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Loneliness And Its Determinants Among Medical Undergraduates In A Tertiary Care Hospital In Imphal, Manipur: A Cross-Sectional Study

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Abstract:
Background*: Loneliness is becoming a global public health concern affecting every facet of health, wellbeing and development. This study was conducted to assess loneliness and its determinants among medical undergraduate students in a tertiary care hospital in Manipur.*
Materials and Methods*: A cross-sectional study was conducted among undergraduate medical students who were in Phase I, II, and III Part 1 of the MBBS course in the institute. A sample size of 163 was calculated and convenience sampling was used. A pre-tested structured questionnaire was used for data collection. Data were summarized in mean, standard deviation, frequencies and percentage. T-tests was used to compare mean scores between loneliness and characteristic of participants. Statistical significance was taken at p value<0.05.*
Results*:There were 329 participants. The mean age of the participants was 21.15± 1.46.88 years. 27% consumed alcohol and 16% used tobacco in any form. 208 (63%) of the participants considered themselves healthy. More than half of the students had loneliness (51.4%). There was a significant association between loneliness score and academic performance (p value=0.001) and health status (p value=0.000).*
Conclusion: *Participants who perceived their academic performance as poor and did not consider themselves healthy had significantly higher mean loneliness scores.*
Key Word:*Loneliness; Medical students; Tertiary hospital.*

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I. Introduction

Loneliness is defined as a distressing feeling that accompanies the perception that one's social needs are not being met by the quantity or the quality of one's social relationship.[1] It is a negative and unpleasant feeling related to the deficient social relations, a perceived gap between the quality and quantity of relationship that we have and those we want. It is not necessarily being alone but it is the perception of being alone and isolation that affects them.[2]

Loneliness is associated with up to 25% increase in risk of early death, up to 30% increase in risk of stroke and cardiovascular disease and up to 50% increase in risk of developing dementia. The effect of social isolation and loneliness on mortality is comparable to that of other well established risk factors such as smoking, obesity and physical inactivity. 27% of age 19-29 years of the world feels lonely, according to the statistics of the survey done by Statista on percentage of people worldwide who reported negative effects on wellbeing from feelings of loneliness in 2022, by age group.[3]

It is estimated that more than 40% of Indians feel lonely. Higher rates of loneliness have been found in older adults. Among young adults in India, a survey found that 60% reported higher scores on loneliness, while another study reported a prevalence of 28.6% among young men from rural areas of North India.[4]

Loneliness transcends borders and is becoming a global public health concern affecting every facet of health, wellbeing and development.[5] The identification of loneliness among undergraduate medical students is crucial because it can significantly impact their mental health, academic performance, and overall well-being. Therefore, this study was conducted to assess loneliness among medical undergraduate students and to determine the association between loneliness and sociodemographic characteristics.

II. Material And Methods

Study Design: Cross-sectional study

Study Location: This was conducted in a tertiary care teaching hospital, Imphal West district of Manipur in North-eastern India. The annual intake is 125 MBBS students in the institute. Currently there are 505 MBBS students (Phase I-125, Phase II -123, Phase III Part 1-130, Phase III Part II -127).

Study Duration: February to April 2024.

Sample size: 163 students.

Sample size calculation: Sample size was calculated based on the formula n = Z2 1-α/2 SD2/d2 where the mean score of loneliness was 44.3 ± 12.75 taken from a previous study (Bruce LD et al)[6] with d= 2, Z1-α/2 = 1.96 for α=0.05 and a sample size of 163 was calculated.

Subjects & selection method: The study population was MBBS students. Convenience sampling was done for the selection of participants.

Exclusion criteria: Those who did not respond to the google form after two reminders were excluded from the study.

Procedure methodology:

A pre-tested structured questionnaire was used to collect the data made through extensive review of literature.[6-13]It had three sections: Section A, covering background characteristics, included 18 items; Section B had questions on behavioral characteristics with 10 items; and Section C comprised the revised UCLA Loneliness Scale[14], consisting of 20 items, which was used to assess subjective feelings of loneliness and social isolation. Participants scoring more than or equal to the mean score were considered lonely.

The participants were approached in the class and was briefed about the study. Informed consent form was included in the google form. The class representatives of each class were requested to circulate the link for google form among their respective classmates.

Ethical approval was obtained from the Research Ethics Board, RIMS, Imphal (Reference No:A/REB/Prop(SP)216/192/08/2024). A unique code number was assigned to each participant and no names were taken to maintain confidentiality. Data collected was kept secured. Only the investigators had access to the data set.

Statistical analysis:

Data were exported from google form, entered in excel sheet and analyzed using SPSS v26 (IBM, Armonk, New York, USA). Data so collected were sorted and checked for completeness and consistency. Descriptive statistics like mean, standard deviation, frequency and percentages was used. T-tests was used to compare mean scores between Loneliness scores and characteristic of participants. A p-value of less than 0.05 was considered as statistically significant.

III. Result

A total of 329 MBBS students participated in the study. The mean age of the participants was 21.15 ± 1.46 years, where minimum age was 18 and maximum was 26 years. Out of 329 participants, 166 (51%) were males; 125 (38%) belonged to Phase I, 108 (33%) belonged to Phase II and 96 (29%) belonged to Phase III.

Sociodemographic details are given in Table 1. Majority of the participants were heterosexual (n=232). 124 (38%) of the participants belonged to Hinduism, 122 (37%) belonged to Christianity, 38(11%) belonged to Sanamahism, 26(8%) belonged to Islam, and 19 (6%) belonged to other religions. 311 (95%) were hostellers whereas 18 (5%) were day scholars. Participants who were single were 223 (67%), whereas 81 (24%) were having a partner (boyfriend/girlfriend). 203 (61%) rated their academic performance as "satisfactory" and 91(27%) rate it as "bad" and 8 (2%) rate it as "excellent". Out of the total respondents, 100 (30%) lost a family member/relative/close friend in the past 1year. Parents of 5(2%) participants engaged in gambling regularly and parents of 55 (17%) were smokers. There were 88(27%) participants who consumed alcohol and 51 (16%) used tobacco as smokeless or smoking. 208 (63%) of the participants considered themselves healthy whereas 121 (37%) did not, and only 17 (5%) of them consult a doctor when they fall ill.

Table 1: Sociodemographic characteristics of the participants(N=329)

Sl. No.	Characteristics	Variable	Frequency	Percentage
1	**Gender**	Male	163	49
		Female	166	51
2	**Academic year**	Phase I	125	38
		Phase II	108	33
		Phase III part I	96	29
3	**Age in years (Mean ±SD)**		329	21.15±1.47
4	**Residential status**	Day scholar	18	5
		Hosteller	311	95
5	**Relationship status**	Single	223	67
		Having a partner (boyfriend/girlfriend)	81	24.6
		Do not want to say	25	7
6	**How would you rate your academic performance**	Excellent	8	2.4
		Very Good	14	4.2
		Satisfactory	203	61.7
		Bad	9113	27.65
		Very Bad		3.9
7	**Did you lose any family member/relative/close friend in past 1 year?**	Yes	100	30.4
		No	229	69.6
8	**Distribution of participants based on their parents' marital status**	Currently Married	299	90.8
		Divorced	2	0.6
		Separated	5	
		Widow/Widower	23	
9	**Parental smoking status**	Yes	55	17
		No	274	83
10	**Alcohol consumption**	Yes	88	27
		No	241	73
11	**Use of smokeless tobacco/smoking**	Yes	51	16
		No	278	84
12	**Do you consider yourself healthy?**	Yes	208	63
		No	121	37
13	**Do you consult a doctor when you fall ill?**	Always	17	5
		Often	52	16
		Sometimes	186	56
		Rarely	68	21
		Never	6	2

The mean loneliness score was 44.17±9.65. Participants scoring more than or equal to the mean score were considered lonely, which accounted for 169 participants (51.4%) (Table 2).

Table no2: Proportion of Loneliness among the participants (N= 329)

Score	No. of participants (n)	Percentage (%)
<mean score	160	48.6
≥ mean score	169	51.4

Participants who perceived their academic performance as bad had higher mean loneliness scores and it was statistically significant (p value=0.001). Participants who did not consider themselves healthy had higher mean loneliness scores and it was statistically significant (p value=0.000). There was no significant association between loneliness score and parents' marital status, parents' smoking and alcohol consumption, parents' gambling habits, participants' who experienced death of a family member/friend during the last 1 year and participants' smoking and alcohol habits (Table 3).

Table no3: Association between characteristics of the participants and Loneliness (N= 329)

VARIABLE	LONELINESS SCORE (MEAN±SD)	MEAN DIFFERENCE	CI (95%)	P-VALUE
Age				
<21	45.45 ± 10.05	-2.03	-4.19,0.13	0.065
≥ 21	43.42 ± 9.35			
Gender				
Male	43.80 ± 10.10	-0.73	-2.82, 1.36	0.492

Female	44.53 ± 9.17			
Phase				
Residential status				
Hosteller	44.22 ± 9.65	-1.06	-5.66, 3.54	0.651
Day scholar	43.16 ± 9.71			
Perceived academic performance				
Good	43.02 ± 9.16	-3.61	-5.83, -1.39	**0.001**
Bad	46.64 ± 10.23			
Any deceased member in family within 1 year?				
No	44.16 ± 9.77	-0.01	-2.29, 2.26	0.999
Yes	44.18 ± 9.38			
Parents marital status				
Currently married	44.27 ± 9.66	1.1	-2.53, 4.74	0.551
Single Parent	43.16 ± 9.60			
Does parents smoke regularly?				
Yes	45.74 ± 9.66	1.89	-0.90, 4.69	0.185
No	43.85 ± 9.63			
Does parents consume alcohol?				
Yes	45.66 ± 8.23	1.71	-1.41, 4.85	0.283
No	43.95 ± 9.83			
Do you consume alcohol?				
Yes	44.47 ± 10.91	0.41	-1.94, 2.78	0.728
No	44.05 ± 9.16			
Have you ever smoked/used smokeless tobacco?				
Yes	45.60 ± 10.77	1.7	-1.18, 4.59	0.248
No	43.90 ± 9.42			
Do you consider yourself healthy?				
Yes	41.13 ± 8.58	-8.25	-10.23, -6.27	**0.000**
No	49.38 ± 9.15			

IV. Discussion

From the findings of our study, gender was not significantly associated with loneliness which is in line with the study done in Turkish University students by Ozdemir U et al[15] where there was no statistically significant correlation between the gender of the students and the level of loneliness. This might be because loneliness may not be influenced by gender itself, but more by social factors such as personal connections, coping mechanisms, personality traits, digital communication etc. However, the findings were not consisted with the study conducted by Barreto M.et al[16] which showed that gender was negatively associated with loneliness.

In our study, the participants who smoke and/or use smokeless tobacco have higher mean loneliness scores than non-smokers, which is similar to the study findings conducted by Zahedi H et al[8] among university students which demonstrated that the magnitude of loneliness was higher among students reporting cigarette smoking in the past or present compared to non-smokers. This might be because smoking is often used as a way to cope with feelings of isolation and loneliness.

A study conducted by Alaviani M et al[12] among medical students in Maragheh University of Medical sciences showed that those who lived in dormitories have higher levels of loneliness than those living off the campus, which was in line with our findings where the participants who are hostellers have higher mean loneliness score as compared to those who are day scholars. This might be because the students who are living off-campus are most probably living with their families, so they have a stronger system which can help mitigate the feeling of loneliness.

Loneliness among medical undergraduates is an important issue which requires a multifaceted approach, including boosting peer support networks, providing mental health counselling sessions and creating opportunities for social engagement. By improving the support systems for the students and promoting a more supportive academic environment, medical schools can help diminish loneliness among students, thereby promoting their well-being and ensuring they remain motivated and resilient throughout their training. To our knowledge it is the first study to assess loneliness among medical undergraduate students in Manipur. However, a limitation of the study is that social desirability bias may have been introduced.

V. Conclusion

More than half of the students had loneliness. Students who perceived their academic performance as poor and did not consider themselves healthy had significantly higher mean loneliness scores. Educational programs about loneliness and its associated risk factors should be considered in undergraduate medical curriculum.

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