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Evaluation of the academic stress and coping strategies of 3rd year and 4th year bs pharmacy students at Centro Escolar University-Manila before and during COVID-19 Pandemic

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Abstract

Due to the growth of COVID-19 cases, all educational institutions around the world have been closed to prevent the spread of viruses, causing stress and anxiety among students. Stress is part of students' learning experience as it can increase memory development but inhibit memory recovery due to internal and external expectations. Coping with stress deals primarily with external or internal pressures that are hard on one's skills and abilities. Students' coping strategies enable them to manage academic stress. The study aims to evaluate the academic stress and coping strategies of Pharmacy students before and during COVID-19 Pandemic. A descriptive quantitative type of research was conducted on a sample population of 333 of 3rd year and 4th year pharmacy students of Centro Escolar University in Manila. The study was conducted through an online survey questionnaire and gathered data from the respondents using the Factors of Academic Stress Scale and Coping Strategies Scale. The collected data were subjected to statistical tools such as Logistic Regression and Wilcoxon Signed Rank Test at 0.05 alpha level, and R Core Team version 4.0.4 was used to further interpret the study result. The research concluded that academic stress and coping strategies of the students have significant changes before and during the COVID-19 pandemic. Academic institutions should improve and provide counseling to their students experiencing academic stress and help the students to learn more about their different coping strategies.

Keywords: Academic stress; Coping strategies; COVID-19 pandemic; Pharmacy students

1. Introduction

Over 98 million COVID-19 cases were reported globally in the second quarter of January 2021, leading to the deaths of over 2.1 million individuals [1]. Due to the widespread of COVID-19 cases, all educational institutions around the world have been closed down by the government to prevent the rapid rise of viruses, considering the safety of students, teachers and other people who are part of these institutions, causing stress and anxiety among students [2]. Furthermore, the discontinuation of conventional learning has placed the students in an entirely new situation with no clear statement of how long it will remain, affecting their everyday lives.

Study shows that compared to the general population, most college students and university students are more prone to feel lonely and have a greater level of anxiety and stress [3]. Since a student's life is subjected to a different kind of stressor that may come from different internal and external expectations that were placed on them [4], which will result in minor displeasure to major life events. Thus, coping with stress is essential for students' survival and is best described

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as the act of dealing with external or internal pressures that are thought to be hard on one's personal skills and resources [5]. The students' coping strategies in their academic stress, help them manage and cope with their stress.

2. Material and methods

2.1. Study Design

Descriptive quantitative type of study identifies the relationship between two variables within a population. It focuses on measurements and data gathered through survey questionnaires and provides information about a subject or topic and also by describing a situation, problem, phenomenon, service, program and attitude towards the problem.

2.2. Settings of the Study

The study will be conducted through an online survey questionnaire that will be distributed to BS Pharmacy students. The researchers decided to conduct the survey in Centro Escolar University-Manila due to the restrictions of having face-to-face interaction caused by the COVID-19 virus.

2.3. Respondents of the Study

The chosen participants that will participate in the study are 180 students from 3rd year level and 153 students from 4th year level, with a total of 333 BS Pharmacy students from both year levels.

2.4. Sampling Technique

The researchers will utilize a randomized sampling method, specifically a stratified sampling method.

2.5. Research Instrument

A survey method was used in this study and subjected to validity and reliability tests in order to assess the research questionnaire quality and consistency. Moreover, 30 respondents of the total sample population were subjected to pilot testing measured by Cronbach's alpha with reliability scores of 0.93 (Standardized alpha). The data was gathered on the sample population and interpreted the study result using statistical tools such as Logistic Regression and Wilcoxon Signed Rank Test at 0.05 alpha level. R Core Team version 4.0.4.

3. Results and discussion

The majority of the respondents are within the age group of 21-23 years old with the highest frequency of 289 (86.8%). At least 180 respondents from the third-year level and this data are closely related to the 84.7% (282 out of 333) of female respondents in the survey, this implies that the majority of the population of the school of pharmacy is made up of female students. Moreover, a computer is the most available E-learning device that is being used by the respondents with 70.8% (236 out of 333).

The type of community where the respondents reside are split, wherein 49.8% (166 out of 333) live in Rural areas and 50.2% (167 out of 333) live in Urban areas. Students who reside within the urban area have faster internet connectivity with 50.8% (169 out of 333) rather than those students who live in rural areas have slower internet connection with 49.2% (164 out of 333).

Significant changes in the student's sleeping patterns, lesser time to relax, and feeling of insecurity on their own skills before and during the pandemic, which implies that there is a big shift in their intrapersonal well-being. They can also experience positive and negative effects studying with brighter students, gaining either experience or feeling inferior to their peers. However, students still finish their task in a given timeframe, especially if their instructors give them manageable tasks. Following this, most parents know the burden of school activities and in order to help, they tend to satisfy their needs, reducing the stress a student experiences, but sometimes when the need is not met, it adds stress to the students.

School work, school organization events, deadlines of activities, traveling from home to school, allowance and relationships are the significant stressors that contribute to the academic stress of the students before and during COVID-19 pandemic. The table also shows that school works and the deadline of activities are connected to each other since as school work piles up, the number of deadlines also increases which triggers the students' academic stress.

Table 1 Summary of Results of Factors of Academic Stress Before and During COVID-19 pandemic

Intrapersonal	V	p value	Interpretation
I experienced some changes in my sleeping pattern	1492	$< 2.2^{-16}$	Significant
I only have a small amount of time to relax during the school year.	7517	0.01	Significant
I felt insecure about my own skills and abilities.	1560.5	$< 2.2^{-16}$	Significant
I feel pressured to achieve good grades.	2887.5	0.48	Not significant
Interpersonal			
I experienced studying and working together with exceptionally bright students.	4964	2.0^{-10}	Significant
I experienced some conflict in communication with my classmates and instructors resulting in hesitation to ask for clear explanations.	1642.5	$< 2.2^{-16}$	Significant
I have difficulties in my personal relationships (including those with my family, boyfriend/girlfriend, and friends)	880	3.5^{-12}	Significant
Academic			
Our instructors give a manageable activity during our classes.	14534	$< 2.2^{-16}$	Significant
I am capable of accomplishing the task in a reasonable timeframe	10052	3.2^{-14}	Significant
I am having a difficult time in studying.	1013	$< 2.2^{-16}$	Significant
I need longer hours of studying to complete the requirements.	1684.5	1.2^{-15}	Significant
Environment			
Our family experienced problems (including personal, financial, relationship problems)	516	7.5^{-15}	Significant
I have a lack of materials and gadgets used in studying.	1007	1.3^{-05}	Significant
I have limited access to the internet connection while studying.	1710.5	6.8^{-08}	Significant
My parents know my educational needs, demands and experiences.	972.5	0.01	Significant

Significant at P value less than 0.05; V=Value

Table 2 Summary of Results of Stressors Before and During COVID-19 pandemic

Stressors	V	p value	Interpretation
Grades	2691	0.7515	Not significant
School Works	1212.5	8.8^{-12}	Significant
School Organization Events	2107.5	0.0064	Significant
Deadlines for Activities	1140.5	8.6^{-14}	Significant
Traveling from Home to School	23272	$< 2.2^{-16}$	Significant
Class Schedule	6082.5	0.4978	Not significant
Allowance	10342	$6.2e^{-10}$	Significant
Relationships	1730.5	0.0042	Significant

Significant at P value less than 0.05; V=Value

Table 3 Summary of Results of Coping Strategies of the students in terms of Problem based- before and During COVID-19 pandemic

Positive Reappraisal	V	p value	Interpretation
I would improve myself and put extra effort on my academic performance.	6256	8.6 ⁻¹²	Significant
I will change something about myself specially on my studying habits.	4982.5	0.0002	Significant
I would work hard to finish my degree in pharmacy.	1500.5	3.7 ⁻⁰⁶	Significant
I will strengthen my religious belief by praying.	960	0.0009	Significant
Social Support			
I would seek support from my family and friends.	2146.5	0.1929	Not significant
I will seek help from my professors/instructors.	2145	0.0122	Significant
I will seek help from a health professional.	899	0.309	Not significant
Problem Solving			
I would be more focus and make my plan organized.	4383	6.9 ⁻⁰⁴	Significant
I will write down everything that I need to do, so that I will not get frustrated.	3809.5	0.0748	Not significant
I will double my efforts in solving my academic problems.	3516.5	8.8 ⁻⁰⁵	Significant
I will be more adaptable, open-minded in solving my academic problems.	2276.5	0.0016	Significant
Coping Mechanism			
I will continue doing my school related assignments and activities.	1365	2.8 ⁻⁰⁴	Significant
I will learn new academic skills to manage my frustration	2923	0.0041	Significant
I will express my emotions to others so that they can understand how I feel.	2814	0.0103	Significant
I would challenge myself on dealing with my frustration.	1550	0.0299	Significant

Significant at P value less than 0.05; V=Value

Change in the way they approach studying is producing significant results. Self-improvement and increased effort of the students improve their working capabilities which can lead to reduced workload, which leads to reduced burdens, and therefore reduced stress. Students do not seek familial support, professional consultation and do not particularly write down everything they need in order to lessen frustration, which may suggest that such activities are not helping the students on their academic endeavors in a significant way.

Avoidant coping strategies such as avoiding and distancing from the stressor have the most significance compared to acceptance and self-controlling. this is connected. two coping strategies were deemed not significant in the study, which are the following: criticizing myself about the result and keeping motivated. As previously stated, avoidant coping strategies are both entirely significant due to it being connected to anxiety and depression, which is on the rise during the covid-19 pandemic.

Table 4 Summary of Results of Coping Strategies of the students in terms of Emotion based Before and During COVID-19 pandemic

Avoiding	V	p value	Interpretation
I will not attend my scheduled class.	465	1.5 ⁻⁰⁷	Significant
I will not solve my problem in my school requirements and let it fade away.	52.2	2.9 ⁻⁰⁷	Significant
I will sleep longer than usual.	2731	1.9 ⁻¹⁴	Significant
I will go out with my friends and have some fun.	9284	4.4 ⁻⁰⁹	Significant
Distancing			
I will not think about any of my requirements.	541	6.9 ⁻⁰⁸	Significant
I will look for the positive side of my problems	1828	0.0081	Significant
I don't take my school work seriously to avoid frustration.	497	3.8 ⁻⁰⁹	Significant
Acceptance			
It is okay that I failed, I will just compensate in my other subjects.	659.5	0.0007	Significant
I will criticize myself about the results of my poor performance at school.	1503	0.2315	Not significant
I will comfort and motivate myself for better improvements.	1497	0.0074	Significant
Self-Controlling			
I will cry in my room to express myself	1026.5	2.5 ⁻⁰⁵	Significant
I will keep my problem on my own	950.5	0.0003	Significant
I will keep motivating myself.	666	0.1363	Not significant
I will think for someone who's the the reason why I'm studying harder.	916.5	0.0013	Significant

Significant at P value less than 0.05; V=Value

4. Conclusion

The results of the study showed that academic stress and coping strategies of the students have significant changes before and during the COVID-19 pandemic. This implies that the transition of conventional learning to online learning has contributed to the changes of academic stress, stressors, and how the students cope with their stress by using problem based- and emotional based- coping strategies. In line with this, academic institutions should improve and provide counseling to their students experiencing academic stress and help the students to learn more about their different coping strategies.

Compliance with ethical standards

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Disclosure of conflict of interest

As per our submission to Institutional Ethics Review Board (IERB), Form 13; a review of management of conflict arising from financial, familial, or proprietary considerations of the PI, sponsor, or the study site is not available. There is no conflict of interest in the study.

Statement of ethical approval

The study protocol was submitted and approved by the Institutional Ethics Review Board (IERB) of Centro Escolar University Manila.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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