Research Article

FEAR OF COVID-19, POST-TRAUMATIC GROWTH AND ACADEMIC MOTIVATIONS OF STUDENTS CLINICAL PRACTICING DURING THE PANDEMIC: CROSS-SECTIONAL STUDY

Hatice Acar Bektas*#, *Gizem Citak**, *Ozgur Alparslan**

***Faculty of Health Science, Department of Midwifery, Tokat Gaziosmanpaşa University, Tokat, Turkiye**

Abstract

Aim: This cross-sectional, prospective study examines the effects of clinical practice during the pandemic on university students' fear related COVID-19, post-traumatic growth and academic motivation.

Methods: A total of 110 students (third year 62, fourth year 48) from a state university were included. In the study, the sample size was not calculated and it was aimed to reach all students. Data were collected through online surveys using the Fear of COVID-19 Scale (FCV-19S), Academic Motivation Scale (AMS) and Post Traumatic Growth Inventory (PTGI). Descriptive statistics, t-test, Wilcoxon signed rank test and pearson/spearman correlation tests were used for analyses.

Results: A notable change was observed in the FCV-19 scores assessments of the students when comparing pre-clinical and post-clinical training ($p < 0.05$). However, no marked change was noted in the PTGI assessments in the corresponding timeframe ($p > 0.05$). A significant positive correlation existed between FCV-19S and PTGI scores before clinical practice ($p < 0.05$), yet no such relationship was found with PTGI and AMS sub-dimensions. Midwifery students commenced their clinical practice amidst the pandemic with elevated levels of COVID-19 fear but concluded the experience with a significant reduction in fear and positive psychological changes.

Conclusion: These findings underscore the students' patience and adaptability in facing pandemic-induced stress. Moreover, the stability in academic motivation levels reflects their continued commitment to their educational processes and determination to provide healthcare during the pandemic. This study highlights the critical importance of educational and psychological support systems in the face of global health crises. *ASEAN Journal of Psychiatry, Vol. 25 (6) August, 2024; 1-10.*

Keywords: Covid-19; Motivation; Pandemics; Posttraumatic Growth; Midwifery; Student; Psychology

Introduction

The high rate of transmission of Coronavirus (COVID-19) and that it has turned into a pandemic have caused stress, fear and panic. In addition, restrictive measures taken to reduce/stop the spread of the disease have led to the domination of a period of uncertainty. Pandemic diseases cause anxiety, worry and panic in individuals, as well as leading to positive results, such as helping others, solidarity and awareness [1]. In a study conducted in Hong Kong after the Severe Acute Respiratory Syndrome (SARS) virus epidemic, approximately 62%-73% of the participants were terrified, worried, or desperate due to SARS, while on the positive side, 70 of them were found to give more importance to their psychological health and 35%-40% spent more time resting and exercising [2].

While traumatic experiences in pandemics

damage bodily integrity, they can also cause a loss of confidence and a sense of control. According to the literature, studies have mostly focused on the maladaptive behaviors and negative experiences caused by trauma [1]. Anxiety, depressive episodes and post-traumatic stress disorders have been exacerbated by concerns over illness and the effects of social distancing during the COVID-19 pandemic, which have taken a toll on the psychological well-being of individuals [3,4]. In addition to these negative traumatic experiences, positive experiences without psychopathology and a concept described as Post-Traumatic Growth (PTG) have emerged. This concept has been defined as positive psychological change that occurs after severe distressing or traumatic life events [5].

Negative emotional states such as apprehension, dread and concern can adversely impact students' drive for academic pursuits. Conversely, those with elevated levels of motivation often exhibit more optimistic outlooks and experience diminished anxiety [6]. Research involving student populations has indicated that heightened motivation is associated with a decrease in anxious feelings [7]. Moreover, the implementation of quarantine measures during the Pandemic has had widespread implications, precipitating a host of issues that span socioeconomic, psychological, educational and health domains [8].

University students represent a unique group of individuals who have limited life experience and are characterized by the need for greater autonomy and independent living. Therefore, the Pandemic may have had a more significant impact on college students' attitudes and actions [9]. During the pandemic, it is observable that students in the health sciences, particularly those initiating clinical practice, have encountered various challenges including potential COVID-19 exposure, occupational stress, indirect trauma, burnout, work-life imbalance, as well as increased rates of sickness and death [3]. The concept that students in health science disciplines may experience post-traumatic growth, which in turn could influence their academic drive, is considered plausible [10].

Despite the extensive research on the impact of the COVID-19 pandemic on the wider population, the specific experiences of students in health sciences disciplines, such as midwifery, have not been adequately addressed in the literature. Research has paid comparatively less attention to the struggles encountered by these students amid the pandemic and how these challenges have affected their mental well-being, academic drive and professional growth. Existing literature primarily focuses on the general psychological impacts of the pandemic on students, neglecting the unique stressors and coping mechanisms encountered by this distinct group of healthcare students.

In light of this, our study seeks to offer a thorough insight into the experiences of midwifery students by assessing their fear of COVID-19, post-traumatic growth and academic motivation before and after undertaking clinical placements during the pandemic. By addressing this significant gap in the literature, our research seeks to elucidate the unique effects of pandemic conditions on students in health sciences, offering vital insights and intervention suggestions for educators and policymakers to preserve student welfare and educational quality during crisis periods. Moreover, it aims to establish a foundation for better understanding and supporting the needs of health sciences students during future pandemics. Thus, this study contributes valuable information for the development of comprehensive support mechanisms for students undergoing education in healthcare disciplines amidst the pandemic.

Drawing from existing literature, this study was designed to assess the impacts of the pandemic as well as participation in clinical practice during the pandemic on the fear of COVID-19, post-traumatic growth and academic motivation in midwifery students.

Research questions

- What are the levels of COVID-19 fear, post-traumatic growth and academic motivation scores the participants' before and after clinical practice?

- Is there a difference in these scores before and after clinical practice? Is the difference between these scores significant before and after clinical practice?

- Is there relationship exist between these scores? If so, what kind of relationship can be mentioned?

Materials and Methods

Study design

This study employed a cross-sectional, prospective design with a pre-test and post-test approach.

The research was conducted and reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist.

Participants

The population included total of 138 students (70 third-years and 68 fourth-years) from the department of midwifery at the faculty of health sciences of a state university in Turkey. No sample selection procedure was implemented; all students who consented to participate were incorporated into the study. The criteria for inclusion in the study were being a 3rd or 4th year student in the midwifery department of the relevant faculty and being a volunteer. In the study, the sample size was not calculated and it was aimed to reach all students. Since 20% of the students did not volunteer to participate in the study, the entire group could not be reached. Eighty percent of the population was contacted and the research was completed with 110 (62 third- year and 48 fourth-year) midwifery students. A post-hoc power analysis with G*Power 3.1.9.4 indicated that, with a sample size of N=110 and a medium effect size of $\rho=0.3$, at a 5% significance level, the statistical power was found to be 90.47%. This suggests a high likelihood of detecting the expected effect in the study [11-13].

There are some criteria that must be completed in order to graduate from midwifery departments of universities in Turkiye. These criteria were determined by the Republic of Turkiye Council of Higher Education. Some of these criteria can be listed as managing/having 40 vaginal births, providing care and counseling to 40 pregnant women and performing 100 newborn examinations and care [14]. The chances of third and fourth grade students, who are close to graduation, to complete these criteria during the pandemic have decreased. To solve this stressful situation, students were included in progressive training and clinical practice in small groups. During this period, vaccination was not started for students other than healthcare workers and medical faculty students in Turkiye.

Time of the research

Study data were collected online between April, 2021 (pre-test) and June, 2021 (post-test).

The variables of the research

Participants' characteristics are independent variables. Participants' scores from the scales are dependent variables.

Data collection tools

Data were collected online using a personal information form, the fear of COVID-19 Scale (FCV-19S), the Academic Motivation Scale (AMS) and the Post Traumatic Growth Inventory (PTGI).

The personal information form

This form was prepared by the researchers in line with the literature [3,6,15,16]. It includes questions about the socio-demographic characteristics of the students and COVID-19.

The fear of COVID-19 scale

This scale was developed by Ahorsu et al., [17]. It has seven items, one dimension and a five-point Likert-type rating system. The total score obtained from all items of the scale reflects the level of individuals' fear of coronavirus. Scores on the scale range from 7 to 35. A high score on the scale means experiencing a high level of fear of the coronavirus. Cronbach's alpha coefficient of the scale is 0.82. In another study, this coefficient was found to be 0.88 [18]. In the present study, Cronbach alpha value was calculated as 0.88 before the hospital practice and 0.90 after the practice during the pandemic.

The Post Traumatic Growth Inventory (PTGI)

This 21-item scale was developed by Tedeschi and Calhoun in 1996 in a Likert form to find out how successful individuals are in coping with post-traumatic events and how their perspectives on themselves, others and the meaning of life have changed [5].

Each item is scored between 1 and 5 and a score between 0 and 105 can be obtained from the scale. Kagan et al., found three sub-dimensions (change in self-perception, change in life philosophy and change in relationships with others) and the internal consistency reliability coefficient as 0.92 for all items [19].

High scores on the scale mean positive psychological changes resulting from life events. The scale has not been reported to have a cut-off point [19]. In this study, Cronbach's alpha value was calculated as 0.96 before the hospital practice and 0.97 after the practice during the pandemic.

The Academic Motivation Scale (AMS)

This scale was developed by Vallerand et al., in 1992 in Canada [20]. Turkish validity and reliability study was done by Unal Karagüven in 2012 [21]. The scale has 28 items. It consists of main sub-dimensions and their sub-factors: Intrinsic motivation (knowing, achievement and stimulation), extrinsic motivation (external regulation, introjected regulation, identified regulation) and amotivation.

The total score obtained from each sub-dimension reveals the academic motivation level of the student for that sub-dimension. It can also be used with three main dimensions combined for scoring. In this case, the mean scores of the sub-dimensions of the combined main dimensions are taking.

When the main sub-dimensions are evaluated separately, a high mean score on a dimension indicates that the individual has high motivation in that dimension. Each item is scored on a seven-point Likert-type scale. There is no reverse-scored item on the scale. The scale has not been reported to have a cut-off point [21]. In this study, Cronbach's alpha value was calculated as 0.93 before the hospital practice and 0.93 after the practice during the pandemic.

Data collection

Students who accepted to participate in the study were first informed about the purpose of the research *via* the Google online form and were asked to fill out the scales before and after clinical practice. The form link was shared only with the target group and the group was asked not to share the link with others. In the form available online, the "allow editing of responses" option and the "Show response summary" option were turned off, allowing respondents to fill out the form anonymously.

Data analysis

Statistical analysis of the study data was performed on the Statistical Package for Social Sciences (SPSS 22.0) software package. Descriptive statistics were presented as counts, percentages and mean and standard deviation values.

Normal distribution, extreme values were evaluated. The t-test and Wilcoxon Signed-Rank test were used to compare the pre-test and post-test mean scores. Pearson/Spearman correlation tests were used to determine the relationship between scale scores. Statistical significance was accepted as $p < 0.05$.

Ethical aspect of the research

The written permission of the educational institution, the department of midwifery and the approval of the X University Social and Human Sciences Research Ethics Committee (date: 09.04.2021; session no: 08, decision no: 13) were obtained before the study was started. In addition, permission was obtained from the institution where the research would be implemented (Date: 26.01.2021; Decision no: 17369). The purpose of the study was explained to the participants in the online survey. Those who volunteered were asked to participate in the study. It was clearly stated that they could withdraw from the study at any time. The research was conducted in accordance with the declaration of Helsinki.

The limitations

The sample for this study is confined to midwifery students at a single university, which could limit the generalizability of the findings to different geographical or cultural contexts. The scale used to measure fear of COVID-19 may not encompass the wide range of psychological responses related to the pandemic. Therefore, additional measurement tools may be required for a more comprehensive assessment of students' experiences. The study utilizes a cross-sectional design, which prevents the establishment of causal relationships. Therefore, it is not feasible to make definitive statements about cause-and-effect relationships based on the presented results.

Results

The mean age of the participants was 22.11 ± 0.85 (21-23) years, all of them were single, 72.7% had middle income, 87.3% had a nuclear family and 83.7% lived in dormitories. According to students' statements, 90.9% of them did not have a chronic health problem, 76.4% had never had a COVID-19 test and 68.2% had never been in contact with a COVID-19 patient (Table 1).

The following findings were presented in Table 2. The mean pre-and post-hospital practice scores of the participants on the total FCV-19S were 18.56 ± 5.975 (7-34) and 16.22 ± 6.01 (7-30), respectively. This difference was found to be statistically significant (t=3.895, p<0.001).

Table 1. Participants' descriptive characteristics.

Characteristics		n	Percentage (%)
Age X̄ ± SD (min-max)	**22.11 ± 0.85 (21-23)**		
School year	Midwifery 3rd -year	62	56.4%
	Midwifery 4th -year	48	43.6%
Income	Income<expenses	24	21.8%
	Income=expenses	80	72.7%
	Income>expenses	6	5.5%
Family type	Nuclear	96	87.3%
	Extended	14	12.7%
Place of residence with the family	Rural	55	50%
	Province	55	50%
Accommodation as a student	Home	18	16.3%
	Dormitory	92	83.7%
Chronic health problem	Yes (CVS, respiratory, GIS vb)	10	19.1%
	No	100	90.9%
COVID-19 test	Yes, negative	13	11.8%
	Yes, positive	13	11.8%
	No	84	76.4%
Contact with any COVID-19 patient	Yes	35	31.8%
	No	75	68.2%
Total		110	100%

Note: X̄=Mean; SD=Standard Deviation; Min=Minimum; Max=Maximum; CVS=Cardiovascular System; GIS=Gastrointestinal System.

Table 2. Evaluation of the participants' scores of pre and post-practice scores of scales.

Scales	Pre and post clinical practice	X̄ ± SD	Min-max	Test	p
Fear of COVID-19 scale	Pre-test	18.56 ± 5.97	7-34	3.895[a]	0.000
	Post-test	16.22 ± 6.01	7-30		
Academic motivation scale	Pre-test	129.92 ± 28.30	39-184	-1.368[a]	0.174
	Post-test	134.02 ± 28.85	30-196		
Extrinsic motivation	Pre-test	5.13 ± 1.19	1.25-7	-0.661[a]	0.51
	Post-test	5.21 ± 1.17	1.08-7		

Intrinsic motivation	Pre-test	5.14 ± 1.25	1.58-7	-1.419[a]	0.159
	Post-test	5.32 ± 1.19	1-7		
Amotivation	Pre-test	1.66 ± 1.30	1-7	-1.468[a]	0.145
	Post-test	1.91 ± 1.56	1-7		
Post traumatic growth inventory	Pre-test	56.49 ± 25.22	4-105	-0.070[b]	-0.07
	Post-test	56.12 ± 25.97	1-105		
Change in self-perception	Pre-test	29.60 ± 13.18	0-50	-0.647[b]	0.518
	Post-test	29.16 ± 13.31	0-50		
Change in life philosophy	Pre-test	16.45 ± 7.22	0-30	-0.105[b]	0.916
	Post-test	16.12 ± 7.61	0-30		
Change in relationships with others	Pre-test	10.43 ± 21.93	0-25	-0.593[b]	0.553
	Post-test	10.83 ± 6.57	0-25		

Note: a=Paired samples t-test; b=Wilcoxon signed-ranks test; X̄=Mean; SD=Standard Deviation; Min=Minimum; Max=Maximum.

Participants' mean pre-post clinical practice scores on the total AMS were 129.92 ± 28.30 (39-184) and 134.02 ± 28.85 (30-196), respectively. There isn't statistically significant between scores (t=1.368, p>0.05). Extrinsic motivation sub-dimension, 5.13 ± 1.19 (1.25-7) and 5.21 ± 1.17 (1.08-7); intrinsic motivation sub-dimension, 5.14 ± 1.25 (1.58-7) and 5.32 ± 1.19 (1-7); Amotivation sub-dimension, 1.66 ± 1.30 (1-7) and 1.91 ± 1.56 (1-7), respectively. The differences between mean pre-post clinical practice scores of the sub-dimensions of the AMS were not found statistically significant (p>0.05).

Participants' mean pre-post clinical practice Posttraumatic Growth Inventory (PTGI) scores were determined as 56.49 ± 25.22 (4-105) and 56.12 ± 25.97 (1-105), respectively. There was no significant difference between the mean pre-and post-practice scores of the sub-dimensions of the PTGI, either (p>0.05).

The examination of the relationships between mean FCV-19S, AMS and PTGI scores in Table 3 indicated the following points. There was a significant, positive and moderate correlation between pre-post clinical practice scores of FCV-19S (r=0.481, p<0.01) and between pre-post practice PTGI scores (r=0.508, p<0.01) and between pre-clinical practice scores of PTGI and AMS (r=0.343, p<0.01) and between pre-post clinical practice scores of the AMS (r=0.447 p<0.01). There was a significant, negative and weak correlation between the pre-clinical practice of the AMS and the post-clinical practice of the FCV-19S (r=-0.200, p<0.05).

There was a significant, positive and weak correlation between pre- clinical practice score of the AMS and post-clinical practice score of the PTGI (r=0.287, p<0.05) and between pre-clinical practice PTGI score and post-clinical practice AMS score (r=0.252, p<0.05) and between post-clinical scores of AMS and PTGI (r=0.256 p<0.05).

There was no relationship between pre-clinical practice scores on the FCV-19S and the total and sub-dimension scores of the AMS (p>0.05). After the clinical practice, it was determined that there was no relationship between the students' mean scores on the FCV-19S and the total and sub-dimension scores of the PTGI (p>0.05).

Table 3. Relationships between mean scores.

Scales		(1)	(2)	(3)	(4)	(5)
(1) Pre-practice FCV-19S	-	-	-	-	-	-
(2) Post-practice FCV-19S	r	0.481**	-	-	-	-
	p	0.000	-	-	-	-
(3) Pre-practice PTGI***	r	0.219*	0.039	-	-	-
	p	0.022	0.684	-	-	-
(4) Post-practice PTGI***	r	0.058	-0.049	0.508**	-	-
	p	0.545	0.613	0.000	-	-
(5) Pre-practice AMS	r	-0.021	-0.200*	0.343**	0.287**	-
	p	0.83	0.036	0.000	0.002	-
(6) Post-practice AMS	r	0.018	-0.0173	0.252**	0.256**	0.447**
	p	0.855	0.071	0.008	0.007	0.000

Note: FCV-19S=Fear of COVID-19 scale; PTGI=Post Traumatic Growth Inventory; AMS=Academıc Motivation Scale; *=Correlation was significant at the 0.05 level (2-tailed); **=Correlation was significant at the 0.01 level (2-tailed); ***=Spearman correlation analysis was conducted; $p < 0.01$; r=Pearson correlation coefficient.

Discussion

This research was conducted to evaluate midwifery students' fear of COVID-19, post-traumatic growth and academic motivation before and after starting clinical practice during the COVID-19 pandemic.

Midwifery students' fear of COVID-19

The COVID-19 Pandemic has had significant negative effects on individuals' mental health [22,23]. One of them is fear. Fear negatively affects a person's health and personal performance and can increase the risk of making mistakes [24]. Midwifery students are likely to encounter COVID-19 cases because they practice in clinics due to the pandemic. Knowing the level of fear of COVID-19 is important in the process of identifying students who are likely to make mistakes. Additionally, fear negatively affects the quality of life and mental health. Some studies have drawn attention not only to physical but also mental health rehabilitation after the Pandemic [25,26]. Based on the data gathered from this study, although the difference between the FCV-19S scores of midwifery students before (18.56 ± 5.98) and after the clinical practice (16.22 ± 6.01) was significant. According to the results of a meta-

analysis study by Wang et al., FCV-19S score of university student was 17.60 [22]. In a study by Ahi et al., FCV-19S score of students was found as 17.70 ± 5.84 [27]. Studies conducted in Turkey found FCV-19S score as 16.87 ± 6.69- 19.08 ± 5.87 [28,29]. In a study conducted in Spain, FCV-19S score was found to be 16.79 ± 6.04 [17]. In another study conducted jointly in Russia and Belarus, FCV-19S score was found as 18.00 ± 4.50 [30]. Our study's findings align with those of other research. The decrease in scores after clinical practice can be explained by students' adaptation to working with their peers and future colleagues by following the measures during the pandemic.

Effects of the COVID-19 on academic motivation

The pandemic has created an important agenda in the world and our country by affecting the economy, health, education and social life negatively. Due to the pandemic, face-to-face education activities were suspended in March, 2020 in Turkey and online education was initiated. Due to the pandemic, students, like everyone else, are thought to have experienced other sudden changes in their lives that accelerated similar devastating changes. Therefore, it is important to understand motivational processes in changing contexts to maximize students' development

[31]. Motivation is one of the key determinants of the variations in students' achievement and performance. Motivation gives the individual energy to start, maintain and end the behavior. Therefore, it constitutes one of the most valuable factors in the educational process. Research has indicated that a common impact of the COVID-19 Pandemic on university students is a reduction in their motivation levels [32-34]. Seventy-nine percent of the college students in the United States stated that staying motivated during online education was a problem [35]. Undergraduate students similarly reported increased stress and decreased motivation after transitioning to distance education [36]. Contrary to these examples, in our research, it was observed that the academic motivation of midwifery students who did clinical practice during the pandemic did not decrease despite current conditions. Today, we are experiencing extremely rapid technological developments; therefore, students must learn to keep their motivation high, particularly given the demand for a highly motivated workforce having analysis, synthesis and problem solving skills [37]. One of the dominant theories in psychology that significantly contributes to understanding students' academic motivation is the Self-Determination Theory (SDT). SDT puts three psychological needs, namely intrinsic, extrinsic and self-determining motivation [38]. Self-determining motivation is achieved when the needs for competency, autonomy and relatedness are met. The educational process can support or hinder these needs and it can increase or decrease academic motivation. Based on the findings of the study, the education processes of midwifery students seem to meet these needs. It is believed that the reason for students' academic motivation did not decrease despite doing clinical practice during the pandemic was that the social support they received from their peers, healthcare professionals and teachers, even though they were far from their families, improved their autonomy and competency and contributed to maintaining their motivation.

Effects of the COVID-19 on post traumatic growth

Coping strategies for trauma, concepts of post-traumatic well-being and patience contribute to the development of Post-Traumatic Growth (PTG). PTG is described as coping with traumatic events and processes, or positive personal, social and psychological changes and development following them [2]. It is a concept extensively examined in survivors of significant disasters [39]. Lau et al., suggested that PTG could occur after infectious diseases, too [2]. Studies on the evaluation of the PTG status of healthcare workers during the pandemic are also noteworthy. Social support and coping with stress styles were determined as predictors of PTG in healthcare workers and it was emphasized that personality traits were another variable that need to be studied [40]. In the same study, it was mentioned that social support from friends predicted PTG more than social support from family. In the current study, students experienced positive psychological changes, that is, PTG. It is thought that this positive change was mostly because students were together alongside their peers.

Conclusion

In conclusion, it was determined that midwifery students' fear of COVID-19 after clinical practice was lower than it was before. It was also found that doing clinical practice during the pandemic did not reduce students' academic motivation. Pandemics are traumatic events for humanity and post-traumatic stress scores of midwifery students showed that the pandemic experience led to a moderate level of development/growth. Despite all the difficulties during the pandemic, students have managed to come out than stronger from such a traumatic process.

Future studies should include students from different health disciplines to conduct an interdisciplinary assessment regarding the effects of the pandemic on students. Longitudinal panel studies could track the changes in students' academic motivation, psychological health and professional development over time during the pandemic process. This would aid in understanding the long-term effects of the pandemic. Future research might compare the effects of online *versus* face-to-face education models on students' academic and psychological well-being. Such comparisons could contribute to the development of educational policies and student support programs.

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Correspondence author: Hatice Acar Bektas, Faculty of Health Science, Department of Midwifery, Tokat Gaziosmanpasa University, Tokat, Turkiye

E-mail: acarbektas@hotmail.com