Perceived Stress, Resilience and Problematic Use of Mobile Phone among Nursing Students at Benha University

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Abstract

Background: Persistent exposure to stress can have negative consequences on student's health and performance and the ability to handle stress is largely determined by resilience ability used by the students Moreover, there is a bidirectional relation between problematic use of mobile phone and perceived stress **Aim of study**: The study aimed to assess the relation between perceived stress, resilience and problematic use of mobile phone among nursing students at faculty of nursing, Benha university. **Design**: Descriptive correlational research design was utilized to achieve the aim of the study. **Setting**: This study was conducted at faculty of nursing, Benha university, Qalubia Governorate. **Study subject**: Convenient sample of 250 students from the first grade nursing students. **Tools of Data collection**: Four tools were used: **Tool 1:** Structured Interview Questionnaire, **Tool 2:** Perceived Stress Scale (PSS), **Tool 3:** Connor-Davidson Resilience Scale (CD-RISC) and **Tool 4:** Problematic Use of Mobile Phones Scale (PUMP). **Results**: nearly half of the studied nursing students have moderate stress and almost half of the studied nursing students have moderate resilience while almost two thirds of the studied students have high problematic use of mobile phone. **Conclusion:** There is a highly statistical significant positive correlation between problematic use of mobile phones and perceived stress while there is a highly statistically significant negative correlation between the total resilience and both perceived stress and problematic use of mobile phones. **Recommendations:** A stress management program should be applied as an immediate measure to reduce perceived stress and its effect in problematic use of mobile phone among nursing students.

Key words: Nursing Students, Perceived Stress, Resilience, Problematic Use of Mobile Phones.

Introduction

Nursing is becoming ever more demanding and is regarded as a stressful occupation because while studying nursing at university, students experience higher levels of perceived stress than those of other disciplines as they have to adapt to various clinical settings for practice and are exposed to diverse patient conditions as well as dying and death during placement. Perceived stress leads to psychological distress and has detrimental effects on well-being. In addition, nursing students have to apply theoretical knowledge to practice in order to bridge the theory-practice gap *Alkaissi et al.,(2022).*

Stress emerges from an imbalance between an individual's perception and external demands. Perceived stress refers to the assessment of the degree to which the situation in one's life is seen as stressful; therefore, it is related to the subjective assessment of life events. It is related to assessing how unpredictable, uncontrollable, and overloaded individuals find their lives *Aslan et al.,(2020).*

Nursing students especially juniors tend to have higher reaction and perception to stress compared to the seniors and this is due to their adjustment to the new university life. Some causes of stress among the students including heavy workload, unclear assignments, having difficulty to understand the context, feeling of incompetence, poor motivation to learn, participation in class presentation, relationship with family and friends, time pressures, and sleeping habits may affect some students' mental health. Moreover students who hail from a low socioeconomic background, financial support does not always come easy for them and this in turn causes them to feel pressured and experience stress. High level of stress among undergraduates can cause a drop in the educational endeavours and can affect both the mental and physical health *Thomas, & Zolkoski. (2020)*

Persistent stress from various sources often effect health of students and could lead to psychological distress and psychosomatic illness. The perception of stress and ability to handle stress is largely determined by the coping styles and resilience used by the students. The students who perceive their stress levels as very high and are not able to cope effectively with the situation may often become prey to many physical and psychological health issues. Improper resilience skills could be barrier in achieving challenges of nursing profession *Nebhinani et al.,(2020).*

Furthermore, it is believed and acknowledged that there are those who also enjoy their work and find it satisfying despite stress and is said to have an element called resilience. Psychologists explain this resilience to be the ability to keep bouncing back each time one is faced with stress. It is not an inherent quality but is developed over time when faced with challenges. Knowing resilience to be an essential quality that can buffer stress, help must be offered to develop positive emotions and coping strategies among nursing trainees which are very vital for professional growth *Zahra, & Riaz, (2018).*

Resilience plays a key role in determining the outcome of the stressor by reducing, minimizing or tolerating perceived stress which may prevent psychological distress. It has been demonstrated that nursing students adopt different ways of handling stressors, which can be considered as effective (positive) or ineffective (negative). Some effective coping mechanisms include seeking social support and using leisure activities; maladaptive coping strategies include avoidance and escape. The student nurses who employed adaptive coping strategies (i.e. problem solving) to manage stressors encountered in the clinical course of their nursing programs experienced a low level of psychological distress. Conversely, those who utilized a maladaptive strategy showed a higher level of psychological distress *Alqarni & Alasmee (2020).*

Problematic use of mobile phone (PUMP) refers to mobile phone use associated with at least some element of dysfunctional use, such as anxiety when the phone was not available, or neglect of other activities. PUMP) positively associated with perceived stress as perceived stress defined as the state or feeling a person has when they feel that they need more than the resources they have to meet that need. Moreover, (PUMP) may not help individuals cope with their stressors effectively; contrarily, (PUMP) can cause a number of negative psychosocial outcomes. For example, (PUMP) could lead to perceived stress, increased withdrawal from others or an inability to accomplish academic tasks. These negative outcomes associated with (PUMP) may further reduce people's perceived control over their life circumstances, and thus reinforce their perceived stress. Therefore, (PUMP)is positively associated with perceived stress *Zhao & Lapierre. (2020).*

Furthermore, from the perspective of general stress theory, when people experience tension and stress, they will use various coping strategies to relieve tension and eliminate the negative outcomes brought by tension, such as negative life events and life troubles. Some researchers believe that the main motivation behind problematic behavior is to escape the stress and negative emotions in real life. Previous studies have also suggested that stress is a trigger for problematic usage of mobile phone. Furthermore, perceived stress is a better prognosticator of mental health problems than stress *Zhao et al.,(2021).*

Significance of the study:
Stress has become an imperative part of daily life. The clinical environment is an important part of any undergraduate nursing curriculum so it is important for reducing nursing students' perceived stress levels as it has a negative impact on students' learning, clinical and academic performance as well as physio- psychosocial health and well- being. Resilient nursing students who are better equipped to deal with the psychological and academic demands of nursing college are associated with positive effects on psychological well-being. Moreover, diverse studies accompanied worldwide stated the prevalence of perceived stress among nursing

students ranging from 30% to 78%. Additionally, a study done in Egypt revealed the prevalence of high stress levels which were 40.2% among nursing students **Yildirim- Hamurcu & Terzioglu. (2021).**

Adolescents are one of the most vulnerable groups for problematic use of mobile phone owing to their better dealing with technological advances and more inadequate impulse control compared with adults. Mental health issues are statistically significant concerns with smartphones overuse. Withdrawal, preoccupation, tolerance, lack of control, depression and low self-esteem are reported among students with problematic use of mobile phone .In Egypt the number of mobile phone users is estimated to be around 23.6 million population most of them youth and young adults. Moreover, high mobile phone use is associated with high level of perceived stress for the nursing students, which in turn can affect their physical and psychological health and academic performance **(Okasha et al., 2021).**

Aim of the study:

This study aims to assess the relation between perceived stress, resilience and problematic use of mobile phone among nursing students at faculty of nursing, Benha university..

Research Questions:

1- What is the level of perceived stress, resilience and problematic use of mobile phone among nursing students at Faculty of Nursing, Benha University?

2-What is the relation between perceived stress, resilience and problematic use of mobile phone among nursing students at Faculty of Nursing, Benha University?

Subject and Methods:

The subject and methods of the current study were designed under the following main four designs:
1. Technical Design
2. Operational Design
3. Administrative Design
4. Statistical Design

1- Technical design

Technical design for this study included research design, research setting, study subjects and tools of data collection.

Research design:

A descriptive correlational research design was used to achieve the aim of the study.

Research setting:

The present study was carried out at faculty of nursing, Benha University, Qalyubia governorate. The faculty consisted of four floors containing four educational grades. It contains six scientific departments, namely, psychiatric and mental health nursing department, medical surgical nursing department, pediatric nursing department, obstetrics & gynecological nursing department and nursing administration department.

Research subject:

Sample size:

The study sample was consisted of (250) first grade nursing students from the total number of first grade students which was (610) students. The sample size calculated according to slovin's formula for determination of the sample size *(Rayan, 2013).*

$$n = \frac{N}{1+N(e)2}$$

n=sample size
N= population size
e=margin of error

Sample technique:

A convenience sample of 250 first grade nursing students from the above mentioned setting was selected for the study.

Tools of data collection:

The data was collected using the following tools:

Tool I: Structured Interview Questionnaire:

This questionnaire was developed by the researcher to elicit data about socio-demographic characteristics of the nursing students which included: age, sex, residence, marital status, work during study and family income.

Tool (II): Perceived Stress Scale (PSS):

Perceived stress scale was originally developed by Cohen et al., (1983). It is the most commonly scale used for assessment of the degree to which people perceive their lives as stressful. It translated into Arabic version by the researcher

and reviewed for its validity and clarity of language by jury of 5 experts in psychiatric and mental health nursing, Faculty of Nursing, Benha University. It consists of 10 items, each item was rated on five point Likert scale ranged from (0 to 4) as the following: never = (0), rarely = (1), sometimes = (2), often = (3) and always = (4).

The total scores of PSS ranged from (0 : 40) with higher scores indicated higher perceived stress. To get the total score of the scale the researcher firstly, reversed of scores of the four positively stated items (4, 5, 7 & 8) and then each scale item was graded and then added together to give total score.

Scoring system:

- ❖ Low stress =   Less than 30%
- ❖ Moderate stress = 30-65% .
- ❖ High stress = More than 65%.

Tool (III): Connor-Davidson Resilience Scale (CD-RISC):

The scale was originally developed by *Connor & Davidson, (2003).* This scale used to measure the ability to cope with stress and adversity. It translated into Arabic version by the researcher and reviewed for its validity and clarity of language by jury of 5 experts in psychiatric and mental health nursing, Faculty of Nursing, Benha University. It include 25 self-report statements to measure the level of resilience with five subscales, Subscale I (8 statements) describing personal competence, high standards, and tenacity. Subscale II (3 statements) related to controlling the environmental situations. Subscale III (5 statements) related to positive acceptance of change, and security in interpersonal relationship. Subscale IV (7 statements) measuring trust in one's instincts, tolerance of negative affect, and strengthening effects of stress and Subscale V (2 statements) covering the spiritual influences. It consisted of 25 items to measure the level of resilience, each item was rated on a five point Likert scale ranged from (0 to 4) as the following : never = (0) , rarely = (1), sometimes = (2), often = (3) and always = (4).

Scoring system:

The total score was calculated by summing up all item responses. It ranged from (0 to 100), with higher scores reflecting greater resilience.

- ❖ Low resilience =   (> 50 %).
- ❖ Moderate resilience =   (50-75%).
- ❖ High resilience =   (<75 %).

Tool IV: Problematic Use of Mobile Phones Scale (PUMP):

This scale was originally developed by *Merlo et al., (2013).* It used for assessment of the degree for which the usage of mobile phone considered problematic. It translated into Arabic version by the researcher and reviewed for its validity and clarity of language by jury of 5 experts in psychiatric and mental health nursing, Faculty of Nursing, Benha University. It consisted of 20 items. Each item was rated on a five point Likert scale ranging from (1 to 5) as the following: strongly disagree = (1), somewhat disagree = (2), neither agree nor disagree = (3), somewhat agree = (4) and strongly agree = (5).

Scoring system:

The total score ranged from (20-100), with the higher scores indicated more usage of mobile phones and more problematic use.

- ❖ < 50 % Low problematic use of mobile phone.
- ❖ (50-75%). Moderate problematic use of mobile phone.
- ❖ (>75 %). High problematic use of mobile phone

2- Operational Design
Preparatory phase:

This phase was the first of the thesis, it included reviewing of past, current, local, and international relevant literature and different studies related to the topic of research. Textbooks, articles, magazines, periodicals and internet were used to get a clear picture of all aspects related to the research topic. This helped the researcher to be acquainted with magnitude and seriousness of the problem and guided the researcher to prepare the required data collection tools.
Validity of tools:

Arabic translation was done by the researcher for tools of the study and tested for their

translation and validity of tools by making jury of five experts in psychiatric and mental health nursing, Faculty of nursing, Benha University, who checked the relevancy, comprehensiveness, clarity and applicability of the questions. According to their opinions, modifications were done and the final form was developed. The modifications were include (modification of some words in the Arabic form of the four tools to give the right meaning of the phrases.

Some modifications were done in tool (2) Perceived Stress Scale that was used in the research study was modifications were in the scoring system to be as the following: never (0), rarely (1), sometimes (2), often (3) and always (4), instead of 5 responses that were used (never (0), almost never (1), sometimes (2), fairly often (3) and very often (4).

Reliability of tools:

Testing the reliability of the tools through Alpha Cronbach reliability analysis.

Tools	No .of items	Alpha Cronbach
Perceived Stress Scale	10	0.855 (Good)
Connor-Davidson Resilience Scale	25	0.903 (Excellent)
Problematic Use of Mobile Phones	20	0.897 (Good)

Pilot study:

Before starting of data collection pilot study was conducted on (30%) of the total sample to ensure clarity and applicability of the study tools and identifying the time needed for each subject to fill each tool and to identify the problems and obstacles that may be encountered during conduction of the study. According to the result of pilot study some modifications were done, therefore, the pilot study sample was excluded from the total sample.

Result of Pilot Study:

After conducting the pilot study, it was found:

1. The tools were clear and applicable; however, few modifications were made in rephrasing of some sentences in Connor-Davidson Resilience Scale and perceived stress scale to be easier and more understandable.
2. Tools were relevant and valid.
3. No problem that interferes with the process of data collection was detected.
4. Following this pilot study the tools were made ready for use.

Field Work

- Before starting data collection, an official permission was obtained from the Dean of Faculty of nursing, Benha University requesting these permission and cooperation to conduct the study.
- The researcher started data collection by introducing himself to the studied nursing students and provided a clear explanation of the aim, significance and types of tools needed to fill in the study to gain cooperation of the studied nursing student.
- An oral consent was obtained from each of studied student before data collection.
- Data was collected through interviewing of the studied nursing student in the faculty of Nursing, Benha University over a period of seven months started from (**November, 2021 till the end of May 2022**).
- The researcher was attended to the faculty to collect the data one day per week (every Wednesday) during the period of data collection.
- The average number of interviewed students was between 9-10 students per day as the researcher interviewed students as a group interview.
- The studied students filled in the study tools independently and each student needed about 30 minutes to complete the study tools and revised to check their completeness to avoid any missing data.
- The researcher followed the specific precautions (wear mask, personal distance and using alcohol) due to corona virus circumstances after provided explanation and reassurance of studied nursing student.
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III-Administrative Design

Administrative approval:

Before conduction of the study an official permission was obtained from the Vice Dean of Education and Student Affairs at faculty of nursing Benha University to obtain the official approval for data collection from the Dean of the faculty of nursing Benha University. The aim and the nature of the study were explained to the administrative personnel and then it was possible to carry out the study without resistance.

Ethical consideration:

Before conduction of the study the researcher clarified the purpose and significance of the study to the studied students and assured them about confidentiality of the collected data. All the studied students were informed that the participation in the study was voluntary and no name was to be included in the questionnaire sheet. Studied students were informed that the content of the tools was used for research purpose only, and they informed that they had the right to be withdrawn from the study at any time of data collection without any consequences. Moreover, an informed oral consent for participation in the study was obtained from each student before conduction of data collection.

IV. Statistical design:

The collected data were organized, coded, computerized, tabulated, and analyzed by using Statistical Package for Social Science (SPSS) program (version 25). Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data: the arithmetic mean (X) and standard deviation (SD) for quantitative data. While the qualitative variables were compared using Chi Square test (X2) which used for relation tests and person correlation coefficient (r) was used for correlation analysis. The degree of significance was identified at:

❖ Significant result when P- value < 0.05.
❖ Highly significant result when P- value <0.01.
❖ Non- significant result when P-value>0.05.

Results:-

Table (1): Shows that the mean age of the studied students is **(18.22±1.04)** years.

Regarding to sex, about two thirds (68.4%) of them are females. Moreover, more than three quarter of them (81.2%) are from rural residence. Regarding to marital status, the majority of them (98.8%) are single. Moreover, more than three quarter of them (87.6%) aren't work during study and nearly three quarters of them (74.0%) have enough family income.

Figure (1): Shows that, nearly half of the studied nursing students (42.4%) have moderate stress and more than one third of them (37.6%) have high stress, while less than one quarter(20.0%) have low stress**.**

Figure (2): Shows that, almost half of the studied nursing students (49.2%) have moderate resilience, more than one third of them (34.0%) have low resilience, while less than one fifth 16.8% of them have high resilience.

Figure (3): Reveals that almost two thirds (60.4%) of the studied sample have high problematic use of mobile phone, almost one third of them (32.8%) have moderate problematic use of mobile phone while 6.8% of them have low problematic use of mobile phone.

Table (2): Shows that there is a highly statistical significant positive correlation between problematic use of mobile phones and perceived stress among the studied students. This means when perceived stress increases, problematic use of mobile phones increases. While there is a highly statistically significant negative correlations between the total resilience and both perceived stress and problematic use of mobile phones among the studied students. This means when resilience increases, perceived stress and problematic use of mobile phones decrease.

Table (1): Socio-demographic characteristics of the studied sample (n= 250).

Socio-demographic characteristics	N	%
Age		
17 – < 18	14	5.6
18 – 19	236	94.4
Mean± SD 18.22±1.04		
sex		
Male	79	31.6
Female	171	68.4
Residence		
Rural	203	81.2
Urban	47	18.8
Marital status		
Single	247	98.8
Married	3	1.2
Work during study		
Not work	219	87.6
Work part time	31	12.4
Family income		
Not enough	65	26.0
Enough	185	74.0
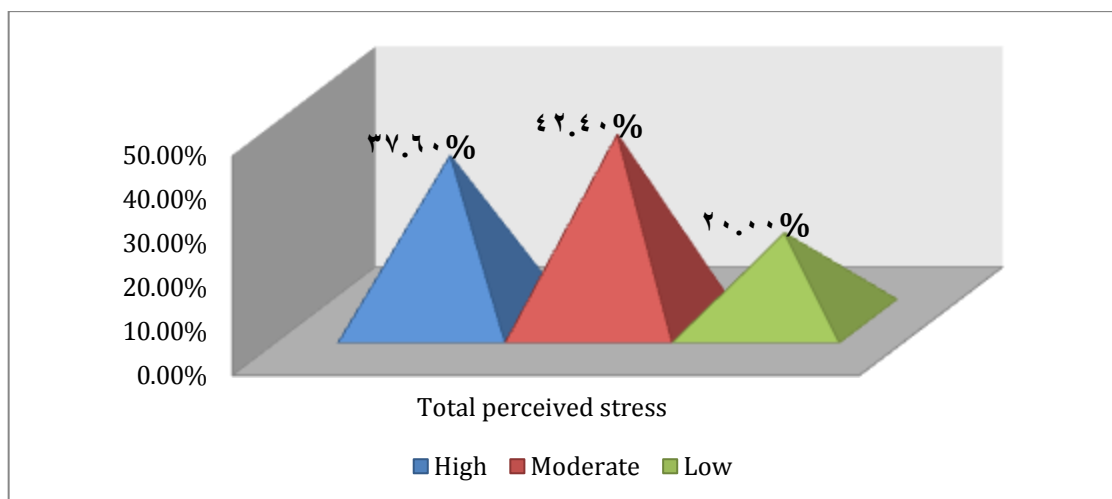
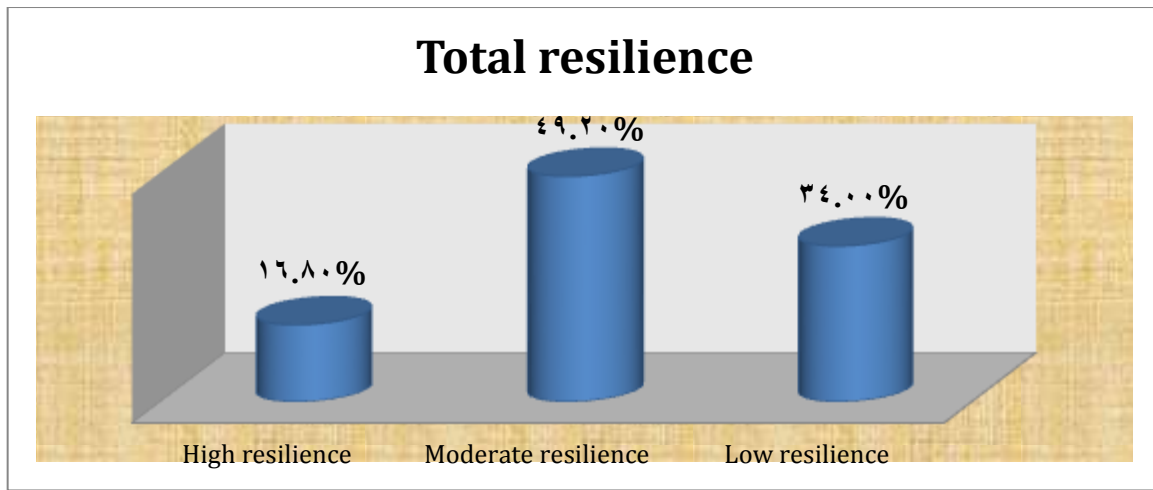**Figure (1): Distribution of the studied sample regarding to their total perceived stress (n=250).**

Total resilience

Figure (2): Distribution of the studied sample according to their total resilience (n=250).
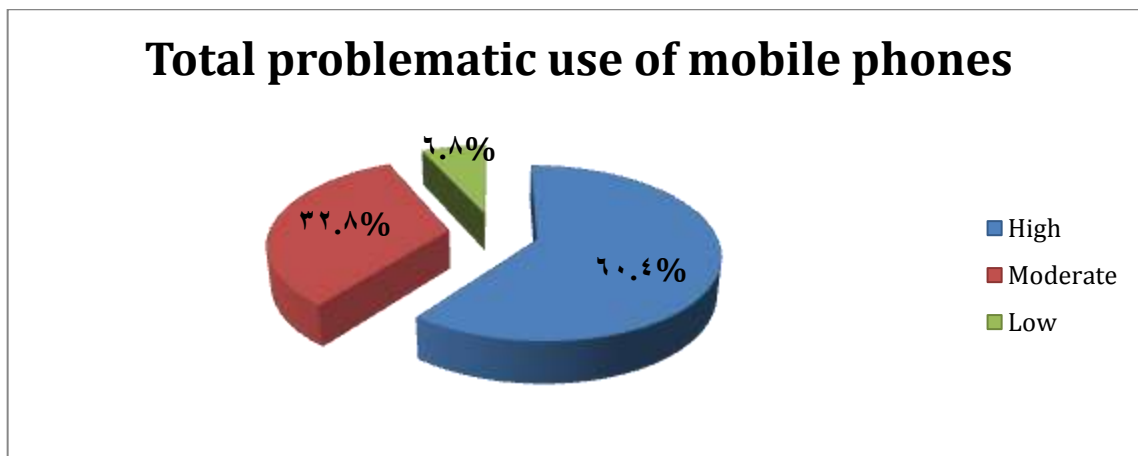
Total problematic use of mobile phones

Figure (3): Distribution of the studied sample according to their total problematic use of mobile phones (n=250).

Table (2): Relationship between socio-demographic characteristics of the studied students and their total emotional intelligence (n=350).

Correlation between the studied variable		Total perceived stress	Total resilience	Total problematic use of mobile phone
Total perceived stress	r.		-.514	
	p		.001**	
Total resilience	r.			-.556
	p			.001**
Total problematic use of mobile phone	r.	-.768		
	p	.000**		

(**) Statistically significant at p<0.01. r Pearson correlation

Discussion

Nursing students need extensive training since the 1st day of nursing college to be a proficient nurse. During this training, nursing students are often subjected to varied stressors that cause perceived stress such as academic expectations and adjustment to college that can affect health and could lead to psychological distress and psychosomatic illness. Moreover, nursing students can use their mobile phones excessively to reduce perceived stress which in turn can increase their stress levels as problematic mobile phone use can lead to stress and anxiety. In addition to this, the perception of stress and ability to handle it is largely determined by the resilience capacity of the students as the individual with good resilience tends to perceive less stress in a difficult environment and overcome the stressful situation easier than the one with less resilience *(Nebhinani, 2020).* Therefore the current study aimed to assess the relation between perceived stress, resilience and problematic use of mobile phone among nursing students.

Concerning the age of the studied students the present study showed that, the age of the majority of the studied students ranged between 18-19 years old with a mean age of (**18.22 1.04**)**years.** This could be due to that all the studied students were from the first grade of the faculty of nursing. This result was in agreement with *(Vore et al., 2019)* who conducted a study entitled "perceived stress in undergraduate nursing students" and found that, the majority of the studied students were between 18 to 20 years old.

Regarding sex, the results of the present study revealed that more than two thirds of the studied students were females. This may be due to that nursing profession is a female dominated field and women are caring and incredibly smart and bring a lot of skills into the profession. Moreover, males used to be less enthusiastic for nursing as community believes that nursing was not a traditional male role.

This result was in agreement with **(Sheroun et al., 2020),** who conducted a study entitled "perceived stress and coping strategies among undergraduate nursing students of selected colleges in Pune during COVID-19" and found that nearly two thirds of sample in their study were females. Conversely, this finding was in disagreement with **(Abdulghani, et al.,2020)** who conducted a study entitled "Association of COVID-19 pandemic with undergraduate medical students' perceived stress and coping, and mentioned that more than two thirds of studied students were male.

Concerning residence, this study revealed that more than three quarters of the studied students were residing in rural areas. From the researcher point of view this might be due to that the study conducted in faculty of nursing at Benha university and the students from rural areas surrounding Benha city came to study at these faculties. Moreover, this could be due to that nursing in Egypt offers an opportunity for governmental employment immediately after graduation and rural population usually interested in governmental appointment than urban population because of the low standards of living and higher poverty rates in rural residence.

This result was in accordance with **(Begam, & Devi. 2020),** who conducted a study entitled "A study to assess the perceived stress among nursing students during COVID-19 lockdown" and found that nearly three quarters of the studied subjects were living in rural areas. In the other hand, this finding was in disagreement with **(Awoke et al., 2021)**, who conducted a study entitled "Perceived stress and coping strategies among undergraduate students of jimma university amid the COVID-19 outbreak" and found that nearly three-quarters of studied subjects were living in urban areas. than one quarter of studied students were in the third academic year.

Regarding to marital status, the present study revealed that, the majority of the studied students were single. This could be due to that most of nursing students refuse marriage before graduation from their faculties and being student at faculty of nursing necessitate daily attendance for lectures and frequent assignments and duties which considered overload on the students,

therefore marriage became difficult due to poor economic conditions.

This results were in agreement with **(Isac & Abraham, 2020),** who conducted a study entitled "Daytime sleepiness among Omani nursing students: Estimate of its determinants and impact on perceived stress" and mentioned that the majority of the studied students are single.

Concerning work during study, this study revealed that more than three quarters of the studied students don't work during study. This might be interpreted that all nursing students were from the first grade students of the faculty of nursing and was occupied by learning, studying lessons, periodic exams and evaluations so that they didn't have enough time and experience to work. This result were supported with **(Algaralleh et al., 2019),** who conducted a study entitled "Preliminary psychometric properties of the Arabic version of Sheu and colleagues Perceived Stress Scale among nursing students at Jordanian universities" and mentioned that more than three quarters of the studied students were not work during study.

Regarding family income, this study revealed that nearly three quarters of the studied students had enough family income. This result was in accordance with **Mussi et al.,(2020)** who conducted a study entitled "Stress level among undergraduate nursing students related to the training phase and socio-demographic factors" and found that more than three quarters of the studied students had enough monthly family income. In the other hand, this findings was in disagreement with **(Madian et al., 2019)** who conducted a study entitled "Level of stress and coping strategies among nursing students at Damanhour University" and found that only one quarter of the studied students were have enough family income

Regarding the total level of perceived stress, this study revealed that nearly half of the studied students had moderate perceived stress and more than one third of them had high perceived stress while less than one quarter of them had low perceived stress. From the researcher's point of view this may be due to that nursing students experience more stress levels than students of other disciplines as a result of many factors such as clinical training, academic and environmental stressors. Moreover, lack of professional knowledge and skill.as nursing students spend most of their time in the clinical setting as face many stressors during patient care. Furthermore, in this study the student were from first grade and had less experience which in turn increase their perceived stress.

These results were consistent with **(Yildirim- Hamurcu & Terzioglu. 2021)** who conducted a study entitled "Nursing students' perceived stress: Interaction with emotional intelligence and self- leadership" and mentioned that the stress levels perceived by the majority of nursing students were moderate. Moreover, this findings was in in the same line with **(Rafati et al.,2020)** and found that more than half of the studied students experience moderate stress levels in clinical settings.

Concerning to the total level of resilience, the results of this study revealed that, half of the studied students had moderate resilience, more than one third of them had low resilience, while less than one fifth of them had high resilience. From the researcher point of view this may be due to that perceived stress and resilience influence each other as when perceived stress goes higher resilience become lower and vice versa. In addition the students in the current study were from the first grade and nursing field is usually stressful therefore, student perception of stress mediate their effect so when perceived stress was moderate the resilience level was moderate also.

This result was in agreement with **(Sam & Lee, 2020)** who conducted a study entitled "Do stress and resilience among undergraduate nursing students exist." and found that almost half of the studied students had moderate resilience. In the other hand, this finding was in disagreement with a study carried out by **(Du et al., 2020)** who conducted a study entitled " Increased resilience weakens the relationship between perceived stress and anxiety on sleep quality " and found that less than one third of the studied students had moderate resilience.

According to the Problematic Use of Mobile Phones level among the studied students, the result of this study revealed that, almost two thirds of them had high problematic use of mobile phone, while almost one third of them had moderate problematic use of mobile phone. From the researcher point of view this may be due to that nursing students expose to more stress during study and clinical training which in turn make them more susceptible to excessive use of mobile phone as a way to reduce their perceived stress.

This result was in the same line with **(Celikkalp et al., 2020)** who conducted a study entitled "The smartphone addiction levels and the association with communication skills in nursing and medical school students" and mentioned that the majority of the studied students had high problematic use of mobile phone. In the other hand, this finding was in disagreement with a study carried out by **(Ramjan et al., 2021)** who conducted a study entitled "The negative impact of smartphone usage on nursing students" and mentioned that only less than one fifth had high problematic use of mobile phone.

Regarding correlation between problematic use of mobile phones and perceived stress among the studied students, the result of this study showed that there was a highly statistically significant positive correlation between problematic use of mobile phones and perceived stress among the studied students. From the researcher point of view this could be due to that when perceived stress increase, problematic use of mobile phone increase and vice versa.

This result was supported with **(Sadoughi, M. 2021)** who conducted a study entitled "The Relationship between Problematic Mobile Use and Sleep Quality among Nursing Students: The Mediating Role of Perceived Stress" and mentioned that there was a highly statistically significant positive correlation between problematic use of mobile phones and perceived stress among the studied students. Moreover, this result was in the same line with **(Zhao& Lapierre. 2020)** who conducted a study entitled "Stress, dependency, and depression: An examination of the reinforcement effects of problematic smartphone use on perceived stress and later depression" and mentioned that there was a highly statistically significant positive correlation between problematic use of mobile phones and perceived stress among the studied students.

Concerning the correlations between the total resilience and both perceived stress and problematic use of mobile phones among the studied students, the result of this study showed that there was a highly statistically significant negative correlation between the total resilience and both perceived stress and problematic use of mobile phones among the studied students. From the researcher point of view this could be due to that when resilience increased, perceived stress and problematic use of mobile phone decrease and vice versa. the results of this study come in agreement with **(Sahu et al., 2019)** who conduct a study entitled "Perceived stress and resilience and their relationship with the use of mobile phone among nursing students" and found that Perceived stress and problematic mobile phone use were correlated significantly and negatively with resilience.

Conclusion

Based on the findings of the current study, it can be concluded that:

Nearly half of the studied nursing students had moderate level of total perceived stress. Moreover almost half of the studied nursing students had moderate resilience. Furthermore, almost two thirds of the studied nursing students have high problematic use of mobile phone. Furthermore, there was a highly statistical significant positive correlation between problematic use of mobile phones and perceived stress among the studied students. Moreover, there was a highly statistically significant negative correlation between the total resilience and both perceived stress and problematic use of mobile phones among the studied students.

Recommendations

A stress management program should be applied as an immediate measure to reduce stress,

and its effect in problematic use of mobile phone among nursing students.

Counseling and orientation of semester system in the beginning of the academic session should be given to the student to familiarize them with learning, evaluation and grading process to help students cope more effectively with day to day stressors and improve resilience ability.

Health practitioners should consult with nursing students about their smartphone use and help them understand the links between perceived stress and problematic mobile phone use.

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