

HEALTH PROBLEMS ENCOUNTERED BY UNDERGRADUATE NURSING STUDENTS DUE TO ONLINE NURSING EDUCATION DURING COVID-19 PANDEMIC OF SELECTED NURSING COLLEGES, BHOPAL

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Abstract

In India during Pandemic crisis, health sciences education has become a challenge for teachers, UGC, governing council, stakeholders. So it became a need to reframe the traditional education system by adopting online education to continue and maintain uninterrupted curriculum learning activities. The government of India on march 24th 2020 announced lockdown and suspended all face to face classes in all the sectors of education system to prevent the spread of corona virus covid 19 infection between teachers and students and in hospital areas between nursing students and patients. The sudden change to online education didn't give any chance to teachers and students regarding proper planning for online classes. This continuous exposure to mobile screen, less gap between online classes, poor ergonomics, resulted into many health problems like headache, back pain, eye strain and psychological problems among undergraduate nursing students. This study has the aim to identify the health problems encountered by undergraduate nursing students due to online learning in nursing education during covid-19 pandemic of selected nursing colleges of Bhopal. A Quantitative approach and descriptive research design was used to assess health problems due to online learning among undergraduate nursing students. A self structured google online questionnaire was used for data collection. Data was analyzed through SPSS 20. The Cronbach's Alpha value was 0.88. Data analysis done using frequency, percentage distribution and chi square test. The finding of present study are the significant association between Headache, Eye problem, disturbed sleep, back pain, pain in joints, between Age and Eye problem, Body ache Headache, back pain, Body ache, disturbed sleep, pain in joints, Lack of concentration with age and residence of the undergraduate nursing students. And there was no significant association found between type of the college and religion. The study has concluded that the undergraduate nursing students has faced many health problems during attending online education during covid-19 pandemic in lockdown. The factors found were long duration of online class, less resting gap between two online classes and the frequency of the online classes and continuing eyes on the learning device

Keywords: Health Problems, Undergraduate Nursing Students, Online Learning.

INTRODUCTION

In India during Pandemic crisis health sciences education has become a challenge for teachers, UGC, governing council, stakeholders. So it became a need to reframe as well as adopt online education to continue and uninterrupted learning activities.

Education is an acquisition of required knowledge and skills that enables individuals to improve their quality of life and thus plays a vital role in overall development of an individual and offers

opportunities for better living. Online learning refers to teaching and learning by the use of internet and digital devices that is android phones, computers and laptop.

The Indian government MHRD record , around 1043 universities, 42343 colleges and 11779 institutes closed and around 32 crores students suffered due to lockdown since March 2020.¹

According to UNESCO,(April 2020) 191 countries have implemented nationwide closures, affected 73.8% students. This shifted nursing students classroom learning to online mode without clinical.²

As per University Grants Commission (UGC, 2020) mandatory e-learning for all medical and nursing students to continue academic curriculum.³⁻⁴

All nursing institutions have started online mode of learning as an alternative to face learning. Nursing Education theory and clinical classes are equally affected due to an unanticipated covid pandemic 21 day lockdown in all over the India from March 2020.⁵

The sudden change to online education didn't give any chance to teachers and students proper planning for online classes arrangements, use of digital devices and technical support since March 2020.⁶

Globally 60 million computer users suffer from health problems i.e visual complaints that includes eyestrain, headache and blurred vision, insomnia, musculoskeletal problems. Daily computer use for 3 hours leads to a risk of developing visual complaints (64% to 90%) includes eyestrain, headache and blurred vision. Related to visual complaints cases appears in millions.⁷

NEED OF THE STUDY

The covid-19 Pandemic situation declaration and lockdown by the Indian government resulted into closure of health sciences colleges for an uncertain period and resulted online learning to protect students and continue their curriculum academic activities.⁸

Research studies showed that 54% students reported eye strain, 50% musculoskeletal problems, musculoskeletal pain i.e. back , neck, shoulder, and wrist were 63.5%, 48.3%, 32.6%, and 24.1% respectively, 56.8% sleep disturbance, and 58.1% loss of concentration. ⁹

E devices emit blue light (400–490 nm) which affect the eyesight and eye tissues (cornea). And if digital device screen observing time is more than four hours / day results into increase digital eye strain (i.e. blurred vision, watering eyes, dryness of eyes, itching eyes, pain behind eyes, red eyes, headache and shoulder, back and neck pain.) ¹⁰

Ganne P et al. (2021) has conducted study on the use of gadgets for online classes and entertainment during the COVID-19 pandemic by online survey among (941) population. The findings were that among 941 students eye strain was higher among students taking online classes compared to the general public (50.6% vs 33.2%; $\chi^2 = 22.5$). The DES score was highest among students with eye diseases (0.001), greater screen time, screen distance <20 cm (0.002), using gadgets in dark (0.017) and infrequent/no breaks (0.018). It was concluded that students reported health problems due to prolonged use of screen, excessive gadget use, poor ergonomics, poor sitting posture, winter season, impact the physical, mental and social well-being of online learners. No adequate breaks during online classes and keeping the screen of computer at a distance of less than 36 inches and smart phones at 40 cm aggravate eye pain. ¹¹

Sirajudeen M S et al. (2020) conducted a cross sectional study to assess the prevalence and factors associated with computer-related health problems among University students in Majmaah region, Saudi Arabia. The findings showed that among 146 students the prevalence of 52.7% MSDs (pain of

neck 45.9%, hand/wrist 20.5%, back 30% and shoulder symptoms 21.2%) and 14.4% of were unaware of ergonomics, 54.8% visual symptoms and 56.8% sleep disorders There was significant association between. Gender Female, use of Laptop without external mouse and inappropriate breaks with MSDs ($P<0.05$) and extensive smart phone use was associated with sleep disorders ($P<0.05$). These problems are due to continuous sitting for long duration, poor online learning set up, poor posture results in joint pain and stiffness, numbness and tingling due to decreased circulation.¹²

A study conducted on factors affecting the performance of nursing students shown that college infrastructure (facilities of ICT), peer interaction, parent pressure, and place of study, socio economic status, student habits, home facilities, and teacher factors have significant impact on overall development and thus promotes physical and psychological health.¹³

Chang W-w et al (2021) conducted a study on mental health status of medical students engaged in online learning at home during the pandemic at Wannan Medical College, China..The study findings showed that among 4,115 participants the prevalence of depression was 31.9%, anxiety 32.9%. There was a significant association found between depression and selected variables i.e. gender, grade, length of schooling, relationship with father, daily online learning time, and student's satisfaction with online learning effects. There was a significant association of anxiety with gender, length of schooling, relationship with father, relationship between parents, daily online learning time and student's satisfaction with online learning effects.¹⁴

Thus sudden and continuous exposure to digital gadgets like android, laptop, computers, tablets, smart phone, watching television and social media for entertainment as well as lack of availability of good quality digital devices and internet connectivity, lack of interaction with peers has been resulted into many physical and psychological problems. In India and Madhya Pradesh, the practice of online classes is new for the majority of nursing students and teachers. They are unaware of digital learning technology, unable to bear the cost of efficient electronic gadgets, internets, and accessories. Also there is no good access to electricity and internet service in most parts of the country and state. Hence this present study was undertaken to identify health problems experienced due to online learning among undergraduate nursing students of selected nursing colleges of Bhopal.

REVIEW OF LITERATURE

1. Review of literature related to student's health problems due to online learning in nursing education

OBJECTIVES

1. To assess the health problems of nursing students during online leaning
2. To find out the association between health problems and online learning in nursing education among undergraduate nursing students with their selected socio demographic variables.

HYPOTHESIS

H₁- There will be significant association between health problems and online learning of undergraduate nursing students and their selected socio demographic variables.

METHODOLOGY

A descriptive research design was used to assess the health problems encountered during online learning among undergraduate nursing students and their selected socio demographic variables.

Sample:-A total of 100 undergraduate nursing students were selected for the study using random sampling. Technique from selected nursing colleges of Bhopal.

Tool:- A self structured Google questionnaire link (consist of socio- demographic data, digital leaning resources, learning schedule and health problems due to online classes) to be filled by nursing students was sent through email to the principal of nursing colleges. Before administering the tool electronic informed consent was taken from all undergraduate nursing students of selected nursing college.

Reliability was calculated by Cronbach's Alpha. The questionnaire was sent to seven subject experts for content validity. Reliability was calculated by Cronbach's Alpha and value was 0.88.

Statistical analysis

Data analysis done using frequency, percentage distribution and chi square test through SPSS 20.Descriptive Statistics has been used i.e. the frequency and percentage distribution of the data of all the variables of the study. Inferential Statics has been used i.e. chi square test is used to find the association between socio-demographic variables and health problems of undergraduate nursing students due to online learning.

RESULTS

SOCIO DEMOGRAPHIC DATA

**Table 1 Socio- Demographic data of undergraduate nursing students
N=100**

S.No	Variables	frequency	%
1.	Gender		
1.1	Male	39	39%
1.2	Female	61	61%
2.	Age		
2.1	Below 20	48	48%
2.2	21-25	52	52%
2.3	26-30	0	0%
2.4	Above 30	0	0%
3.	Residence		
3.1	Village	58	58%
3.2	Town	16	16%
3.3	City	26	26%
4.	Year of Bsc Nursing		
4.1	First year B.Sc. Nursing.	50	50%
4.2	Second year B.Sc. Nursing.	50	50%
5.	Religion		
5.1	Hindu	90	90%
5.2	Muslim	08	08%
5.3	Sikh	02	02%
5.4	Others	00	0%

Table 1 result showed that majority 61% nursing students were females, 39% were male, 52% participants belongs to age group 21-25 years, 58% students reside in village areas, 50% students study in first year and second year respectively and 90% nursing students belongs to Hindu religion.

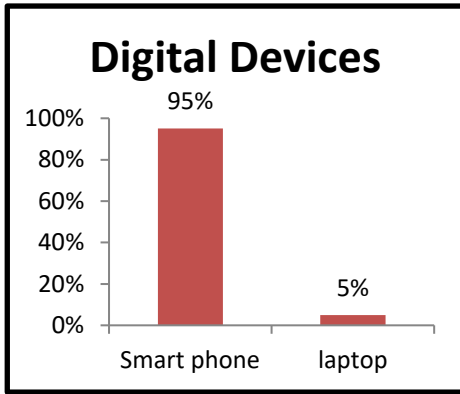


Fig 1. Use of learning devices

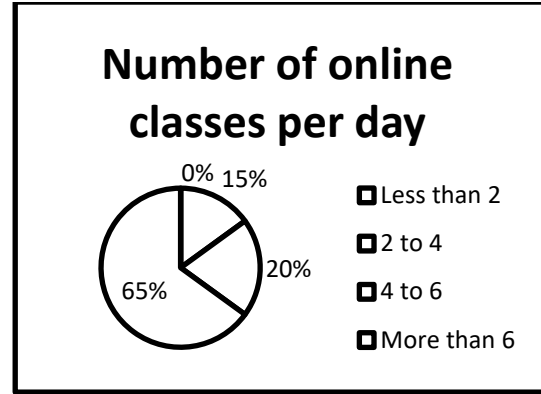


Fig 2. Number of online classes per day

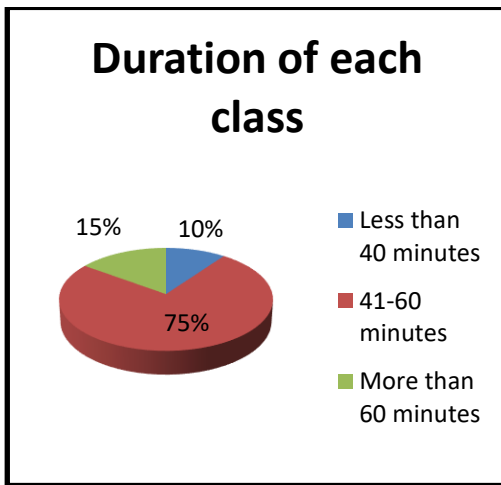


Fig 3. Duration of each class

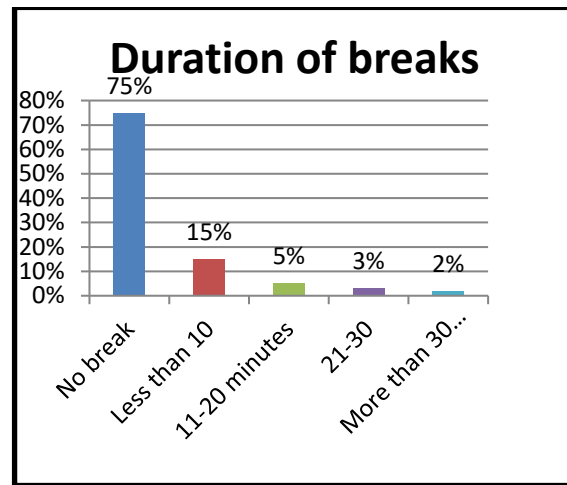


Fig 4. Duration of break

Table No.- 1 Distribution of B.Sc. Nursing students according to online learning
N=100

S.no	Variables	frequency	%
1.	Digital devices		
1.1	Smart phone	95	95%
1.2	laptop	5	5%
2.	No. of Online classes per day		
2.1	Less than 2	15	15%
2.2	2-4	20	20%
2.3	4-6	65	65%
2.4	More than 6	0	0%
3.	Duration of each class		
3.1	Less than 40 minutes	10	10%
3.2	41-60 minutes	75	75%
3.3	More than 60 minutes	15	15%
4.	Duration of breaks		
4.1	No break	75	75%
4.2	Less than 10	15	15%
4.3	11-20 minutes	5	5%

4.4	21-30	3	3%
4.5	More than 30 minutes	2	2%

Table 1 result showed that majority of nursing students 95 % of students had their own android phone and only 5% had laptop for attending online classes, 65 % student had four to six online classes in a day , 75% having less than 41 to 60 minutes duration of each class, 75 % had no breaks and 15 % had less than 10 minutes breaks.

Frequency and percentage distribution of health problems due to online nursing education among undergraduate nursing students.

Table No. - 2 show Frequency and percentage distribution of undergraduate nursing students according to health problems due to online nursing education.

1.	Health problems due to online nursing education among under graduate students.	Yes	No
1.1	Headache	80 (80%)	20(20%)
1.2	Eye problem (low vision, eye pain)	83(83.0%)	17(17.0%)
1.3	Weight gain	30(30%)	70(70%)
1.4	Body ache	48(48%)	52(52%)
1.5	Disturbed sleep	51(51%)	49(49%)
1.6	Back pain	60(60%)	40(40%)
1.7	Depression	51(51%)	49(49%)
1.8	Pain in joints	40(40%)	60(60%)
1.9	Gastritis	28(28%)	72(72%)
1.10	Disturbed family relationships	45(45%)	55(55%)
1.11	Lack of concentration	62(62%)	38(38%)

Above Table 2 depicted that majority of nursing students reported health problems Headache (80%), Eye problem (low vision, eye pain) (83%), body ache (48%) , disturbed sleep (51%), back pain (60%), depression (51%), lack of concentration (62%), disturbed family relationship (45%), pain in joints (40%), gastritis (28%), weight gain (30%).

DISCUSSION

Demographic details

The present study showed that majority 61% nursing students were females, 39% were male, 52% participants belongs to age group 21-25 years, 58% students reside in village areas, 50% students study in first year and second year respectively and 90% nursing students belongs to Hindu religion.. Majority 95 % of students had their own android phone and only 5% had laptop for attending online classes, 65 % student had four to six online classes in a day , 75% having less than 41 to 60 minutes duration of each class, 75 % had no breaks and 15 % had less than 10 minutes breaks.

Health problems due to online nursing education among undergraduate nursing students.

This study revealed that majority of nursing students reported health problems that is Headache (80%), Eye problem (low vision, eye pain) (83%), body ache (48%) , disturbed sleep (51%), back pain (60%), depression (51%), lack of concentration (62%), disturbed family relationship (45%), pain in joints (40%), gastritis (28%), weight gain (30%).

The present research study findings were supported by Singh H et al. (2021) conducted a cross-sectional study to evaluate the online teaching methods and effectiveness as in-class teaching for medical/nursing students across India from 1541 medical and 684 nursing students from 200 medical and nursing colleges from 156 cities. The results revealed that majority (62%) nursing students were females, (59.6 %) students reside in village areas, duration of each class was

significantly higher in medical students compared to nursing students, breaks between classes were infrequent 40% of the students reported that they had no breaks between classes and 66% students had no adequate time to interact with teachers. The class duration >4 h/day ($p < 0.0001$), each class >40 min ($p < 0.009$) and pre-existing health issues ($p < 0.0001$) i.e. headache, eyestrain, anxiety, neck/back pain, and sleep disturbance the availability of laptop ($p < 0.0001$), Wi-Fi ($p < 0.0001$), and computer proficiency was more in students of affluent families and those from cities ($p < 0.0001$). Students preferred: 3–6 classes/day, each class <40 min, 10–20 min break between classes and interactive sessions.¹⁵

The research study findings were supported by Ramane D V et al. (2021) has conducted study on find the accessibility and effectiveness of online learning method and its impact on physical and psychological health of learners. The findings were that majority students reported that online learning caused severe headache (31.2%), backache (23.9%), neck pain(23.9%), shoulder pain (23.9%), all of above (28.3%), not at all (23.9%) and psychological discomfort(23.9%), irritation(23.9%), fatigue (18.39%),sleeplessness (23.2%).¹⁶

Association between health problems of students related to online learning and demographic data.

This present study observed a significant association between gender and headache ($p=0.015$), Eye problem (low vision, eye pain) ($p= 0.029$), disturbed sleep ($p=0.013$), back pain ($p=0.020$), pain in joints ($p=0.025$).

This present study observed a significant association between age and eye problem (low vision, eye pain) ($p= 0.013$), body ache($p=0.030$), headache ($p=0.012$),back pain ($p=0.0138$), Body ache($p=0.030$), disturbed sleep ($p=0.015$, pain in joints ($p=0.013$), Lack of concentration($p=0.035$). There was a significant association between residence and headache ($p=0.006$), eye problems (low vision, eye pain) ($p=0.014$), disturbed sleep($p=0.018$), back pain($p=0.002$), pain in joints ($p=0.039$). The present research study findings were supported by S M Mahbubur Rashid et al (2021) on Prevalence and impact of the use of electronic gadgets on the health of children in secondary schools in Bangladesh: A cross-sectional study done and significant association found between gadget use and health problems like headache, backache, visual disturbance, and sleeping disturbance has been observed in study.¹⁷

RECOMMENDATIONS

Studies can be conducted on assessment of the digital teaching- learning methods, e platforms and solutions for reducing the health problems among nursing students of India.

CONCLUSION

This study concluded that that nursing students reported major health problems such as headache, eye pain, back pain, disturbed sleep and pain in joints due to regular online classes. This will help to understand health problems associated with online learning and teaching because if this continues it will affect academic as well overall development of nursing students. It is important to assess and overcome such health-related problems by providing training to use e learning technology, lessen the duration of screen time, teaching materials with audio , video and animated contents, good internet connectivity use of good quality digital devices and developing good online study habits, Ensure regular feedback, health analysis, awareness about good ergonomics and early detection and intervention of health problems for students overall development and performance. So it is needful to make the online learning system standardized to minimize the health complains among nursing

students during continues online classes.

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