Stress, Quality of Life and Health Promoting Behaviours among Students in Selected University, Bhubaneswar, Odisha

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Abstract
Background:College students will be in the transition period from adolescence to adult.Those students are affected by various stressors. The stress among the students affects both physical and mental health and leading to decrease the quality of life (QoL). It is important to address the stress of the University students before it leads serious consequences.

Method: Quantitative approach was selected.Non-experimental with explorative design was adopted to study the level of stress, quality of life & health promoting behaviour among students in selected university in Khurda district, Bhubaneswar, Odisha. Undergraduate students, those who are available during data collection period & willing to participate in the study were included. The setting of the present study was two institutions like Institute of Technical Education and Research and Sum Nursing College, SOA University, Bhubaneswar, Odisha. The tools used for the study were 1. Demographic questionnaire, 2. Perceived Stress Scale (PSS), 3. BREF- (Quality of Life) QOL questionnaire and 4. Health promoting behaviour questionnaire. Questionnaire method was used to collect the data. Informed written consent was taken from each participant before collecting the data. The data were entered and analyzed by using SPSS version 20.

Results: Most (89.5%) of the university students had moderate level of stress and shows the mean score of 20.07 ± 3.208. Highest (50.5%) percentage of the students had high QOL, 48.5% of the students had moderate QOL and only two students had low QOL score. There was a low positive correlation found between perceived stress and QoL score among the students.

Conclusion:Stress is a major problem among the adolescents that deprive their good mental health as well as the physical health. Stress also negatively affects their quality of life. Structured awareness program shall be implemented on modifiable risk factors whichcould improve the student'sQoL.

Key words: Stress, Quality of Life (QoL), Health Promoting Behaviour, University Students.

I.   Introduction

Stress is a negative emotionaland physiological response that occurs when the person tries to deal with the stressors.[1]The effect of stress may vary as positive or negative according to the response of the person.[2]Excessive negative stress may lead to depression, substance abuse and suicidal ideation among the students.[3,4]

In today's competitive world, every student stressed at some point of time in their life. The level of stress may vary from student to student. Some students may feel more stressed out in comparison to the others and some students may handle the stress more efficiently than others. [1]University students will be in transition period from adolescence to adult.Those students are affected by various stressors such as adaptation in the new environment, achieving good grades, andindependent living.[5]

The emotions experiences as a result of stress may directly affect the academic achievements, health and well-being of the student. However, poor management of stress lead to poor academic performance and sickness. [6]Prabhu S was conducted a study on stress and quality of life among students in Christ College of Engineering and Technology, Puduchery, India and he found that 54% students were having depression, anxiety and stress. [7]

Study conducted by Bhavani Nivetha among 303 undergraduate students shows the mean Perceived Stress (PSS)Score of 17.7 ± 5.5. The prevalence of mild, moderate and severe stress was 20%, 74% and 6% respectively. Academic related stressors to be the source of high stress for majority of the students (40.9%). [8]

Stress may affect physical and emotional health negatively and may adversely affect the quality of life (QoL) students.[9]Quality of life is an individual's perception about their physical, emotional, social and environmental well-being.[10]Opoku-Acheampong et al stated in his study that perceived stress was negatively correlated with quality of life of the students.[11,12]

Systematic review of 13 studies highlighted that perceived stress negatively affect the QoL among university students.[13]Al-Naggar RA et al conducted a study among 239 university students and found thatoverall, the highest score of QoL was found in the environment domain (13.97) and the lowest was in physical domain. And also suggested that multiple factors are affects the students quality of life including stress.[14]

According to Al-Qahtani MFet al, high level of stress was observed in 42.7% of the students, and a moderate stress level was observed in 41.5% of the students. The major source of stress experienced in academic domain (mean= 2.7±0.73), followed by the group activity domain (mean= 2.1±0.91; *p*< 0.05).[15]

The prevalence of stress was associated with Female gender (p<0.0001), year of study (p<0.001), and presence physical problems (p<0.0001). Higher stress level was noticed among females as compared to males (p<0.0001). [16]

The health promoting behaviors are the major determinants of health and directly related to the stress reduction.Wang D et al found that most of the students studying in the university not practicing healthy lifestyle and the mean HPLP score was 138.69 (M=137, F=139.39).Female students have good sense of health responsibility as compared to male students(p=0.001) whereas a greater number of male students were involved in physical activities as compared to female students (p=0.02).[17]

Health-promoting behaviors are associated with QoL improvement in university students. But majority of the university students had low awareness about the importance of health promoting behaviourWhich may adversely affect their psychological well-being and QoL.[10]To implement effective stress coping strategies, one must understand about the existence of stress. It is important to address the stress of the University students before it leads serious consequences. [18]

II.   Methods

Quantitative approach was selected.Non-experimentalexplorative design was adopted to study the level of stress, quality of life & health promoting behaviour among students in selected university in Khurda district, Bhubaneswar, Odisha. The main objectives of the study were to assess the level of stress, quality of life & health promoting behaviour among student.Undergraduate students, those who are available during data collection period & willing to participate in the study were included. Incomplete questionnaires are excluded from the study. Simple Random sampling technique was used to select the college and subjects were selected conveniently. The setting of the present study was two institutions like Institute of Technical Education and Research and Sum Nursing College, SOA University, Bhubaneswar, Odisha. The tools used for the study were 1. Demographic questionnaire, 2. Perceived Stress Scale (PSS), 3. BREF- (Quality of Life) QOL questionnaire and 4. Health promoting behaviour questionnaire. Questionnaire method was used to collect the data. Informed written consent was taken from each participant before the data collection. The data were entered and analyzed in SPSS version 21.

III.   Result
Table 1: Distribution of students according to their demographic characteristics

S.No	Variables	F	%
1	**Age in years**		
	19 yrs	87	43.5
	>19 yrs	113	56.6
2	**Sex**		
	Male	70	35
	Female	130	65
3	**Monthly family income**		
	< 15000	06	03
	≥15000	194	97
4	**Parent's Occupation**		
	Employee	96	48
	Business	104	52
5	**Type of family**		
	Hindu	198	99

	Christian	01	0.5
	Muslim	01	0.5

Table No 1 shows the demographic characteristics of university studentsi.e Highest percentage (56.6%) of students belongs to the age group of > 19 years and 43.5% of students belongs to the age group of 19 yrs. Majority of the students (65%) were females. Most (97%) of the student's family income is $\geq$15000. In regards to occupation, 52% of the parents were employees and 48% of the parents had business as a n occupation. Most (99%) of the students were Hindus,

Table 2: Level of stress among the university students

S. No	Level of Stress	Score Range	F	%	Mean ± SD
1	Low stress	0-13	7	3.5	12.57 ± 0.534
2	Moderate Stress	14-26	179	89.5	20.07 ± 3.208
3	High stress	27-40	14	7	29.92 ± 5.165

Table No 2 shows the level of stress among the university students. According to Perceived Stress Scale (PSS) score, most (89.5%) of the students had moderate level of stress and shows the mean score of 20.07± 3.208, 7% had high level of stress which shows the mean score of 29.92± 5.165 and only 3.5% of the students had high level of stress and shows the mean score of 12.57± 0.534. It can be interpreted that most of the students are under the stress which need some intervention.

Table 3: Quality of Life among the university students

S. No	QOL Level	Score Range	F	%	Mean ± SD
1	Low QOL	26-50	2	1	49.5± 0.770
2	Moderate QOL	51-75	97	48.5	71.24± 3.34
3	High QOL	76-100	101	50.5	80.74 ± 3.83

Table No 3 shows the Quality of life of the students. According to the BREF-QOL questionnaire highest(50.5%) percentage of the studentshad high QOL andshows the mean score of 80.74 ± 3.83. Followed by that, 48.5% of the students had moderate QOL and shows the mean score of71.24± 3.34 and only two students had low QOL scoreand shows the mean score of 49.5± 0.770.It can be interpreted that most of the students had good quality of life.

Table 4: Correlation between stress and Quality of life

Variable	r value	P value
Perceived Stress Quality of Life	0.05	0.456

Table No 4 shows the correlation between perceived stress s and quality of life. The correlation r value is 0.053 and indicate low positive correlation. The p-value is 0.456 which is >0.05. So, it can be interpreted that there is no relation between the perceived stress and Quality of life.

Table 5: Frequency and percentage wise distribution of health promoting behaviour

S.No	Health Promoting Behaviour	F	%
1	**Dietary Pattern**		
	Vegetarian	27	13.5
	Non-vegetarian / Mixed Diet	137	86.5
2	**Doing regular exercise**		
	Yes	73	36.5
	No	127	63.5
3	**Doing regular yoga**		
	Yes	05	6.5
	No	195	93.5
4	**Doing regular medication**		
	Yes	13	16
	No	187	84
5	**Sleeping Hours**		
	< 7 hours	32	16
	$\geq$7 hours	168	84
6	**Methods of stress relief**		
	Sharing feelings with friends	47	23.5
	Listening music	113	56.5

	others	40	20

Table No 5 shows the health promoting behaviour of the students i.e most (86.5%) of the students had mixed diet, 36.5% of the students doing regular exercises, 6.5% of students doing regular yoga, 16% of the students doing regular meditation. Most (84%) of the students sleeping 7 hours or more. Highest percentage (56.5%) of the students had the habit of listening music, 23.5% of them share the feelings with the friends, 20% of the students used other methods to relieve the stress. It shows that very less percentage of the students are doing regular exercises, yoga and meditation. So, this type of healthy behaviours can be incorporated in the curriculum and promoted among the students.

Association between the level of Perceived Stress and selected demographic Variables
Chi-square test was computed to find the association between the level of stress and selected demographic variables. There was no significant association found between level of perceived stress and age (0.08), sex (0.140), monthly income (0.174), occupation of parents (0.364) and type of family (0.803).
Association between the Quality of Life and selected demographic Variables
Chi-square test was computed to find the association between the quality of life of students and selected demographic variables. There was no significant association found between quality of life of the students and age (0.333), sex (0.167), monthly income (0.37), occupation of parents (0.898) and type of family (0.195).

IV. Discussion

In the present study it was found that, majority (65%) of the students were female. In contrast to that Alsulami S et al mentioned in his study that 64.1% of the students were males while female students represented 35.9%. [20]

In the present study the result shows that, most of the students (89.5%) were having moderate stress.A study was done by Kleivel et al found that 33.9% had moderate or high level of stress. [21]

In present study, there was a low positive correlation found ($r = 0.053$, $p = 0.456$) between the level of perceived stress and quality of life. In contrast to that Ribeiro IJS, et al and Kleiveland B found in his study the stress was negatively correlated to physical and mental domains of the QOL. [22]

In present study there is no significant association between the level of stress and selected demographic variables.Abdulghani HMet al found in his study that the prevalence of stress was higher (p<0.5) among females as compared to males. The stress among final year students are less as compared to first year students and this might be due to the familiar with the academic environment among final year students. Female gender (p<0.0001), year of study (p<0.001), having physical problems (p<0.0001) were found as independent risk factors for stress among university students. [16]

In the present study, very less percentage of the students are doing regular exercises, yoga and meditation.Wang D et al stated in his study that high percentage of university students not aware about healthy lifestyle and they are not practicing also. Female students have good sense of health responsibility as compared to male students (p=0.001) whereas a greater number of male students were involved in physical activities as compared to female students (p=0.02). [17]

V. Conclusion

Stress is a major problem among the adolescents that deprive their good mental health as well as the physical health. Stress also negatively affects their quality of life. Stress is a mental phenomenon and leads to disastrous consequences if not properly addressed. To implement effective stress coping strategies, one must understand the existence of stress. Stress among students is an important concept to be addressed, failing may leads to serious consequences.Structured health education programs that would target modifiable risk factors may improve student's QoL

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