-19 among university students in Jordan:A cross sectional study”. The main purpose of the study was to assess student knowledge about COVID-19 at different Jordanian universities and determine where they sourced their information. The result shows that the majority of students used the internet, social media and mass media as sources of information about COVID-19. **Ali & Bhatti (2020)** conducted a study about “COVID-19 (Corona virus) Pandemic: Information Sources Channels for the Public Health Awareness”.The main purpose of the study was to highlight the important information sources of the Public Health awareness used by the library and information sources in this Pandemic situation. The result shows that the public health awareness is key to minimize causalities, and librarian and information professional can play a vital role to disseminate the information with health care workers, society, and communities. **Owolabi, Ikonne & Ojo (2021)** conducted a study about “Influence of Information Behaviour on Substance Use of Undergraduates in Universities in Ogun State, Nigeria”. The main purpose of the study was to examine the influence of information behaviour on substance use among undergraduates in Ogun State, Nigeria. The result shows that provision of affordable rehabilitation facilities in all university campus by Government, Philanthropist, and religious body. **Kusuma, Asmiyanto & Rahmi (2021)** conducted a study about “Understanding Information-Seeking Behaviour of Undergraduate Extension Program Students in Faculty of Administrative Science, Universities Indonesia. The main purpose of the study was information-seeking behaviour in meeting information needs, especially in the undergraduate extension program students in the Faculty of Administrative Science, Universities Indonesia, and a quantitative approach with the descriptive analysis used in this research. The result shows that the information needs of students related to their role as students were to increase knowledge and final project references. **Brown, Barry & Todd (2020)** conducted a study about “Barriers to academic help-seeking: the relationship with gender –typed attitudes”. The main purpose of the study was to find out 162 students at six UK universities completed the help seeking scales and the traditional gender script questionnaire. The result shows that reluctance to seek help was predicted by higher scores on the masculine gender script subscale mastery and control of feelings for both male and female students. **Velasco, Cruz, Billings (2020)** conducted a study about “What are the barriers, facilitators and interventions targeting help-seeking

behaviours for common mental health problems in adolescents? A systematic review”. The main purpose of the study was a better understanding of the help-seeking in this population is needed to overcome this gap. The result shows that consistency of findings, improving the development of help-seeking interventions and ensuring timely access to mental health treatments.

Objectives

Research objectives are very important for any study. There are some main objectives for this study which are given below:

1. To find out COVID 19 information needs of nursing students;
2. To highlight the sources of COVID 19 information available to nursing students;
3. To find out the purpose of seeking information during COVID 19 outbreak;
4. To find out the barriers of information during COVID 19;

Hypotheses

Hypothesis is the main instrument of research. The main function of hypothesis is to find new experiments and observations. It helps the researchers in proceeding and finding solution to the problems. It is necessary to make guesses about the sample population; it may be or may not be true. This is a study of information needs and seeking behaviour of nursing students of Bhubaneswar, Odisha. For the study the following hypothesis are formulated for systematic and scientific progress of the study:

1. Information on covid-19 is likely to be vital need of the hour of Nurses.
2. Nurses are most likely to be aware the different sources of information.

Scope of the study

The study is about the nursing students. The study attempt to find out the information needs and using habit of nursing students on Covid-19 pandemic. The scope of the study about the information needs and seeking behaviours of nursing students, their information searching technique etc. The questionnaire has been distributed in 24 institutes among 500 students and 347 responded. The scope of the study limited to the nursing students of Bhubaneswar, Odisha.

Methodology of the study

Methodology is the procedure of data collection. This study is based on survey method. For this study random sampling method was applied. For collection of data a structured questionnaire was distributed among the nursing students. After collection of the data, the parts of the data have been analysed by applying different statistical tools and techniques.

Desired sample size, $r = \frac{N}{1+Ne^2}$ (Slovin's Formula)

N = Total population =1480

e = Margin of error at 0.05 level = 0.05

$$r = \frac{1480}{1+1480(0.05^2)} = 314.89 \approx 315$$

So, questionnaires are distributed at random for more than 315 so as to get response which shall be equal or more than 315, not less than it. This is aimed at getting dependable result from the analysis of data with optimal use of time and resources.

This table shows the total number of students, distributed questionnaire and collected responses.

Table -1: List of institutions and distributed questionnaires and responses

sl no	Name of the institutes	No of students	Questionnaire distributed	Responses
1	Neelachal institute of medical sciences	60	35	30
2	Hi-tech college of nursing	129	60	53
3	Manjari devi college of nursing	125	40	31
4	Lord jagannath missions's college and school of nursing	80	20	14
5	Vivekananda school of social work and social science	10	10	5
6	Sum nursing college	160	40	31
7	Sri mahavir school of nursing	40	15	10
8	Driems school of nursing	80	15	10
9	Netaji school of nursing	20	10	6
10	Mothers nursing school	40	8	4
11	Ma Annapurna school of nursing	30	10	7

12	Kalinga nursing school	60	15	10
13	Gitanjali school of nursing	30	10	6
14	Biswanath institute of medical technology	20	10	8
15	Bhubaneswar school of nursing	80	25	13
16	Anjali school of nursing studies	40	15	10
17	Sai saburi nursing health science college	20	10	6
18	Amri college of nursing	50	15	10
19	All india institute of medical sciences college and nursing	60	20	10
20	Kalinga institute of nursing science	166	50	32
21	Bhava institute of medical science and research	40	15	9
22	Capital academy of nursing	50	15	11
23	General nursing and midwifery training school	20	12	9
24	Prativa devi school of nursing	70	25	12
Total		1480	500	347

There are 24 institutions under this study. Questionnaires were distributed among students of the following twenty four institutions. From these institutions there are 1480 students. Total 500 questionnaires were distributed at random and 347 responded. The data so obtained through questionnaire have been analysed.

Analysis of data

Table-2: Questionnaire distributed and responded

Questionnaire distributed	Questionnaire responded	% of response
500	347	69.40%

The response is 69.40%, since the population is finite, the minimum respondent need to be 315 for minimising error (within 5% margin of error) as per the Slovir's formulae. However smaller numbers, optimal number of respondents are desirable for case of analysis, saving of time and energy.

Demographic description

The questionnaire was distributed among 500 students, but 347 students responded. From the analysis contained table-3, it is found that the females are more than the male. There are 83.17 percentage of female and 26.98 percentage of male.

Table-3: Demographic analysis of the respondents

N=347

Gender			
sl no	Gender	Frequency (N=347)	Percentages
1	Male	85	26.98%
2	Female	262	83.17%
3	Other	0	0
Age			
sl no	Age	Frequency (N=347)	Percentages
1	19-22 years	130	41.26%
2	23-26 years	89	28.25%
3	27-30 years	70	22.22%
4	30 and above	58	18.41%

From the table-3, it is found that the male (26.98%) to female (83.17%) are almost in the ratio of 1:3. As regards to their age, majority (41.26%) belongs to the age group of 19-22yrs followed by 23-26 yrs(28.25%), 27-30yrs (22.22%) and above 30 yrs(18.41%).

Covid-19 information needs

The questionnaires were distributed among the students from November 2020, during the first wave of corona virus outbreak. Students need various types of information regarding their study related or patient related issues. The various types of information needs includes information on causes of covid-19 virus, information on Covid 19 symptoms, information on covid-19 test procedures, information on how covid-19 spread/transformation, information on covid-19 preventive measures, information on covid-19 cures, information on age groups more vulnerable to covid-19 attack, information on covid-19 patients isolation, information on drug combination on covid-19, information on drug doses for covid-19 treatment etc. This part of the questionnaire contains all these ten aspects and respondents have been asked to evaluate on a five point Likert's scale. The data so obtained have been compiled and analysed as contained in table-4.

Table 4: Covid-19 information needs of nursing students

N=347

Covid-19 information needs						
Sl no	Information needs	Not at all interested to learn (1)	Not interested to learn (2)	Neutral (3)	Eager to learn (4)	Strongly Eager to learn (5)
1	Information on causes of covid-19 virus	32(10.15%)	45(14.28%)	21(6.66%)	112(35.55%)	137(43.49%)
2	Information on Covid-19 test procedures	42(13.33%)	40(12.69%)	39(12.38%)	105(33.33%)	121(38.41%)
3	Information on how Covid-19 preventive measures	44(13.96%)	37(11.74%)	50(15.87%)	99(31.42%)	117(37.14%)
4	Information on Covid 19 symptoms	45(14.28%)	41(13.01%)	50(15.87%)	96(30.47%)	115(36.50%)
5	Information on how Covid-19 spread/transformation	49(15.55%)	47(14.92%)	37(11.74%)	101(32.06%)	113(35.87%)
6	Information on age groups more vulnerable to Covid-19 attack	47(14.92%)	45(14.28%)	43(13.65%)	103(32.69%)	109(34.60%)
7	Information on Covid-19 cures	39(12.38%)	55(17.46%)	42(13.33%)	104(33.01%)	107(33.96%)
8	Information on drug doses for Covid-19 treatment	46(14.60%)	50(15.87%)	35(11.11%)	110(34.92%)	106(33.65%)

9	Information on Covid-19 patients isolation	54(17.14%)	49(15.55%)	47(14.92%)	97(30.79%)	100(31.74%)
10	Information on drug combination on Covid-19	49(15.55%)	59(18.73%)	40(12.69%)	100(31.74%)	99(31.42%)

From the analysis contained in **table-4**, it is found that strong eagerness for information on cause of the disease have been displayed by the nursing students to the extent of 43.49% followed by information on test procedures (38.41%), preventive measures (37.14%), symptoms (36.50%), how the disease spread/transform (35.87%), age group vulnerable to attack (34.60%), cures (33.96%), drug doses for treatment (33.65%), patient isolation (31.74%) and drug combination used (31.42%). These are the identified ten important information on covid-19 have been strongly sought by the students that varies from 43.49% to 31.42%. In addition the extent of eagerness shown by the students, although not strongly for the respective information are 35.55%, 33.33%, 31.42%, 30.47%, 32.06%, 32.69%, 33.01%, 34.92%, 30.79%, 31.74%.

To find out if the information needs of students vary as per their gender or age group, the data have been compiled accordingly and analysed as contained in Table-4(a).

Table-4(a): Information needs of nursing students as per their age and gender

Information needs	Gender				Age in years							
	Male(N=85)		Female(N=262)		19-22yrs(N=130)		23-26yrs(N=89)		27-30yrs(N=70)		>30(N=58)	
	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score
1	3.21	64	3.98	80	3.21	64	2.75	55	3.30	66	2.93	59
2	3.21	64	3.67	73	3.98	80	2.89	58	3.34	67	2.91	58
3	3.18	64	3.79	76	3.67	73	3.06	61	3.01	60	2.87	57
4	3.30	66	3.59	72	3.79	76	2.71	54	2.80	56	3.01	60
5	3.15	63	3.74	75	3.59	72	2.83	57	2.72	54	2.81	56
6	2.91	58	3.73	75	3.74	75	3.07	61	2.87	57	3.15	63
7	2.90	58	3.72	74	3.73	75	2.97	59	2.52	50	2.68	54
8	3.30	66	3.42	68	3.72	74	2.68	54	2.82	56	2.79	56
9	3.05	61	3.51	70	3.51	70	2.80	56	3.10	62	2.53	51
10	3.02	60	3.62	72	3.62	72	3.08	62	3.08	62	2.91	58

From the Table-4(a), it is found that the information needs on all the ten aspects on covid-19 pandemic vary from 58% to 66% by male and 68% to 80% by female students. So the results of the analysis suggest that female students are keener to get information than the female students.

In order to find out if the variations of percentages have got any statistical significance to reach a conclusion the correlation study has been made and the results are as shown in Table 4(b).

Table-4(b): correlation study on information needs on covid-19 between male and female nursing students

Coefficient of correlation	Degree of freedom	Level of significance	Table value	Inference
(-) 0.145	8(10-2)	0.05	0.632	not significant

From the Table-4(b), the completed coefficient of correlation between the male and female students on their information needs came as (-) 0.145 which is much less than the table value of 0.632 at 0.05 level of significance and at degree of freedom of 8. Hence the value is insignificant to suggest that there exist no significant correlation ship between the male and female students on their information needs. Hence the earlier observation that the female nursing students are keener for covid-19 information than the male students prevails.

While analysing the extent of information needs of students basing on their age factors, it is found from the Table -4(a), that the minimum and maximum values on the ten aspects of information vary from 64-80%, 55-62%, 50-67%, 51-63% for the age group of 19-22 yrs, 23-26yrs, 27-30yrs and above 30 years respectively. The values for the students in the age group of 19-22years although suggest more keenness for information but for the rest no concrete conclusion cannot be drawn. Hence it is decided to find out the extent of correlation ship on the information needs of students of different age groups which are shown in Table-4(c).

Table-4(c): Correlation matrix on information needs of nursing students of different age groups

Age group	19-22years	23-26years	27-30years	>30years
19-22years	1.000	—	—	—
23-26years	0.211	1.000	—	—
27-30years	(-)0.229	(-)0.022	1.000	—
>30years	0.197	0.252	0.135	1.000

The values of coefficient of correlation ship between students of different age groups on their information needs are very small with no statistical significance to establish any correlation ship between them.

Information needs based on Sources during covid-19

The various types of information sources preferred by nursing students are internet, WHO website, daily newspaper, books from libraries, journals, medical bulletins, social media etc. This part of the questionnaire contains seven numbers of possible information sources on covid-19 and the

respondents were asked to rate on a 5 point likert scale where 1 is for never and 5 is for always. The data so obtained have been compiled, analysed as contained in Table-5.

Table-5: Information needs based on Sources during covid-19

N=347

Sl no	Sources	Never (1)	Rarely(2)	Sometimes(3)	Very often(4)	Always(5)
1	Internet	62(19.68%)	35(11.11%)	30(9.52%)	105(33.33%)	115(36.50%)
2	WHO website	58(18.41%)	50(15.87%)	44(13.96%)	96(30.47%)	99(31.42%)
3	Daily newspaper	40(12.69%)	44(13.96%)	60(19.04%)	98(31.11%)	105(33.33%)
4	Books from libraries	53(16.82%)	45(14.28%)	35(11.11%)	103(32.69%)	111(35.23%)
5	Journals	58(18.41%)	55(17.46%)	40(12.69%)	99(31.42%)	95(30.15%)
6	Medical bulletins	47(14.92%)	62(19.68%)	30(9.52%)	108(34.28%)	100(31.74%)
7	Social media	37(11.74%)	30(9.52%)	35(11.11%)	115(36.50%)	130(41.26%)

From the analysis contained in **Table-5**, it is found that social media is the most used sources being used always by 41.26% of nursing students followed by internet (36.50%), books from libraries (35.32%), daily news papers (33.33%), medical bulletins (31.74%),WHO website (31.42%) and journals (30.15%). In addition, the respective sources are being very often used to the extent of 36.50%, 33.33%, 32.69%, 31.11%, 34.28%, 30.47% and 31.42%.

To find out if the use of different sources of information by the male and female students are alike, and also by the students of different age groups are alike, analysis has been made the result of which are as contained in Table-5(a).

Table-5(a): Information needs based on sources of nursing students as per their age and gender

Inform ation sources	Gender				Age in years							
	Male(N=85)		Female(N=262)		19- 22yrs(N=130)		23- 26yrs(N=89)		27- 30yrs(N=70)		>30(N=58)	
	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mea n score	% Scor e	Mea n score	% Scor e	Mea n score	% Scor e
1	3.27	65	3.58	72	2.91	58	2.84	57	3.32	66	2.98	60
2	3.34	67	3.37	67	2.97	59	2.96	59	3.11	62	2.91	58
3	3.36	67	3.58	72	2.77	55	2.91	58	2.84	57	2.94	59
4	3.34	67	3.55	71	2.93	59	3.15	63	3.01	60	3.01	60

5	3.14	63	3.40	68	2.77	55	3.15	63	2.58	52	2.81	56
6	3.15	63	3.53	71	3.28	66	2.70	54	2.61	52	2.81	56
7	3.30	66	3.93	79	2.93	59	3.11	62	3.42	68	2.91	58

From the Table-5(a) it is found that the frequency of use of different sources by male students are of the order of 60% (varying from 63-67%) and by female students are of the order of 70% (varying from 67-79%). This implies that female students more frequently use the sources than the male students. To find out if these values for male and female students are statistically different or not, correlation study has been made, the result of which has been shown in **Table-5(b)**.

Table-5(b): Correlation study on information sources between male and female nursing students

Coefficient of correlation	Degree of freedom	Level of significance	Table value	Inference
0.232	5(7-2)	0.05	0.755	not significant

The complete value of coefficient of correlation on the frequency of use of information sources between male and female students come out as 0.232 which is less than the table value of 0.755 at 0.05 level and df. of 5. Hence the value is insignificant statistically to establish any relationship between the male and female nursing students on their frequency of use of sources. Hence the values for male and female students are independent of each other and the earlier observation prevails.

While analysing basing on the age factors of the students, from the Table-5(a), it is found the frequency of use of sources by students belonging to the four age groups are almost similar and are of moderate order. If these values for the particular age groups are correlated or independent to each other, correlation study has been made, the results of which are as contained in the Table-5(c).

Table-5(c): Correlation matrix on use of information sources of nursing students of different age groups

Age group	19-22years	23-26years	27-30years	>30years
19-22years	1.000	—	—	—
23-26years	(-)0.633	1.000	—	—
27-30years	(-)0.134	0.171	1.000	—
>30years	(-)0.318	0.202	0.656	1.000

From the Table-5(c), it is found that none of the values of the coefficient of correlation is statistically significant to establish any correlation between the students of different age groups. Hence the frequency of use of information sources by students of different age groups is independent to each other.

Information needs based on Purpose

Purpose of seeking information are to remain vigilant and adjust to precautionary measures accordingly, to find out latest information related to Covid-19 for their own personal use, to help someone who was looking for information, to prepare corporate advisory and circular related to Covid-19 for distribution within nursing organization, to find out information about Covid-19 for their personal assignments etc. So the part of the questionnaire contains the four number of purpose and the respondent has been asked to rate on a 5-point scale where 1 is for never and 5 for always. The data so obtained have been compiled, analysed, as contained in Table-6.

Table-6: Information needs based on Purpose

N=347

Sl no	Purpose	Never	Rarely	Sometimes	Very often	Always
1	To remain vigilant and adjust to precaution	54(17.14%)	65(20.63%)	55(17.46%)	81(25.71%)	92(29.20%)
2	To help someone who was looking for information	50(15.87%)	57(14.09%)	36(11.42%)	99(31.42%)	105(33.33%)
3	To prepare corporate advisory and circular related to Covid 19 for distribution within my organization	57(18.09%)	49(15.55%)	45(14.28%)	99(31.42%)	97(30.79%)
4	To find out information about Covid 19 for my personal assignment	49(15.55%)	56(17.77%)	40(12.69%)	99(31.42%)	103(32.69%)

From the analysis contained in Table-6, it is found that to help someone who was looking for information is always the predominant purpose for which information are being sought as obtained by 33.33% of respondents followed by for one's personal assignment (32.69%), for preparing corporate advisory and circular for distribution in one's organisation (30.79%) and last being to remain vigilant and adjust to precaution (29.20%). In addition, the percentages of the respondents also very often sought information for the corresponding purposes are 31.42%, 31.42%, 31.42%, 25.71% respectively.

To know if the purposes for which one need information differ as per gender and age of the students, analysis has been made as shown in Table-6(a).

Table-6(a): Information needs based on purpose of nursing students as per their age and gender

Purpose	Gender				Age in years							
	Male(N=85)		Female(N=26)		19-22yrs(N=130)		23-26yrs(N=89)		27-30yrs(N=70)		>30(N=58)	
	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score
1	3.22	64	3.27	65	3.08	62	2.87	57	3.30	66	2.82	56
2	3.17	63	3.52	70	3.25	65	2.95	69	2.74	55	2.70	54
3	3.16	63	3.44	69	3.00	60	2.50	50	2.92	58	3.43	69
4	3.07	61	3.55	71	2.92	58	3.17	63	2.84	57	2.68	54

From the Table-6(a), it is found that the purposes for which information are needed show higher percentages with female student's i.e. varying from 65-71% than the male students that vary from 61-64%. To find out if the variations as per gender are due to chance or having any statistical significance correlation study has been made, the result of which is shown in Table-6(b).

Table-6(b): Correlation study on purposes of information needs between male and female nursing students

Coefficient of correlation	Degree of freedom	Level of significance	Table value	Inference
(-)0.816	2(4-2)	0.05	0.950	not significant

From the Table-6(b), the completed coefficient of correlation come out as 0.816 showing an inverse relationship, but is less than the Table value of 0.950 at 0.05 levels and degree of freedom of 2. Hence the value is insignificant statistically. So the values on the purposes for male and female students are independent to each other.

As regards to the purpose of need of information by the students belonging to different age groups, from the Table-6(a), no definite trend has been witnessed. If there exist any relationship between these groups on their purpose of seeking information, correlation study has been made, the results of which are shown in Table-6(c).

Table-6(c): Correlation matrix on purposes of information needs of nursing students of different age groups

Age group	19-22years	23-26years	27-30years	>30years
19-22years	1.000	-	-	-

23-26years	(-)0.039	1.00	_	_
27-30years	(-)0.152	(-)0.189	1.000	_
>30years	(-)0.272	(-)0.940	0.086	1.000

All the values of coefficient of correlation between the groups are not significant statistically to establish any relationship between them.

Barrier to Covid 19 information access

Nursing students, searching for information are usually facing various types of problems due to thousands of available sources of information. The barriers are lack of time, large amount of Covid-19 incredible information on the internet, poor telecommunication network, slow internet speed, lack of funds to subscribe data, lack of access to library resources on Covid-19, poor power supply, too many sources of Covid-19 information etc. To identify the predominant barriers faced by the nursing students altogether eight numbers of probable barriers have been included in this part of the questionnaire and the respondents were ask to evaluate on a 5-point scale where 1 is for strongly disagree and 5 for strongly agree. The data so obtained have been compiled and analysed as shown in Table-7.

Table-7: Barrier to Covid 19 information access

N=347

Sl no	Barrier	Strongly disagree (1)	Disagree(2)	Neutral(3)	Agree(4)	Strongly agree(5)
1	Lack of time	54(17.14%)	60(19.04%)	28(8.88%)	99(31.42%)	106(33.65%)
2	Large amount of Covid 19 incredible information on the internet	47(14.92%)	49(15.55%)	52(16.50%)	96(30.79%)	103(32.38%)
3	Poor telecommunication network	49(15.55%)	52(16.50%)	41(13.01%)	106(33.65%)	99(31.42%)
4	Poor internet speed	69(21.58%)	55(17.46%)	42(13.33%)	92(29.52%)	89(28.25%)
5	Lack of fund to subscribe data	60(19.04%)	57(18.09%)	45(14.28%)	95(30.15%)	90(28.57%)
6	Lack of access to library resources on Covid 19	50(15.55%)	59(18.41%)	39(12.38%)	98(30.79%)	101(33.01%)

7	Poor power supply	59(18.73%)	60(19.04%)	45(14.28%)	88(27.93%)	95(30.15%)
8	To many sources to Covid 19 information	49(15.55%)	42(13.33%)	55(17.46%)	99(31.42%)	102(32.38%)

From the Table-7, it is found that the respondents strongly agreed that lack of time is the most predominant barrier for information access as obtained by 33.65% of them followed by lack of access to library resources on covid-19 (33.01%) too many sources to covid-19 information as well as large amount of covid-19 incredible information on the internet (32.38% both), poor telecommunication network(31.42%), poor power supply (30.15%), lack of fund to subscribe data (28.57%) and slow internet speed (28.25%). In addition, the extent of respondents also agreed on the respective barriers are 31.42%, 30.79%, 31.42%, and 30.79%, 33.65%, 27.93%, 30.15% and 29.52%.

To know if the barriers are encountered differently basing on gender or age factor of the respondents, analysis has been made as contained in Table-7(a).

Table-7(a): Barriers to covid-19 information access encountered by nursing students as per their age and gender

Barrier s	Gender				Age in years							
	Male(N=85)		Female(N=262)		19-22yrs(N=130)		23-26yrs(N=89)		27-30yrs(N=70)		>30(N=58)	
	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score	Mean score	% Score
1	3.04	61	3.53	71	2.86	57	2.70	54	3.27	65	2.82	56
2	3.18	64	3.54	71	2.90	58	2.97	60	3.10	62	2.86	57
3	3.25	65	3.50	70	3.49	70	2.60	52	3.27	65	2.86	57
4	3.12	62	3.25	65	2.52	50	3.23	65	2.68	54	3.22	64
5	3.16	63	3.32	66	3.16	63	2.95	60	2.95	60	3.12	62
6	3.03	61	3.52	70	2.50	50	3.21	64	3.24	65	3.03	61
7	3.01	60	3.37	67	3.05	61	2.93	59	2.31	46	3.08	62
8	2.89	58	3.65	73	2.83	57	2.80	56	2.87	57	2.89	58

As found out from the table-7(a), the extent of barriers encountered by the male students while accessing information varies from 58-65% while that by female students to the extent of 65-73%, so it is clear that the female students encounter barriers more frequently than the male students. To find out if these percentages for both the groups have any correlation ship between them or are independent to each other, correlation study has been made as shown in table-7(b).

Table.7 (b): Correlation study on barrier to covid-19 information access between male and female nursing students

Coefficient of correlation	Degree of freedom	Level of significance	Table value	Inference
(-)0.378	6(8-2)	0.05	0.707	not significant

The complete coefficient of correlation between male and female students come out as (-)0.378 which is much less than the table value of 0.707 at 0.05 level of significance and degree of freedom of 6. So the value has got no statistical significance to establish any relationship.

Further from the **Table-7(a)**, no regular pattern has been observed on the barriers to covid-19 information access as encountered by the students belonging to different age groups. To find out if there exist any correlation ship between these groups on these aspects, correlation study has been made, the results of which are as contained in table-7(c).

Table.7(c): Correlation matrix on barrier to Covid-19 information access by nursing students of different age groups

Age group	19-22years	23-26years	27-30years	>30years
19-22years	1.000	—	—	—
23-26years	(-)0.777*	1.000	—	—
27-30years	0.092	(-)0.307	1.000	—
>30years	(-)0.351	0.749*	(-)0.617	1.000

*Significant at 0.05 levels.

The barriers to information access as opined by the nursing students belonging to age groups of 23-26 years is significantly correlated ,(r=0.749) with that of above 30 years of age and having significant inverse relationship (r=0.777) with that of 19-22 years. Further, high but inverse relationship has been found (r=0.617) between the age groups of 27-30 years and above 30 years but has no statistical significance. Rest other values of correlation coefficient are too small to establish any relationship.

Inferences

Objective.1: To find out the information needs of the nursing students on covid-19.

Findings.1(a): Strong eagerness for information on the cause of the disease have been displayed by the nursing students to the extent of 43.49% followed by test procedures (38.41%), preventive measures (37.14%), symptoms (36.50%), how the disease spread/transform (35.87%), age group vulnerable to attack (34.60%), cures (33.96%), drug doses for treatment (33.65%), patient isolation (31.74%) and drug combination used (31.42%). In addition eagerness have been shown for the respective information are to the extent of 35.55%, 33.33%, 31.42%, 30.47%, 32.06%, 32.69%, 33.01%,34.92%, 30.79% and 31.74%.

1(b): The female students are keener to get information on covid-19(varying from 68-80%) than the male students (58-66%). The information needs of students basing on their gender are independent

to each other.

1(c): The eagerness for information within students are more (64-80%) with the age group of 19-22 years than the others such as 23-26 years (55-62%), 27-30 years (50-67%) and above 30 years (51-63%). The eagerness for information between the students of different age groups are independent to each other.

Objective.2: To highlight the dependency on different sources of covid-19 information.

Findings.2(a): The social media is the most used source being always used by the nursing students (41.26%) followed by internet (36.50%), books from libraries (35.32%), daily news papers (33.33%), medical bulletins (31.74%), WHO website (31.42%) and journals(30.15%). In addition, the respective sources are being very often used to the extent of 36.50%, 33.33%, 32.69%, 31.11%, 34.28%, 30.47% and 31.42%.

2(b): The sources of information on covid-19 are being used more (67-79%) by the female students than the male students (63-67%), the use of information sources by male and female students are independent to each other.

2(c): The use of information sources on covid-19 by the nursing students of all the age group are independent to each other and are almost alike.

Objective.3: To find out the purpose of seeking information during covid-19 outbreak.

Findings.3(a): To help someone seeking information is always the important purpose as opined by 33.33% of respondents followed by for one's personal assignment (32.69%), for preparing corporate advisory and circular for distribution in one's organisation (30.79%) and the last is being to remain vigilant and adjust to precaution (29.20%). In addition, the percentages of the respondents who very often sought information for the corresponding purposes are 31.42%, 31.42%, 31.42% and 25.71% respectively.

3(b): The female students display higher degree of purposes (65-71%) for which information are needed than the male students (61-64%) and their purposes are independent to each other.

3(b): The purposes for which information are being needed by the students belonging to different age groups are independent to each other. No definite trend has been observed.

Objective.4: To find out the barriers of information during covid-19.

Findings.4 (a): Lack of time is the most dominant barrier for information access as strongly agreed upon by 33.65% of respondents followed by lack of access to library resources on covid-19 (33.01%), too many sources to covid-19 information (32.38%), large incredible information on internet (32.38%), poor telecommunication network (31.42%), poor power supply (30.15%), lack of fund to subscribe data (28.57%) and slow internet speed (28.25%). In addition, the extent of respondents who agreed on the respective barriers are 31.42%, 30.79%, 31.42%, 30.79%, 33.65%, 27.93%, 30.15% and 29.52%.

4(b): Barriers to covid-19 information access are being encountered more by female students (65-73%) than the male students (58-65%). The barriers for both the genders are independent to each other.

4(c): The barriers to information access as faced by the students of 23-26 years are significantly correlated (0.749) with that faced by the students of age more than 30 years, but inversely related with that faced by the students of 19-22years (-0.777). Further, high degree of inverse correlation ship (-0.617) has been observed between the student groups of 27-30 years and more than 30 years but has got no statistical significance.

Discussion and conclusion:

The information needs of the nursing students on covid-19 vary to fulfil the requirement of their profession. The survey shows higher degree of keenness among the students as covid-19 emerged as the most challenging task in the health service sector. On overall assessment, the information needs of the students are to enhance their knowledge for their future role in the health sector. The observation is similar to the findings by Kusuma, Asmiyanto & Rahmi (2021) in their study “understanding information seeking behaviour of Undergraduate Extension Program Students in Faculty of Administrative Science, Universities Indonesia”. The social media, internet are the main sources of information for the students along with other sources. This is similar to the findings of Olaimat, Aolymat, Shahbaz & Holley (2020) in their study “Knowledge and information sources about Covid-19 among university students in Jordan: A cross sectional study” where they found that internet, social media and mass media as source of information for covid-19. The main purpose of seeking information by the students are to help someone seeking information for their personal assignment and to remain vigilant and making themselves adjust to precautions. These are no doubt to check the speed and fatalities. The findings of Ali and Bhatti (2020) in their study “COVID-19 (Corona virus) Pandemic: Information Sources Channels for the Public Health Awareness” is that the public health awareness is key to minimise casualties support the findings of present study. Instead of high degree of keenness to fulfil the information needs, lack of time, lack of access to library resources, information overload remain as the prime barrier along with the usual shortcomings of online system in a developing nation. Further, it is found from the study that the female students exhibit high degree of purposes; consult more sources to fulfil their higher degree of information needs than the male students. As a result, the female students encountered barriers to a greater extent for accessing information than the male students. Further it is found that the keenness for information on covid-19 is more with the students belonging to the age group of 19-22 years than the rest. There is no effect of age of students or use of sources of information, purpose of information need and the barriers encountered.

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