The Impact of Generalised Anxiety Disorder on Undergraduate Students' Quality of Life in Ho Chi Minh City

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KEYWORDS Anxiety Triggers. Improving Students' Living Quality. Mental Health Aspect. Negative Effect. Physical Health Aspect. Symptoms of Anxiety Disorders

ABSTRACT The paper focuses on the impact of a generalised anxiety disorder (GAD) on the quality of life of undergraduate students in Ho Chi Minh City. A questionnaire was conducted on 308 students. The T-test showed that the living quality according to the WHOQOL-BREF scale was lower in students with GAD than in students without GAD ($55.24 + -12.16$ and $65.25 + -9.93$; $p < 0.01$). Regression analysis showed that GAD symptoms had a statistically significant negative impact on the students' quality of life, in which the mental health aspect is most affected. The second is the physical health aspect, then the social aspect, and finally the environmental aspect. As such, the GAD symptoms harm the students' quality of life. Confirming this relationship is the basis for setting goals for GAD treatment and improving students' living quality in a developing country.

INTRODUCTION

Generalised Anxiety Disorder (GAD) is one of the most common mental disorders among undergraduate students (Auerbach et al. 2018) and tends to increase in number and severity (Barrera and Norton 2009; Hunt and Eisenberg 2010). In Vietnam, the percentage of students self-reporting GAD is between 7.7 percent and 10.1 percent (Nguyen et al. 2016; Nguyen et al. 2020; Pham Tien et al. 2021). GAD causes many problems in students' lives, such as impairment of some social functions (Awadalla et al. 2020; Adeoye-Agboola and Evans 2015), increasing the risk of physical problems (Stein and Sareen 2015) and other mental disorders (Hettema et al. 2006).

Currently, quality of life (QOL) is an issue that has received a lot of attention (Sahin et al. 2019). Although there is no consensus on the concept, most scientists believe that QOL is a multidimensional structure (Kelley-Gillespie 2009) and is subjective. QOL is affected by many different factors, including GAD. Previous stud-ies have shown that GAD has a negative effect on the students' QOL (Olatunji et al. 2007). In Vietnam, there have been several studies on QOL (Tran 2019; Tran et al. 2020), but no research has mentioned the impact of GAD on undergraduate students' QOL. This is the current limitation that needs to be supplemented. Furthermore, considering this relationship can serve as a basis in counselling practice and improve students' QOL. This study was conducted to find the impact of GAD on undergraduate students' QOL in Ho Chi Minh City, Vietnam.

Objectives of the Study

This study aims to evaluate the impact of GAD on QOL of Vietnamese undergraduate students approaching from the four basic QOL aspects of physical health aspect, mental health aspect, social aspect, and environmental aspect. This is an important practice basis for researchers to propose solutions to develop mental healthcare services for undergraduate students after the COVID-19 pandemic in Vietnam.

Theoretical Framework

Quality of Life

When it comes to QOL, people often emphasise the subjective evaluation aspect of the individual and the multidimensionality (Kelley-

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Gillespie 2009). Many components that are believed to belong to QOL have been debated, such as subjective happiness, life satisfaction, personal needs, and desires (Costanza et al. 2007). It is possible to find a consensus on the concept of QOL in science today but in terms of a comprehensive and integrated approach to many different aspects of QOL. In 1990, WHO defined that "QOL is an individual's perception of their life in the context of the culture and value systems in which they live and about their goals, aspirations, standards, and concerns" (Whoqol Group 1995). According to the WHO (2012), QOL has a structure of four basic aspects, that is, physical health aspect related to daily living, drug dependence and support health, energy level versus fatigue, mobility, pain and discomfort, sleep and rest, ability to work, mental health aspect including the perception of appearance, positive emotions, negative emotions, self-esteem, beliefs/religions/spirits, social aspect includes personal relationships, social support and activities related to sexuality, and environmental aspect related to financial independence, freedom, physical security, access to social services, learning, recreation, transportation, home, and physical environment. Although there is no consensus, due to the comprehensiveness and the relevance of the research content, the researchers choose to approach the QOL according to the theory proposed by WHO.

The Impact of GAD on QOL

GAD is defined as persistent anxiety or worries about multiple events or activities, occurring with increasing frequency over a period of at least 6 months (American Psychiatric Association 2013).

When considering the relationship between QOL and GAD, one can subjectively see that there are two main directions, the first is the direction QOL affects GAD and the in other direction GAD affects QOL. However, the first direction seems to be a dead-end because QOL is an individual's subjective concept of their life, which includes satisfaction, evaluation of physical discomfort, and negative emotions (WHO 2012). Therefore, GAD is a type for an individual to rely on to evaluate their QOL and act as an input of information. Therefore, the first research

direction is not supported, but research in the second direction is focused and it has been confirmed that there is a negative impact of GAD on QOL in many countries (excluding Vietnam) (Olatunji et al. 2007). Most of the previous studies only stopped at comparing QOL between people with GAD and without GAD (Koury and Rapaport 2007; Olatunji et al. 2007). Several recent studies have focused on determining the correlation between these two variables. The results showed that the severity of GAD symptoms was negatively correlated with QOL, and in addition, symptoms of anxiety disorders contributed to part of the variance in explaining QOL among students (Mendlowicz and Stein 2000; Alsamghan 2021).

METHODOLOGY

Research Hypothesis

Hypothesis 1 (H1): QOL of GAD students is lower than the students without GAD.
Hypothesis 2 (H2): Symptoms of GAD have a negative impact on students' QOL.

Data Collection

QOL scale shortened version called WHOQOL-BREF: This scale is designed to measure 4 aspects of QL including physical health, mental health, social and environmental aspects, and included 26 items. Each item is rated on a 5-point Likert scale (range 1-5). QOL is rated from 0 to 100, where a score of 0-44 is low, 45-65 is average, and 65 is high (Bani-Issa 2011). In this study, the internal reliability coefficient of Cronbach's Alpha of the WHOQOL-BREF questionnaire was 0.889, showing a high level of reliability.

The GAD-7 scale was developed by Spitzer et al. (2006) used to screen for GAD. Each item is rated on 4 levels (0 = none to 3 = almost every day). In this study, the GAD-7 scale has an internal reliability coefficient of Cronbach's Alpha of 0.847.

The data collection took place from July 2021 to October 2021 amid the fourth wave of the COVID-19 pandemic in Vietnam (from April 2021 to the present) through Google Form online (Nguyen Lien 2022).

Participants

308 students from 6 universities in Ho Chi Minh City (Vietnam) participated in answering the questionnaire. The participants' information is presented in Table 1.

Table 1: Demographic information of the participants

Demographic information		N (%)
Gender	Male	125 (40.58)
	Female	183 (59.42)
Educational Level	Freshmen	102 (33.13)
	Sophomore	60 (19.48)
	Junior	76 (24.68)
	Senior	70 (22.71)
Academic Result	Fair	16 (5.20)
	Average	105 (34.09)
	Good	126 (40. 93)
	Excellent	61 (19. 78)

Data Analysis

The collected data were analysed using SPSS 22.0 software. Analysis of Cronbach's Alpha coefficient is used to evaluate the reliability of the scale. ANOVA analysis was used to examine QOL differences between groups with different levels of GAD. Pearson correlation analysis was used to examine the relationship between GAD and QOL. Linear regression analysis was used to evaluate the impact of GAD on QOL.

RESULTS

The Difference in QOL Between GAD Students and Non-GAD Students

A t-test was performed to compare the mean of QOL between 78 students with GAD and 230 students without GAD. Table 2 data shows that there is a statistically significant difference in overall QOL, and subdomain of QOL, wherein students with GAD reported lower QOL levels than the group of students without GAD (p=0.00).

The Correlation Between Symptoms of GAD and QOL

After filtering out the students without symptoms of GAD, a Pearson correlation analysis was conducted to examine the correlation between GAD symptoms and QOL. The results in Table 3 show that GAD has a statistically significant negative correlation with the overall QOL (r= -0.416[**]). GAD has the greatest negative correlation with mental domain (r = -0.405[**]), second is physical domain (r= -0.378[**]), third is social domain (r = -0.281[**]), and finally the environmental domain (r = -0.277[**]). Thus, it can be confirmed that GAD and QOL are negatively correlated with each other on average. This means that when GAD increases, QOL decreases, and vice versa, when GAD decreases, QOL increases.

The Impact of GAD on Students' QOL

After analysing the correlation between the group of students with mild or higher symptoms of GAD, regression analysis was performed to evaluate the impact of GAD symptoms on the overall QOL and QOL aspects. GAD symptoms have a statistically significant impact on the overall QOL ($p < 0.001$; $R^2 = 0.173$). Thus, symptoms of GAD (beta = -0.416; $p < 0.001$) were a predictor of overall QOL decline. In physical health aspect, GAD symptoms have a statisti-

Table 2: The difference in QOL between GAD and non-GAD students (N=308)

Sources	t-test	N	%	M	SD	p
QOL	Non-GAD	230	74.68	65.25	9.93	0.000
	GAD	78	25.32	55.42	12.16	
Physical Health	Non-GAD	230	74.68	66.37	10.79	0.000
	GAD	78	25.32	56.48	13.94	
Mental Health	Non-GAD	230	74.68	64.07	12.17	0.000
	GAD	78	25.32	52.75	13.55	
Social	Non-GAD	230	74.68	63.65	16.71	0.000
	GAD	78	25.32	52.89	17.73	
Environmental	Non-GAD	230	74.68	66.91	11.68	0.000
	GAD	78	25.32	59.55	16.17	

Table 3: The correlation between GAD symptoms and QOL (N=211)

Sources	M	SD	1	2	3	4	5	6
Anxiety level	8.83	3.13	-					
QOL	60.53	11.22	-.416**	-				
Physical health	62.04	12.64	-.378**	.753**	-			
Mental health	58.80	13.08	-.405**	.774**	.481**	-		
Social	58.18	17.21	-.281**	.796**	.391**	.461**	-	
Environmental	63.12	13.63	-.277**	.847**	.597**	.561**	.554**	-

cally significant impact on the physical health aspect of QOL ($p < 0.001$; $R2 = 0.143$). Therefore, symptoms of GAD (beta = -0.378; $p < 0.001$) were a predictor of deterioration in the physical health aspect of QOL. In mental health aspect, GAD symptoms have a statistically significant impact on the mental health aspect of QOL ($p < 0.001$; $R2 = 0.164$). Therefore, symptoms of GAD (Beta = -0.405; $p < 0.001$) were a predictor of QOL mental health aspect decline. In social aspect, GAD symptoms have a statistically significant impact on the social aspect of QOL ($p < 0.001$; $R2 = 0.079$). Therefore, symptoms of GAD (Beta = -0.281; $p < 0.001$) were a predictor of decline in the social aspect of QOL. In environmental aspect, GAD symptoms have a statistically significant impact on the environmental aspect of QOL ($p < 0.001$; $R2 = 0.077$). Therefore, symptoms of GAD (Beta = -0.277; $p < 0.001$) were a predictor of QOL environmental aspect. It can be concluded that GAD has a negative impact on the QOL of students in some universities in Ho Chi Minh City.

DISCUSSION

This study was conducted to examine the impact of GAD on the QOL of students. The first hypothesis that the group of students with GAD had a lower QOL than the group of students without GAD was approved, as the t-test test showed that the overall QOL and domains were lower in the group with GAD than in the group without GAD. This is consistent with many previous studies (Bourland et al. 2000; Henning et al. 2007; Jenkins et al. 2021).

Research has also shown that GAD symptoms are negatively correlated with QOL, but it does not imply causation. Therefore, to better examine the impact of GAD symptoms on QOL (Davies et al. 2021), a regression analysis was performed and supported the second hypothesis that GAD symptoms had a negative effect

Table 4: The impact of GAD symptoms on QOL (N=211)

Model	Unstandardised coefficients		Standardised coefficients	t	Sig.	R-square	Adjusted R-square
	B	Std. error	Beta				
(Constant)	73.70	2.11	-.416	34.938	.000	0.173	0.169
GAD level	-1.489	.225		-6.620	.000		
			Physical Health Aspect				
(Constant)	75.50	2.41	-.378	31.219	.000	0.143	0.139
GAD level	-1.523	.258		-5.905	.000		
			Mental Health Aspect				
(Constant)	73.72	2.47	-.405	29.811	.000	0.164	0.160
GAD level	-1.688	.264		-6.401	.000		
			Social Aspect				
(Constant)	71.81	3.41	-.281	21.038	.000	0.079	0.075
GAD level	-1.542	.364		-4.236	.000		
			Environmental Aspect				
(Constant)	73.771	2.707	-.277	27.247	.000	0.077	0.072
GAD level	-1.204	.289		-4.170	.000		

on all QOL domains of students. This result is in agreement with many previous studies.

Considering the physical health aspect, this study shows that there is a negative impact of GAD on the physical health aspect of QOL. Many previous studies can explain this result that GAD has a negative effect, reducing energy for performing daily activities such as speaking, causing problems with digestion, breathing, eating, etc. causing many unpleasant feelings, greatly affecting sleep quality (Saarni et al. 2007; Wilmer et al. 2021). In addition, people with GAD have lower labour productivity, lower working costs, increased social costs, and reduced ability to use support resources effectively (Toghanian et al. 2014). Thus, GAD negatively affects the physical health aspect of QOL (Toghanian et al. 2014; Porensky et al. 2009; Allgulander et al. 2007).

In this study, GAD had a negative effect on the mental health aspect of QOL. To explain this result, there is evidence that people with GAD pay too much attention to anxiety triggers (Amir et al. 2009), which leads to less effective coping strategies, hence the students experiencing GAD had increased levels of negative emotions and at the same time increased negative responses (Pawluk et al. 2021) and had difficulty controlling those emotions (Mennin et al. 2005). Moreover, people with GAD have more negative emotions, distorted thinking (Wu et al. 2015), ability to concentrate, remember (Stefanopoulou et al. 2014), and excessive anxiety can lead to low self-esteem (Nordstrom et al. 2014). Therefore, GAD reduces the psychological QOL of students (Zhou et al. 2017).

The negative impact of GAD on the social aspect of QOL in this study also gave positive results. Some previous studies showed that the relationship between students with GAD and their parents lacked attachment (Eng and Heimberg 2006) and there was a decrease in satisfaction in friends and family relationships (Eng and Heimberg 2006). Moreover, most students often live in their own homes, and the support from others will be somewhat limited, especially in the case of living alone, rarely participating in social activities (Rapaport et al. 2005).

This study also found a negative impact of GAD on the environmental aspect of QOL. GAD negatively affects an individual's recreational and academic activities (Henning et al. 2007). In addition, GAD is characterised by excessive worries about many issues in life. These worries are mostly irrational and are subjective to an individual's sense of environment being reduced, and the financial burden will increase (Toghanian et al. 2014). A study of Vietnamese medical students has shown that there is a relationship between GAD and satisfaction with living conditions, study programs, and facilities of the university (Nguyen et al. 2016). These may explain the negative effects of GAD on the environmental aspect of the QOL.

GAD is a mental disorder that negatively affects students' QOL, confirming this association is the basis for improving students' QOL. Through the improvement of GAD levels, the QOL of students is enhanced. Moreover, this is an important basis for setting goals for GAD treatment of undergraduate students.

CONCLUSION

Students with GAD had lower QOLs than students without GAD. In addition, GAD negatively affects all domains of physical health, mental health, and social and environmental aspects in QOL of undergraduate students in Ho Chi Minh City.

RECOMMENDATIONS

The results allow the researchers to propose solutions to improve students' QOL based on the four aspects as follows:

1. Physical health aspect: Designing the training exercises in the context of social distancing
2. Mental health aspect: Designing the meditation exercises, relax and release negative emotions, or personal counselling
3. Social aspect: Designing the interactive online activities, game shows and seminars/workshops in mental health or GAD
4. Environmental aspect: Recommendations to adjust social security policies, support people affected by COVID-19.

When these measures are implemented, students will control and overcome the GAD, which will help them to improve their lives more positively.

LIMITATIONS

Because this is a cross-sectional study, the results are only temporal, focusing on the impact of GAD on QOL. This study has not clarified the mechanisms and factors affecting the relationship between GAD and QOL. Therefore, further studies need to diversify research methods and clarify the mechanisms of action and factors affecting this relationship.

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