Impact of Covid-19 Pandemic on Lifestyle Behaviors of Students

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Abstract: *Introduction: The entire globe is undergoing an unprecedented challenge of COVID-19 which has affected the lifestyle behavior of individuals. The present review is an attempt to summarize the effect of COVID-19 pandemic on lifestyle behavior among students. **Statement of the problem**: A cross sectional study to assess the impact of COVID- 19 pandemic on lifestyle behaviors of students studying in selected colleges at Perinthalmanna. **Objectives:** To assess the lifestyle behavior of students before and during COVID- 19 pandemic. Compare the lifestyle behavior of students before and during COVID- 19 pandemic. Find the association between lifestyle behaviors of students with their selected demographic variables. **Methodology:** Quantitative approach was adopted for the study and Non-Experimental Descriptive cross sectional study design was selected. A sample of 50 students from second year BSc nursing at Al Shifa College of Nursing was used to collect the data. Convenient sampling method was adopted. The tool 1 Socio Demographic Proforma used to collect socio demographic details of students and tool 2 Lifestyle Behavior Assessment Scale used to evaluate lifestyle behaviors of students before and during COVID- 19. Descriptive and Inferential statistics were used for data analysis. **Result:** The analysis of the lifestyle behaviors of students based on lifestyle behavior assessment scale before COVID-19 revealed that 44% students had excellent lifestyle behavior, 46% students had very good lifestyle behavior and 10% had good lifestyle behavior. The lifestyle behavior of students during COVID-19 revealed that 14% students had very good lifestyle behavior, 80% students had good lifestyle behavior and 6% students had fair lifestyle behavior. The mean lifestyle behavior assessment score before COVID-19 was 113.98 with SD of 14.650 and the mean lifestyle behavior assessment score during COVID-19 was 77.44 with SD 14.007.*

*The calculated paired t value 2.866 was greater than table value 2 and concluded that there was a statistically significant difference in the lifestyle behavior of students before and during COVID-19. The researchers found that there was a significant difference in the dietary pattern of students before and during COVID-19 pandemic and there was no statistically significant difference between lifestyle behaviors of students and their selected demographic variables such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother and monthly income. **Conclusion:** On the basis of the findings, researchers concluded that there was a significant difference in the lifestyle behaviors of students before and during COVID-19 pandemic and there was no significant association between lifestyle behavior of students and their selected demographic variable such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother and monthly income.*

Key Words: COVID-19 pandemic, lifestyle behaviors, students.

I.INTRODUCTION

"Change your thinking, change your life "

-Ernest Holmes[1]

Background of the study

The covid-19 pandemic, also known as the corona virus pandemic, is an ongoing global pandemic of corona virus disease 2019 (COVID19), which is caused by severe acute respiratory syndrome corona virus 2 (SARS-COV-2). The virus was first identified in December 2019 in Wuhan, China.[2] COVID-19 is a global burden which continues to redefine daily lifestyle related habits in a significant manner as the pandemic progresses through its different phases. Public health recommendations and government measures taken to abate infection have indirectly impacted food availability, dietary quality, normal daily activities, access to recreational public settings, social activities, work, and financial security.[3]

These factors compound over time to radically change lifestyle related behaviours, especially daily eating, activity, and sleep behaviours that are known to be independent risk factors for metabolic complications such as obesity, diabetes, and cardiovascular disorders.[3]

Apart from the general consideration, Students they are at their productive age. The changes that happen in their lifestyle behaviours due to covid-19 pandemic also affects their health since they contribute highly on our country's development, it may have also been affected.[3]

It is well documented that behaviours developed during this period influence health in adulthood. Several health-compromising behaviours (e.g.; smoking, alcohol) as well as health enhancing behaviours (e.g.; physical exercise, nutrition) are adopted in adolescence, and they often persist into adulthood.[4]

The countries around the world cautioned the public to take responsive care. The public care strategies have included hand washing, wearing face mask, physical distancing, and avoiding mass gathering and assemblies. Lockdown and staying home strategies have been put in place as the needed action to flatten the curve and control the transmission of the disease (Sintema,2020).[5]

Bhutan first declared closing of schools and institution and reduction of business hours during the second week of March 2020 (Kuensel,2020,6 March). The complete nationwide lockdown was implemented from 1 August (Palden, 2020). In between, movements were allowed, offices began functioning, schools and colleges reopened for selected levels and continued with online classes for others. More than 170,000 children in Bhutan from classes PP- XII are, today, affected by the school closure. The impact is far reaching and has affected learning during this academic

year or even more in the coming days. Several schools, colleges and universities have discontinued face-to-face teaching. There is a pressing need to innovate and implement alternative educational and assessment strategies. The COVID-19 pandemic has provided us with an opportunity to pave the way for introducing digital learning (Dhawan,2020).[6] Confinement due to the COVID-19 pandemic can influence dietary profiles, especially those who are adolescents, who are highly susceptible to acquiring bat eating habits. Adolescent's poor dietary habits increase their subsequent risk of degenerative diseases such as obesity, diabetes, cardiovascular pathologies, etc.[5]

Sleep problems appear to have been common during the ongoing COVID-19 pandemic. Moreover, sleep problems were found to be associated with higher level of

psychological distress. With the use of effective programs treating sleep problems, psychological distress may be reduced. Vice versa, the use of effective programs treating the psychological distress, sleep problems may reduce.[7]

Research highlights certain dearth such as the weakness of online teaching infrastructure, the limited exposure of teachers to online teaching, the information gap, non-conductive environment for learning at home, equity, and academic excellence in terms of higher education.[8]

This study assesses the impact of COVID-19 pandemic on lifestyle behaviours of students, so that it can be used to facilitate the importance of healthy lifestyle behaviours.

Need and significance of the study

According to The Hindu newspaper, as on 2021 India recorded new COVID-19 cases and new COVID-19 cases and new deaths. India continues to reel under an unrelenting Covid wave, with high fatalities. In the absence of nationwide lockdown and with COVID-19 cases on a steady rise, several states in India have imposed complete lockdowns to reduce the spread of the coronavirus amid a deadly second wave. Even the states that have not opted for state-wide lockdowns have induced lockdown-like strict curbs on the movement of people.[9]

According to Times of India 2020, COVID-19 has left a significant impact on human behaviours. The lockdown restrictions and highly contagious virus have got the entire world to a standstill. It's been months that all of us have been confined to our homes. The way we are operating is very different from what has been happening for years.[10]

According to global estimation (21\08\2020), 21756357 people were affected with coronavirus. In India 2.19M people were affected with corona virus disease. Among those people 54,849 are died and 2.16M where recovered. 52,199 confirmed cases and 191 deaths due to corona virus in Kerala, 6,232 confirmed cases and 13 deaths in Malappuram. In 2021 Kerala reported 6534 cases and 856 confirmed cases in Malappuram.[11]

A cross-sectional web-based survey was conducted to assess the changes in lifestyle-related behaviours among 995 adults across India due to measures taken to contain COVID-19. The study results shows that there was a reduction in physical activity coupled with an increase in daily screen time especially among men and in upper-socio-economic strata. It also found an improvement in healthy meal consumption pattern and a restriction of unhealthy food items especially in the younger population (age<30 years). The study concludes that COVID-19 marginally improved the eating behaviours, yet one - third of participants gained weight as physical activity declined significantly coupled with an increase in screen and sitting time.[12]

COVID-19 pandemic also had an impact on the University student's lifestyles. An observational, descriptive, cross-sectional study was conducted to assess perceived changes in lifestyles among 488 Spanish University students during the containment in 2020 by using FANTASTIC questionnaire. The study results show overall; the lifestyles of university students had significantly deteriorated during the period of containment caused by the COVID-19 pandemic.[13]

Analyses revealed that there was a change in perceived sleep quality. In diet, analyses revealed that there was a significant association between a change in work-status and a change in diet. For those whose work status had changed, more participants than expected reported that their diet was a little more unhealthy and fewer participants than expected maintained the same diet for those participants reporting no change in work-status, fewer participants than expected reported that their diet was a little more unhealthy, and more participants than expected had maintained their pre lockdown diet. In physical activity, there was a significant change in activity level, the study reveals that there is a decline in activity. In the case of gadget usage, students use online tools like Zoom, Google hangouts, Skype meetup, Google classroom, and YouTube have been use to carry out students' academic activities. Although virtual classes held during the lockdown have increased student engagement in course, social media activity has also increased

among students, in content uploading creating social awareness messages. A pressing concern associated with excessive gadget usage is the amount of content that has been binge-watched by individuals. Distress among students has increased due to binge-watching. It is also known to be associated with several adverse physiological outcomes.[14]

A detailed understanding of these factors can help us to develop interventions to migrate the negative lifestyle behaviours of students that have manifested during COVID-19. These findings suggest that the corona virus crisis resulted in a healthier lifestyle in one part and, to a lesser extent, in an unhealthier lifestyle in another part of the population. Further studies are warranted to see whether this behavioral change is maintained over time, and how different lifestyle factors can affect the susceptibility for and the course of COVID-19.[15]

Statement of the problem

A cross sectional study to assess the impact of COVID-19 pandemic on lifestyle behaviours of students studying in selected colleges at Perinthalmanna.

Objectives of the study

❖ Assess the lifestyle behaviours of students before and during COVID-19 pandemic.
❖ Compare the lifestyle behaviours of students before and during COVID-19 pandemic.
❖ Find the association between lifestyle behaviours of students with their selected demographic variables.

Operational definitions
Assess:

It refers to the evaluation or analysis of the impact of COVID-19 pandemic on lifestyle behaviours of students as measured by lifestyle behaviour assessment scale.

Impact:

Impact refers to the effect on lifestyle behaviour of students due to COVID-19 pandemic as measured by lifestyle behaviours assessment scale.

Lifestyle behaviours:

Lifestyle behaviours refers to the daily routines of students pertaining to exercise and leisure activities, diet, sleep and rest, psychological relationship, study habits and physical activity as measured by using lifestyle behaviour assessment scale.

Students:

In the study, students refer to a learner engaged in learning undergraduate nursing course.

Hypothesis

❖ There is a significant difference in the lifestyle behaviours of students before and during COVID-19 pandemic.
❖ There is a significant association between lifestyle behaviours of students and selected demographic variables.

Assumption

❖ Every human being has unique lifestyle behaviours.
❖ COVID-19 pandemic measures might have influenced people's routines or lifestyle in various phases.
❖ Society also plays an important role in an individual's behaviours.
❖ Individuals' behaviours take an important part in their lifestyle routines.
❖ Assessment of the lifestyle may bring an insight into the participants to become aware and modify their lifestyle behaviours.
❖ Environment may influence personal lifestyle choices.

Conceptual framework

Health lifestyle theory (Cockerham, 2005, 2013a, 2013b) does not depict lifestyle practices as the random behaviours of socially disconnected individuals, but as personal routines that blend into an aggregate form characteristic of the specific groups and social classes in which they originate. The theory posits that health behaviours cluster in distinctive lifestyles based on socioeconomic status (SES), age, gender, race, and other social variables. These patterns are not inadvertent. They are levied socially in a top-down process of socialization and experience that imposes awareness of the range of choices available to individuals and the socially determined protocols (appropriate or inappropriate) for choosing. People select their lifestyle practices, but typically their choices are consistent with their SES and in accordance with other structural variables applicable to them. Social structures thus channel health lifestyle choices down Particular Pathways as opposed to others that might be chosen.[16]

Health lifestyle theory defines health lifestyles as "collective patterns of health-related behaviour based on choices from options available to people according to their life chances" (Cockerham, 2005, p. 55). The term "life chances" originates with Weber (1978) and refers to an individual's probability or likelihood of obtaining satisfaction for desires and needs. Life chances are the structurally determined chances people have in life to achieve satisfaction because of their social position.[16]

In an effort to predict patterns of health behaviours, health lifestyle theory (Cockerham, 2005, 2013a, 2013b, 2014) integrates these sociological insights of Weber and Bourdieu to develop four major categories of structural variables consisting of (1) class circumstances; (2) age, gender, and race/ethnicity; (3) collectivities (social networks associated with marriage and kinship, religion, politics, ideology, the workplace, etc.); and (4) living conditions (quality of housing, access to basic utilities, neighborhood facilities, public safety, etc.) provide the social context for socialization and experience that collectively constitute life chances (structure) and influence choices (agency). Choices and chances interact and commission the formation of dispositions to act (habitus), leading to specific health-related practices (action). Health practices collectively constitute patterns of health lifestyles whose enactment results in their reproduction (or modification) through feedback to the habitus.[17]

Although health lifestyle theory suggests that lifestyles are a key determinant of health, social class may be the underlying explanation for any association between midlife health lifestyles and health outcomes. The fact that class circumstances have a powerful association with health lifestyles is seen in the enduring and positive correlation between multiple operationalizations of social class, health, and health behaviours (Clouston, Richards, Caadar, & Hofer, 2015; Cockerham, 2005, 2013a, 2013b; Jones et al., 2011; Lee et al., 2018; McGovern & Nazroo, 2015; Missinne, Daenekindt, & Bracke, 2015). Social class is typically measured with indicators of SES like family income, educational attainment, and occupational status. Even though each of these indicators of SES is distinct and provides differing dimensions of stratification, they are nevertheless interrelated and structurally connected to each other and a principal determinant of health and health behaviours (Adler et al., 1994; Adler & Rehkopf, 2008; Wolfe, 2015). Low educational attainment is an especially strong predictor of poor health behaviours in adulthood (Andrews, Hill, & Cockerham, 2017; Pampel, Krueger, & Denney, 2010), but there are others. Thus, we control for multiple indicators of SES to isolate the association between lifestyle and health net of social class.[17]

In the present study structural variables denotes to students age, gender, religion, area of residence, family type, educational level of father and mother, occupation of father and mother and monthly income of parents and home quarantine provide the social context which constitute life chances and influence choices of students.

Health practices of students related to exercise leisure activity, dietary pattern, psychosocial relationship, sleep and rest, study habits, physical activity collectively constitute patterns of health lifestyles.
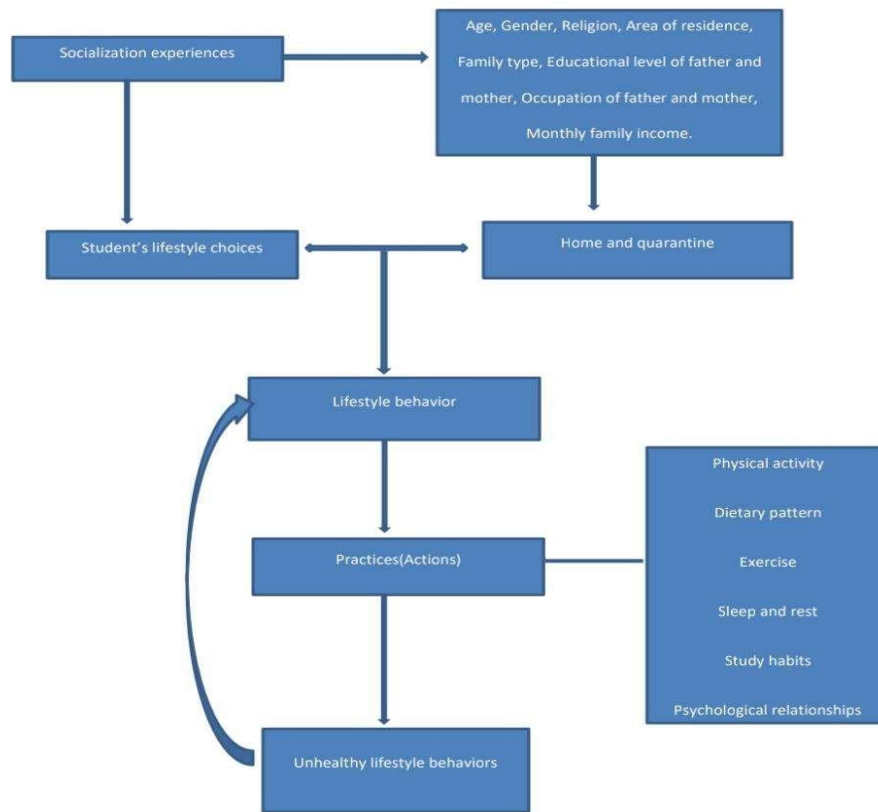
Figure 1: Schematic representation Cocker ham Theory

Summary

In this chapter, it deals with the introduction part and in this we discussed about impact of COVID-19 pandemic on lifestyle behaviours of students. It includes background of study, need and significance of the study, statement of problem, objectives, hypothesis, operational definition and assumption of the study.

II.REVIEW OF LITERATURE

Review of literature is a written summary of the state of existing knowledge on a research problem. Reviewing relevant literature is to gain a broad background or understanding of the information that is available to related problem. Review investigated at beginning of the research process will continue throughout development of research collection and analysis of data and interpretation of findings.[18]

Review of literature provides basis of future investigation and justify the needs of replication through light in feasibility of the study. Initiative base to improve efficiency of data collection and obtain useful advice to increase effectiveness of data analysis. The literature review enables the investigator to extract subject matter which is closely related to the study being conducted. It helps to the investigator to broader understanding and gain insight to selected problem.[18]

Review of literature for present study has been under the following headings:
❖ Impact of COVID-19 on physical activity.
❖ Impact of COVID-19 on exercise and leisure activity.
❖ Impact of COVID-19 on Diet.
❖ Impact of COVID-19 on sleep and rest.
❖ Impact of COVID-19 on psychosocial relationships.
❖ Impact of COVID-19 on lifestyle activities.

Impact of covid-19 on physical activities

An anonymous survey approved by ethics committee of university hospital motto conducted during COVID-19 lockdown with the purpose of evaluating the level of physical activity of children aged 8-12 years during COVID19 in 2020.A total of 98 participants were taken voluntarily. The data was collected electronically using a physical activity questionnaire (PAQ-C/cz). The collected data was compared with pre- COVID norm data recently published by Cuberek et al and the data was statistically analyzed using descriptive statistics. The study result showed that the second wave of COVID-19 pandemic restrictions had a negative impact on physical activity of Czech boys and girls 8-12 years old.[19]

A cross sectional study was conducted with the aim to investigate the impact of the shutdown on Danish citizen's physical activity throughout different stages of life 15-18 ,1929, 30-59 and 60+ years. The data was collected electronically through survey distributed in online platform using the questionnaire about the physical activity behavior before and during the shutdown. Paired t test was performed to test for significant overall changes in physical activity between before and during COVID-19 shutdown. This study found that overall mean minutes of physical activity dropped 16.1 % from before to during shutdown. The study also shows that younger adult experienced a decrease of 21.3 % in mean minutes of physical activity per week.[20]

Impact of covid-19 on exercise and leisure activities

A cross sectional study was conducted to analyze the impact of COVID-19 on levels and pattern of exercise among adults in Belgium. An online survey questionnaire distributed among 15737 Flemish citizens on voluntary basis to evaluate whether adults were exercising less or more during lockdown, characteristics of their exercise levels and patterns before and after the lockdown. Descriptive statistics were used to analyze the data. The study found that the spread of COVID-19 had a strong impact on exercise levels and statistically proves that 2/3 rd. of the active samples contributed more to sitting and exercising less during lockdown.[21]

An open web survey conducted through social network sites to assess the impact of COVID-19 to investigate the lifestyle of young Italians during the first lockdown. The web survey carried out using the remote questionnaire distributed among 13473 Italians. The survey used a virtual snowball nonprobability sampling technique. The study was analyzed through cluster analysis. The study result says that young people have significantly re- negotiated their lifestyles and have resorted to a greater articulation in their enforced leisure, especially in unstructured activities, through social media.[22]

Impact of COVID-19 on diet

A scooping review was performed to assess the impact of lockdown during COVID 19 outbreak on dietary habits in various populations that aims to identify the changes in the dietary pattern. The study concluded that the effect of COVID-19 lockdown both negatively and positively impacted dietary practices throughout Europe and globally. The negative dietary habits were associated with poor lifestyle outcomes including weight gain, mental health issues and limited physical activity. This review followed preferred reporting items were systematic reviews and meta-analysis extension for scooping reviews and was in accordance with JBI manual of evidence synthesis.[23]

A descriptive cross sectional online survey was conducted to investigate the impact of COVID-19 induced lockdown in Zimbabwe on nutrition, physical activity, alcohol consumption and smoking among Zimbabwe population aged greater than or equal to the age of 18 years. The survey was conducted using a structured questionnaire to collect information on demographics. Pearson chi square correlation coefficient was used to explore association for categorical variable and continues variables respectively. Paired t test was used to test for difference in means across continues normally distributed variable. The study result concluded that there was a decrease in dietary diversification and reduction in intake of fruits and vegetables except for dark green leafy vegetables that reflects the utilization of home or backyard nutrition gardens.[24]

Impact of COVID-19 on sleep and rest

An online cross-sectional questionnaire-based survey was conducted to assess the impact of lockdown on the sleep wake Pattern among the Indian population during COVID-19 lockdown. The participants were recruited by sharing and circulating the URL links of Google survey forms through social media platforms. A questionnaire developed by the researchers themselves on the basis of available resources to identify sleep activity and social wellbeing. The Kolmogorv -Smirnov test for normality exhibited deviation from normality, analysis for comparison within groups (before and during lockdown) was done using vilcoxon Signed Rank test (for paired samples), while Mann Whitney

test was employed for between group comparison, i.e. been male and female. Also, conducted Chi square test to assess the association between different factors i.e. lockdown state vs. time slots and Kruskal-Wallis test for effect of different age groups on studied parameters before lockdown and during lockdown. Thereafter, Post-hoc Duncan's Multiple Range Test was also carried out to compare the means of studied variables amongst age groups in each lockdown state. The study result found sleep onset time and wakeup time in the people respective of age and gender was significantly delayed with average sleep onset by 51 +/- 1.2 minutes during lockdown. The average sleep duration was significantly more during lockdown with higher number of people reporting longer sleep length.[25]

A cross sectional study conducted to evaluate the escalation of sleep disturbances amid the COVID-19 pandemic. This study aims to evaluate and identify to evaluate the identity which population has experienced changes in sleeping pattern during the pandemic and their extend. The survey was conducted among 13,062 responders from 49 countries voluntarily. The survey tool included demographics and items adapted from validated sleep questionnaire on sleep duration quality and timing and sleeping till consumption. The study result found that 158% of the responders were unsatisfied with their sleep, 40% of the responders reported a decreased sleep quality vs before COVID-19 crisis. The study result concluded that changes imposed due to pandemic had led to a surge in individual reporting sleep problem across the globe.[26]

Impact of COVID-19 on psychosocial relationships

A web based cross sectional survey was used to assess the impact of COVID-19 pandemic on psychological well-being of students in an Italian university. It was conducted in the period immediately after the first lockdown through the administration of questionnaire on the personal website of students attending their undergraduate courses. The study used patient- health- engagement scale, self-rating anxiety scale, self-rating depression scale to assess engagement anxiety symptoms, depression symptoms of the samples. The readability of the scale was measured using cron backs Alfa coefficient, descriptive analysis was performed for all variables. The study result found that from the total of 501 subjects 35.33% were classified as anxious and 72.93% as depressed. The study research concluded that the university students are at risk of psychological distress in the case of traumatic events and evolution of pandemic is uncertain and may have long-term effects on mental health.[27]

A quantitative anonymous online survey was conducted with an aim to evaluate the effect of home confinement on psychological health on the people of various regions in the kingdom of Saudi Arabia. In the study a total of 3589 subjects completed the "scale of social lifestyle and psychological health for COVID-19 pandemic ". The study result showed that the confinement had changed the social lifestyle of people in Saudi Arabia, particularly for women and for people aged 30- 50 years. The study also showed that for psychological health, statistically significant increases were observed in the levels of anxiety, depression, obsessive compulsive disorder, interpersonal sensitivity, and somatic symptoms, during quarantine.[28]

Impact of COVID-19 on study habits

An online survey was conducted to assess the impact of COVID-19 on study on distance learning university students study habits (learning, assessment, and social activity) and also assess the factors associated with negative impacts. The Online survey collected information on demographics, study-related information, Covid-19 personal circumstances and changes in study habits from 555 undergraduate students at The Open University, UK. In this study, Logistic regression analysis (n = 269) demonstrated that negative impacts on study habits overall were associated with difficulties in managing workload and limited interaction with other students. Of the study population, an average of 36% reported negative impacts on their study activities and 15% positive impacts.[29]

A cross-sectional study was carried out to analyze the impact of COVID-19 lockdown on the academic performance of veterinary medical students and researchers. An online anonymous questionnaire designed by the researchers themselves and shared the questionnaire in online platforms to evaluate the impact of COVID-19 lockdown on the academic performance of veterinary medical students and researchers. Of the total of 1479 participants the current study showed that COVID-19 pandemic lockdown affected the academic performance of most participants 96.7% with varying degrees.[30]

Impact of COVID-19 on lifestyle behaviors

A cross sectional web-based study was conducted to assess he changes in lifestyle related behaviors among the Indian population. This study was undertaken to assess the impact of COVID-19 on lifestyle related behaviors such as eating,

physical activity and sleep behavior. Of the total of 1058 participants an electronic survey questionnaire was distributed for the data collection. The descriptive statistics used to analyze the data and the study states COVID-19 marginally improved eating behavior, yet one third of participants gained weight as physical activity declined significantly coupled with an increase in screen and sitting time. This study also shows that mental health was also adversely affected.[31]

An online survey was conducted to explore perceived lifestyle changes after the outbreak of COVID-19 and their association with subjective wellbeing among the general population in Mainland chain. The lifestyle behaviors including leisure – time physical exercise, leisure - time screen time and dietary intake and the other covariates including socio demographic factors. A structured questionnaire was used to analyze lifestyle behavior and a multi variate ordinal regression method was used to analyze the association between subjective wellbeing and lifestyle behaviors as well as perceived lifestyle changes. The study concluded that COVID-19 pandemic may have positive and negative impact on different aspects of lifestyle behaviors. Regarding lifestyle, 58.8% (n=607) of the participants had leisure-time physical exercise of more than 150 min/week, about 86.8% (n=897) had screen time of 2 hours/ day or more, and 67.9% (n=701) ate vegetables 5 times/ week or more, whereas 41.8% (n=432) of the subjects ate fruits 5 times/week or more.[32]

An open web-based survey was conducted to assess the impact of COVID-19 pandemic on lifestyle among young people during COVID-19 lockdown in Italy. The samples were selected using virtual snowball nonprobability sampling technique and remote questionnaire was used to collect the data from the selected population. The research result revealed that the respondents differ in their spirit of adaptation. Some have significantly changed their daily habits, while others have ingrained or changed them to a lesser extent. Young people in particular have significantly re-negotiated their lifestyles and have resorted to a greater articulation of their enforced leisure, especially in unstructured activities, through social media.[33]

III.RESEARCH METHODOLOGY

Research approach

Research approach indicates the basic procedure for conducting research. The choice of appropriate approach depends upon the purpose of the study.[34] A quantitative research approach was used to determine the impact of COVID-19 on lifestyle behavior of students.

Research design

Research design of a study spells the basic strategies that researchers adopted to develop evidence that is accurate and interpretable. The research designing cooperates with some of the most important methodological decisions that researchers make, particularly in the quantitative study. A research design is set of methods and procedures used in collecting and analyzing measures of the variable specified in problem of research.[34] A non-experimental descriptive cross sectional study design was used to assess the impact of COVID-19 pandemic on lifestyle behavior of students.

Variables

Variables are qualities, properties or characters of person, things or situations that change or vary variables are classified based on their nature, action and effect on variables. The main type of the variables is as follows, Independent variable, Dependent variable, Research variable, Demographic Variable, Extraneous variable.[18]

❖ Research Variable:
Lifestyle behavior of students
❖ Socio demographic variables
It includes, students age, gender, religion area of residence, family type, education level of father, education level of mother, occupation of father, occupation of mother, year of study, monthly income.
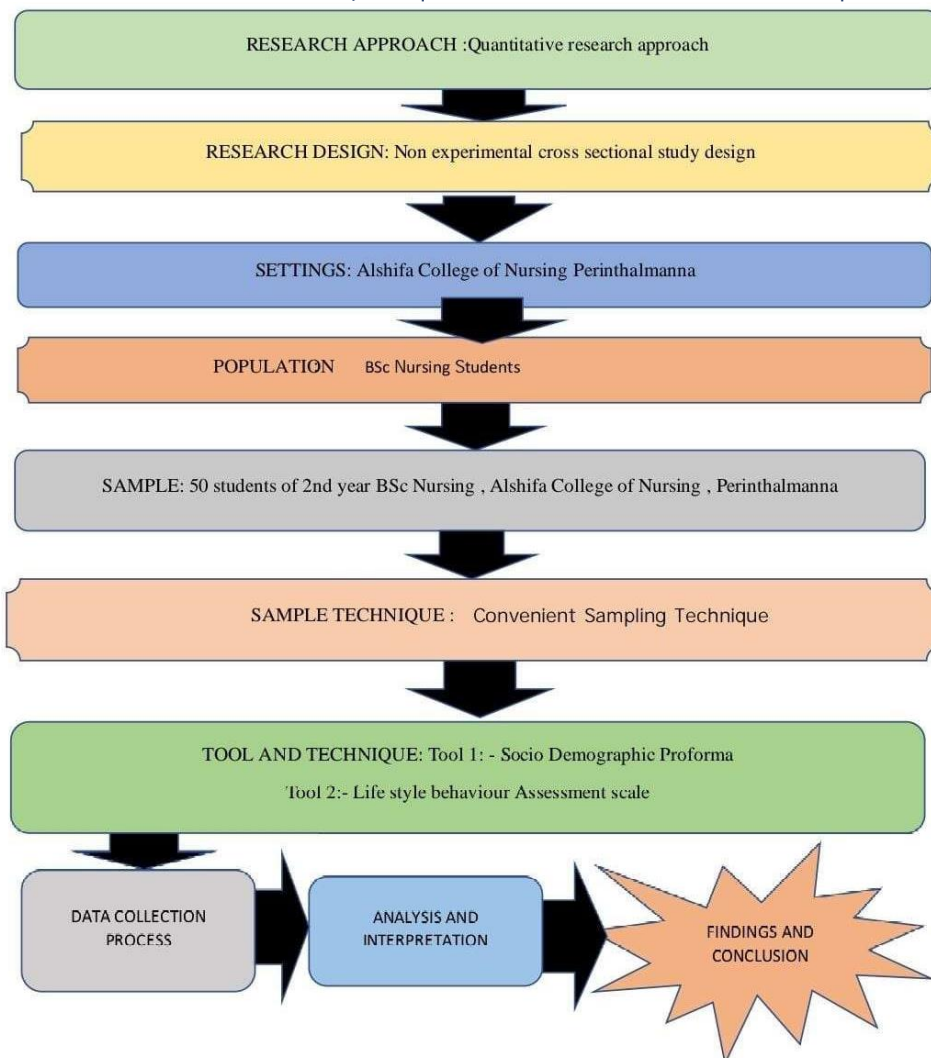
Figure 1: Schematic representation of research design

Setting of study

Settings are the physical location and condition in which data collection takes place in the study.[18] This study was conducted at Al Shifa College of Nursing, Perinthalmanna.

Population

Population is the entire set of individuals or subjects having some common characteristics. The term population refers to the aggregate or in to those confirming to us to specification.[18] Population of this study consists of BSc Nursing students.

Sample

A Sample is a subset of population elements. The quality of the sample for quantitative study depends on how typical, or representative the sample is of the population with respect to the variable of concern the study.[18] In this study second year BSc Nursing Students, Al Shifa College of Nursing, Perinthalmanna taken as sample.

Sample size

Sample size measures the number of individual samples measured or observations used in survey or experiment.[18] In this study sample size was 50.

Sampling technique

Sampling is the process of selecting a representative segment of population under study.[18] Sampling technique used for this study was convenient sampling techniques.

Criteria for sample collection:

Inclusion criteria:

❖ Students who were studying 2nd year BSc nursing.
❖ Students who were willing to participate in the study
❖ Present on the day of data collection

Exclusion criteria:

❖ Students who have medical restrictions to perform daily activities or routines.

Tool and Technique

Data collection tool is the procedure of instruments used by the researcher to observe or measure the key variable in the research problem.[18] The tool was prepared by the researcher after an extensive review of research literature and in consultation with experts in the field of research.
Tool used for study was;

Tool-1

❖ Socio Demographic proforma :-

It includes students, Age, Gender, Religion, Area of residence, Family type, Education level of father, Education level of mother, Occupation of father, Occupation of mother, Monthly income

Tool-2

❖ Lifestyle behavior assessment scale.

It was a structured self-administered questionnaire prepared by investigators after an extensive review of literature to assess the lifestyle behavior of the students.
The same scale was used to assess the lifestyle behavior of students before and during COVID-19 pandemic. The following were the section included in the scale. Section A (Assessment of lifestyle behavior before COVID-19 pandemic) and Section B (Assessment of lifestyle behavior during COVID-19 pandemic). There are 6 parameters were considered in the tool which include exercise and leisure activity (4 items), diet (9 items), psychosocial relationship (5 items), sleep and rest (4 items), study habits (4 items) and physical activity (4 items). Totally the scale consists of 30 items. The total score was 150.

Scoring Technique
Scoring

Each item was scored from 1-5 according to the option given as follows.

Sl. No	Options	Score
1	A	5
2	B	4
3	C	3
4	D	2
5	E	1

Scoring range

Section A (Total score)-150 Section B (Total score) -150

Sl .no	Scoring range	Scoring interpretation
1	121-150	Excellent life style behavior
2	91-120	Very good lifestyle behavior
3	61-90	Good lifestyle behavior

| 4 | 31-60 | Fair lifestyle behavior |
| 5 | 1-30 | Risk lifestyle behavior |

Tool validity

Tool validity is concerned with sampling adequacy of items for the constrict being measured to initiate the content validity tool was submitted to 5 experts in the field of nursing education and request to give their opinion and suggestions regarding relevant and appropriateness of the tool. The tool was modified as per suggestion to make the question more option and final tool was constructed.

Reliability of tool

Reliability of the tool is the degree of consistency and accuracy with which an instrument measures the attribute for accuracy which is measures. It refers to extend to which the same result is obtained on repeated administration.[34] The tool was administered to 5 sample through Goggle form. The reliability of the tool was established by Cron bach's Alpha. It measures internal consistency that is, how closely related a set of items are as a group. The reliability score obtained was before Covid -19 r= 0.735 and during Covid- 19 r= 0.715 which showed that the tool was reliable to use.

Pilot study

Pilot study is a small preliminary investigation of the same general character of major study, which is designed to acquaint the researcher with problems that can be corrected in preparation for larger research project. The purpose of the pilot study was to find out the feasibility of the study, clarity of language of the tool and to find the difficulties to conduct the main study.[34] A descriptive cross-sectional survey was conducted among the fourth year BSc Nursing students. Formal administrative permission was taken from the principal of Al Shifa College of Nursing, Perinthalmanna. After obtaining a formal administrative approval from Principal, 5 samples from fourth year BSc nursing were selected randomly. Pilot study was conducted via Google form through online platform on 27 October 2021. The collected data was found to amenable to statistical analysis. There was no modification needed, so the investigator proceeded to do the main study after pilot study with same questionnaire.

Data collection process

The data collection is the gathering of information needed to address a research problem.[34] The data collection was conducted from 10/12/2021 to 18/12/2021. The setting of the study was Al Shifa college of Nursing, Perinthalmanna. A formal approval from Principal, Al Shifa College of Nursing was obtained prior to data collection. 50 students from second year were selected by using Convenient Sampling technique. After obtaining informed consent, research was conducted via Google form. The tool used for data collection was socio demographic Performa for obtaining socio demographic variables of students and lifestyle behavior assessment scale, which was distributed with the aim of obtaining data regarding lifestyle behavior.

Plan for data analysis

Data analysis is the systematic organization and synthesis of the research data and testing of research hypothesis using the data.[34] Data analysis was done by using by descriptive and inferential statistics.
Inferential statistics
❖   Paired t test was used to compare the lifestyle behavior of students.
❖   Chi-square test was used to find the association between pretest and post test score of lifestyle behavior of students.
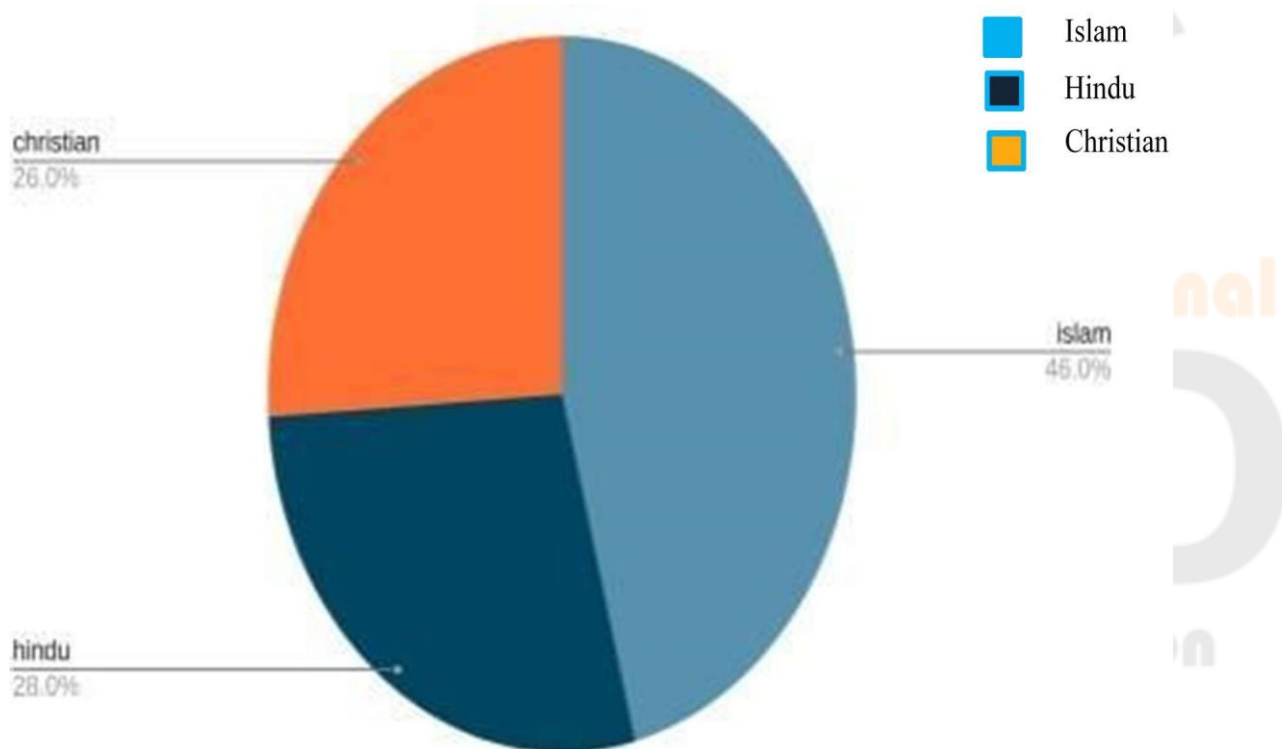
IV.ANALYSIS AND INTERPRETATION

Section - A
Distribution of Sociodemographic variables of students.

Table 1 Frequency and percentage distribution of students based on demographic variables such as age and gender.

Variables	Category	Frequency	Percentage
Age	19	10	20
	20	20	40
	21	20	40
Gender	Male	11	22
	Female	39	78

Table 1 reveals the frequency and percentage distribution of students based on age and gender. With regard to age, 10 students (20%) belong to 19 years, 20 students (40%) belong to 20 years, and remaining 20 students (40%) belong to 21 years of age. With regards to gender distribution, the majority of studies 39(78%) were females and11(22%) were males.
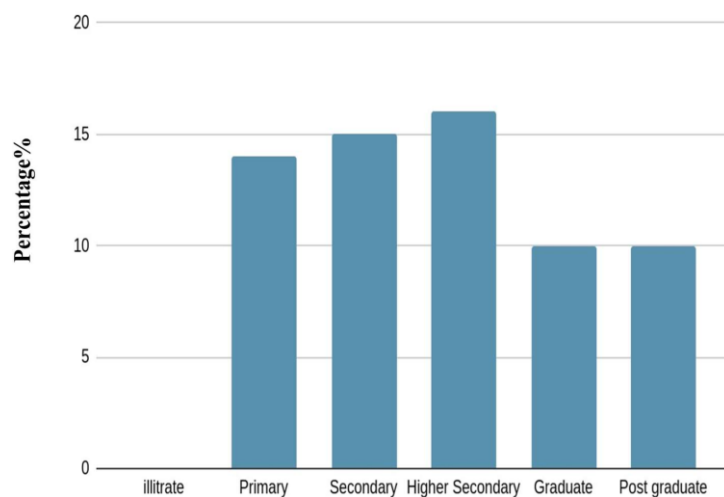

RELIGION
Figure 3: Distribution of students based on Religion.

The above figure reveals the percentage distribution of students based on Religion. With regards to religion, the majority of the students 23(46%) were Muslims, 40(28%) were Hindus, 13(26%) were Christians.

Table 2 Frequency and percentage distribution of students based on demographic variables such as area of residence and family type.

| Variables	Category	Frequency (N)	Percentage (%)
Area of residence	Rural	41	41
	Semi-Urban	7	7
	Urban	2	2
Family type	Nuclear	12	24
	Joint	38	76
	Extended	0	0

Table 2 reveals the frequency and percentage distribution of students based on area of residence and family type. With regard to area of residence most of the students 41(82%) live in rural areas, 7(14%) live in semi urban areas and the least students 2(4%) live in urban areas. With regards to family type, the majority of the students 38(76%) belong to joint families,12(24%)belong to nuclear families.

EDUCATIONAL LEVEL OF FATHER
Figure 4: Distribution of students based on the Educational Level of Father.

The above figure reveals the percentage distribution of students based on the educational level of the father. With regard to the educational level of the father, half of the parents 25(50%) were secondary educated, 8(16%) were higher secondary educated, 7(14%) were primary educated, 5(10%) were graduates and 5(10%) were postgraduates.
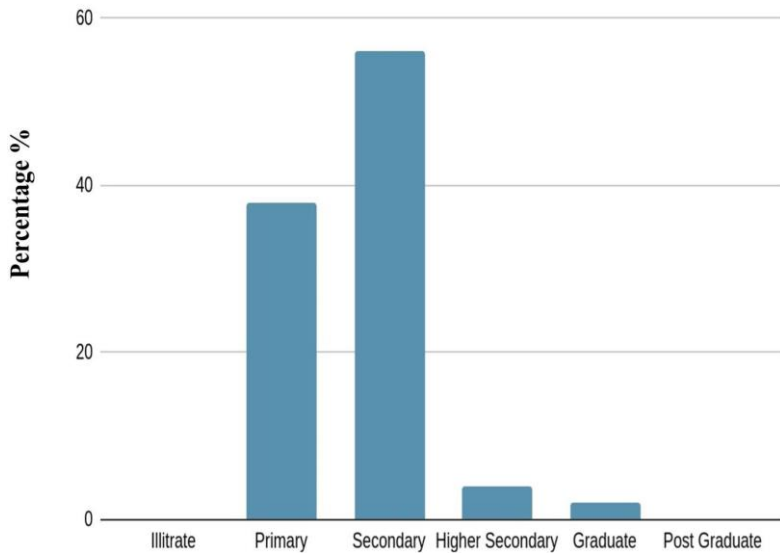
EDUCATIONAL LEVEL OF MOTHER

Figure 5: Distribution of students based on the educational level of Mother.

The above figure reveals the percentage distribution of students based on the educational level of their mother. With regard to the educational level of mothers, 28(56%) were secondary educated,19(38%) were primary educated, 2(4%) were higher secondary and 1(2%) were graduated.

Table 3 Frequency and Percentage Distribution of students based on demographic variables such as occupation of father and mother.

Variables	Category	Frequency (N)	Percentage (%)
Occupation of Father	Unemployed	0	0
	Self-Employee	10	20
	Civil Servant	15	30
	Private Employee	25	50
	Pensioner	0	0
Occupation of Mother	Homemaker	26	52
	Self-Employee	1	2
	Civil Servant	8	16
	Private Employee	15	30
	Pensioner	0	0

Table 3 reveals the frequency and percentage distribution of students based on occupation of father and occupation of mother. With regard to the occupation of the father, half of parents 25 (50%) were private employees, 15(24%) were civil servants and 10(20%) were self- employed. With regard to occupation of the mother, the majority of the parents 26(52%) were homemakers, 15 (30%) were private employees, 8 (16%) were civil servants and the least 1(2%) were self-employed.
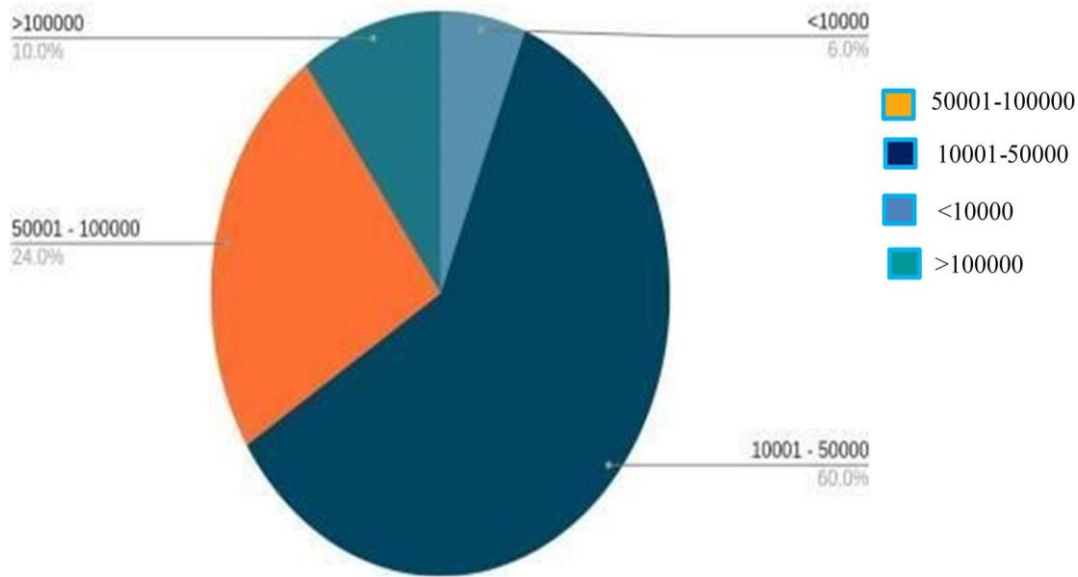
MONTHLY INCOME
Figure 6: Percentage distribution of students based on Monthly income.

The above figure reveals the percentage distribution of students based on monthly income. With regard to monthly income, the majority of them 30 (60%) income ranges between 10001- 50000, 12(24%) income ranges between 50001-100000,5(10%) income greater than 100000 and the Least 3(6%) income less than 10000.

Section-B
Assessment of lifestyle behaviors of students before and during COVID-19 pandemic. Table 4 Assessment of lifestyle behavior of students before COVID-19.

Lifestyle Behavior Assessment score	Frequency (N)	Percentage (%)
121-150	22	44
91-120	23	46
61-90	5	10
31-60	0	0
1-30	0	0

Table 4 shows the frequency and percentage distribution of students based on lifestyle behavior before COVID-19. 23 students (44%) had very good lifestyle behavior, 22 (46%) students had excellent lifestyle behavior and the remaining 5(10%) students had good lifestyle behavior.

Table 5 Assessment of lifestyle behavior of students During COVID-19.

Lifestyle Behavior Assessment score	Frequency (N)	Percentage (%)
121-150	0	0
91-120	7	14
61-90	40	80
31-60	3	6
1-30	0	0

Table 5 shows the frequency and percentage distribution of students based on lifestyle behaviour during COVID-19. Most of the students 40(80%) had good lifestyle behavior, 7(14%) students had very good lifestyle behavior and the least 3(6%) students had fair lifestyle behavior.

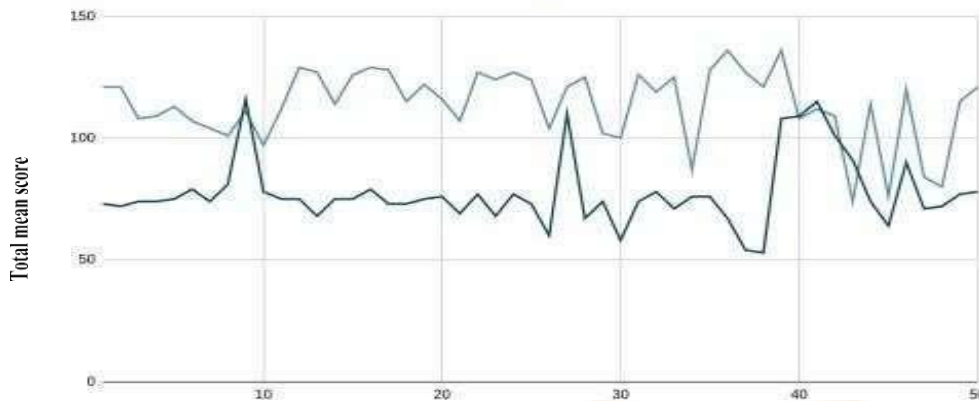Lifestyle behavior assessment scale scoring during COVID-19 ■ Lifestyle behavior assessment scale scoring before COVID-19

Figure 7 - Distribution of the Students based on the Mean Lifestyle Behavior Assessment Scale Score Before and During COVID-19.

Section -C

Comparison of lifestyle behavior of students before and during COVID-19 pandemic.

Table 6 Comparison of lifestyle behavior of students before and during COVID-19 pandemic.

Lifestyle Behavior	Mean	SD	SE	Df	t value
Before COVID-19	113.98	14.65	2.071	49	2.866*
During COVID-19	77.44	14.007	1.981		

*Significant at 0.05 level

Table 6 shows that the calculated t value 2.866 is greater than table value 2.00 at 0.05 level of significance and it showed that there was statistically significant difference between lifestyle behavior of students before and during COVID-19 pandemic.

Table 7 Comparison of exercise and leisure activity and dietary pattern of students before and during COVID-19 pandemic.

Lifestyle Behavior Indicator	Lifestyle Behavior	Mean	SD	SE	Df	t value
Exercise and Leisure Activity	Before COVID-19	15.38	2.648	0.375	3	2.648
	During COVID-19	10.54	2.349	0.399		
Diet	Before COVID-19	34.4	5.138	0.726	8	2.839*
	During COVID-19	23.2	4.981	0.633		

*Significant at 0.05 level

Table 7 reveals the comparison of significance of exercise and leisure activity and diet before and during COVID-19 pandemic. With regard to exercise and leisure activity, the calculated t value 2.6487 is lesser than table value 3.182 at 0.05 level of significance and it showed that there was no statistically significant difference between exercise and leisure

activity before and during COVID-19 pandemic. With regards to dietary pattern, the calculated t value 2.839 was greater than the table value 2.306 at 0.05 level of significance and it showed that there was statistically significant difference between dietary patterns before and during COVID-19 pandemic.

Table 8 Comparison of sleep and rest and psychosocial relationship of students before and during COVID-19 pandemic.

Lifestyle Behavior Indicator	Lifestyle Behavior	Mean	SD	SE	Df	t value
Sleep and Rest	Before COVID-19	14.92	2.709	0.383	3	1.359
	During COVID-19	10.48	2.769	0.391		
Psychosocial Relationship	Before COVID-19	19.26	2.749	0.388	4	1.48
	During COVID-19	12.7	2.901	0.41		

Table 8 reveals that the comparison of sleep and rest and psychosocial relationship before and during COVID-19 pandemic. With regard to sleep and rest, the calculated t value 1.359 was lesser than table value 3.182 at 0.05 level of significance and it showed that there was no statistically significant difference between sleep and rest before and during COVID-19 pandemic .With regard to psychosocial relationship, the calculated t value 1.480 was greater than the table value 2.776 at 0.05 level of significance and it showed there was no statistically significant difference between psychosocial relationship before and during COVID-19 pandemic.

Table 9 Comparison of study habits and physical activity of students before and during COVID-19 pandemic.

Lifestyle Behavior Indicator	Lifestyle Behavior	Mean	SD	SE	Df	t value
Study Habits	Before COVID-19	14.42	2.2928	0.414	3	1.597
	During COVID-19	9.84	2.225	0.314		
Physical Activity	Before COVID-19	15.6	2.486	0.35	3	1.585
	During COVID-19	10.68	1.974	0.279		

Table 9 reveals the comparison of study habits and physical activity before and during COVID- 19 pandemic. About study habits, the calculated t value 1.597 was lesser than table value 3.182 at 0.05 level of significance and it showed that there was no statistically significant relationship between study habits before and during COVID-19 pandemic. With regard to physical activity, the calculated t value 1.585 was greater than the table value 3.182 at 0.05 level of significance and it showed there was no statistically significant relationship between physical activity before and during COVID-19 pandemic.

Section D

Association between the lifestyle behaviors of students and their selected demographic variables.
Table 10 Association between the lifestyle behaviors of students and their selected demographic variables such as age and gender.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
Age	19	5	5	0	0	0		
	20	7	10	3	0	0	4	0.489
	21	11	8	1	0	0		
Gender	Male	5	5	1	0	0	2	0.991
	Female	17	18	4	0	0		

Table 10 showed the association between the lifestyle behavior of students and selected demographic variables such as age and gender. The calculated chi square value for age was 0.4895 which is less than table value 9.49 and the calculated chi square value for gender was 0.990373 which is less than table value 5.99 at 0.05 level of significance. Hence it was statistically not significant and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables like age and gender.

Table 11 Association between the lifestyle behaviors of students and their selected demographic variables such as religion and area of residence.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Islam	9	11	3	0	0		
Religion	Hindu	7	6	1	0	0	4	0.951
	Christian	6	6	1	0	0		
	Rural	17	19	5	0	0		
Area of residence	Semi urban	4	3	0	0	0	4	0.831
	Urban	1	1	0	0	0		

Table 11 showed the association between the lifestyle behavior of students and selected demographic variables such as religion and area of residence. The calculated chi square value for religion was 0.951 which was less than table value 9.49 and the calculated chi square value for area of residence was 0.831 which was less than table value 9.49 at 0.05 level of significance. Hence it was statistically not significant, and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables like religion and area of residence.

Table 12 Association between the lifestyle behaviors of students and their selected demographic variable i.e. type of family.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Nuclear	5	6	1	0	0		
Type of family	Joint	17	17	4	0	0	2	0.942
	Extended	0	0	0	0	0		

Table 12 showed the association between the lifestyle behavior of students and selected demographic variables i.e. family type. The calculated chi square value for family type was 0.942 which was less than table value 5.99 at 0.05 level of significance. Hence it was statistically not significant and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables like family type and educational level of father.

Table 13 Association between the lifestyle behaviors of students and their selected demographic variable i.e. educational level of father.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Illiterate	0	0	0	0	0		
	Primary	5	2	0	0	0		
Educational	Secondary	9	11	5	0	0		
level of father	Higher secondary	4	4	0	0	0	8	0.311
	Graduate	1	4	0	0	0		
	Post graduate	3	2	0	0	0		

Table 13 showed the association between the lifestyle behavior of students and selected demographic variables i.e. educational level of father. The calculated chi square value for educational level of father was 0.311 which was less than table value 15.51 at 0.05 level of significance. Hence it was statistically not significant and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables like educational level of father.

Table 14 Association between the lifestyle behaviors of students and their selected demographic variable i.e. educational level of mother.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Illiterate	0	0	0	0	0		
	Primary	7	14	5	0	0		
Educational	Secondary	11	10	5	0	0		
level of	Higher Secondary	2	0	0	0	0	6	0.365
mother	Graduate	1	0	0	0	0		
	Post Graduate	0	0	0	0	0		

Table 14 showed the association between the lifestyle behavior of students and selected demographic variables i.e. educational level of mother. The calculated chi square value for educational level of mother was 0.365 which was less than table value12.59 at 0.05 level of significance. Hence it was statistically not significant, and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables i.e. educational level of mother.

Table 15 Association between the lifestyle behaviors of students and their selected demographic variable i.e. occupation of father.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Unemployed	0	0	0	0	0		
	Self employed	3	6	2	0	0		
Occupation	Civil servant	8	6	1	0	0	4	0.605
of father	Private employee	9	14	2	0	0		
	Pensioner	0	0	0	0	0		

Table 15 showed the association between the lifestyle behavior of students and selected demographic variables i.e. occupation of father. The calculated chi square value for educational level of father was 0.605 which was less than table value 9.49 at 0.05 level of significance. Hence it was statistically not significant, and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables i.e. occupation of father.

Table 16 Association between the lifestyle behaviors of students and their selected demographic variable i.e. occupation of mother.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	Home maker	11	15	0	0	0		
Occupation of mother	Self employed	0	1	0	0	0		
	Civil servant	6	1	1	0	0	6	0.099
	Private employee	6	6	3	0	0		
	Pensioner	0	0	0	0	0		

Table 16 showed the association between the lifestyle behavior of students and selected demographic variables i.e. occupation of mother. The calculated chi square value for educational level of father was 0.099 which was less than table value 12.59 at 0.05 level of significance. Hence it was statistically not significant and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables i.e. occupation of mother.

Table 17 Association between the lifestyle behaviors of students and their selected demographic variable i.e. monthly income of parents.

Variables	Category	Scoring					Df	Chi
		121-150	91-120	61-90	31-60	1-30		
	<10000	1	2	0	0	0		
Monthly income of parents	10001-50000	13	14	3	0	0		
	50001-100000	6	5	1	0	0	6	0.965
	>100000	2	2	1	0	0		

Table 17 showed the association between the lifestyle behavior of students and selected demographic variables i.e. monthly income of parents. The calculated chi square value for educational level of father was 0.965 which was less than table value 12.59 at 0.05 level of significance. Hence it was statistically not significant, and it implies that there was no significant association between lifestyle behaviors of students and selected demographic variables i.e. monthly income of parents.

V.RESULTS

Section - A
Distribution of socio demographic variables of students.

❖   Regarding age, 20(40%) were of age 20 years, 20(40%) were of 21 years and 10 (20%) were of 19 years of age.
❖   With regard to gender, the majority 39 (78%) students were females and 11(22%) were males.
❖   The study findings based on religion revealed that 13(26%) students were Christians, 14(28%) students were Muslim and (20%) were Hindus.
❖   Based on area of residence of students, the data revealed that, most of the 41(82%) students were living in rural areas and 7(14%) Students were living in semi urban areas and 2(4%) were living in urban areas.
❖   With regard to family type revealed that the majority 38(76%) belonged to nuclear family and 12(24%) Students were from joint families.
❖   With regard to educational level of father, half of them 25(50%) were secondary educated, 8(16%) were higher secondary educated, 7(14%) were primary educated, 5(10%) were graduated and 5(10%) were post graduated.
❖   With regards to the educational level of mothers, it revealed that 28(56%) were secondary educated, 2(4%) were higher secondary educated,19(38%) primary educated and the least 1(2%) graduated.
❖   The study findings based on occupation of father revealed that 10(20%) were self-employed, 25(50%) were privately employed and 15(24%) were civil servants.
❖   Based on occupation of mother 26(55%) were homemakers, 15(30%) private employed, 8(16%) civil servants and the least 1(2%) self-employed.
❖   With regard to monthly income revealed that the majority 30(60%) had 100001- 50000 income, 12(24%) income 50001 - 100000, 5(10%) income greater than 100000 and the least
3(6%) income less than 10000.

Section B
Assessment of lifestyle behaviors of students before and during COVID-19 pandemic.

❖   Frequency and percentage distribution of students based on lifestyle behavior assessment scale scoring before COVID-19 revealed that 23(46%) had very good lifestyle behavior, 22(44%) had excellent lifestyle behavior and the least 5(10%) had good lifestyle behavior. The mean lifestyle behavior assessment score before COVID-19 pandemic was 114.

❖ Frequency and percentage distribution of students based on lifestyle behavior assessment scale scoring during COVID-19 revealed that the most of the students 40(80%) had good lifestyle behavior, 7(14%) had very good lifestyle behavior, 3(6%) had fair lifestyle behavior. The mean lifestyle behavior assessment score during COVID-19 pandemic was 77.

Section C
Comparison of lifestyle behaviors of students before and during COVID-19 pandemic.

With regard to the assessment of lifestyle behavior of students, the mean lifestyle behavior assessment score before COVID-19 113.98 greater than mean lifestyle behavior assessment score during COVID-19 77.44. The calculated t value was 2.8665, which was greater than the table value 2.00 at 0.05 level of significance. Hence there was a significant difference between lifestyle behavior of students before and during COVID-19 i.e. H1 was accepted.

Comparison of indicators of lifestyle behavior of students before and during COVID-19.

❖ With regard to exercise and leisure activity of students, the mean score before COVID-19 15.38 was greater than mean score 10.54 during COVID-19. The calculated t value 2.6488 was lesser than table value 3.182 at 0.05 level of significance. Hence there was no significant difference in exercise and leisure activity before and during COVID-19.

❖ With regard to the dietary pattern of students, the mean score before COVID-19, 34.48 was greater than mean score 23.2 during COVID-19. The calculated t value 2.8395 was greater than table value 2.306 at 0.05 level of significance. Hence there was a significant difference in dietary habits before and during COVID-19.

❖ With regard to sleep and rest of students, the mean score before COVID-19 14.92 was greater than mean score 10.48 during COVID-19. The calculated t value 1 .358 was lesser than table value 3.182 at 0.05 level of significance. Hence there was no significant difference in sleep and rest before and during COVID-19.

❖ With regard to psychosocial relationships of students, the mean score before COVID-19

19.26 was greater than mean score 12.7 during COVID-19. The calculated t value 1 .4806 was lesser than table value 2.776 at 0.05 level of significance. Hence there was no significant difference in psychosocial relationships before and during COVID-19.

❖ With regard to study habits of students, the mean score before COVID-19 14.42 was greater than mean score 9.84 during COVID-19. The calculated t value 1 .597 was lesser than table value 3.182 at 0.05 level of significance. Hence there was no significant difference in study habits before and during COVID-19.

❖ With regard to physical activity of students, the mean score before COVID-19 15.6 was greater than mean score 10.68 during COVID-19. The calculated t value 1.5857 was lesser than table value 3.18 at 0.05 level of significance. Hence there was no significant difference in physical activity before and during COVID-19.

Section D
Association between lifestyle behaviors of students with their selected demographic variables.

The study showed that there was no significant association between lifestyle behavior of students with selected demographic variables such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother, year of study and monthly income. Hence H2 was rejected. The study showed that there was a significant difference in the lifestyle behaviours of students before and during COVID-19 pandemic. Hence the H1 was accepted.

VI.DISCUSSION, SUMMARY AND CONCLUSION

Discussion

The purpose of the study was to determine the impact of COVID-19 pandemic on lifestyle behaviors of students. A non- experimental descriptive study was conducted among 50 students from second year BSc nursing, at Al Shifa College of nursing, Perinthalmanna.
Tool 1 socio demographic proforma was used to collect socio demographic details of students and tool 2, lifestyle behavior assessment scale was used to evaluate life's behaviors of students before and during COVID-19. Convenient sampling technique was used to select the samples. The findings were tabulated, analyzed, and interpreted.
With respect to the lifestyle behavior assessment scoring before COVID-19, 44% students had excellent lifestyle behavior, 46% students had very good lifestyle behavior and 10% had good lifestyle behavior. The study findings

showed that with respect to the lifestyle behavior assessment scoring during COVID-19, 14% students had very good lifestyle behavior, 80% students had good lifestyle behavior and 6% students had a fair lifestyle.

The study findings were in line with the review to assess the impact of COVID-19 outbreak on lifestyle behaviors focus on changes in dietary or eating behavior, stress, sleep pattern and the level of physical activity among the Indian population in 2020. The study result showed that a change in lifestyle behavior was observed due to COVID-19 pandemic.[35]

Assessment of lifestyle behavior of students before and during COVID-19 pandemic shows that the mean lifestyle behavior assessment score before COVID-19 was 113.98 with SD of 14.65033 and the mean lifestyle behavior assessment score during COVID-19 was 77.44 with SD 14.007. The calculated t value (2.8665060) was greater than table value (2.00) and it concluded that there was a significant difference in the lifestyle behavior before and during COVID-19.

In depth analysis, the study findings also showed that there was a significant difference in the dietary pattern before and during COVID-19 and all other lifestyle indicators

i.e. physical activity, exercise and leisure activity, psychosocial relationship, study habit had no significant difference in lifestyle behaviors before and during COVID-19.

The findings of the study were in line with the study conducted to evaluate the changes in dietary pattern during COVID-19 pandemic in Denmark, Germany and Sylvania. The study result identified that 15-42% of study participants changed their dietary consumption and frequency during COVID-19 pandemic, compared to before.[36]

With regard to the selected demographic variable associated with the lifestyle behavior of students, the study findings revealed that there was no significant association between the lifestyle behaviors of students and the selected demographic variables such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother, and monthly income.

Summary

In the present study, the researchers investigated the impact of COVID-19 on lifestyle behavior of students before and during COVID-19 and the significant association between selected demographic variables and the lifestyle behaviors of students among BSc nursing students at Al Shifa College of Nursing, Perinthalmanna.

The researchers found that there was a significant difference in lifestyle behavior of students before and during COVID-19. As per our study we were able to realize that there was a drastic change in the lifestyle behavior of students due to COVID-19 pandemic particularly significant changes seen in dietary pattern.

The selected demographic variables such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother, year of study and monthly income had no significant relationship with the lifestyle behaviors of students.

Conclusion

The following conclusion was drawn on the basis of the study findings, the impact of COVID- 19 on lifestyle behaviors of students before and during COVID-19.

❖ With regard to the percentage distribution of students based on lifestyle behavior assessment scale scoring before COVID-19 it was 44% and during COVID-19 none of the students had excellent lifestyle behavior. With regards to very good lifestyle behavior, before COVID-19 it was 46% and during COVID-19 it decreased to 14%. In good lifestyle behavior, before COVID-19, it was 10% and during COVID-19 it increased to 80%. Before COVID-19, none of the students had fair lifestyle behavior and during COVID-19, it was found that 6% students followed fair lifestyle behavior.

❖ There was a significant difference in the lifestyle behaviors (dietary pattern) of students before and during COVID-19.

❖ There was no significant association between lifestyle behaviors and selected demographic variables such as age, gender, religion, area of residence, family type, educational level of father, educational level of mother, occupation of father, occupation of mother, year of study and monthly income.

Nursing implications

The study was conducted to assess the impact of COVID-19 on lifestyle behavior of students before and during COVID-19 among BSc nursing students at Al Shifa College of Nursing. The study findings have implications in nursing practice, nursing education, nursing administration and nursing research.

Nursing services

❖ Nurses are the catalyst for healthier lifestyles through encouragement and teaching, helping patients to

potentially receive preventative services such as counseling, screening and precautionary procedure or medication.[37]

❖ Nurses can impassion the patients to engage in a healthy lifestyle through education, mentorship, and leadership.[37]

❖ The Nurses role in preventative health care i.e. improvement in lifestyle behavior is to utilize evidence-based research and recommendations to improve the health of patients.

Nursing education

❖ A health promoting lifestyle is an important determinant of health status and is recognized as a major factor for the maintenance and improvement of health.[38]

❖ Nursing curricula should give due importance to the health promotions.

❖ Health promotions and health education is one of the major responsibilities of nursing professionals.[38]

❖ A nurse also acts as an educator, can advise the patients correctly to improve their lifestyle and quality of life.

❖ Nursing curricula should impart knowledge on healthy lifestyle choices and impact of unhealthy lifestyle behavior on health. Nursing students should be encouraged to actively involved in health promotion campaigns.

Nursing administration

❖ Nurse Administrators should implement outreach programs such as seminars, health education, public awareness programs and motivational sessions to make the public aware about the importance of healthy lifestyle behavior in health promotion.

❖ Nurses work as consultants in communities and organizations have a critical role in emphasizing the benefits of healthy lifestyle behavior in disease prevention and improving the quality of life.

Nursing research

❖ This study opens up an avenue for future studies and will help to generate more hypotheses for future research regarding the impacts of COVID-19 pandemic on lifestyle behaviors.

❖ This study will open up the platform to make people aware of the changes in their lifestyle behaviors with regards to the occurrence of COVID-19 pandemic.

❖ This study will serve as a valuable reference material for future investigators.

Limitations

❖ Non-probability convenient sampling limits the generalizability of the research findings.

❖ Non standardized tools were used for the study.

❖ The study was limited only in Al Shifa College of Nursing, Perinthalmanna and hence the possibility of wider generalization was difficult.

Recommendations

On the basis of the study findings, certain suggestions are made for future studies,

❖ A similar study can be done on a large group of samples.

❖ A study can be conducted to assess the impact of COVID-19 on lifestyle behavior and related health risk factors.

❖ Here we could also take another viable parameter like psychological well-being, hygienic practices, socio economic characteristics, spirituality, tobacco use and alcohol consumption in order to evaluate the life style behaviors.

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