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Research Article

STRESS AND COPING STRATEGIES AMONG GENERIC B.Sc. NURSING STUDENTS OF JIMMA UNIVERSITY, SOUTH WEST ETHIOPIA

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ABSTRACT

Background:

Students undergoing training in Nursing are not always prepared to deal with the challenges of the classroom and the clinical practice settings. They have the pressure to study new subjects, excel in their examination, getting practical experience in caring for patients with various disease conditions, as well as face other challenges which are similar to those experienced by college students. They may use healthy or unhealthy methods to cope with stress.

This study aimed at exploring the perceived stress level, and the coping strategies among B.Sc Nursing students

Materials and Methods:

A cross-sectional questionnaire-based survey of 193 students, who were selected by a proportionate stratified random sampling technique from regular batch of Generic B.Sc Nursing students, was done.

Results:

The prevalence of perceived stress level among Generic BSc nursing students of Jimma University was 47.7%.

The most common stressor was from intrapersonal factors. Unhealthy coping strategies were used by students irrespective of ethnicity, marital status and educational levels. A very strong association between source of stressor such as intrapersonal stressor, environmental stressor and academic stressor and unhealthy coping strategies were also observed ($p < 0.005$).

Conclusions: All the batches of nursing students perceived themselves to be stressed. There was a need to improve awareness and utilization of counseling and guidance services.

INTRODUCTION

Stress is an internal state which can be caused by physical demand on the body or by environmental and social situation which is evaluated as potentially harmful, uncontrollable or exceeding our resource for coping. These physical environmental and social causes are referred to as stressors (Pantulu, 1996). It is almost impossible to live without some stress and most of as wouldn't want to, because it gives life some spice and excitement (Wieler, ?). Stress can be self-imposed e.g. setting too high standard or having unrealistic expectations regarding one's abilities; situational e.g. time constraints, lack of resources, threats to emotional or physical wellbeing, challenges beyond one's ability to respond, conflicts, between one's personal values and the values of others (Shield, 2001).

So stress is connected with life changes, personal and/or work-related; and too many changes at one time, either positive or negative, can overload an individual's capacity to adapt successfully and result in illness of one sort or another. What may be distressful to one person may be excitingly challenging (positively stressful) to another and the same event can be distressful at one time and stimulating or non-stressful at another (Benjamin, 1987). But when stress gets out of control, it may harm health, one's relationship with others and enjoyment of life (Wieler, ?).

Whether an event causes distress depends upon the individual's perception of the situation. How a person responds to stress depends upon the environment, the magnitude of the stressors, what has gone before, the persons self-perceived ability to handle the stress or the persons physical condition and just plain habits (Benjamin, 1987).

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The person's attempts to manage a stressful situation is called coping. Different strategies may be used to cope with stress. If the coping strategy adopted by the person was healthy, the stress is resolved, if not the anxiety associated with the stress persists and he could later develop some mental illness (Lyon, 2000). College students are often exposed to stress which can interfere with their academic and social life (Hsiao *et al.*, 2010) and, medical and nursing school can be extensively stressful for learners (McEwen and Wills, 2002).

Considerable stress is involved in nursing education. (Kumar and Nancy, 2011; Eswi *et al.*, 2013; Seyedfatemi *et al.*, 2007; Maville and Kranz, 2004). But higher levels of stress and higher levels of physiological and psychological symptoms were found among baccalaureate nursing students than students in other health-related disciplines (Beck *et al.*, 2005). Students experience increased tension prior to their clinical rotation and written examination especially their final examination (Dhar *et al.*, 2009; Mlek, 2011).

Most Studies conducted elsewhere also report stressors of which have been categorized as financial, academic environmental, interpersonal and intrapersonal (Kumar and Nancy, 2011; Eswi *et al.*, 2013; Maville and Kranz, 2004; Dhar *et al.*, 2009; Mlek, 2011; Mostafa Amr, 2011; Singh *et al.*, 2011; Phuekphan, 2009; Pulido-Martos *et al.*, 2012). The class of the students and their courses were found to be significantly associated with the stress level of nursing students (Kumar and Nancy, 2011; Seyedfatemi *et al.*, 2007; Maville and Kranz, 2004; Pulido-Martos *et al.*, 2012). Moreover the present grading system in Ethiopia where students scoring C and F have to repeat the course, also becomes a source of stress on Nursing students to accomplish more than what they can in a short span of time. Nursing students are therefore physically, emotionally and intellectually stressed by their educational experience (Kumar and Nancy, 2011; Eswi *et al.*, 2013; Maville and Kranz, 2004; Dhar *et al.*, 2009; Mlek, 2011; Mostafa Amr *et al.*, 2011; Singh *et al.*, 2011; Phuekphan, 2009; Pulido-Martos *et al.*, 2012).

Various coping strategies are used by students (Kumar R, Nancy, 2011; Seyedfatemi *et al.*, 2007; Dhar *et al.*, 2009; Singh *et al.*, 2011; Phuekphan, 2009; Jimenez *et al.*, 2013; Cherkil *et al.*, 2013; Ekpenyong *et al.*, 2013), which may or may not be effective. Unresolved stress is associated with academic difficulties and termination of training (Phuekphan, 2009) and has detrimental effects on their body and mind. During the period 1984–1994, 35% the attrition rate was reported among students of Jimma University (Kassahun, 1995). Managing stress effectively and using health coping strategies is an important skill required for students who enroll in to Nursing, for optimum performance in their future life. Although there have been studies on identifying stressors and coping strategies among nursing students, there is variability in the findings due to differences in designs, instruments, number of stressors, etc (Pulido-Martos, 2012). Besides, there is a dearth of literature on stress level among nursing students in Ethiopia. Hence, this study is intended to assess the stress levels and coping strategies used by nursing students in Jimma University, Ethiopia.

MATERIALS AND METHODS

A cross sectional study design was used to assess perceived stress levels and coping strategies used by 193 nursing students of Jimma University, Ethiopia. The participants were selected by a proportionate stratified random sampling technique from the four years B. Sc Nursing degree program during academic year 2013-14.

Data collection instrument: A structured questionnaire with likert items was developed from relevant literatures and arranged according to the particular objective it can address.

Part –I Socio-demographic characteristics;

Part-II Stressors;

Part –III coping strategies;

Part-IV Perceived stress scale.

Scoring: In Part-II Stressors: had statements pertaining to environmental factor, academic factor, each of these factors had individual statements

Categorization of responses: The item responses were further subcategorized as Negative stressor which was indicated by 0, 1 and 2 scores; Undecided= 3 score; Positive stressor= 4 and 5 scores.

Part- III Coping strategies: comprised of 15 statements for Healthy coping methods and 13 items for Unhealthy coping methods.

Categorization of responses: 0, 1 and 2 scores were grouped as 'Rarely used coping strategies' Undecided= 3 score; 'Frequently used coping strategies' was indicated by 4 and 5 scores.

Perceived stress scale: Positive and negative statements were rated by the respondents on a 5 point Likert scale with the score of 0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often and 4 = Very Often. Presence of stress was indicated by scores= 0 to 2 and absence of stress had 3 and 4 scores for negative statements. Whereas, the item numbers 4, 5, 7 and 8 which were positive statements had a reverse scoring. Ethical approval was obtained from authorities of Jimma University written informed consent was obtained from study participants prior to commencement of the survey.

RESULTS

Socio demographic characteristics: Out of the 193 students who participated in the study maximum representation was by male students (68.4%) and more than half were aged between 21-24 years. Most were Orthodox Christians (48.2%) and half of them 50.3% had Oromo ethnicity (Table 1).

Stressors: The dissatisfaction with the facilities in the dormitory were a major environmental stressor among majority of the students as they reported overcrowding in the study area (48.7%), inadequate water supply (35.7%) and overcrowding in the room (33.7%). (Table 2). The most common academic stressors were overloading of study syllabus (45.1%), and overcrowding in one class (33.1%). (Table 3).

Table 1. Distribution of Sociodemographic characteristics of JU BSc Nursing students Jimma Ethiopia, March, 2013

Socio-demographic Variables		Frequency(n=193)	Percent
Age	17-20	77	40
	21-24	110	57
	>24	6	3
Sex	Male	132	68.4
	Female	61	31.6
Religion	Orthodox	93	48.2
	Muslim	55	28.5
	Protestant	42	21.8
	Others	3	1.6
Ethnicity	Oromo	97	50.3
	Amhara	67	34.7
	Tigre	11	5.7
	Guraghe	6	3.1
	Others	12	6.2
Marital status	Single	175	90.7
	Married	18	9.3
Family support Per month	≤200	75	38.9
	201_300	53	27.5
	301_400	24	12.4
	401_500	31	16.1
educational level	>500	10	5.2
	Year- I	49	25.4
	Year-II	54	28
	Year-III	45	23.3
	Year-IV	45	23.3

Table 2. Distribution of environmental stressors among BSc Nursing students of JU 2013

Environmental stressor	Student response		
	-ve response	UND	+ve response
Change in living environments	145(5.1)	17(8.8)	31 (16)
Lack of use of technology for recreation	126(5.3)	49 (25.4)	18 (9.4)
Lack of calm & quiet environment around the campus	120(2.1)	29(15)	44(22.8)
Inadequate water supply	96 (9.7)	28 (14.5)	69(35.7)
Lack of adequate security for financial & personal items	91(47.1)	45(23.3)	57(29.6)
Overcrowding in dorm study area	71(36.8)	28 (4.5)	94(48.7)
Overcrowding in one dormitory	88(45.5)	40 20.7)	65(33.7)

Table 3. Distribution of Academic stressors among BSc Nursing students of JU 2013

Academic stressor	Student response		
	-ve response	UND	+ve response
Overload of study/syllabus	82(42.5)	24(12.4)	89(45.1)
Inability to concentrate on study	123(63.7)	30(15.5)	40(20.8)
Assignment over load	130(67.3)	18(9.3)	45(23.3)
Getting lower grade than expected	128(66.3)	17(8.8)	48(24.8)
Poor satisfaction with classroom performance	122(63.2)	30(15.5)	41(21.3)
Lack of vacation/break	93(48.1)	37(19.2)	63(32.6)
Overcrowding in the class	95(49.2)	34(17.6)	64(33.1)
Present practical learning is routine & boring	117(60.6)	38(19.7)	38(19.7)
Worry to a much of getting less experience in practical training	108(55.9)	39(20.2)	46(23.9)

A high expectation from self was found to be a predominant intrapersonal stressor among 36.8% students (Table 4). Similarly most of them responded that high parental expectation (36.3%) was an interpersonal stressor (Table 5). The intrapersonal factors were reported as maximum source of stress (54.9%) for the nursing students.

Coping strategies: The coping methods adopted were categorized as healthy coping strategies and unhealthy coping strategies. While the students reported use of various methods of coping methods to alleviate stress, the majority of them used positive thinking as a healthy coping (61.6%), whereas self blame was the common unhealthy coping method (17.1%)(Table 6,7).

A significant association was observed between educational levels of student and their coping strategies (unhealthy coping strategies) ($p < 0.05$). All the stressors except interpersonal stressor were found to be highly associated with use of unhealthy coping strategies ($p < 0.05$). **Stress level:** Stress was prevalent among 47.7% students. Most students expressed perceiving stress as ‘feeling of difficulties piling up that you could not overcome them’ (32.6%), but 48.2% responded being able to control irritations in their life (Table 8). Among the socio demographic status of respondents there is direct relationship between perceived stress level and ethnicity, marital status of the respondents (p -value <0.05) and also there is a strong statistical relationship between perceived stress level and unhealthy coping strategies (p -value <0.05).

Table 4. Distribution of intrapersonal stressors among BSc Nursing students of JU 2013

intrapersonal stressor	Student response		
	-ve response	UND	+ve response
Change in eating pattern	132(68.4)	34(17.6)	27(14)
Change in sleep pattern	134(69.4)	32(16.6)	27(14)
New responsibility of life	110(57.1)	22(11.4)	61(31.6)
Lack of friends	129(66.9)	13(6.7)	51(26.5)
Financial problem	113(58.6)	36(18.7)	44(22.8)
Expectation from self	105(54.3)	17(8.8)	71 (36.8)
Change in eating pattern	132(68.4)	34(17.6)	27(14)

Table 5. Distribution of interpersonal stressors among BSc Nursing students of JU 2013

intrapersonal stressor	Student response		
	-ve response	UND	+ve response
Change in social activities	90(46.7)	43(22.3)	60(31.1)
High parental expectation	98(80.8)	25(13)	70(36.3)
Fight with close ones	152(78.8)	10(5.2)	31(16.1)
Lack of cooperation from friends	141(73)	20(10.4)	32(16.6)
Lack of close or intimate friends	151(78.3)	12(6.2)	30(15.6)

Table 6. Distribution of Healthy coping strategies used by BSc Nursing students of JU 2013

Healthy coping strategies	Student response		
	-ve response	UND	+ve response
Sharing of problem with friends	71(36.9)	47(24.4)	75(38.8)
Listening to music/radio	121(62.8)	25(13.0)	47(24.3)
Plans activities and schedules them	95(49.2)	35(18.1)	63(32.6)
Participation in game/sports	139(72)	19(9.8)	35(18.2)
Seeks professional support	131(67.9)	12(6.2)	50(25.9)
Positive thinking	61(31.7)	13(6.7)	119(61.6)
Talk to parents	75(38.8)	27(14.0)	91(47.1)
Use relaxation techniques like deep breathing muscle relaxation, yoga	119(61.6)	32(16.6)	42(21.7)
Focus on what you can control	104(53.9)	26(13.5)	63(32.6)
Uses Assertive communication	114(49.1)	17(8.8)	62(32.1)
Keep your sense of Humor	103(53.4)	37(19.2)	53(27.5)
Avoids comparing yourself with others	134(69.4)	17(8.8)	42(21.7)
Carry out activities as per plan	108(57)	40(20.7)	45(23.3)
Praying more than usual	95(49.2)	16(8.3)	82(42.5)
Uses a step by step approach to solve problem	98(50.9)	15(7.8)	80(41.4)

Table 7. Distribution of Unhealthy coping strategies used by BSc Nursing students of 2013

Unhealthy coping strategies	Student response		
	-ve response	UND	+ve response
Withdrawing from friend, family and activity	163(84.5)	12(6.2)	18(9.3)
Sleeping too much	160(82.9)	4(21.1)	29(15.1)
Alcoholic drinks consuming	165 (85.4)	12(6.2)	16(8.3)
Smoking	169(87.7)	16(8.3)	8(4.1)
Chewing khat	160(76.9)	20(10.4)	13(6.7)
Postponing the work	174(90.2)	3(1.6)	16 (8.3)
Blaming others	158(81.9)	17(8.8)	18(9.3)
Blaming of self	137(70.9)	23(11.9)	33 (17.1)
Eating too much/under eating	156(80.8)	17(8.8)	20(10.4)
Remaining a loof from others	175(85.5)	8(4.1)	20(10.4)
Angry, outburst on others	159(82.3)	18(9.3)	16(8.3)
Using pills or drugs to relax	178(92.3)	6(3.1)	9(4.7)
Day dreaming	161(83.4)	18(9.3)	14(7.2)

DISCUSSION

Nursing students of baccalaureate Nursing program in Jimma University were experiencing stress which is consistent with reports of other studies (Kumar and Nancy, 2011; Eswi *et al.*, 2013; Seyedfatem *et al.*, 2007; Maville *et al.*, 2004). In this study the prevalence of stress among the B.Sc Nursing students was lesser than students in India (Dhar *et al.*, 2009; Mlek, 2011; Mostafa Amr *et al.*, 2011; Singh *et al.*, 2011), but slightly higher than the stress reported among Nursing students of Mansoura, Egypt (Mostafa Amr *et al.*, 2011), this increase in prevalence of stress may be attributed to the difference in

campus environment, syllabus and type of coping strategies used and socio demographic characteristics. Among the stressors, in this study intrapersonal factors had contributed maximum to causing stress predominantly due to high expectation from self was, new responsibility of life, lack of friend, financial problem, change in eating pattern and the least was due to change in sleep patterns. Interpersonal stressors were the second common source of stress brought on by high parental expectation, change in social activities, lack of cooperation from friends, disagreement with close ones and the least was lack of close or intimate friend.

Table 8. Distribution of perceived stress scale level among BSc Nursing students of JU 2013

perceived stress scale level	Student response		
	-ve response	UND	+ve response
In your stay, how often have you been upset because of something that happened unexpectedly?	83(43)	59(30.6)	5126.4 (0)
In your stay, how often have you felt that you were unable to control the important things in your life?	80(41.4)	74(38.3)	39(20.2)
In your stay, how often have you felt nervous and "stressed"?	91(47.2)	69(35.8)	33(17.1)
In your stay, how often have you felt confident about your ability to handle your personal problems?	47(24.4)	57(29.5)	89(46.1)
In your stay, how often have you felt that things were going your way?	59(30.5)	52(26.9)	82(42.5)
In your stay, how often have you found that you could not cope with all the things that you had to do?	73(37.8)	78(40.4)	42(21.8)
In your stay, how often have you been able to control irritations in your life?	60(31.1)	40(20.7)	93(48.2)
In your stay, how often have you been felt that you were on top of things?	64(33.1)	68(35.2)	61(31.6)
In your stay, how often have you been angered because of things that were outside of your control?	80(41.5)	69(35.8)	44(24.8)
In your stay, how often have you felt difficulties Were piling up so high that you could not overcome them?	75 (38.8)	55 (28.5)	63(32.6)

The students reported environmental stressors such as overcrowding in dormitory study area, inadequate water supply, overcrowding in one dormitory, lack of adequate security for financial and personal items, lack of calm and quiet environment around the campus, change in living environments and few students reported lack of use of technology for recreation. Academic factors were the least stressful. Baccalaureate nursing students in Mansoura also perceived stressors such as worry about their future, accommodation problems and overcrowded classrooms (Mostafa Amr *et al.*, 2011), whereas in India, Dhar R, Walia I, Das K reported that academic stress ranked highest among newly admitted nursing students (Dhar *et al.*, 2009), another study in 2011 by Singh C, Sharma S, Sharma also documented that assignments, workload and patient care were highest sources of stress among nursing interns (Singh, 2011).

The qualitative study by Mlek (2011), on stress experienced in clinical settings by nursing students in Canada described communication and the development of relationships with nurses and medical staff as difficult and stressful. Being unsure of knowledge and performance, and lack of autonomy to practice led to heightened states of stress and anxiety (Mlek, 2011). On the contrary study by Seyedfatemi, Tafreshi and Hagani, (2007) found that interpersonal stressor and environmental stressors were the most common among Nursing and Midwifery students in Iran (Seyedfatemi *et al.*, 2007).

A qualitative study on nurse practitioner students enrolled in master of science in nursing program in Texas, 2004, reported academic burden and time management as causes of stress (11). Academic factors and environmental factors were major stressors reported among Saudi nursing students in 2013 by Eswi Raadi Youssri (2013). The nursing students were using coping methods which were similar to those reported among nursing students from other parts of the world.

The common methods adopted by the study subjects were positive thinking such as, thinking how similar things were handled in the past, talking to parents, praying more than usual (relying on religious faith), use of a step by step approach to solve problem, sharing of problems with friends. Majority of the students were using healthy coping strategies than unhealthy coping methods.

This study also found that blaming of self; change in sleeping pattern; remaining aloof from others; change in eating habit, blaming others; withdrawing from friends, family and activities; postponing the work; consuming alcohol and angry outburst on others were the common unhealthy coping strategies which is consistent with findings of other studies. Dhar R, Walia I, Das in 2009, reported that the first year B.Sc Nursing in India tend to use more of healthy coping strategies like "Positive thinking" and listening to music/radio more frequently as compared to negative or unhealthy ones (Dhar *et al.*, 2009).

Kumar Rand Nancy (2011) also found the nursing students use more of healthy coping strategies as compared to negative or un-healthy ones. "Seeking diversion" was the most common and "Seeking professional support" was the least common coping strategy identified in nursing students (Kumar and Nancy, 2011). Phuekphan AP, showed that in Thailand the nursing students used humor and self reliance as the most common coping strategy, (Phuekphan, 2009).

In Spain also cross sectional study on nursing students found that problem-focused coping was used significantly more by students than emotion focused strategies (Jimenez *et al.*, 2013), contrary to the findings of Mlek (2011), in Canada, where nursing students experiencing stress in the clinical settings used emotion-focused methods more often than problem-focused coping methods (Mlek, 2011). The study on Iranian nursing students reported the most commonly used coping strategies going along with one's parents requests and rules, praying, making one's own decisions, apologizing, helping other people to solve problems, keeping friendships and daydreaming and the use of avoiding strategies "smoking" and "drinking beer or wine", ventilating strategies like "saying mean things to people" and "swearing", whereas, the professional support strategies such as "getting professional counseling" and "talking to a teacher or counselor" and the humorous strategy "joking and keeping a sense of humor" were seldom or never used (Seyedfatemi *et al.*, 2007).

The study on students in the Nurse practitioner program showed that most of the students appeared to be overwhelmed with the demands of the last year of the program and they were more reactive than proactive in dealing with their personal stresses (Maville *et al.*, 2004). Differences in stress levels and coping strategies are also seen among students.

This study found that the first year students experienced more stress than students at fourth years, the findings are consistent with that of studies done in India, Saudi and Iran (Kumar and Nancy, 2011; Eswi *et al.*, 2013; Seyedfatemi *et al.*, 2007), difference have also been observed in coping strategies in other studies for instance Jimenez, Sanchez-Laguna and Jimenez-Linde (2013) reported that both first and third-year students used problem focused coping more frequently than second-year students. In contrast, second-year students used "avoidance" strategies more frequently than first-year students (Jimenez *et al.*, 2013).

The perceived stress level and use of unhealthy coping strategies among students in various levels of the nursing program was also found to be significantly associated. There was also a strong relationship between ethnicity and marital status of students and perceived stress level. Further the environmental stressor, academic stressor, and intrapersonal stressor have strong statistical association with unhealthy coping strategies (Seyedfatemi *et al.*, 2007; Ekpenyong *et al.*, 2013). The present study found lack of awareness and utilization of counseling services by the students. Unlike reports from other studies which concluded that the availability of counseling service had been shown to help students explore personal issue, learning coping skill and enhance their surrounding of themselves and their training environment (Rodel, 2005).

Conclusions

Nursing students experienced significant stress during their study period. Environmental factors like overcrowding in one dormitory, change in living environment and personal factors like problem of poor personal relations and wariness about family and academic factors are almost problems of all students. They used limited coping methods, they lacked awareness of counseling and guidance service and hence the utilization of these services in the campus was negligible. Stress influences the wellbeing and academic performance of student's. If it is not identified and managed effectively; it could adversely affect nursing students' health and have a negative influence on their perception of this noble profession.

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