Research Article | *Annals of Clinical and Medical Case Reports & Reviews*

Impact of Social Loneliness on Quality of Life Among Medical Students in A Private Medical School in Seremban, Malaysia

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Citation: Rashad MM, Q-Long PC, Rifhan FZM, Suhim NHA, El Hariri S (2023) Impact of Social Loneliness on Quality of Life Among Medical Students in A Private Medical School in Seremban, Malaysia. Ann Clin Med Cas Rep Rev: 110. Doi: 10.47378/ACMCRR/2834-5231/100110.

Received Date: May 18, 2023; **Accepted Date:** May 22, 2023; **Published Date:** May 29, 2023

Abstract

Background: Medical students often face unique stressors that can increase their feelings of loneliness and disconnection from their peers. Research has shown that social loneliness is linked to decreased academic performance, increased burnout, and poorer mental health outcomes among medical students. However, there is limited research exploring the impact of social loneliness on the quality of life of medical students in Malaysia. This study seeks to examine the prevalence of social loneliness among medical students and its relationship with various domains of quality of life. The findings of this study could help in developing interventions to support the mental health and well-being of medical students. The study aims to investigate the impact of social loneliness on the quality of life among medical students in a private medical school in Seremban City, Malaysia.
Methods: A cross-sectional study of 378 International Medical University (IMU) medical students in Malaysia was performed. A Likert scale questionnaire of the world health organization WHO's brief quality of life assessment and the De Jong Gierveld Loneliness Scale through an online survey was used as an instrument. Statistical analysis and Pearson's correlation coefficient will be used to look for any significance between social loneliness and Quality of life.
Results: Negative correlation significantly was found in the students based on our data between social loneliness and overall quality of life among medical students included in the study. The correlation was found to be (-.485) between social loneliness and overall quality of life.
Conclusion: Social loneliness does indeed have a significant negative impact on a student's quality of life. This can help us look for ways to combat the domains affected by social loneliness; this will aid in improving their mental well-being, physical health, and social relationships.

Keywords:
loneliness, social isolation, quality of life, medical students.

Introduction

Social loneliness is a growing concern among medical students worldwide, as they face unique stressors that may exacerbate their feelings of loneliness and disconnection from their peers [1]. Social loneliness is a subjective feeling of distress caused by a perceived lack of social connections or support. It is a common experience among medical students, who may struggle to balance the demands of their coursework with maintaining social relationships. Several studies have examined the relationship between social loneliness and quality of life among various populations, such as older adults and cancer patients [2,3]. These studies have found that social loneliness is associated with poorer quality of life and increased mortality rates. However, few studies have investigated the impact of social loneliness on the quality of life among medical students.

In this study, we aim to investigate the impact of social loneliness on the quality of life among medical students. Specifically, we seek to examine the prevalence of social loneliness among them and assess the relationship between social loneliness and various domains of quality of life, including physical health, mental health, and social functioning. Understanding the impact of social loneliness on the quality of life of medical students is crucial for developing effective interventions to support their mental health and well-being. By identifying the factors that contribute to social loneliness, we can develop targeted interventions to reduce its impact and promote positive outcomes for medical students.

Loneliness refers to the feeling of distress that arises when there is a difference between one's desired and actual social relationships. It is important to note that loneliness is not the same as being physically alone. It is a subjective experience that arises from a perceived lack of satisfying social connections or intimate relationships. This perspective on loneliness emphasizes the cognitive aspect of the experience and highlights the individual's subjective sense of deficiency in their social connections [4]. Loneliness causes people to feel empty, alone, and unwanted. Lonely people often crave human interaction, but their state of mind makes it more difficult to form connections with other people [5].

Various factors can lead to loneliness, and these causes can vary from one person to another. Some individuals may feel lonely because they are not accepted by their social circle, community, or society. Others may experience loneliness because of a crisis

or a temporary life transition. Emotional or intellectual factors or even psychiatric disorders can also contribute to loneliness in some cases. Situational factors such as physical isolation or relocating to a new area can also cause loneliness. The loss of a significant person in one's life can also result in loneliness. Additionally, internal factors such as low self-esteem can also contribute to feelings of loneliness [4].

Loneliness is one of the main manifestations of depression, which is recognized as a common and debilitating problem in the student population. It is a serious mental health concern that affects all areas of human functionality which could negatively impact the experience at university including motivation, concentration, feelings of self-worth, and mood [6].

Depressive symptoms in students can compromise learning and memory processes, adversely affecting academic performance which is associated with drinking and suicidal ideation. Depression has no social or cultural boundaries, as it may impact students of any age, sex, socio-economic status, ethnicity, and year level. University serves as a transitional period from adolescence to adulthood, during which students strive to establish their own identity while also forming close social relationships with others. For many students residing on campus, this may be the first time they are living away from their parents and without the emotional and social support they provide. Inadequate social and emotional support for university students can result in negative psychological outcomes such as loneliness and depression. Lonely students often have a lower sense of self-worth, with negative evaluations of their health, appearance, behavior, and overall functioning [4].

Medical students are particularly susceptible to experiencing depression, anxiety, and loneliness, with many expressing feelings of isolation and loneliness on online forums [7]. In both middle-aged and older adults, there is a link between interpersonal stress and sleep problems, including difficulty sleeping at night and excessive daytime sleepiness [8].

Quality of life can be seen in the aspect of the mental, physical, and social well-being of an individual. Environmental factors can also play a key role in the quality of life. Loneliness is defined based on an individual's social needs and the degree to which these needs are met through meaningful social interactions [9].

Social well-being encompasses a friend's circle, family relationships, and marital life while physical well-being focuses on physical health, physical activity, and satisfaction in the physical functioning of an individual. On the contrary, mental well-being encompasses the mental status, concentration, memory, mood/emotion, self-esteem, appearance, sleep, sexual activity, and eating activity of an individual. Environmental aspects include financial status, living place conditions, access to health services, and personal safety [9].

Research demonstrates that families play a critical role in providing support for medical students. Two key elements of medical professionalism, empathy, and lifelong learning have been found to serve as protective factors against burnout in international students [7].

Efforts on a person's physical, mental, environmental, and social well-being must be closely assessed in a patient's care. The early recognition of a person being lonely will help prevent a potential risk that would otherwise emerge if left unnoticed. Evaluating and recognizing can help healthcare professionals improve the well-being of their patients by aiding in the potential management of an individual.

Methodology

Study design:

Cross-sectional study.

The study is designed to acquire research evidence regarding the quality of life among medical students in a private medical school in Seremban, Malaysia.

Inclusion criteria:

All IMU active medical students who are in the clinical phase with ages of 18 and above have given signed consent and can comprehend English.

Exclusion criteria:

Forms without a signed consent, incomplete forms, if unable to comprehend English, non-IMU medical students, and those diagnosed with a psychiatric disorder or other medical serious diseases

Data Collection:

IMU is the only private medical school in Seremban, therefore only all medical students in IMU, particularly those in the clinical phase, are selected. All IMU medical students between the ages of 18 and above will be invited to participate in the questionnaire through an online survey. We chose Microsoft Forms as the most convenient platform for the online survey as it is easily accessible as well as preventing duplication of responses. Each participant must use an email to access the survey which prevents double survey submission, but the email would not be accessible to us thus results will still be anonymous. For the physical distribution, the participants are not required to write their names to keep anonymity. The recruitment of participants will be through broadcasting the e-survey link through emails as well as social platforms. Several analytical questionnaires concerning the quality of life were chosen and adapted for this study assessment. We will be applying WHO's brief quality of life assessment to measure the quality of life of medical students and the De Jong Gierveld Loneliness Scale as a method to measure the level of loneliness of medical students for the questionnaire.

Data Analysis:

The collected data will be cleaned, coded then analyzed using the SPSS program version 27. We will use descriptive statistics such as frequency, percentage, mean and standard deviation to report the demographic data of the subjects. WHO's brief quality of life assessment and De Jong Gierveld Loneliness Scale will be used for our questionnaire and Pearson's correlation coefficient will be used to look for any significance between social loneliness and Quality of life and each domain individually.

Sample Size Calculation:

We calculated our sample size based on Sekaran recommendations. We estimated a total of 378 IMU medical students as our total population (N). Using the Raosoft sample size calculator, we calculated the sample size needed for a 95% confidence interval, an error margin of 5%, and an N of 378 IMU medical students in Seremban, Malaysia which concludes the required sample size as 191.

Results

Table 1: Correlations between Loneness and Quality of Life (QOL)

		Social Loneness	Emotional Loneness	Total Loneness	Physical Health	Psychological	Social Relationships	Environment	QOL
Social Loneness	Pearson Correlation	1	.405**	.823**	-.364**	-.396**	-.389**	-.432**	-.485**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
Emotional Loneness	Pearson Correlation	.405**	1	.853**	-.168	-.316**	-.229*	-.159	-.269**
	Sig. (2-tailed)	.000		.000	.065	.000	.011	.080	.003
Total Loneness	Pearson Correlation	.823**	.853**	1	-.312**	-.421**	-.364**	-.345**	-.443**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
Physical Health	Pearson Correlation	-.364**	-.168	-.312**	1	.650**	.388**	.693**	.801**
	Sig. (2-tailed)	.000	.065	.000		.000	.000	.000	.000
Psychological	Pearson Correlation	-.396**	-.316**	-.421**	.650**	1	.538**	.666**	.856**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
Social Relationships	Pearson Correlation	-.389**	-.229*	-.364**	.388**	.538**	1	.478**	.783**
	Sig. (2-tailed)	.000	.011	.000	.000	.000		.000	.000
Environment	Pearson Correlation	-.432**	-.159	-.345**	.693**	.666**	.478**	1	.840**
	Sig. (2-tailed)	.000	.080	.000	.000	.000	.000		.000
Overall QOL	Pearson Correlation	-.485**	-.269**	-.443**	.801**	.856**	.783**	.840**	1
	Sig. (2-tailed)	.000	.003	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 2: Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Age	122	7	20	27	22.77	1.232
Physical Health	122	67.86	32.14	100.00	66.5984	15.24192
Psychological	121	70.83	25.00	95.83	61.1915	15.94835
Social Relationships	122	91.67	8.33	100.00	56.4617	21.78615
Environment	122	71.88	28.13	100.00	69.4416	14.99781
Overall QOL	121	261.76	118.60	380.36	253.6558	55.67873
Social Lone	122	5.00	0.00	5.00	2.2377	1.86775
Emotional Lone	122	6.00	0.00	6.00	3.2295	2.03599
Total Lone	122	11.00	0.00	11.00	5.4672	3.27319

Response rate and participant recruitment

We estimated a total of 378 medical students who are in the clinical campus in Seremban City, Malaysia as our total population. We required a sample size of 191 within the 4 months the e-questionnaire link was open to the students. Due to the poor response rate, we were unable to reach the target sample size for the study. In this study we recruited 144 participants, however, 22 students were excluded due to psychiatric conditions hence the response rate was 63.8%.

Table 3: Demographics of the study sample and living circumstances.

Gender			
	MALE (%)	Female (%)	Total
	44(36.1)	78(63.9%)	122
Nationality			
	Malaysian (%)	Non-Malaysian (%)	
	104(85.2%)	18(14.8%)	122
Ethnicity			
	Frequency	Percent (%)	Cumulative (%)
Chinese	66	54.1	54.1
Malay	25	20.5	74.6
Indian	16	13.1	87.8
Sri Lankan	4	3.3	91.1
Maldivian	4	3.3	94.4
Arab	1	.8	95.2
Bangladeshi	1	.8	96.0
Kadazan	1	.8	96.8
Melanau	1	.8	97.6
Pashtun	1	.8	98.4
Sinhalese	1	.8	99.2
Burmese	1	.8	100.0
Academic Years			
Year 3	33	27	27
Year 4	60	49.2	76.2
Year 5	29	23.8	100
living circumstance			
Living alone	11	9.0	9.0
Living with a housemate	91	74.6	83.6
Living with parent(s)	17	13.9	97.5

Overall rating on the quality of life			
Very poor	82	67.2	67.2
Poor	18	14.8	82.0
Neither	7	5.7	87.7
Good	13	10.7	98.4
Satisfaction with health			
Very dissatisfied	18	14.8	14.8
Dissatisfied	27	22.1	36.9
Neither satisfied nor dissatisfied	64	52.5	89.3
Satisfied	1	.8	90.2
Very satisfied	12	9.8	100

Socio-demographic characteristics of participants

Out of the 122 respondents, the female-to-male ratio was 1.77:1, out of which 85.2% were Malaysians. Due to the limited sample size, the distribution among the ethnicities varied greatly, among which 54.1% were Chinese followed by Malays (20.5%) and Indians (13.2) respectively, in addition, Sri Lankan were 3.3% and Maldivians 3.3%, another side the others Ethnicity were shown equal our sample 0.8% Arab, Bangladeshi, Kadazan, Melanau, Pashtun, Sinhalese and Burmese. 49.2% of the respondents were from year 4, 27% respondents from year 3, and 23.8% respondents from year 5. Among the respondents, the majority (75%) of them lived with a housemate/roommate, 14 % lived with parents, 9 % lived alone and 2% lived with one parent. When questioned on the quality of life and satisfaction with their health, 67.2% of the participants stated to have a very poor quality of life,36.9% of participants were very dissatisfied with their health while 52.5% were neither satisfied nor dissatisfied with their health (Table 3).

Table 4: Domain 1 Physical health.

1. Interruption of physical pain in daily life			
Items	Frequency	Percent	Cumulative (%)
Not at all	51	41.8	41.8
A little	33	27.0	68.9
A moderate amount	18	14.8	38.6
Very much	16	13.1	69.7
An extreme amount	4	3.3	100
2. How much do you need any medical treatment to function in your daily life?			
Not at all	76	62.3	62.3
A little	33	27.0	89.3
A moderate amount	13	10.7	100
3. Do you have enough energy for everyday life?			
Not at all	16	13.1	13.1
A little	45	36.9	50
Moderately	49	40.2	90.2
Mostly	12	9.8	100
4. How well are you able to get around?			
Very poor	1	.8	.8
Poor	5	4.1	4.9
Neither poor nor well	31	25.4	30.3
Well	56	45.9	76.2
Very well	29	23.8	100
5. Ability to sleep well			
Very dissatisfied	6	4.9	4.9
Dissatisfied	26	21.3	26.2
Neither satisfied nor dissatisfied	39	32.0	58.2
Satisfied	40	32.8	91.0
Very satisfied	11	9.0	100
6. How satisfied are you with your ability to perform your daily living activities?			
Very dissatisfied	2	1.6	1.6
Dissatisfied	15	12.3	13.9
Neither satisfied nor dissatisfied	41	33.6	47.5
Satisfied	49	40.2	87.7
Very satisfied	15	12.3	100
7. How satisfied are you with your work capacity?			
Very dissatisfied	7	5.7	5.7

Dissatisfied	21	17.2	23.0
Neither satisfied nor dissatisfied	45	36.9	59.8
Satisfied	40	32.8	92.6
Very satisfied	9	7.4	100

Quality of Life on Physical Health

When asked if physical pain interrupted daily life, 58.2% stated to have little to an extreme amount of physical pain while 41.8% had no pain at all in daily life, among which only 46% responded to the need for little to moderate medical treatment. The percentage of respondents who said to have no or little energy in everyday life was 50% while 40.2% had only moderate energy. When asked about the ability to get around, 69.7% of students stated that they can get around well/very well. For the question, "How satisfied are you with your sleep?", only 41.8% were satisfied or very satisfied however 26.2% were either very dissatisfied or dissatisfied and 32% were neither satisfied nor dissatisfied with their sleep. Although the majority were satisfied/ very satisfied with their ability to perform daily activities (Table 4), most of them (59.8%) stated to be very dissatisfied/ dissatisfied/ neither satisfied nor dissatisfied with their capacity to work (Table 4).

Table 5: Domain 2 Psychological.

1. How much do you enjoy life?			
Items	Frequency	Percent	Cumulative (%)
A little	13	10.7	10,7
A moderate amount	42	34.4	45.5
Very much	47	38.5	84.3
An extreme amount	19	15.6	100.0
2. To what extent do you feel your life to be meaningful?			
A little	11	9.0	9.0
A moderate amount	32	26.2	35.2
Very much	58	47.5	82.7
An extreme amount	20	16.4	100
Missing system	1	0.8	
3. How well are you able to concentrate			
A little	22	18.0	18.0
A moderate amount	58	47.5	65.5
Very much	37	30.3	95.8
An extreme amount	4	3.3	99.1
Missing system	1	.8	
4. Are you able to accept your bodily appearance?			
Not at all	8	6.6	6.6
A little	12	9.8	16.4
Moderately	37	30.3	46.7
Mostly	41	33.6	80.3
Completely	24	19.7	100
5. How satisfied are you with yourself?			
Very dissatisfied	3	2.5	2.5
Dissatisfied	21	17.2	19.7
Neither satisfied nor dissatisfied	45	36.9	56.6
Satisfied	45	36.9	93.4
Very satisfied	8	6.6	100
6. How often do you have negative feelings, such as blue mood, despair, anxiety, depression			
Not at all	4	3.3	3.3
Seldom	58	47.5	50.8
Quite often	47	38.5	89.3
Very often	10	8.2	97.5
Always	3	2.5	100

Quality of Life on Psychological

About only 10.7% seem to have little ability to enjoy life, 34.4% of respondents found a moderate amount of enjoyment in their life, 38.5% had a lot of enjoyment and 15.6% enjoyed an extreme amount. Other than that, for the perception of a meaningful life, 9% found their life to be less meaningful than normal, 26.2% found their life moderately meaningful, 47.5% seem to agree that they have a meaningful life and 16.4% found their life very meaningful to an extreme amount. When asked about their ability to concentrate, almost half of them (47.5%) have a moderate amount of concentration, and another 30.3% reported having a high concentration. When asked about their acceptance of bodily appearance, 6.6% of them cannot accept at all, 9.8% can accept a little, 30.3% said to be moderate, 33.6% mostly accept and only 19.7% completely can accept their bodily appearance. Almost like their self-satisfaction, only 2.5% were very dissatisfied with themselves. However, there is quite a significant number, 36.9% who are neither satisfied nor

dissatisfied, and another 36.9% who are satisfied with themselves. When asked about the frequency of having negative feelings such as blue mood, despair, anxiety, and depression, a significant number of them seldom have those feelings (47.5%). However, 38.5% state that they quite often have those negative feelings and 8.2% very often have them (Table 5).

Table 6: Domain 3 Social relationships.

1. How satisfied are you with your personal relationships?			
Items	Frequency	Percent	Cumulative (%)
Very dissatisfied	6	4.9	4.9
Dissatisfied	23	18.9	23.8
Neither satisfied nor dissatisfied	27	22.1	45.9
Satisfied	48	39.3	85.2
Very satisfied	18	14.8	100
2. How satisfied are you with your sex life?			
Very dissatisfied	46	37.7	37.7
Dissatisfied	10	8.2	45.9
Neither satisfied nor dissatisfied	24	19.7	65.6
Satisfied	23	18.9	84.4
Very satisfied	19	15.6	100
3. How satisfied are you with the support you get from your friends?			
Very dissatisfied	3	2.5	2.5
Dissatisfied	8	6.6	9.0
Neither satisfied nor dissatisfied	43	35.2	44.3
Satisfied	42	34.4	78.7
Very satisfied	26	21.3	100

Quality of Life in Social Relationships

Among the 122 respondents, only 23.8% of them were not satisfied with their relationships while 54.1% of them were satisfied however 45.9% of them mentioned being very dissatisfied or dissatisfied with their sex life while only 34.5% said to be satisfied or very satisfied. When questioned about satisfaction with friends' support, the majority were satisfied or very satisfied (55.7%) (Table 6).

Table 7: Domain 4 Environment.

1. How safe do you feel in your daily life?			
Items	Frequency	Percent	Cumulative (%)
Not at all	2	1.6	1.6
Slightly	6	4.9	6.6
A moderate amount	30	24.6	31.1
Very much	58	47.5	78.7
Extremely	26	21.3	100
2. How healthy is your physical environment?			
Slightly	7	5.7	5.7
A moderate amount	43	35.2	41.0
Very much	49	40.2	81.1
Extremely	23	18.9	100
3. Have you enough money to meet your needs			
Not at all	2	1.6	1.6
A little	10	8.2	9.8
Moderately	30	24.6	34.4
Mostly	53	43.4	77.9
Completely	27	22.1	100
4. Information availability in daily life			
Not at all	4	3.3	3.3
A little	22	18.0	21.3
Moderately	59	48.4	69.7
Mostly	37	30.3	100
5. Opportunity for leisure activities			
Not at all	2	1.6	1.6

A little	21	17.2	18.9
Moderately	43	35.2	54.1
Mostly	36	29.5	83.6
Completely	20	16.5	100
6. Satisfaction with the condition of the living place			
Very dissatisfied	3	2.5	2.5
Dissatisfied	13	10.7	13.1
Neither satisfied nor dissatisfied	33	27.0	40.2
Satisfied	44	36.1	76.2
Very satisfied	29	23.8	100
7. Satisfaction with accessibility to health services			
Very dissatisfied	1	0.8	0.8
Dissatisfied	4	3.3	4.1
Neither satisfied nor dissatisfied	27	22.1	26.1
Satisfied	57	46.7	73.0
Very satisfied	33	27.0	100
8. Satisfaction with the mode of transportation			
Very dissatisfied	7	5.7	5.7
Dissatisfied	12	9.8	15.6
Neither satisfied nor dissatisfied	17	13.9	29.5
Satisfied	48	39.3	68.9
Very satisfied	38	31.1	100

Quality of Life in the Environment

For the question, "How safe do you feel in your daily life?", the majority (68.8%) stated to feel very safe or extremely safe, and when asked about satisfaction in the physical environment, 72% mentioned feeling very satisfied or extremely satisfied .65.5% of the respondents said to have good financial ability to meet their needs however the majority (48.4%) confirmed to have only moderate availability of information in their daily life. When asked about the opportunity for leisure activities, 54% said to have none to moderate opportunities moreover among the respondents, a higher percentage (59.9%) said to have satisfaction with their living space condition. Most of the participants were satisfied with their accessibility to health services (73.7%) and mode of transportation (70.4%) (Table 7).

Table 8: Loneliness descriptive statistics.

1. There is always someone I can talk to about my day-to-day problems.			
Items	Frequency	Percent	Cumulative (%)
Agree/Natural	84	68.9	68.9
Disagree	38	31.1	100
2. There are plenty of people I can lean on when I have problems			
Agree/Natural	64	52.5	52.5
Disagree	58	47.5	100
3. There are many people I can trust completely			
Agree/Natural	46	37.7	37.7
Disagree	76	62.3	100
4. There are enough people I feel close to			
Agree/Natural	70	57.4	57.4
Disagree	52	42.6	100
5. I can call on my friends whenever I need them			
Agree/Natural	73	59.8	59.8
Disagree	49	40.2	100
6. I miss having a really close friend			
Agree/Natural	57	46.7	46.7
Disagree	65	53.3	100
7. I experience a general sense of emptiness			
Agree/Natural	41	33.6	33.6
Disagree	81	66.4	100
8. I miss the pleasure of the company of others			
Agree/Natural	45	36.9	33.9
Disagree	77	63.1	100
9. I find my circle of friends and acquaintances too limited			
Agree/Natural	58	47.5	47.5
Disagree	64	52.5	100
10. I miss having people around me			

Agree/Natural	57	46.7	46.7
Disagree	65	53.3	100
11. I often feel rejected			
Agree/Natural	80	65.6	65.6
Disagree	42	34.4	100

Loneliness Descriptive Statistic on Quality of Life

For the statement about having people discuss day-to-day problems, 68.9% of them agree or were neutral about having those friendship circles while 31.1% disagree. When asked about whether they have people to lean on when they have problems, 52.5% of them agree/neutral and 47.5% disagree. 57.4% of the students stated that they have enough people that they feel close to and 42.6% disagree, however only 37.7% agree that they have many people that they can trust completely, and the rest disagree. When talking about the availability of friends whenever needed, 59,8% of them agreed upon it and 42.6% disagreed. Next, 53.3% agreed that they are longing to have a close friend, and the rest 46.7% disagree. One important issue to be highlighted here is when stated about a general sense of emptiness, most of them (66.4%) agreed to have it and only 33.6% disagree. 63.1% agreed that they miss the pleasure of other companies. We also found that 52.5% of the students agreed that their circles of friends and acquaintances are too limited, and 47.5% of them disagreed. Similarly, 53.3% are longing to have people around while 46.7% disagree. However, when asked about feelings of rejection, more than half of them (65.6%) disagree and 34.4% agreed upon that (Table 8).

Discussion

Socio-demographic characteristics of participants

Our study recruited 122 participants of different socio-demographic backgrounds from a private medical school in Malaysia. From our limited sample size, we can conclude that the distribution of ethnicity varies greatly, with Chinese being the majority, followed by Malays and Indians. Seventy-three percent of these students on the clinical campus lived independently with either a housemate or a roommate.

One issue worth highlighting here is that 67.2% of the students have given a very poor rating on their overall quality of life and the minority, which is only about 0.8%, find that they are satisfied with their health. This is consistent with the idea that students who had a higher sense of loneliness resulted in a lower quality of life. This also corresponds to a study that was conducted in Iran that mentioned the fact that it is vital to provide enough social support to reduce feelings of loneliness in adults [10].

Quality of life regarding Physical Health

Our study shows that the students take care of their physical health quite well compared to during the movement control order (MCO)isolation period. We found that 41.8% of the participants strongly felt that physical pain did not prevent them from doing what they needed to do. There were also 62.3% of them who did not need any medical treatment to function in their daily life.

The quality of life in their physical health has significantly improved now as compared to during the social isolation period. Participants with higher levels of physical activity and better physical health seem not to be affected despite the social isolation that they faced. This correlates with a study that was done in Poland, stating that regular physical activity can greatly contribute to the improvement of physical fitness and performance, reduction of the incidence risk of some occupational diseases, and consequently, to a general improvement of quality of life in terms of health status [11].

Quality of life regarding the psychological aspect

According to this study, the quality of life on the psychological aspect among the students has been shown to have improved after a period of social loneliness. Perspectives on a meaningful life, enjoyment in life, acceptance of bodily appearance, ability to concentrate, self-satisfaction, blue mood, despair, anxiety, and depression were stated to be negatively impacted. More than half of the students noted that they find joy in their life now much more to an extreme level (54.1%) and agreed to have a meaningful life (63.9%) post-isolation period.

These results correspond to a study conducted at Chittagong University in which a drop in cognitive function was witnessed as an impact of loneliness [4]. The same study manifests depression as a key symptom that affects students attributed to loneliness. The limitation in sample size is a key factor that may have varied if the respondents were on a larger scale. Conclusively the study corresponds to the aim as it highlights the impact on quality of life caused by social loneliness. The study aims to signify the importance of eliminating social loneliness which will aid in improving mental wellbeing.

Quality of life regarding the Social Relationship aspect

From the study, it shows that most students have a good social relationship between their friends and family. This was evident since almost half of the students who responded (54.1%) were satisfied enough with their relationships and had strong friends' support (55.7%) in their daily life.

These results correlate with a study done in India which showed that in the social relationship domain, the differences in the score of quality of life were significantly more among the respondents who participated in social interaction sessions as compared to those who had lower participation [12]. According to our survey, social interaction and relationships help students in preventing loneliness and thus improve their mental health. By sharing their feelings, the students can help each other in improving their quality of life.

Quality of life regarding the Environmental factors

Results have shown that the medical students' quality of life concerning environmental factors seemed to improve after a period of isolation. It seems that personal safety and satisfaction in the physical environment were also affected. Financial ability was also said to be affected although the availability of information in daily life was shown to be moderate. More than half of the respondents denied it when questioned about opportunities in leisure activities, moreover, the living condition and financial stability manifested to be impacted. The mode of transportation and access to health services was also shown to be affected due to social loneliness.

For the question, "How safe do you feel in your daily life after a period of loneliness due to social isolation?", the majority (68.8%) stated to feel very/extremely safe and when asked about satisfaction in the physical environment, 72% mentioned feeling very/extremely satisfied. This correlates with research conducted in Australia which stated that the living environment, living quality, public spaces and mobility, financial stability,

neighborhood, and safety are negatively altered because of loneliness [13].

Limitations of this study

One of the limitations in sample size is a key factor that may have varied if the respondents were on a larger scale. This is because of the poor response rate from the clinical phase medical students, which may be caused by their hectic busy schedules. Another issue worth mentioning is the honesty of the participants in answering the survey. There is a possibility that dishonesty may reduce the accuracy of our findings, especially on the social isolation due to MCO findings as it depends on the participants themselves recalling their feelings and life habits in the past.

Conclusion

In summary, we can conclude that an increase in social loneliness can result in a worsened quality of life. There is a lot of research out there that emphasizes the high-quality social connections, and the support people need as humans to keep going; is essential to our mental and physical health and overall well-being across all ages. Our study's Pearson correlation analysis revealed a negative association between social loneliness and overall quality of life. It has been shown in this study that social and emotional loneliness has had a negative correlation on each of the 4 domains which consist of physical health, psychological well-being, social relationships, and environmental aspects. These findings are consistent with the literature review given above.

Further research and direct interventions are necessary on larger sample sizes to better understand and address social loneliness. Additionally, proactive measures must be taken to identify and support individuals at high risk of social isolation and loneliness to prevent a decline in their overall quality of life.

In addition, we must think deeply throughout the results of this research about how to improve the quality of life of medical students for instance encouraging them to engage in group activities and combine the academic community to minimize loneliness and increase their competence and focus on healthy interactions among medical students.

Ethics approval: 255th IMU Joint-Committee on Research and Ethics Meeting.
On 9 December 2022, Kuala Lumpur, Malaysia.

Conflict of interests

No conflict of interest.

Funding: IMU was given incentive tokens for the questionnaire participation students.

Acknowledgment

We would like to acknowledge the World Health Organization (WHO) for providing the brief quality of life assessment used in this study. We are also grateful to Professor De Jong Gierveld for allowing us to use the De Jong Gierveld Loneliness Scale as part of our questionnaire. Finally, we would like to thank Professor Philip George who assisted in the research and provided his expert insights. God bless his soul; he passed away in November 2022; may he rest in peace.

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