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Articles

Cross Sectional Study: Family Relationships and Self- Esteem and Its Association with Mental Well-Being among Medical Students in A Malaysian University

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Abstract

Background: Students mental health is a common concern as it is reflected on their academic performance and quality of life. Self-esteem and family relationships play important roles in mental health. Therefore, this study is aimed to measure the prevalence of mental well-being among medical students and its associated factors including self-esteem and family relationships.

Methods: A cross-sectional study was conducted among 227 undergraduate medical students from International Islamic University Malaysia (IIUM) Kuantan campus. Self-administered online questionnaires were given to the respondents. Self-esteem was assessed using the Rosenberg Self-esteem Scale questionnaire. Family relationships was divided into 2 factors; Closeness with family which was measured by 3 items adopted from the Family Adaptation and Cohesion Evaluation Scale and the second factor of family congruence was measured by 7 items from Intergenerational Family Congruence Child Scale (IFC-CS). Mental well-being was assessed using The Warwick-Edinburgh Mental Well-Being Scale.

Results: The mean level of mental well-being was 50.31 ± 8.83 with 15% of our respondents having low mental well- being, 70.8% having moderate mental well- being and 14.2% having high mental well-being. Pearson's correlation analysis showed that there is a significant relationship between mental well- being and closeness to family ($p < 0.01$), family congruence ($p < 0.01$) and self-esteem ($p < 0.01$). This study found out that 38.9% of students had high self-esteem, 22.6% moderate self-esteem and 38.5% low self-esteem. No significant relationship was found between mental well-being and age, gender, year of study, main financial support, and marital status.

Conclusion: Although most of the students have moderate mental well-being, however, mental health is still a vital issue. High self-esteem, family closeness and family congruence are positively correlated with high level of mental well-being among medical students. Measures need to be taken to come up with a dynamic plan to upgrade student's self-esteem and mental well-being which in return will enhance students' academic achievements. One of the limitations of this study is that the study design was cross sectional and so the variable's causality and its outcome cannot be clearly assessed despite the effort to study the associations between the variables. Large scale research that involves larger and various target populations needs to be carried out to allow the evaluation of many other factors that affect well-being.

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1. Introduction

Mental health is a fundamental and crucial component of health based on World Health Organization (WHO) constitution which defines mental health as a state of well-being in which a person can acknowledge their capabilities, live a normal life despite the presence of normal stresses and be able to work fully and contribute to the community (WHO website, 2022).

Based on the dynamic model of well-being, introduced by New Economics Foundation well-being can be affected by a potential driver which are personal resources and external conditions (Michaelson & Schifferes, 2012).

The prevalence of mental health problems in Malaysia is still increasing in trend especially among adults, where statistics from national health and morbidity survey (NHMS) stated that it rose from 10.7% in 1996 to 29.2% in 2015 (Institute for Public Health (IPH), 2015).

Mental health issues have increased in parallel to the increase of Malaysian educational performance (Lavinya A/P Vasudevan et al., 2019). Professional careers especially are exposed to higher stress environments that can influence their well-being. Medical students are not an exception. One of the studies conducted among medical students revealed that 30.1% of the student had poor mental well-being (Radeef & Faisal, 2017).

Parents play the biggest role in determining the mental well-being of their child (Golombok, 2015). Parent-child relationships that are unresponsive and lack cohesiveness, warmth and emotional support are stressful for the children and these factors are associated with depression, maladaptive ways of coping with negative affect and health threatening behaviours in youth (Taylor & Repetti, 1997). On the other hand, supportive parents that are affectionate and allow appropriate autonomy is associated with good psychological functioning across life (Stafford et al., 2015).

The quality of family relationships plays a major role in one's well-being. Disruption of this relationship will decrease the individual survival ability by affecting an individual's well-being (Thomas et al., 2017). Family closeness is simply known as bonding of emotional and interdependent behavior between family members (Samek & Rueter, 2011). There is also a study carried out by (Suldo & Fefer, 2013) proving that students who received good support from their family end up with a high level of well-being. This statement is supported by an article written by Mustafa et al., 2010), where they study the correlation between parental support and the well-being of a medical student. The result shows parental support can act as a strong protective mechanism for them to face all the hardship as a medical student and their future career.

Individuals with strong family closeness are found to have good self-esteem, optimism, high endurance and many positive effects that finally result in healthier lifestyles (Thomas et al., 2017).

Self-esteem is defined in the Oxford Advanced American Dictionary as the feeling of being happy towards one's own worth and abilities. Personal self-esteem is developed when an individual is satisfied or happy with his own talents and abilities. Relational self-esteem is implicated when an individual derives his sense of self-worth from his relationship with his significant others including his spouse, family members and friends. (Du et al., 2017). There is a strong relationship between personal self-esteem and well-being (Sowislo & Orth, 2013) and a study conducted among dental students showed that there is a negative correlation between psychological distress and self-esteem (Radeef & Faisal, 2017).

Mental well-being is significantly important especially now that we have to battle with the Covid pandemic. The Covid pandemic will have a significant impact especially on the people who had other underlying mental problems which will further complicate the process towards positive mental well-being. (Zadow et al., 2017).

COVID-19 is a major challenge to the mental health of working professionals as a substantial proportion of them experienced high levels of depression, anxiety, and stress (Hummel et al., 2021).

A review study conducted in 2021 had shown that the prevalence of depression (39%) or anxiety (36%) among college students greatly increased during the COVID-19 pandemic (Li et al., 2021).

Unfortunately, the level of ignorance on the importance of positive well-being among practitioner, academic, is still ongoing while many research papers focus only on effect reduction and outcome. Hence, this study was carried out to fill the gap for further understanding the relationship between psychological factors and mental well-being.

Thus, it is crucial to assess the mental well-being in relation to self-esteem and family relationships among medical students as family closeness is important for the students as they need a strong pillar of support for them to survive the harsh life as a professional practitioner.

However, there are a very limited number of studies conducted to study the relationship between psychological factors and mental well-being among undergraduate Malaysian medical students. Thus, the current study aimed to fill this gap as it aimed to measure the prevalence of mental well-being among medical students and its associated factors including self-esteem and family relationships.

The results of this study may aid in designing appropriate intervention strategies and planning to enhance the students' learning abilities and their lifestyle.

2. Methodology

A cross sectional study was conducted among 227 undergraduate medical students at International Islamic University Malaysia, Kuantan (IIUM). The duration of this study was from May 2020 until November 2020. The ethical approval was granted by IIUM Research Ethics Committee (IREC) prior to commence the study. The sample was selected using simple random sampling method. Since this study was conducted during coronavirus (COVID-19) pandemic and due to recovery movement control order (RMCO), a systemic face to face data collection is not permissible, hence, web-based questionnaires via online survey through Google Form were used.

The inclusion criteria for the selection of participants were IIUM medical students, aged between 18- to 30-year-old and able to understand English. Meanwhile, students who were under medical treatment for psychiatric issues at the time of the study or those who were taken part in a stress management program prior to recruitment for the current study were excluded from the study.

Sociodemographic data of the students which includes the age, gender, relationship status, main financial support and level of study were recorded for this study. The mental well-being was assessed by the Warwick- Edinburgh Mental Well- Being Scale (WEMWBS).

WEMWBS is a 14-item scale of mental well-being covering subjective well-being and psychological functioning, in which all items are worded positively and address aspects of positive mental health. The scale is scored by summing responses to each item answered on a 1 to 5 Likert scale. The minimum scale score is 14 and the maximum is 70 (Tennant et al., 2007).

WEMWBS has been frequently used in studies as a convenient tool to score mental well-being (Koushede et al., 2019; Stewart-Brown, 2011).

The Rosenberg Self-esteem Scale (RSE) was used to measure global self-esteem. It is a 10-item scale with a four-point Likert scale, from 1 = “strongly disagree” to 4 = “strongly agree” (Rosenberg, 1965). The RSE has demonstrated acceptable alpha reliabilities ranging from 0.72 to 0.90 (Robins et al., 2001).

Intergenerational Family Congruence Child Scale (IFC-CS) (Ying et al., 2007) measures the degree of parent-offspring agreement on values and behaviors, from the perspective of children of immigrants (e.g., “My family and I agree on the aims, goals and things believed to be important in life”). The IFC-CS consists of eight items, with responses measured on a five-point Likert scale where 1 = “strongly disagree” and 5 = “strongly agree”. The validating study found the first 7 items scale had good internal reliability, with an alpha of .87 for father items and .89 for mother items. Construct validity was also determined to be good, with the first 7 items all significantly correlating with the final item measuring overall relationship satisfaction (ranging from .43 to .75, $p < .001$).

Perceptions of closeness with family were measured by three items adopted from the Family Adaptation and Cohesion Evaluation Scales (Olson et al., 1979). The original items were developed to be answered separately for the respondents’ mother and father but was adapted in the current study to measure closeness with family in general. The three items were measured on a five-point Likert scale ranging from 1 = “Almost never” to 5 = “Almost Always”. Previous research has demonstrated good reliability, with alpha coefficients ranging from .85 to .88 (Hardway et al., 2006).

2.1 Statistical Analysis

The statistical package for social sciences (SPSS) software version 22.0 was used for both descriptive and inferential analysis. Univariate statistics such as mean values, standard deviations, frequencies, and proportion percentages derived for continuous and categorical variables respectively. Frequency (numbers) and percentage were used to represent the

sociodemographic factors of gender, year of study, main financial support, marital status, and self-esteem. The Kolmogorov -Smirnov tests were used to assess the normality of the distribution of each variable.

Independent t-test was used to compare the mean scores of mental well-being between 2 two independent variables while the one-way ANOVA was used for more than two variables followed by a post-hoc test to determine the significance between the data of main financial support, marital status, year of study and self-esteem. Pearson's correlation was used to analyze the relationship between mental well- being with closeness to family, family congruence and self-esteem. P value less than 0.05 was used as the level of significant.

3. Results

Out of 267 randomly selected medical undergraduates of IIUM Kuantan, 227 of them participated in this study, hence the response rate is 85.0%. The mean age of our respondents is 22 years old at the time of the study in which 33.2% (n= 75) of them were male and 66.8% (n= 151) were female. Majority of our respondents were third year students which makes up 26.1% (n=59) of the total respondents.

A rate of 58% (n=131) of the participants were able to secure scholarships as their main financial support while the other 23% (n=52) mainly depend on their parents and 18% (n=41) of our participants depend on their education loans.

About 96.9% (n=219) of the participants were single, while 2.2% (n=5) were engaged and 0.9% (n=2) of them were married.

Table 1. Sociodemographic characteristics of IIUM Kuantan medical undergraduates (N= 266)

Characteristics	Mean (SD)
Age in years	22.51 (1.72)
	n (%)
Gender	
Male	75 (33.2)
Female	151 (66.8)

Year of study	
Year 1	39 (17.3)
Year 2	48 (21.2)
Year 3	59 (26.1)
Year 4	33 (14.6)
Year 5	47 (20.8)
Main Financial Support	
Scholarship	131 (58.0)
Parents	52(23.0)
Loan	41 (18.1)
Part time/ casual work	1 (0.4)
Marital Status	
Single	219 (96.9)
Engaged	5 (2.2)
Married	2 (0.9)

The mean mental well- being among our respondents is 50.31 with standard deviation of 8.83 as shown in Table 2. The lowest score obtained among our respondents was 24 while the highest score was 70. 15%. A total of 34 (15%) of the respondents were found to have low mental well-being, 160 (70.8%) of them have moderate mental well- being while the remaining 32 (14.2%) have high mental well- being.

Table 2. Levels of Mental Well- being Among IIUM Kuantan Medical Students (N=266)

	Mean (SD)	
Mental well- being	50.31 (8.83)	
	N	(%)
Low mental well- being	34	15.0
Moderate mental well- being	160	70.8
High mental well- being	32	14.2

Table 3 shows the descriptive analysis for family closeness, family congruence and self-esteem.

The mean score for the closeness of our respondents with their family was 11.78 ± 2.58 while the mean score for family congruence was 40.11 ± 6.83 . On the other hand, the mean score for the self-esteem level among our respondents is 27.41 ± 5.61 . 38.9%. A total of 88 (38.9%) of our respondents have high self-esteem while 51 (22.6%) and 87 (38.5%) have moderate and low self-esteem respectively.

Table 3. Relations of Family and Self-esteem with Mental Well-being (N= 266)

Characteristics	Mean (SD)	
Closeness to family	11.78 (2.58)	
Family Congruence	40.11 (6.83)	
Self-esteem	27.42 (5.61)	
	N	(%)
High self-esteem	88	(38.9)
Moderate self-esteem	51	(22.6)
Low self-esteem	87	(38.5)

Table 4 shows the relationship between sociodemographic factors, closeness to family, family congruence and self-esteem with mental well-being. The results from Pearson's correlation analysis shows that mental well-being is significantly associated with closeness to family ($p < 0.01$), family congruence ($p < 0.01$) and self-esteem ($p < 0.01$). However, in this study, there is no significant relation between sociodemographic factors and mental well-being. This includes the age ($p < 0.07$), gender ($p = 0.38$), year of study ($p = 0.581$), main financial support ($p = 0.30$), and marital status ($p = 0.875$).

Table 4. Relation of factors with mental well-being of IIUM Kuantan medical students.

Characteristics	Mean (SD)	p- value
Age in years	22.51 (1.72)	0.07*
Closeness to family	11.78 (2.58)	<0.01*
Family congruence	40.11 (6.83)	<0.01*
Self-esteem	27.41 (5.61)	<0.01*
N (%)		
Gender		
Male	75(33.2)	0.38**
Female	151 (66.8)	
Year of study		
Year 1	39 (17.3)	0.581†
Year 2	48 (21.2)	
Year 3	59 (26.1)	
Year 4	33 (14.6)	
Year 5	47 (20.8)	
Main financial support		
Scholarship	131 (58.0)	0.30†
Loan	41 (18.1)	

Parents	52 (23.0)	
Part time/ casual work	1 (0.4)	
Marital status		
Single	219 (96.9)	0.875†
Engaged	5 (2.2)	
Married	2 (0.9)	

*Pearson correlation

**Independent t-test

†One- way ANOVA

4. Discussion

The mean level of mental well-being among undergraduate medical students of IIUM Kuantan was 50.31. This value was comparable to other studies conducted globally (Ahmed et al., 2020; Lim et al., 2017; Trousselard et al., 2016). However, the mean well-being score in this research was slightly higher compared to another similar research done at Melaka-Manipal Medical college, Malaysia in 2019 showed that the mean mental well-being of 46.1 + 8.5 with a range of 14.0 to 100.0 (Lavinya A/P Vasudevan et al., 2019). This difference can be due to the different foundation establishments between the two universities. IIUM is a public university while Manipal is a private university; hence, there will be differences in academic and examination systems conducted.

In this study, about 15% of the students in this study have low mental wellbeing and 70.8% moderate wellbeing. While in a previous study using General health questionnaire (GHQ-12), which was also done on medical students at IIUM, revealed that 30.1% of students have poor mental wellbeing (Radeef & Faisal, 2017). This difference may be due to the use of a different tool. It is important to note that WEMWBS has limitations in terms of exact values that help differentiate between high or low mental well-being. This is because the questionnaire is not designed to identify people affected with mental issues (Stewart-Brown et al., 2007). As a result, most studies only calculate the mean and standard deviation and compare the result with the Student's T- test. However, for this study, we categorized the respondents into having low, moderate, and high mental well- being based on their scores. Similar approach done in Finland, where their respondents were categorized into having low mental well- being (scores below 44),

moderate mental well-being (scores 44 to 61) and high mental well-being (scores above 61) (Tamminen et al., 2020).

The current research showed no correlation between age, gender, year of study, financial support, and marital status with the level of mental well-being which were supported by other studies. Research by Khumalo et al. (2012), found no correlation between age and gender with level of well-being and also by another study conducted in Malaysia using GHQ-12 (Zulkefly, 2010), this is in line with study conducted in UK among medical student that concluded there is no There were differences in prevalence or in mean scores of stress between both genders using GHQ-12 (Firth, 1986). However, in another study conducted among medical students using depression, anxiety and stress scale DASS-21, females showed significantly higher emotional disturbances than males (Radeef & Faisal, 2016) and another study conducted in Sweden among medical students assessing depression and anxiety using the Higher Education Stress Inventory (HESI), the Major Depression Inventory (MDI) showed that female students have higher rates of depression and anxiety (Dahlin et al., 2005), while in another study, female students had a significantly higher mean score than males, however although the mean score was higher in females it was only significant in the pre-clinical phase (Radeef & Faisal, 2017).

There is no significant correlation between age, marital status, and total family income with the prevalence of mental well-being in terms of anxiety and depression among medical students from Nishtar Medical College, Multan (Jadoon et al., 2010). While a study in Hong Kong revealed no significant correlation between years of study with medical student's well-being in that area (Chau et al., 2019).

However, other research shows significant correlation between increasing age with high mental well-being (Carstensen et al., 2011; Panahi et al., 2013). This can be explained due to maturation based on age results in higher levels of well-being (Márquez-González, 2014). In terms of gender, there are articles that show females have higher well-being compared to males (Awasthi et al., 2016; Panahi et al., 2013) while a study conducted in Australia revealed the opposite (Rosenthal et al., 2006). Previous studies had shown a positive correlation between marriage status and well-being (Liranso et al., 2018; Melaku et al., 2020). Lastly, research by Taylor et al. (2017) and Kirkpatrick Johnson (2013) shows the higher the financial support, the higher the level of mental well-being among their respective population.

This research also shows a positive correlation between family closeness and mental health. This result was supported by various other studies done previously, where most of them found that a strong family support helped to boost their well-being (Suldo et al., 2013; Thomas et al., 2017).

In a previous study, low mental well-being among medical students was associated with students who have less family bonding (King et al., 2017). Family closeness can also act as a protective mechanism against a stressful environment in medical school (Mustafa et al., 2010).

There is also a positive association between family congruence with level of mental well-being. Families who give appropriate autonomy to their children helps improve mental well-being (Stafford et al., 2015). Meanwhile, other research found that excessive authority will cause the opposite effect and they are susceptible to peers' influence (Moore et al., 2018). Hence it is important to balance between the levels of autonomy and restriction so that it helps maintain the congruence within the family.

Based on García et al. (2019), by using Rosenberg Self-Esteem scale (RSS) those who have previous bad experience with an event, they are more likely to have low to medium self-esteem. This result is in line with current study in which more than 60% of participants are categorized in the low and medium self-esteem. Hence, it indicates a strong need to have proper intervention with these groups of people so that they can achieve a higher self-esteem.

Overall, our research manages to get a high response rate (85%) hence, the confounder can be reduced. We are also using validated questionnaires such as and WEMWBS. However, one of the limitations of this study is that it was conducted online during COVID 19 pandemic movement control order which can affect the results. Also, the study design was cross sectional and so the variable's causality and its outcome cannot be clearly assessed despite the effort to study the associations between the variables.

Conclusion

To conclude, our research shows significant correlation between family closeness, family congruence and self-esteem with mental-well-being. Hence, with higher self-esteem higher family closeness and congruence, i.e., closer family relationship and bond, the higher the level of mental well-being.

It is important for the higher authority of the faculty to further study on this issue so that it will help elevate students' mental well-being. Counseling services and mentorship programs in medical fields need to be empowered and utilized to a maximum so that early detection and treatment can be done. Large scale research that involves larger and various target populations needs to be carried out to allow the evaluation of many other factors that affect well-being. Also, further studies on the same targeted population (medical student) or other targeted population

(i.e., other courses, other age groups) with mental well-being using a larger number of populations in order to obtain various findings and increasing the reliability of the result.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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