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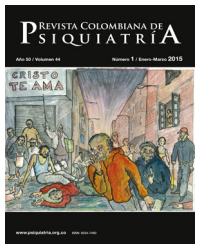

Artículo original

Analysis of Factors Influencing Depressive Mood: A Focus on Medical Students in Targeted Employment

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ABSTRACT

Objective: To study depression and its influencing factors in medical students with directed employment in medical schools.

Methods: In this study, 586 students enrolled in Wenzhou Medical University were studied, and the Patient Health Questionnaire Depression Scale (PHQ-9) was used to distinguish depressed mood from depressive symptoms and to establish a multivariate logistic regression model.

Results: Up to 60.9% of the survey respondents experienced depressive mood within two weeks, and 21.6% experienced mild or higher depressive symptoms. The majority of the students showed only depressive mood (64.5%), and depressive symptoms accounted for a small percentage (35.5%). The detection rate of depressive mood within 2 weeks was higher in female students (70.4%) than in male students. Medical specialty, whether or not students were directed medical students, whether or not students performed directed employment, being an only child, monthly living expenses, financial status, health status, personality, and self-perceived academic stress were significant factors ($P<0.05$) associated with depressed mood among university students. In this study, non-medical students were more likely to experience depression ($P<0.001$). Depression was higher among non-directed medical students ($P<0.001$). Among medical students with directed employment, those with non-compliance intention had a greater risk of depression ($P<0.01$). Medical students with depressed mood tended to self-regulate (82.1%) and had a less significant tendency to choose medication (25.3%).

Conclusions: With a high detection rate of depressive mood and symptoms and most students presenting only with depressive mood, early detection and interventions for depressive mood are essential to prevent deterioration of the target students' condition.

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Análisis de los factores que influyen en el estado de ánimo depresivo: un enfoque en los estudiantes de Medicina en el empleo dirigido

Palabras clave:
Estado de ánimo depresivo
Estudiantes de Medicina seleccionados
Factores de influencia

RESUMEN

Objetivo: Estudiar el estado de ánimo depresivo y sus factores de influencia entre los estudiantes de Medicina con empleo dirigido en las facultades de Medicina.
Métodos: En este trabajo, se analizó a 586 estudiantes matriculados en la Universidad Médica de Wenzhou, y se utilizó la Escala de Depresión del Cuestionario de Salud del Paciente (PHQ-9) para distinguir el estado de ánimo deprimido de los síntomas depresivos y establecer un modelo de regresión logística multivariante.
Resultados: Hasta el 60,9% de los encuestados experimentaron un estado de ánimo depresivo en 2 semanas y el 21,6%, síntomas depresivos leves o superiores. La mayoría de los estudiantes solo experimentaron un estado de ánimo depresivo (64,5%) y una pequeña proporción de síntomas depresivos (35,5%). La tasa de detección del estado de ánimo depresivo en un plazo de 2 semanas fue mayor mujeres (70,4%) que en varones. La carrera de Medicina, el hecho de ser estudiantes de Medicina dirigidos o no, el hecho de desempeñar o no un empleo dirigido, ser hijo único, los gastos mensuales de manutención, el estado financiero, el estado de salud, la personalidad y el estrés académico autopercibido fueron factores significativos ($p < 0,05$) asociados con el estado de ánimo depresivo entre los estudiantes universitarios. En este estudio, los estudiantes no médicos tenían más probabilidades de sufrir depresión ($p < 0,001$). La depresión fue más frecuente entre los estudiantes de Medicina no orientados ($p < 0,001$). Entre los estudiantes de Medicina con empleo dirigido, los que tenían intenciones de no cumplir tenían mayor riesgo de depresión ($p < 0,01$). Los estudiantes de Medicina con estado de ánimo deprimido tendían a autorregularse (82,1%), con una tendencia menos pronunciada a elegir la medicación (25,3%).
Conclusiones: Con un alto índice de detección del estado de ánimo y los síntomas depresivos y la mayoría de los estudiantes que presentan solo un estado de ánimo depresivo, la detección temprana y las intervenciones dirigidas al estado de ánimo depresivo son esenciales para prevenir el deterioro del estado de los estudiantes objetivo.

Introduction

Depression is a group of mood disorders characterised by significant and persistent clinical manifestations such as low mood, reduced interest and loss of pleasure, and is characterised by high morbidity, recurrence and disability, causing great physical and psychological suffering.[1] Depression, if left untreated, can develop into depression, and the higher the level of depression, the more likely it is that patients will develop suicidal behaviour and other serious consequences.[2] According to a survey by the World Health Organisation, the prevalence of depression is 4.2% globally at this stage, and 6.9% in China. The mental health problems of university students have been widely concerned by society and academia, and the detection rate of university students in China is 13.2%-42.1%,[3,4] among which the prevalence of depression among medical students is 30%, much higher than most other groups of university students.[5] In addition, depression is increasing at a rate of 113% per year and is becoming more prevalent at a younger age. Depression has become one of the most common emotions among medical students due to their long years of study and heavy academic load, as well as negative media opinions and tensions between doctors and patients in recent years.[6]

Psychological interventions for depressed mood can improve the patient's psychological state in a timely manner and prevent its further development and deterioration.[7] However, depressive symptoms are still predominantly treated as an aftercare intervention.[8] People generally do not have a high level of awareness of depression and fail to pay sufficient attention to their depressed mood.[9] How to help medical students improve their psychological health, sound personality and enhance their ability to withstand setbacks and adapt to society has a direct impact on the potential of medical students and the realisation of their life values.[10] Recent domestic and international studies have shown that the causes of depression in college students are related to a variety of factors; however, the mechanisms of depression occurrence have not been fully elucidated yet, and more research is still needed on the methods of depression prevention and intervention.[11] At the same time, besides the investigation of the detection rate of depressive mood, the factors influencing depressive mood and the ways to alleviate it are in urgent need of in-depth, and there is still great room for development of the investigation of depressive mood of related medical students. Based on the orientation training program for grassroots health personnel in recent years, the recruitment and recruitment of grassroots medical students are parallel; i.e., medical

students sign an orientation employment contract before enrollment, graduate and return to work in the designated area where they were domiciled before enrollment, which may bring new uncertainties to the mental health of medical students. Therefore, the group addressed this phenomenon by sampling the presence of depressive mood, degree of depression, and factors influencing depressive mood among medical students in Wenzhou Medical University, and preliminarily analyzing the factors influencing the production of depressive mood and depressive symptoms among medical students.

The purpose of this article is to reveal the current state of depressive mood in medical schools, to verify and explore the influencing factors, and to propose feasible measures to alleviate depression in medical students and target the treatment of depression. Based on the discussion of factors related to depressive symptoms among university students by Wang Miyuan and Han Fangfang,[12] and combined with the special situation of school-oriented employment, the study divided the influencing factors of depressive symptoms into multiple dimensions such as gender, grade, economic status, ethnicity, and academics, etc. The questionnaire and interview methods were used to collect data, and the findings were collated and analysed to form conclusions. The results of the study provide a reference basis for conducting research on depression prevention and control and the current status of depression among medical students, provide a basis and countermeasures for mental health and psychological counseling of medical students, achieve timely and effective, targeted professional education, psychological intervention and debugging for medical college students, correctly guide the direction of students' psychological balance, and provide a reference for relevant leading departments in formulating health policies.

Methods

The main factors affecting depression among medical students were identified by reviewing relevant literature. In this study, we used the Patients' Health Questionnaire Depression Scale-9 item (PHQ-9), which is a patient health questionnaire, to examine the depression of students at Wenzhou Medical University. The scale has short items, is able to screen the severity of depression, and has been shown to have good reliability and validity.[13] In this study, demographic characteristics related to influencing factors were added to the questionnaire and data were obtained by distributing the questionnaire online and offline. The data were recorded into SPSS 24.0 software and analyzed by χ^2 test with α=.05, and multivariate logistic regression models were established with relevant influencing factors as independent variables and depression severity as dependent variables to study the risk and protective factors of depression status of medical students.

Results

The demographic characteristics of the participants are shown in Table 1. 586 questionnaires were distributed in this study, and 550 valid questionnaires were returned, with an effective rate of 93.9%. The factors of this survey included gender, place of residence, grade level, major, whether they were directed medical students, whether they performed as directed medical students, whether they were only children, monthly living expenses, health status, whether their family members had suffered from depression, personality, and self-perceived academic stress. There were 270 male students (49.1%) and 280 female students (50.9%). The profession was dominated by medical students (76.4%), and 53.8% of the participants were orientation students. The status of orientation students indicates that they have signed a grassroots orientation employment contract before enrollment. The vast majority of students (81.5%) will fulfill their employment contracts; a small number of medical students (18.5%) have no intention of employment and will break the contract and compensate for the breach of contract and find their own employment units. College students with the grade of freshman and sophomore (93.6%), monthly living expenses of $232 to $310 (33.8%, 30.7%), good health status (82.4%), and no family members who have ever suffered from depression (96.0%) were predominant.

Up to 60.9% of the survey respondents experienced depressive mood within 2 weeks, 21.6% experienced mild and above depressive symptoms, and 4.4% experienced severe and above depressive symptoms. Table 2 shows the univariate analysis of factors influencing depression among the respondents. The results showed that medical major, whether or not they were oriented medical students, whether or not oriented medical students performed oriented employment, only child, monthly living expenses, financial status, health status, personality, and self-perceived academic stress were significant factors influencing depression among college students ($P<.05$). The detection rate of depression within 2 weeks was higher in female students (70.4%) than in male students (51.1%; $P<.001$). The detection rate increased significantly with grade in freshman, sophomore and junior years ($P<.01$). Non-medical students in this study were more likely to experience depression than medical students ($P<.001$). Among them, non-oriented employed medical students had a higher rate of depressive mood ($P<.001$). Among directed employment medical students, those with non-compliance intentions had a greater risk of depression ($P<.01$). Among the other demographic factors investigated, students who were not only children, poor economic status, fair and poor health, introverted, and self-perceived academic stress were more likely to experience depressive mood ($P<.001$).

Based on the universal criteria of the PHQ-9 scale and related studies, this study defined the presence of depressive symptoms with a score of 10 and above, and a score of 5-10 was defined as depressed mood. Table 3 shows the univariate analysis of the presence of depressive symptoms among depressed mood patients. The results of this analysis revealed that among the 335 depression-related students, the majority of students showed only depressive mood (64.5%) and a small proportion of depressive symptoms (35.5%), and that demographic characteristics including gender, residence, grade, major, only child or not, and economic status had no significant effect on the transition from depressive mood to depressive symptoms. However, factors such as average or poor health, introverted personality, and academic stress were significantly correlated ($P<.05$) with the exacerbation of depressive mood.

Table 1 – Demographic characteristics of survey respondents.

Variables	Total number (n = 550)	Male (n = 270)	Female (n = 280)	P-value
Place of residence				.003
City	304 (55.4)	166 (61.7)	138 (49.3)	
Rural	245 (44.6)	103 (38.3)	142 (50.7)	
Grade				.023
Freshman year	263 (47.8)	145 (53.7)	118 (42.1)	
Sophomore	252 (45.8)	111 (41.1)	141 (50.4)	
Junior	35 (6.4)	14 (5.2)	21 (7.5)	
Specialties				.117
Medical Students	420 (76.4)	214 (79.3)	206 (73.9)	
Non-medical students	130 (23.6)	56 (20.7)	74 (26.4)	
Targeted Medical Students				< .001
Yes	226 (53.8)	171 (79.9)	55 (26.7)	
No	194 (46.2)	43 (20.1)	151 (73.3)	
Whether or not targeted medical students perform directed employment				.149
Yes	185 (81.5)	143 (83.6)	42 (75.0)	
No	42 (18.5)	28 (16.4)	14 (25.0)	
Only child				< .001
Yes	255 (46.4)	157 (58.4)	98 (35.0)	
No	294 (53.6)	112 (41.6)	182 (65.0)	
Monthly living expenses				.213
$155 and below	69 (12.6)	31 (11.6)	38 (13.6)	
Around $186	86 (15.7)	37 (13.8)	49 (17.5)	
About $232	185 (33.8)	85 (31.7)	100 (35.7)	
Around $310	168 (30.7)	94 (35.1)	74 (26.4)	
$387 and above	40 (7.3)	21 (7.8)	19 (6.8)	
Health Status				.184
Good	453 (82.4)	230 (85.2)	223 (79.6)	
General	90 (16.4)	38 (14.1)	52 (18.6)	
Poor	7 (1.3)	2 (0.7)	5 (1.8)	
Family members have suffered from depression				.728
Yes	22 (4.0)	10 (3.7)	12 (4.3)	
No	528 (96.0)	260 (96.3)	268 (95.7)	
Personality				.309
extroverted	232 (42.2)	108 (40.0)	124 (44.3)	
introverted	318 (57.8)	162 (60.0)	156 (55.7)	
Self-perception				.149
Academic pressure				
Smaller	64 (11.6)	38 (14.1)	26 (9.3)	
General	309 (56.2)	155 (57.4)	154 (55.0)	
Larger	150 (27.3)	64 (23.7)	86 (30.7)	
Very large	27 (4.9)	13 (4.8)	14 (5.0)	
Level of understanding of depression				.028
No knowledge	74 (13.5)	47 (17.4)	27 (9.6)	
Learn some	444 (80.7)	208 (77.0)	236 (84.3)	
Very well understood	32 (5.8)	15 (5.6)	17 (6.1)	

Table 4 shows the results of the multifactor analysis of depressed mood. Factors that showed statistical differences in the univariate analysis were introduced into the binary logistic analysis, and the results fit well. Gender (ods ratio [OR] = 2.067), monthly living expenses (OR = .375), and health status (OR = 4.484) were three of the significant influencing factors (P< .05). Female, senior, non-medical student, poor health status, introverted personality, and self-perceived academic stress were risk factors (P< .05), and monthly living expenses from low to high near $232 were protective factors (OR = .372; P< .001).

In a random sample of 190 medical students interviewed, the propensity to intervene was obtained as shown in Table 5. The results showed that the vast majority of medical students in depressed mood states tended to self-adjust (82.1%), followed by confiding in friends (63.2%), and the tendency to choose medication was not significant (25.3%), but the number of choices increased when depressed mood was present (P< .05).

Discussion

Using cross-sectional survey data, this study investigated the current status of depressed mood or depressive symptoms among medical students using gender, place of residence, grade, major, whether they were directed medical students, whether they were performing as directed medical students, whether they were only children, monthly living expenses, health status, whether their family members had suffered

Table 2 – Univariate analysis of factors influencing depressed mood.

Variables	Total	Depressed mood	No depressive mood	P-value
Overall	550	335 (60.9)	215 (39.1)	
Gender				< .001
Male	270 (49.1)	138	132	
Female	280 (50.9)	197	83	
Place of residence				.930
City	304 (55.4)	185	119	
Rural	245 (44.6)	150	95	
Grade				.005
Freshman year	263 (47.8)	143	120	
Sophomore	252 (45.8)	165	87	
Junior	35 (6.4)	27	8	
Specialties				< .001
Medical Students	420 (76.4)	232 (69.3)	188 (87.4)	
Non-medical students	130 (23.6)	103 (30.7)	27 (12.6)	
Targeted Medical Students				< .001
Yes	227 (53.2)	104 (44.1)	123 (64.4)	
No	200 (46.8)	132 (55.9)	68 (35.6)	
Whether or not targeted medical students perform directed employment				.001
Yes	185 (81.5)	75 (72.1)	110 (89.4)	
No	42 (18.5)	29 (27.9)	13 (10.6)	
Only child				.001
Yes	255 (46.4)	137 (41.0)	118 (54.9)	
No	294 (53.6)	197 (59.0)	97 (45.1)	
Monthly living expenses				.005
$155 and below	69 (12.6)	53 (15.9)	16 (7.5)	
Around $186	86 (15.7)	51 (15.3)	35 (16.4)	
About $232	185 (33.8)	96 (28.7)	89 (41.6)	
Around $310	168 (30.7)	107 (32.0)	61 (28.5)	
$387 and above	40 (7.3)	27 (8.1)	13 (6.1)	
Economic Status				.004
Poverty	71 (13.9)	54 (17.5)	17 (8.4)	
Non-poor	439 (86.1)	254 (82.5)	185 (91.6)	
Health Status				< .001
Good	453 (82.4)	250 (74.6)	203 (94.4)	
General	90 (16.4)	78 (23.3)	12 (5.6)	
Poor	7 (1.3)	7 (1.3)	0 (0.0)	
Family members have suffered from depression				.858
Yes	22 (4.0)	13 (3.9)	9 (4.2)	
No	528 (96.0)	322 (96.1)	206 (95.8)	
Personality				.019
extroverted	232 (42.2)	128 (38.2)	104 (48.4)	
introverted	318 (57.8)	207 (61.8)	111 (51.6)	
Self-perception				< .001
Academic pressure				
Smaller	64 (11.6)	27 (8.1)	37 (17.2)	
General	309 (56.2)	170 (50.7)	139 (64.7)	
Larger	150 (27.3)	115 (34.3)	35 (16.3)	
Very large	27 (4.9)	23 (6.9)	4 (1.9)	
Level of understanding of depression				.982
No knowledge	74 (13.5)	45 (13.4)	29 (13.5)	
Learn some	444 (80.7)	270 (80.6)	174 (80.9)	
Very well understood	32 (5.8)	20 (6.0)	12 (5.6)	

from depression, personality, and self-perceived academic stress as influencing factors. The detection rates of depressed mood and depressive symptoms among college students in this study were 60.9% and 21.6%, respectively. Few previous studies have focused on detecting depressed mood among college students, and their high detection rate reflects that the high detection rate of depressive symptoms in the absence of intervention is not coincidental. The depression rates in studies by scholars such as Yanfang Li[14] and Dan Zhang[15] for the general public and college student populations were 6.6% and 12.6%, respectively, and the high detection rate of depressive symptoms in this study. The data samples were collected in the month of school examinations, and we speculate that the specificity of the survey time influenced the depression detection rate. Compared to comprehensive universities, the stressful depression caused by the intense study

Table 3 – Univariate analysis of depressed mood and depressive symptoms.

Variables	Depressed mood (n = 216)	Depressive symptoms (n = 119)	P-value
Gender			.490
Male	86 (39.8)	52 (43.7)	
Female	130 (60.2)	67 (56.3)	
Place of residence			.948
City	119 (55.1)	66 (55.5)	
Rural	97 (44.9)	53 (44.5)	
Grade			.550
Freshman year	89 (41.2)	54 (45.4)	
Sophomore	111 (51.4)	54 (45.4)	
Junior	16 (7.4)	11 (9.2)	
Specialty			.010
Medicine	160 (74.1)	72 (60.5)	
Non-medical	56 (25.9)	47 (39.5)	
Targeted Medical Students			.178
Yes	77 (47.0)	27 (37.5)	
No	87 (53.0)	45 (62.5)	
Whether or not targeted medical students perform directed employment			.463
Yes	57 (74.0)	18 (66.7)	
No	20 (26.0)	9 (33.3)	
Only child			.545
Yes	86 (39.8)	51 (43.2)	
No	130 (60.2)	67 (56.8)	
Monthly living expenses			.771
$155 and below	34 (15.8)	19 (16.0)	
Around $186	36 (16.7)	15 (12.6)	
About $232	62 (28.8)	34 (28.6)	
Around $310	68 (31.6)	39 (32.8)	
$387 and above	15 (7.0)	12 (10.1)	
Economic Status			.955
Poverty	35 (16.2)	19 (16.0)	
Non-poor	181 (83.8)	100 (84.0)	
Health Status			< .001
Good	178 (82.4)	72 (60.5)	
General	37 (17.1)	41 (34.5)	
Poor	1 (0.5)	6 (5.0)	
Family members have suffered from depression			.159
Yes	6 (2.8)	7 (5.9)	
No	210 (97.2)	112 (94.1)	
Personality			.026
extroverted	92 (42.6)	36 (30.3)	
introverted	124 (57.4)	83 (69.7)	
Self-perceived academic stress			< .001
Smaller	20 (9.3)	7 (5.9)	
General	131 (60.6)	39 (32.8)	
Larger	57 (26.4)	58 (48.7)	
Very large	8 (3.7)	15 (12.6)	
Level of understanding of depression			.271
No knowledge	27 (12.5)	18 (15.1)	
Learn some	179 (82.9)	91 (76.5)	
Very well understood	10 (4.6)	10 (8.4)	

atmosphere in medical schools should receive attention. College students are in the transition stage from adolescence to adulthood,[16] and have significant deficits in their ability to regulate their hearts compared to adults, making them more prone to depressive tendencies when facing pressures such as academic and independent living.

In particular, this study found that non-medical students were more likely to have depressive mood compared to medical students, and medical students were less likely to have depressive symptoms. There are still gaps in the findings on depressive mood, and depressive symptoms are not consistent with the results of previous studies.[17] We speculate that this is related to the specificity of the survey respondents and the expertise of medical students: the study found that medical students have a higher overall knowledge of depression than non-medical students; the survey respondents are from medical schools with a strong learning atmosphere, but more than half of the medical students are performance-oriented employment students, which are not affected by employment pressure; medical students have a complete biomedical knowledge framework compared to non-medical students, and have a better understanding of depression compared with non-medical students, medical students have a complete biomedical knowledge framework and a more comprehensive

Table 4 – Multifactorial analysis of depressed mood.

Variables	Total number (n = 550)	OR (95% confidence interval)	P-value
Gender			< .001
Male	270 (49.1)	Ref.	
Female	280 (50.9)	2.067 (1.375, 3.107)	
Grade			.051
Freshman year	263 (47.8)	Ref	
Sophomore	252 (45.8)	1.560 (1.038, 2.344)	.32
Junior	35 (6.4)	2.062 (0.843, 5.045)	.113
Specialties			< .001
Medicine	420 (76.4)	Ref	
Non-medical	130 (23.6)	2.874 (1.700, 4.858)	
Only child			.260
Yes	255 (46.4)	Ref	
No	294 (53.6)	1.280 (0.833, 1.967)	
Monthly living expenses			.022
$155 and below	69 (12.6)	Ref	
Around $186	86 (15.7)	0.467 (0.215,1.013)	.054
About $232	185 (33.8)	0.372 (0.185,0.746)	.005
Around $310	168 (30.7)	0.712 (0.345,1.466)	.356
$387 and above	40 (7.3)	0.571 (0.213,1.533)	.266
Health Status			< .001
Good	453 (82.4)	Ref	
General	90 (16.4)	4.484 (2.276, 8.833)	< .001
Poor	7 (1.3)	400890815.0 (0.000)	.999
Personality			.02
extroverted	232 (42.2)	Ref	
introverted	318 (57.8)	1.608 (1.078, 2.399)	
Self-perceived academic stress			.001
Smaller	64 (11.6)	Ref	
General	309 (56.2)	1.617 (0.876, 2.985)	.125
Larger	150 (27.3)	3.258 (1.632, 6.505)	.001
Very large	27 (4.9)	4.631 (1.264, 16.970)	.021

Table 5 – Propensity to intervene in depressive states of medical students.

Interventions	Total number (n = 190)	Depressed mood	No depressive mood	P-value
Self-adjustment	156 (82.1)	63 (40.4)	93 (59.6)	.097
Friends confide in	120 (63.2)	46 (38.3)	74 (61.7)	.870
Movement Regulation	116 (61.1)	50 (43.1)	66 (56.9)	.064
Family help	90 (47.4)	33 (36.7)	57 (63.3)	.741
Psychological Counseling	84 (44.2)	37 (44.0)	47 (56.0)	.120
Medication	48 (25.3)	25 (52.1)	23 (47.9)	.019

knowledge about the generation and treatment of depressive symptoms, so medical students have a stronger ability to self-regulate their depressive moods, so they are less likely to turn into depressive symptoms than non-medical students. Depressed mood was significantly lower among directed students than non-directed students, while the detection rate of depressed mood was higher among the few directed students who decided to breach their contract. This may be due to the fact that medical students are more focused on improving their abilities when facing employment and assuming pressure, and are more prone to self-doubt and self-denial in the process, which breeds depression.

In the present study, we found that women were at higher risk of depressive mood than men (OR = 2.067), which is consistent with previous findings.[18] This may be due to the fact that masculine traits of psychosocialization, as protective factors, are less prone to depression compared to feminine traits,[19] and that different social support received by different genders significantly affects the occurrence of depression. There were significant grade differences in depression among college students, and the occurrence of depression increased as the grade increased, in line with previous studies.[20] The reality shows that academic stress is a major source for medical school students[21] and self-perceived academic stress is also significantly and positively associated with the development of depression. Senior students face greater academic and employment pressures compared to new students and are in the decision-making stage that determines their future development, which is more likely to lead to the emergence of psychological problems.

Self-reported health status is strongly associated with the risk of depressive symptoms, and relevant literature has reported that poor health status within the past 2 weeks increases the risk of common mental health problems.[22] Physical and mental conditions often have an interactive relationship, and the negative association of health status with depressed mood can be explained physiologically. In contrast, compared to extroverted students, introverts have a

high rate of depressive mood detection and a significant trend toward depressive symptoms compared to the former. Students with introverted personality traits are detached from interpersonal interactions and have relatively weak social support, which mediates a positive correlation between loneliness and depressive mood.[23]

Poor students should receive focused attention. The results show that those who live on less than 155 dollars a month or less among the local college students surveyed will face a higher risk of depression. The impact of financial difficulties on the daily life of college students should not be underestimated, and the mental pressure along with the financial pressure also contributes to the emotional sinking of college students. The phenomenon behind this phenomenon projects that poor students' family social status and subjective social status are lower than those of ordinary students, which induces depression.[24] This suggests that universities and society should focus on supporting poor students and helping college students with financial difficulties in their families to grow up healthily.

Nearly 2/3 of depression-related students experienced only depressive mood within 2 weeks, and depressive symptoms were not prevalent. This suggests that college students with certain self-regulatory skills can effectively alleviate depression,[25] and prevent the occurrence of depressive disorders. At the same time, early detection and interventions for depressive mood are essential to prevent the deterioration of the target students' condition. The results of interviews with a sample of medical students showed that students were more willing to choose self-regulation, confiding in friends, and exercise when facing depression, and self-regulation was still the primary way to resolve depression among college students. The least number of medical students chose medication. It is noteworthy that medication was chosen more often by medical students when they were depressed, and the results were statistically significant.

Limitations

The study is still subject to limitations. This study used non-random sampling to select the sample, which limits the extrapolation of the results. Due to the objective conditions, this study only measured students from Renji College of Wenzhou Medical University, which may limit the adaptability and generalizability of the findings. Secondly, the survey data were collected through online and offline questionnaires, and no reliability analysis was conducted. We currently assessed depressive mood through the PHQ-9 standard scale, with some variability.

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Conflicts of interests

There are no conflicts of interests to declare.

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