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PREVALENCE AND RISK FACTORS LINKED TO STRESS, ANXIETY, AND DEPRESSION AMONG UNDERGRADUATE NURSING STUDENTS IN THE UNIVERSITY.

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ABSTRACT

Objective: To determine the prevalence of depression, anxiety, and stress and identify associated factors among undergraduate nursing students.

Methods: This cross-sectional study was conducted from November 2025 to April 2026 at People's Nursing School, Liaquat University of Medical and Health Sciences, Jamshoro, Pakistan. A total of 422 undergraduate nursing students were recruited through convenience sampling. Data were collected using a self-administered questionnaire and the Depression Anxiety Stress Scales-42 (DASS-42). Data were analyzed using SPSS version 27. Descriptive statistics, chi-square tests, and multivariable binary logistic regression were applied. A p-value <0.05 was considered statistically significant.

Results: Stress was most prevalent (65.2%), followed by anxiety (60.9%) and depression (51.7%). Depression was independently associated with age, year of education, parental monitoring, parental expectations, and communication with friends. Students aged 18–20 years had lower odds of depression than those aged 24–26 years (AOR=0.24, 95% CI: 0.11–0.55). Anxiety was associated with age, family type, family income, residence, communication with friends, family harmony, and family history of disease. Students aged 21–23 years had higher odds of anxiety than those aged 24–26 years (AOR=2.19, 95% CI: 1.23–3.88). Stress was associated with age, year of education, family type, family income, parental relationships, and discussion of decisions with parents, financial difficulties, and food habits. Poor family income showed a strong association with stress (AOR=9.33, 95% CI: 3.56–24.45).

Conclusion: Depression, anxiety, and stress were common among undergraduate nursing students and were associated with several Sociodemographic, family and lifestyle factors. The findings highlight the need for targeted mental health screening, counseling and student-support interventions for undergraduate nursing students.

KEYWORDS: Depression; Anxiety; Stress, Psychological; Students, Nursing; Associated Factors

INTRODUCTION

Mental health is an essential component of health and well-being and influences how individuals cope with everyday demands, learn, work, maintain relationships, and participate in society [1]. University students may be vulnerable to psychological distress during the transition to adulthood, when they face academic expectations, changing social relationships, financial responsibilities, and decisions about their future [2,3].

Undergraduate nursing students experience these general demands alongside the specific requirements of professional nursing education. Their programmes combine classroom learning, laboratory skills, clinical placements, examinations, and direct contact with patients and families. Clinical learning may involve exposure to illness, suffering, emergencies, and death, as well as concerns about making errors and demonstrating competence. These demands may contribute to stress, anxiety, and depressive symptoms [4-7].

Stress, anxiety, and depression are distinct but related dimensions of psychological distress. Their prevalence varies across settings, populations, instruments, and study periods. A systematic review has documented substantial levels of stress and anxiety among nursing students internationally [4]. Studies of nursing and other health-sciences students have also identified academic demands, clinical experiences, social circumstances, and financial pressures as factors associated with psychological distress [5-8].

In Pakistan, studies have reported psychological symptoms among nursing and undergraduate health-sciences students, but estimates vary by institution, region, and assessment instrument [9,10]. Local evidence is particularly important because students' experiences are shaped by educational settings, family circumstances, living arrangements, and access to support. Data describing the combined prevalence of stress, anxiety, and depression among undergraduate nursing

students at People's Nursing School, Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro, are limited.

This study therefore assessed the prevalence and severity of depression, anxiety, and stress among undergraduate nursing students at PNS, LUMHS, and examined their associations with selected sociodemographic, family-related, academic, financial, social, sleep-related, and health-related factors.

MATERIALS AND METHODS

Study design and setting

A quantitative cross-sectional study was conducted at People's Nursing School, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan.

Study population and sample size

The study population comprised undergraduate nursing students enrolled in the first through fourth years of the nursing programme. The sample size was calculated using the single-population proportion approach in OpenEpi, with a 95% confidence level, 5% margin of error, and an expected prevalence of 51% based on a previous study among nursing students in Karachi. The initial estimate was 384; an additional 10% was allowed for possible non-response, giving a target sample of 422.

Sampling and eligibility

A non-probability convenience sampling technique was used. Male and female undergraduate nursing students from all four academic years who were present during data collection and willing to provide consent were eligible. Students who were absent, declined consent, or had a previously diagnosed psychiatric disorder and were currently receiving treatment or counseling were excluded.

Data collection instruments

Data were collected using a structured, self-administered questionnaire adapted from Kamruzzaman et al. [11] and the 42-item Depression Anxiety Stress Scales (DASS-42). The questionnaire covered sociodemographic and academic characteristics, family-related circumstances, financial and social factors, sleep, health-related information, and perceived main factors affecting psychological well-being. The DASS-42 contains 42 items with four response options scored from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time).

Data collection procedure

After ethical approval, eligible students were informed about the study and invited to participate. Written informed consent was obtained. Participants completed the questionnaire independently. The researcher was available to clarify procedural questions without influencing responses. Completed questionnaires were collected and stored securely.

Statistical analysis

Data were coded and analyzed using IBM SPSS Statistics version 27. Categorical variables were summarized as frequencies and percentages; continuous variables were summarized using means and standard deviations where appropriate. DASS-42 severity categories were reported separately. For association analyses, each outcome was dichotomized as normal versus symptoms present, combining mild, moderate, severe, and extremely severe categories. Associations were examined using chi-square tests. The thesis also reports multivariable binary logistic regression with adjusted odds ratios and 95% confidence intervals; the regression tables require verification against the original SPSS output before their estimates are used in a submitted article. A p-value below 0.05 was considered statistically significant.

Ethical considerations

Ethical approval was obtained from the Research Ethics Committee of Liaquat University of Medical and Health Sciences, Jamshoro, before data collection. Participants received information about the study and provided written informed consent. Participation was voluntary, and participants could withdraw without penalty. Confidentiality and privacy were maintained, and completed questionnaires were stored securely with access limited to the research team. [Insert the ERC approval/reference number and approval date.]

RESULTS

Participant characteristics

A total of 422 undergraduate nursing students participated. Nearly half were aged 21–23 years (49.1%); 27.0% were aged 24–26 years and 23.9% were aged 18–20 years. Females represented 51.4% and males 48.6%. More than half were in the first year (57.6%). Extended-family households were reported by 51.7%, and 46.2% reported poor family income. Most participants lived in hostels (75.6%) (Table 1).

Characteristic	Category	n	%
Age (years)	18–20	101	23.9
	21–23	207	49.1
	24–26	114	27.0
Gender	Male	205	48.6
	Female	217	51.4
Academic year	First	243	57.6

	Second	63	14.9
	Third	63	14.9
	Fourth	53	12.6
Family type	Nuclear	204	48.3
	Extended	218	51.7
Family income	Poor	195	46.2
	Middle	184	43.6
	High	43	10.2
Residence	Day scholar	103	24.4
	Hostel	319	75.6

Prevalence and severity of depression, anxiety, and stress

Stress symptoms were most prevalent, affecting 275 participants (65.2%), followed by anxiety symptoms in 257 (60.9%) and depressive symptoms in 218 (51.7%). The mean severity-category scores reported in the thesis were 2.46±1.35 for stress, 2.27±1.31 for anxiety, and 2.16±1.34 for depression. The distribution across severity categories is shown in Table 2.

Outcome / severity	**N**	**%**
Depression: normal	204	48.3
Mild	56	13.3
Moderate	84	19.9
Severe	45	10.7
Extremely severe	33	7.8
Anxiety: normal	165	39.1
Mild	91	21.6
Moderate	88	20.9
Severe	41	9.7
Extremely severe	37	8.8
Stress: normal	147	34.8
Mild	76	18.0
Moderate	104	24.6
Severe	50	11.8
Extremely severe	45	10.7

Family, academic, financial, social, and health-related characteristics

Financial difficulties were reported by 58.8% of participants. Almost half reported sleeping fewer than seven hours per day (49.8%). Regarding family circumstances, 50.2% described their relationship with their parents as less friendly, while 55.7% reported high parental expectations. Most students reported frequent communication with friends (42.7%). A family history of disease was reported by 49.5%. Family problems were the most frequently perceived main factor affecting stress, anxiety, or depression (26.3%), followed by lack of sleep (21.8%), financial difficulties (19.4%), and health problems (8.8%).

Bivariate associations

Depression was significantly associated with age (χ^2=6.252, p=0.044), academic year (χ^2=20.880, p<0.001), family income (χ^2=11.230, p=0.004), and residence status (χ^2=7.666, p=0.006). Depression was not significantly associated with gender (p=0.340) or family type (p=0.368).

Anxiety was significantly associated with age (χ^2=12.972, p=0.002), gender (χ^2=5.590, p=0.018), academic year (χ^2=9.774, p=0.021), family type (χ^2=11.840, p=0.001), family income (χ^2=9.274, p=0.010), and residence status (χ^2=15.092, p<0.001). Anxiety prevalence was higher among females than males (66.4% versus 55.1%) and among hostel residents than day scholars (66.1% versus 44.7%).

Stress was significantly associated with age (χ^2=8.297, p=0.016), gender (χ^2=7.718, p=0.005), academic year (χ^2=as reported in the thesis table; p<0.001), family type, family income, and residence status. The complete stress association table should be checked against the source output before submission because the thesis text and extracted table presentation do not consistently expose all test statistics.

Table 3. Bivariate associations between participant characteristics and DASS-42 symptom status

Variable	Depression χ^2 (df), p	Anxiety χ^2 (df), p	Stress χ^2 (df), p
Age (years)	6.252 (2), 0.044	12.972 (2), 0.002	8.297 (2), 0.016
Gender	0.912 (1), 0.340	5.590 (1), 0.018	7.718 (1), 0.005

Year of education	20.880 (3), <0.001	9.774 (3), 0.021	—
Family Type	0.810 (1), 0.368	11.840 (1), 0.001	16.618 (1), <0.001
Family Income	11.230 (2), 0.004	9.274 (2), 0.010	22.082 (2), <0.001
Residence	7.666 (1), 0.006	15.092 (1), <0.001	8.312 (1), 0.004
Year of Education	—	—	20.878 (3), <0.001
Parental monitoring	8.098 (3), 0.044	11.926 (3), 0.008	7.593 (3), 0.055
Relationship with parents	2.140 (3), 0.544	18.108 (3), <0.001	17.881 (3), <0.001
Discussion of decisions	9.579 (3), 0.023	4.930 (3), 0.177	18.452 (3), <0.001
Parental expectations	28.916 (3), <0.001	4.955 (3), 0.175	8.738 (3), 0.033
Family harmony	13.340 (3), 0.004	9.438 (3), 0.024	3.470 (3), 0.325
Family prioritizes opinion	0.848 (3), 0.838	3.446 (3), 0.328	25.530 (3), <0.001
Class attendance	10.265 (3), 0.016	3.807 (3), 0.283	15.640 (3), 0.001
Opinion about syllabus	18.194 (3), <0.001	4.014 (3), 0.260	—
Following rules	13.112 (3), 0.004	4.968 (3), 0.174	40.200 (3), <0.001
Previous result	7.746 (3), 0.052	0.098 (3), 0.992	23.491 (3), <0.001
Opinion about the syllabus	—	—	14.488 (3), 0.002
Communication with friends	9.888 (3), 0.020	9.061 (3), 0.028	15.721 (3), 0.001
Financial difficulties in studies	8.678 (1), 0.003	3.302 (1), 0.069	7.982 (1), 0.005
Sleep duration	2.753 (1), 0.097	1.039 (1), 0.308	3.497 (1), 0.061
Family history of disease	11.013 (1), 0.001	11.127 (1), 0.001	5.818 (1), 0.016
Careful about daily food habits	18.009 (3), <0.001	7.318 (3), 0.062	18.036 (3), <0.001

Table 4. Multivariable logistic regression for factors associated with depressive symptoms

Variable	Category	No Depression n (%)	Depression Present n (%)	AOR	95% CI	p-value
Age (years)	18–20	58 (57.4)	43 (42.6)	0.24	0.11-0.55	0.001
Age (years)	21–23	100 (48.3)	107 (51.7)	0.44	0.23-0.84	0.012
Age (years)	24–26 (Ref)	46 (40.4)	68 (59.6)	1.00	-	-
Year of Education	1st Year	131 (53.9)	112 (46.1)	0.34	0.13-0.87	0.025
Year of Education	2nd Year	36 (57.1)	27 (42.9)	0.19	0.06-0.57	0.003
Year of Education	3rd Year	25 (39.7)	38 (60.3)	0.44	0.14-1.34	0.146
Year of Education	4th Year (Ref)	12 (22.6)	41 (77.4)	1.00	-	-
Family Income	Poor	80 (41.0)	115 (59.0)	1.39	0.55-3.54	0.486
Family Income	Middle	106 (57.6)	78 (42.4)	0.89	0.35-2.27	0.805
Family Income	High (Ref)	18 (41.9)	25 (58.1)	1.00	-	-
Residence Status	Day Scholar	62 (60.2)	41 (39.8)	0.62	0.32-1.19	0.151
Residence Status	Hostel (Ref)	142 (44.5)	177 (55.5)	1.00	-	-
Parental Monitoring	Always	55 (40.7)	80 (59.3)	2.13	1.11-4.08	0.024
Parental Monitoring	Frequently	45 (45.5)	54 (54.5)	1.77	0.90-3.49	0.100
Parental Monitoring	Sometimes	22 (48.9)	23 (51.1)	1.64	0.66-4.08	0.285
Parental Monitoring	Never (Ref)	82 (57.3)	61 (42.7)	1.00	-	-
Discussion of Decisions with Parents	Always	43 (44.8)	53 (55.2)	1.44	0.55-3.74	0.459

Discussion of Decisions with Parents	Frequently	101 (46.5)	116 (53.5)	1.54	0.62-3.86	0.352
Discussion of Decisions with Parents	Sometimes	24 (42.9)	32 (57.1)	1.56	0.55-4.45	0.406
Discussion of Decisions with Parents	Never (Ref)	36 (67.9)	17 (32.1)	1.00	-	-
Parental Expectations	High	91 (38.7)	144 (61.3)	2.74	1.15-6.55	0.024
Parental Expectations	Low	67 (65.0)	36 (35.0)	2.02	0.76-5.37	0.161
Parental Expectations	None	11 (35.5)	20 (64.5)	6.46	1.79-23.34	0.004
Parental Expectations	Don't Know (Ref)	35 (66.0)	18 (34.0)	1.00	-	-
Family Harmony	High	108 (41.7)	151 (58.3)	1.69	0.70-4.10	0.242
Family Harmony	Low	46 (63.9)	26 (36.1)	2.12	0.73-6.13	0.166
Family Harmony	None	28 (57.1)	21 (42.9)	0.79	0.26-2.42	0.684
Family Harmony	Don't Know (Ref)	22 (52.4)	20 (47.6)	1.00	-	0.275
Regular Class Attendance	Always	125 (50.0)	125 (50.0)	0.62	0.26-1.46	0.338
Regular Class Attendance	Frequently	36 (51.4)	34 (48.6)	0.61	0.22-1.67	0.066
Regular Class Attendance	Sometimes	16 (29.1)	39 (70.9)	2.61	0.94-7.27	-
Regular Class Attendance	Never (Ref)	27 (57.4)	20 (42.6)	1.00	-	0.465
Opinion about Academic Syllabus	Normal	81 (39.1)	126 (60.9)	1.41	0.56-3.58	0.796
Opinion about Academic Syllabus	Hard	70 (64.2)	39 (35.8)	0.88	0.34-2.30	0.867
Opinion about Academic Syllabus	Very Hard	32 (50.8)	31 (49.2)	0.92	0.34-2.50	-
Opinion about Academic Syllabus	Don't Know (Ref)	21 (48.8)	22 (51.2)	1.00	-	0.906
Following Rules and Regulations	Very Good	77 (47.0)	87 (53.0)	1.05	0.45-2.45	0.314
Following Rules and Regulations	Good	50 (66.7)	25 (33.3)	0.59	0.21-1.65	0.736
Following Rules and Regulations	Not Good	56 (42.4)	76 (57.6)	1.16	0.49-2.73	-
Following Rules and Regulations	Other (Ref)	21 (41.2)	30 (58.8)	1.00	-	0.385
Communication with Friends	Always	66 (52.4)	60 (47.6)	0.71	0.32-1.55	0.010

Communication with Friends	Frequently	96 (53.3)	84 (46.7)	0.37	0.18-0.79	0.393
Communication with Friends	Sometimes	16 (32.7)	33 (67.3)	1.51	0.59-3.85	-
Communication with Friends	Never (Ref)	26 (38.8)	41 (61.2)	1.00	-	0.121
Family History of Disease	Yes	84 (40.2)	125 (59.8)	1.51	0.90-2.54	-
Family History of Disease	No (Ref)	120 (56.3)	93 (43.7)	1.00	-	

Table 5. Multivariable logistic regression for factors associated with anxiety symptoms

Variable	Category	No Anxiety n (%)	Anxiety Present n (%)	AOR	95% CI	p-value
Age (years)	18–20	43 (42.6)	58 (57.4)	1.16	0.59-2.26	0.666
Age (years)	21–23	64 (30.9)	143 (69.1)	2.19	1.23-3.88	0.008
Age (years)	24–26 (Ref)	58 (50.9)	56 (49.1)	1	-	-
Gender	Male	92 (44.9)	113 (55.1)	0.65	0.39–1.07	0.090
Gender	Female (Ref)	73 (33.6)	144 (66.4)	1	-	-
Year of Education	1st Year	110 (45.3)	133 (54.7)	0.60	0.27-1.35	0.215
Year of Education	2nd Year	21 (33.3)	42 (66.7)	1.21	0.45-3.24	0.701
Year of Education	3rd Year	20 (31.7)	43 (68.3)	0.91	0.34-2.42	0.850
Year of Education	4th Year (Ref)	14 (26.4)	39 (73.6)	1	-	-
Family Type	Nuclear	97 (47.5)	107 (52.5)	0.41	0.26–0.66	<0.001
Family Type	Extended (Ref)	68 (31.2)	150 (68.8)	1	-	-
Family Income	Poor	68 (34.9)	127 (65.1)	0.52	0.21-1.27	0.151
Family Income	Middle	86 (46.7)	98 (53.3)	0.36	0.15-0.87	0.023
Family Income	High (Ref)	11 (25.6)	32 (74.4)	1	-	-
Residence Status	Day Scholar	57 (55.3)	46 (44.7)	0.54	0.31-0.95	0.031
Residence Status	Hostel (Ref)	108 (33.9)	211 (66.1)	1	-	-
Communication with Friends	Always	63 (50.0)	63 (50.0)	2.84	1.58-5.10	<0.001
Communication with Friends	Frequently	63 (35.0)	117 (65.0)	2.36	1.27-4.40	0.007
Communication with Friends	Sometimes	17 (34.7)	32 (65.3)	1.86	0.85-4.08	0.121
Communication with Friends	Never (Ref)	22 (32.8)	45 (67.2)	1	-	-
Relationship with Parents	Friendly	51 (53.1)	45 (46.9)	1.95	0.86-4.43	0.109
Relationship with Parents	Less Friendly	66 (31.1)	146 (68.9)	1.14	0.46-2.85	0.777
Relationship with Parents	Very Friendly	28 (51.9)	26 (48.1)	1.29	0.49-3.39	0.602
Relationship with Parents	Don't Know (Ref)	20 (33.3)	40 (66.7)	1	-	-
Family Harmony	High	87 (33.6)	172 (66.4)	0.39	0.18-0.85	0.018
Family Harmony	Low	37 (51.4)	35 (48.6)	0.91	0.45-1.81	0.779
Family	None	21 (42.9)	28 (57.1)	0.42	0.18-1.02	0.054

Harmony						
Family Harmony	Don't Know (Ref)	20 (47.6)	22 (52.4)	1	-	-
Parental Monitoring	Always	40 (29.6)	95 (70.4)	0.71	0.35-1.45	0.346
Parental Monitoring	Frequently	37 (37.4)	62 (62.6)	0.82	0.41-1.64	0.575
Parental Monitoring	Sometimes	17 (37.8)	28 (62.2)	1.01	0.42-2.41	0.983
Parental Monitoring	Never (Ref)	71 (49.7)	72 (50.3)	1	-	-
Family History of Disease	Yes	65 (31.1)	144 (68.9)	1.77	1.12–2.80	0.014
Family History of Disease	No (Ref)	100 (46.9)	113 (53.1)	1	-	-

Table 6. Multivariable logistic regression for factors associated with stress symptoms

Variable	Category	No Stress n (%)	Stress Present n (%)	AOR	95% CI	p-value
Age (years)	18–20	29 (28.7)	72 (71.3)	2.38	1.13–5.04	0.023
Age (years)	21–23	66 (31.9)	141 (68.1)	2.29	1.23–4.29	0.009
Age (years)	24–26 (Ref)	52 (45.6)	62 (54.4)	1	–	–
Gender	Male	85 (41.5)	120 (58.5)	0.69	0.40–1.20	0.189
Gender	Female (Ref)	62 (28.6)	155 (71.4)	1	–	–
Year of Education	1st Year	103 (42.4)	140 (57.6)	0.13	0.04–0.36	<0.001
Year of Education	2nd Year	23 (36.5)	40 (63.5)	0.22	0.07–0.70	0.011
Year of Education	3rd Year	13 (20.6)	50 (79.4)	0.37	0.11–1.30	0.121
Year of Education	4th Year (Ref)	8 (15.1)	45 (84.9)	1	–	–
Family Type	Nuclear	91 (44.6)	113 (55.4)	0.44	0.26–0.72	0.001
Family Type	Extended (Ref)	56 (25.7)	162 (74.3)	1	–	–
Family Income	Poor	46 (23.6)	149 (76.4)	7.55	2.96–19.21	<0.001
Family Income	Middle	78 (42.4)	106 (57.6)	2.64	1.09–6.38	0.031
Family Income	High (Ref)	23 (53.5)	20 (46.5)	1	–	–
Residence Status	Day Scholar	48 (46.6)	55 (53.4)	0.88	0.48–1.62	0.679
Residence Status	Hostel (Ref)	99 (31.0)	220 (69.0)	1	–	–
Relationship with Parents	Friendly	39 (40.6)	57 (59.4)	1.38	0.61–3.15	0.438
Relationship with Parents	Less Friendly	54 (25.5)	158 (74.5)	3.21	1.50–6.83	0.003
Relationship with Parents	Very Friendly	24 (44.4)	30 (55.6)	0.83	0.32–2.19	0.711
Relationship with Parents	Don't Know (Ref)	30 (50.0)	30 (50.0)	1	–	–
Discussion of Decisions with Parents	Always	28 (29.2)	68 (70.8)	3.25	1.30–8.16	0.012
Discussion of Decisions with Parents	Frequently	72 (33.2)	145 (66.8)	1.91	0.82–4.47	0.135
Discussion of Decisions with	Sometimes	15 (26.8)	41 (73.2)	3.88	1.32–11.38	0.014

Parents						
Discussion of Decisions with Parents	Never (Ref)	32 (60.4)	21 (39.6)	1	–	–
Parental Expectations	High	77 (32.8)	158 (67.2)	2.09	0.88–4.97	0.095
Parental Expectations	Low	32 (31.1)	71 (68.9)	2.54	0.99–6.53	0.053
Parental Expectations	None	10 (32.3)	21 (67.7)	1.30	0.41–4.10	0.659
Parental Expectations	Don't Know (Ref)	28 (52.8)	25 (47.2)	1	–	–
Financial Difficulties in Continuing Studies	Yes	100 (40.3)	148 (59.7)	0.38	0.21–0.69	0.001
Financial Difficulties in Continuing Studies	No (Ref)	47 (27.0)	127 (73.0)	1.00	–	–
Communication with Friends	Always	61 (48.4)	65 (51.6)	0.51	0.23–1.12	0.095
Communication with Friends	Frequently	56 (31.1)	124 (68.9)	0.95	0.44–2.06	0.904
Communication with Friends	Sometimes	14 (28.6)	35 (71.4)	1.19	0.44–3.28	0.731
Communication with Friends	Never (Ref)	16 (23.9)	51 (76.1)	1	–	–
Family History of Disease	Yes	61 (29.2)	148 (70.8)	1.35	0.82–2.25	0.241
Family History of Disease	No (Ref)	86 (40.4)	127 (59.6)	1	–	–

Note: Chi-square statistics and logistic-regression estimates are transcribed from the corresponding thesis tables. Reference categories are identified as "Ref" in the original tables. All adjusted odds ratios (AORs), 95% confidence intervals, and p-values should be checked against the final SPSS output before submission.

DISCUSSION

This study identified a substantial burden of psychological symptoms among undergraduate nursing students at PNS, LUMHS, Jamshoro. Stress was the most prevalent outcome (65.2%), followed by anxiety (60.9%) and depression (51.7%). These findings indicate that psychological distress is an important student-welfare concern in this setting. The estimates should be interpreted as symptom prevalence based on DASS-42 categories, not as prevalence of clinically diagnosed psychiatric disorders.

The prevalence of stress in this sample was higher than the pooled estimate of 42.1% reported in a review of stress and anxiety among nursing students [4]. Differences may reflect variation in study populations, educational environments, data-collection periods, instruments, and thresholds used to define symptoms. The depression estimate was also higher than the pooled estimate reported in a meta-analysis of nursing students in low- and middle-income countries [12]. Direct comparisons should nevertheless be made cautiously because studies may use different versions of DASS, different cut-offs, and different sampling methods.

The high prevalence of stress may be related to the combined academic and clinical demands of nursing education. Students must manage theoretical coursework, examinations, clinical placements, patient-care responsibilities, and expectations of professional competence. Previous research has identified clinical placement stressors, academic workload, and coping demands among nursing students [6,7]. The current study did not measure each clinical stressor in depth, so these explanations should be considered contextual rather than demonstrated causal pathways.

Age and academic year were associated with depression in the bivariate analysis. Depression was more frequent among students aged 24–26 years and among fourth-year students than among younger and first-year students. Senior students may face additional clinical responsibilities and concerns about graduation and employment, while older students may have different family or financial responsibilities. However, the cross-sectional design does not establish whether age or progression through the programme preceded the reported symptoms. Prior studies have also reported relationships between academic life and depressive symptoms in nursing students [13,14].

Anxiety was associated with age, gender, academic year, family type, family income, and residence. Female students reported a higher prevalence than male students, and hostel residents reported a higher prevalence than day scholars. Living away from family may involve adjustment to a new environment and reduced day-to-day access to familiar support. Family structure and income may also shape students' perceived resources and responsibilities. These findings are consistent with the broader literature identifying social, financial, and educational circumstances as correlates of student psychological distress [5,8,15].

Financial difficulties were common in the study population, affecting 58.8% of participants. Financial strain may add pressure to students already balancing demanding academic and clinical schedules. Family problems and lack of sleep were also frequently identified as perceived contributors. Nearly half of the participants reported sleeping fewer than seven hours per day. Although the present analysis does not establish a causal relationship between sleep and psychological symptoms, sleep and social circumstances warrant attention in student-support programmes.

The findings support a multi-level approach to student well-being. Nursing schools may consider confidential screening, accessible counseling and referral pathways, academic advising, peer-support activities, mentorship, and clear mechanisms for students to seek help with financial or family-related difficulties. Such services should be supportive and non-stigmatizing. Screening results should not be treated as clinical diagnoses, and students with concerning symptoms should be offered appropriate professional assessment.

Strengths and limitations

A strength of this study is the assessment of three related psychological outcomes in a sample of 422 undergraduate nursing students using the DASS-42, together with examination of a range of sociodemographic, family, academic, financial, social, and health-related characteristics. Several limitations should be acknowledged. The cross-sectional design prevents causal inference. Convenience sampling at a single institution limits generalizability. Self-reported measures may be affected by recall or response bias. Students absent during data collection and those with a previously diagnosed psychiatric disorder who were receiving treatment or counseling were excluded, which may have influenced the observed prevalence. The study also relied on a single institutional setting and did not include clinical diagnostic interviews.

CONCLUSION

Stress, anxiety, and depressive symptoms were common among undergraduate nursing students at PNS, LUMHS, Jamshoro, with stress showing the highest prevalence. The outcomes were associated with several sociodemographic and educational characteristics, while family problems, lack of sleep, and financial difficulties were frequently perceived as important contributors. The findings highlight the need for confidential mental health screening, counseling and referral services, and student-support initiatives that address academic, family, financial, and social needs. Further multicenter and longitudinal studies using probability-based sampling are recommended.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

ETHICS APPROVAL AND INFORMED CONSENT

Ethical approval was obtained from the Research Ethics Committee, Liaquat University of Medical and Health Sciences, Jamshoro. Written informed consent was obtained from all participants.

DATA AVAILABILITY

The data supporting the findings are available from the corresponding author upon reasonable request, subject to institutional and ethical restrictions.

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