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STRESS LEVEL DOMAIN AND COPING STRATEGIES AMONG COLLEGE INSTRUCTORS IN ERITREA

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ABSTRACT

Background: Teaching profession is once viewed as a 'low stress occupation' and they have been envied for tenure, light workloads, flexibility and other perks such as foreign trips for study and conference. However, some recent studies suggest that university faculty is among the most stressed occupational group. **Objective:** The purpose of this study is to examine the stress domain level among college instructors in Eritrea, to determine the coping mechanisms utilized, and to find the correlation between them. **Methodology:** The study was carried out using cross sectional descriptive co-relational study design from February to April 2022. Data was collected from a sample of academic staff in 4 major colleges of Eritrea with 2 different standardized questionnaires at different times convenient to the teachers. The data was scaled and leveled based on the questionnaires interpretation methods and scaling methods. The data was, then, analyzed by SPSS (version 22) and result was interpreted based on the objectives of the study. **Result:** The needed sample size was 222 college instructors, but 9 were designated missed so only 213 were present during the survey. Using the SPSS, the prevalence of stress and associated factors of stress, and regression with the coping strategies in relation to the determinant factors were analyzed. The prevalence of stress (49.3%) was high in those variables as part time lecturer: 12(80%), permanent post: 67 (49.6%), female: 13(80%), in patriate: 72(55.4%), 46-55 years of age 19(65.5%), HCAS: 28 (70%), and greater than 51 working hours 20(64.5%). As well as, other factors got high prevalence: increased work load over the last 2 years (60.6%) highly by a quarter (23%) and half (23%), and teaching new courses (40.4%). The correlation of the several factors associated with stress was found to have high adjusted odds ratio as: part-timers, colleges of HCAS and COS and detachment coping strategy. **Conclusion:** The present study provides an insight about the stressor and the coping strategies used by the college instructors in Eritrea. And the research has revealed that being a part timer, being in College of Education and in Hamelmalo College of Agricultural Science and using detachment to cope with stress has made it an independent determinants of stress in the study setting. So, researchers and policymakers must pay attention to careers of teachers to promote the quality of high education. It is also recommended that a further study to be conducted on a large scale to explore different work place stressors and to compare coping strategies against demographic variables.

KEYWORDS

Stress, Stress level domains, Coping strategies, College instructors and Determinant factors.

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INTRODUCTION

Stress is a term commonly used to describe feelings of tensions or exhaustion usually associated with work overload or overly demanding work. Stress is natural phenomenon in an individual's daily life. In

the workplace, it can serve to enhance an individual's motivation, performance, satisfaction and personal achievement¹. In other words, stress is considered to be any pressure which exceeds the individual's capacity to maintain physiological, psychological and/or emotional stability².

Whether we experience stress depends largely on our cognitive appraisal of an event and the resources we have to deal with the event³. Some people have high levels of tolerance for stress and thrive very well in the face of several stressors in the environment. On the other hand, some individuals are not able to perform well except when subject to a level of stress that activates and energizes them to put forth their best efforts. This shows that individual differences may cause some to interpret these stressors as positive stress or Eustress (which stimulate them), while other experience negative stress or distress (which detracts from their efforts). These effects may be short term and diminish quickly or they may last long time⁴. Work-related stress can have a wide-ranging impact on the wellbeing and functioning of employees. It leads to the thickening and hardening of the heart muscles, resulting in cardiovascular diseases⁵.

Occupational stress in college teachers has been a topic of interest in various research studies for almost thirty years⁶. Studies related to teacher stress have yielded information which suggest that while college teachers may not experience high levels of occupational stress⁷, they may have notable differences in the types of potential stressors that come from the uniqueness of the job⁶.

Much of the research related to college teacher occupational stress has been focused on identifying the sources of teacher stress and the impact this stress has on personal lives, job satisfaction, and ability to perform effectively in the classroom⁷⁻¹⁰. Such research has yielded information which cannot be ignored. Notably, the research has highlighted the consequences of teacher stress which include an increase in teacher burnout⁸, negative impacts on teacher student relationships¹¹ and substantial decrease in teacher retention¹².

While the topic of teacher stress has been widely studied¹³⁻¹⁶, far less research has been conducted on

the methods college teachers use to cope with stress. Coping is considered a specific strategy which is employed by an individual to manage a potentially stressful event¹⁷ and inevitably has a direct correlation with the amount of actual stress that is experienced when a potentially stressful event is encountered. After an individual has utilized a particular coping mechanism to process a potential stressor, the remaining impact of that event is considered stress¹⁸.

Identifying and understanding the coping strategies used by college teachers allows for an in-depth examination of how teaching related stressors are managed. By and large, individuals use coping mechanisms as a skill or a behavioral tool to offset or overcome adversity, disadvantage, or disability which creates stress¹⁹. The examination of coping mechanisms college teachers use will provide the opportunity to identify specific coping mechanisms that lessen the impact of teaching related stressors and have the potential to improve teacher longevity. It may also answer questions related to which events cause the most stress and why different college teachers may experience similar teaching related stressors yet experience differing levels of stress from the same event. A comprehensive search into the methods of coping employed by college teachers yielded few results, indicating that there has been minimal research on the subject.

Billings and Moos (1984) suggested that coping strategies are compensatory factors that help individuals maintain health²⁰. However, other investigators found coping strategies significantly correlated with high levels of burnout, implying that using certain coping strategies might be detrimental to an individual's health²¹. Chan and Hui (1995) used the Ways of Coping Questionnaire (Folkman and Lazarus, 1988) to investigate burnout and coping and showed that using avoidant coping was significantly related to high levels of emotional exhaustion, depersonalization and low personal achievement. Seeking social support reduced depersonalization. Moreover, feelings of personal achievement were positively related to positive appraisal and planful problem solving. These results suggest that seeking support, positive

appraisal and planful problem solving are all positive coping strategies, whereas avoidant coping is negative.

Teachers in higher education institutions are reported to be suffered from occupational stress. This challenging situation of higher education institutes has become the global issue, which is distressing all groups of personnel and societies. As different job related activities and tasks can create stress among the teachers, Eritrean college staff members also face many challenges in their job. As a result of the challenges, instructors implement different coping mechanism. Studies have been taken in other countries to gather evidence and take appropriate action towards solving the problem. But no similar studies where done in Eritrea, thus, College instructors are still suffering. Therefore, to study stress and identify its sources and coping strategies is necessary for the sake of quality education.

METHODS

Study design and approach

This study was conducted using cross-sectional descriptive co-relational study design to establish the association of stress level domains with the coping strategies among college instructors from February to April 2022.

Study setting

The study was conducted in the 6 academic colleges of Eritrea; Orotta College of Medicine and Health Sciences, Hamelmalo College of Agricultural Science, Asmara College of Education, College of Science, College of Engineering and Adikeih College of Art and Business. Asmara College of Medicine and Health Science, Asmara College of Education, College of Science and College of Engineering are located in Central zone. Hamelmalo Agricultural College is located in Anseba zone. And Adikeih College of Art and Business is located in Debub zone.

Study population

The study population was all college instructors who were present at colleges at the time of study with a total number of 429. The total number of the target population is as follows; Orotta College of Medicine and Health Science 76, Hamelmalo College of

Agricultural Science 80, Asmara College of Education 59, College of Science and College of Engineering 131 and Adikeih College of Art and Business 83. All volunteer college's academic staffs who were present at the time of study were included.

Sample size

Sample size for this study was calculated using single population proportion formula ($n_1 = Z^2 \frac{p \cdot q}{e^2}$). The following parameters were used to reach to the initial sample size (n_1): $Z = 1.96$ for 95% CI, p (proportion) = 0.5 (50%), $q = 1 - 0.5$ (0.5) and e (margin of error) = 0.05. Based on this n_1 was 384.16. In order to adjust this number to the actual population size, we used the correction factor i.e. $n_2 = \frac{n_1 \cdot N}{n_1 + N}$, where N (total population) = 429. This made the sample size (n_2) to be 202. Finally, a 10% of the n_2 was added to the sample, for assumed non-response, to get the final sample size of 222. The sample size was allocated using Probability Proportional to the number of students in each college.

Sampling method

This study employed a stratified simple random sampling technique to acquire the study participants. First, the sample size was allocated to each college based on probability proportional to its size. Then a sampling frame was developed for each stratum from which participants were selected using simple random sampling method.

Data collection tool

Data was collected using self-administered questionnaire. The questionnaire contained three parts which includes teachers' demographic factors, University and College Union model stress questionnaire and ways of coping questionnaire. These are standardized questionnaires.

UNIVERSITY AND COLLEGE UNION MODEL STRESS QUESTIONNAIRE

The UCU model stress questionnaire is approved by the university and college union in UK. This is a self-report survey instrument has been developed by HSE to help employers measure the key hazards within their organizations and compare their performance with national standards. The HSE Indicator Tool (Cousins *et al.*, 2004) comprises 63

items within the six hazard categories each scored 1-4.

The reliability for this questionnaire is high as Cronbach's alpha of each hazards are role clarity .834, demands .873, control .864, relationship stress .837, management of change .819, peer support .848, and managerial support .897.

Ways of Coping (WOC) questionnaire

The WOC questionnaire was developed following revision of the Ways of Coping Checklist in 1985. The WOC questionnaire was adapted to contain a 4-point Likert scale, not the yes-no format, present with 66 item instrument (Folkman and Lazarus, 1985). Analysis of the data resulted in eight factors, which have been divided into eight individual scales on the instrument. Fifteen items that did not clearly reflect any of the factors were deleted from the instrument. These eight scales include: problem-focused coping (items 62, 46, 39, 52, 35, 26, 64, 54, 39, 2, and 48); wishful thinking (items 55, 38, 57, 59, and 11); detachment (items 21, 13, 24, 12, 4, and 53); seeking social support (items 45, 18, 28, 31, 8, 42 and 60); focusing on the positive (items 23, 38, 20, and 15); self-blame (items 9, 29, and 51); tension reduction (items 32, 33, and 66); and keep to self (items 14, 40, and 43) demonstrated adequate reliability for each of the eight scales.

The Cronbach's Alpha for the scales were reported as problem-focused coping (0.88), wishful thinking (.86), seeking social support (0.82), self-blame (0.76), focusing on the positive (0.70), keep to self (0.65) and tension reduction (0.59) (Folkman and Lazarus, 1985).

Data analysis procedure

After data collection, each questionnaire was checked for completeness and code was given before data entry. Data was analyzed using SPSS version 20. Descriptive statistics such as frequencies, percentages, as well as Analytical statistics such as logistic regression analysis were used to assess the association of stress level domains and coping strategies in relation to the demographic variables.

Pre-test

A pre-test was conducted among 20 teachers in college of engineering. This was done in order to

make sure the questions were understandable and acceptable to the subjects.

Ethical consideration

Permission to conduct the study was obtained from the department of nursing. Then the department of nursing wrote a formal letter to all colleges of Eritrea and permission was also obtained from respective personal in charge. Participants of the study were clearly informed about the purpose of the study, and were not participated without their agreement. Data acquired from the participants was kept confidential.

RESULTS AND DISCUSSION

Socio-demographic data

In this study there were two hundred twenty-two (222) instructors participated. Out of these, 9 participants did not return the questionnaires we take as non-response which is 4%.

Out of the 222 respondents, Majority there were 128(60.1%) with lecturer post and 58(27.2%) Senior lecturer. Most of them, 135(63.4%) were permanent Instructors. 190(89.2%) were males and 23 (10.8%) were females.

There are no Instructors with any disability. The study participants included 83(39%) expatriate and 130 inpatriates (61%). About 81(38%) of them were between the age group of 26-35 and 71 (33.3%) were between the age group of 36-45.

The Instructors, 41(19.2%) were from CBSS, 38(17.8%) were from OMCHS, 38(17.8%) were from COS, 40(18.8%) were from COETEC, 16(7.5%) were from COE, 40(18.8%) were from HCAS.

Stress symptoms data

Minority of the respondents (22.1%) said, they have taken leave due to work related stress and 33.3% of those have reported that stress related symptoms have returned on their return to work.

About 40.8% and 60.6% reported having increased work-load over the past five years and two years respectively. Of those, 51.6% and 23.2% have reported their workload increasing by a quarter over five years and two years respectively.

The most significant factor that has led to work-load increase was reported to be "teaching new courses" at 40.4%.

Majority of the respondents (40.4%) reported that they see themselves working at a promoted post in five years from now.

SIGNIFICANT VARIABLES OF STRESS RELATED FACTORS

Demands domain

Within the demands domain, the most stressful variables are the following with >20% stressful or >10% very stressful turnout.

Control domain

The Most influencing variables with turnout of >20% stressful or >10% very stressful among the control domain are the following.

Role domain

The role domains most influential variables with >20% stressful or >10% very stressful results are the following:

Change domain

The variables with the highest turnout among the stressful or very stressful categories within the change factor are as following:

Support domain

The following variables are the ones having higher result in the stressful or very stressful categories among the support domain.

Prevalence of coping strategies domains

This table compares the prevalence of stress and demographic variables. Of the 213 respondents, 63(49.2%) of the lecturers, 12(80%) of part timer lecturers, 1(80%) of researcher, senior lecturers with 25(43.1%) and principal lecturer with 4(40%) have stress symptoms. When we compare stress prevalence with post type, 67(49.6%) of the permanent and 38(48.7%) of the temporary have stress symptoms.

There is high prevalence of stress among female teachers as 13(56.5%) of the female teachers have stress symptoms followed by male 92(52.5%). There is also high prevalence of stress among in-patriate (55.4%) than expatriate (39.8%).

There exist high prevalence of stress among age group of 46-55(65.5%) followed by under the age of 26(60%). The rest of the result are as follows: age group of 36-45(50.7%), 56+ (48.1%), 26-35(42%) respectively.

When we compare the prevalence of stress with different colleges; there is high prevalence among teachers of HCAS (70%), OCMHS (65.8%) and COS (55.3%) respectively.

Another demographic factor is workload. The prevalence of stress to workload is directly related as the prevalence of stress increases with increase in workload. The results are as follows; 30-35 (36.8%), 36-40 (43.3%), 41-45 (50.0%), 46-50 (58.3%) and 51+ (64.5%).

Prevalence of factors associated with stress

In order to see the relationship between stress and socio-demographic and other variables logistic regression was used. Results of bivariate logistic regression showed that, being a part-timer, being national staff, those who are from OCMHS, COS and HAC and those who said they work more than 40 hours per week, to have higher odds of experiencing stress. In addition, those who have problem in factors associated with demand, control, relation, role and change and those who use detachment to cope with stress, were found to have higher odds of being stressed. Participants who uses problem solving and focus on positive substance to cope with stress had lower odds of being stressed as compared to those who do not use these approaches. However, multivariate logistic regression reveals, being part-timer, being from college of Education or Agriculture and using Detachment to cope with stress to be the independent determinants of stress in the study setting (Table No.10).

Discussion

The aim of this descriptive correlational study was to assess the stress experienced by college instructors and to evaluate the effectiveness of their coping strategies. Among the surveyed teachers, demographic variables namely being a part-timer, nationality and department had the highest mean score and were the main stressors, followed by problems with relation and detachment coping strategy. The stressors can be seen as being in three blocks: demographic variables is the most important to these participants, stress causing factors form the second block, and coping strategies is the 3rd block. The results suggest that teachers with high levels of stress are more likely to use negative coping

strategies such as detachment. This finding is evident from the observed correlations between the total scores of the stress symptoms, the stress factors, and the coping strategies used. Teachers with high levels of distress used negative strategies more frequently. These palliative or emotional expressive strategies allow the teacher to ride the situation or decrease involvement²¹. On the other hand, participants with lower stress more frequently used positive coping strategies. However, the tendency just missed reaching significance at 0.05. Of the positive strategies, problem solving was the most frequently used coping strategy. It is worth noting that this was the only way of coping that had a negative relationship to stress.

Main source of stress

The stress factors scores correlated significantly with the distress scores of the participants. Problems with relation was found to be the most prevalent stress among the teachers. The other five subscales from the same questionnaire also measure work-related stress. The results of this subscale are similar to the findings by Pithers and Fogarty (1995) who found that unnecessarily large workloads and often few resources were the major cause of occupational stress for teachers²². In this study, the largest correlation was between problems with relation and overall stress symptom scores, which suggests problems with relations is the main cause of stress for teachers. The implication that problems with relation is the most prevalent cause of stress requires a rethinking of ways to eliminate or reduce this stress within the teacher population, especially since the measured coping strategies did not have a significant relationship with the type of work stress. Possible coping strategies that could be adopted or taught include delegating responsibility; taking up a hobby; or an activity that is enjoyable such as gardening, listening to music, or playing a musical instrument. Other strategies that can be used in challenging situations include knowing your personal limitations; assertiveness, as indicated by the ability to say 'no', for example; responding appropriately; and having personal achievement values which could be used as a break from the stressful environment or when work becomes excessive. However, Pithers and Fogarty

(1995) suggested that to reduce stress associated with role overload, an on-going management strategy is needed for the education system as a whole and should not be limited to newly appointed teachers²². This study also found that professional distress and professional investment were the least prevalent stressors among teachers who participated in the study.

Evaluation of coping strategies

We proposed that problem focused subscale, seeking social support subscale, focus on the positive subscale meaning are possible positive coping strategies. Although none of these strategies correlated significantly with the measured stress levels, problem focused subscale was the most frequently used coping strategy despite its unknown effectiveness. Chan and Hui (1995) found that problem focusing might increase personal accomplishment. The implications of not knowing the effectiveness of problem focusing are detrimental to occupational therapists' evidence-based practice, as problem focusing is a coping technique that is quite frequently incorporated in learning. Possible reasons for problem focusing not correlating with distress could be the small sample size, using mean as standard scoring, randomized frequency usage of the coping strategy, or teacher stress being an ongoing problem so that the teachers felt they were unable to problem solve. It is still worth highlighting that this correlation was in the right direction, suggesting that problem focusing may reduce stress. Only detachment strategy correlated significantly with the teachers' distress scores. The use of these types of coping strategies increased with greater distress levels. Chan and Hui (1995) earlier found a similar result – teachers who employ detachment strategy to cope with stressors may be prone to the three aspects of burnout (emotional exhaustion, depersonalization, and lack of personal achievement)²¹.

From the analysis of the activities used to respond to stress, it was evident that the teachers with lower stress levels used both focusing on positive substance and tension reduction more often than those with higher stress levels. Focus on positive substance was also used by the greatest percentage

of teachers in the lower stress category. Seidman and Zager (1991) concluded that tension reduction might be associated with low degrees of burnout²³. Therefore, these exploratory pilot study results could be considered as acceptable. The teachers within the two higher stress categories used only the coping activity of throwing something. Participants with lower stress levels did not think of this activity as an adequate solution. This result is not surprising due to the activity's nonachievement nature.

The activity can also be described as an uncontrollable assertion of anger, which can lead to regret and increased stress if something is broken in the process. Although no conclusions could be drawn as to which teacher stress category best referred to this activity, relaxation techniques were applied independently of the status of stress.

Table No.1: Number of sample size of the colleges

S.No	Colleges	Calculated sample size number
1	Orotta College of Medicine and Health Sciences	40
2	Hamelmallo College of Agricultural Science	41
3	Asmara College of Education	31
4	College of Science and College of Engineering	68
5	Adikeih College of Art and Business	42
6	Total sample size	222

Table No.2: Socio demographic characteristics of Eritrean College instructors (n=213)

S.No	Variable	Category	Frequency	Percentage
1	Position or staff grade	Lecturer	128	60.1
		Part time Lecturer	15	7.0
		Researcher	2	0.9
		Senior lecturer	58	27.2
		Principal Lecturer	10	4.7
		Total	213	100.0
2	Post type	Permanent	135	63.4
		Temporary	78	36.6
3	Workload (hours per week)	30-35	38	17.8
		36-40	60	28.2
		41-45	48	22.5
		46-50	36	16.9
		51+	31	14.6
4	Gender	Male	190	89.2
		Female	23	10.8
5	Disability	No	213	100.0
		Yes	0	0.0
6	Nationality	Expatriate	83	39.0
		In-patriate	130	61.0
7	Age	Under 26	5	2.3
		26-35	81	38.0
		36-45	71	33.3
		46-55	29	13.6
		56+	27	12.7

8	College	CBSS	41	19.2
		OCMHS	38	17.8
		COS	38	17.8
		COETEC	40	18.8
		COE	16	7.5
		HCAS	40	18.8

Table No.3: Demands domain of stress related factors

S.No		Not applicable (%)	Occasionally stressful (%)	Stressful (%)	Very stressful (%)
1	Larger classes/more students create work related stress	27.7	45.5	21.6	5.2
2	Teaching new courses create work related stress.	21.1	46.5	28.6	3.8
3	Administration creates work related stress?	28.2	36.6	22.5	12.7
4	Increased workload creates work related stress?	16.9	45.5	29.6	8
5	Traveling time create work related stress?	30	37.6	21.1	11.3

Table No.4: Control domain of stress related factors

S.No		Not applicable (%)	Occasionally stressful (%)	Stressful (%)	Very stressful (%)
1	Lack of funds/resources/support to do the job create work related stress?	21.1	36.6	27.7	14.6
2	Given responsibility without the authority to take decisions create work related stress?	29.1	34.7	24.4	11.7
3	Insufficient time for scholarship and/or research create work related stress?	27.2	32.4	23.5	16.9

Table No.5: Role domain of stress related factors

S.No		Not applicable (%)	Occasionally stressful (%)	Stressful (%)	Very stressful (%)
1	Unclear job description creates work related stress?	48.4	23.5	16	12.2
2	Lack of promotion prospects creates work related stress?	18.3	39	22.1	20.7
3	Lack of career development opportunities creates work related stress?	27.7	29.6	22.5	20.2
4	Poor pay prospects due to hourly paid /agency worker status create work related stress?	27.7	29.6	22.5	20.2
5	Poor pay prospects due to hourly paid /agency worker status create work related stress?	39	19.7	21.6	19.7

Table No.6: Change domain of stress related factors

S.No		Not applicable (%)	Occasionally stressful (%)	Stressful (%)	Very stressful (%)
1	High degree of uncertainty due to restructuring and redundancies create work related stress?	33.8	36.2	18.8	11.3
2	Changes without consultation create work related stress?	23	42.7	24.4	9.9
3	Lack of participation in decision making create work related stress?	26.3	41.3	22.5	9.9

Table No.7: Support domain of stress related factors

S.No		Not applicable (%)	Occasionally stressful (%)	Stressful (%)	Very stressful (%)
1	Lack of information about what is going on create work related stress?	21.6	35.7	27.2	15.5
2	Lack of facilities, e.g. photocopiers create work related stress?	21.1	39.4	22.5	16.9

Table No.8: Prevalence of coping strategies domains

S.No		Yes (%)	No (%)
1	Problem solving	52.6	47.4
2	Wasteful thinking strategy	51.2	48.8
3	Detachment strategy	53.5	46.5
4	Seek social support strategy	54	46
5	Focus positive substance strategy	46	54
6	Self-blame strategy	49.3	50.7
7	Tension reduction strategy	55.9	44.1
8	Tension reduction strategy	48.4	51.6

Table No.9: Chi-square analysis between Socio-demographic characteristics of the participants and stress (n= 213)

S.No	Variable	Prevalence of stress		Total (%)	p-value
		No	Yes		
	Total	N(%)		213 (100%)	-
Position/staff grade					
1	Lecturer	65 (50.8%)	63(49.2%)	128(100%)	-
2	Part timer lecturer	3(20%)	12(80%)	15(100%)	
3	Researcher	1(50%)	1(50%)	2(100%)	
4	Senior lecturer	33(56.9%)	25(43.1%)	58(100%)	
5	Principal lecturer	6(60%)	4(40%)	10(100%)	
Post type					
6	Permanent	68(50.4%)	67(49.6%)	135(100%)	-

7	Temporary	49(51.3%)	38(48.7%)	78(100%)	
Gender					
8	Male	98 (51.6%)	92 (52.5%)	190 (100%)	0.68
9	female	10 (43.5%)	13(56.5%)	23 (100%)	
Nationality					
10	Expatriate	50 (60.2%)	33 (39.8%)	83(100%)	0.00
11	Inpatriate	58 (44.6%)	72 (55.4%)	130 (100%)	
Age					
12	Under 26	2(40%)	3(60%)	5(100%)	-
13	26-35	47(58%)	34(42%)	81(100%)	
14	36-45	35(49.3%)	36(50.7%)	71(100%)	
15	46-55	10(34.5%)	19(65.5%)	29(100%)	
16	56+	14(51.9%)	13(48.1%)	27(100%)	
Colleges					
17	CBSS	32(78%)	9(22%)	41(100%)	-
18	OMCH	23(34.2%)	25(65.8%)	38(100%)	
19	COS	17(44.7%)	21(55.3%)	38(100%)	
20	COETEC	24(60%)	16(40%)	40(100%)	
21	COE	10(62.5%)	6(37.5%)	16(100%)	
22	HCAS	12(30%)	28(70%)	40(100%)	
Workload (n=213)					
23	30-35	24(63.2%)	14(36.8%)	38(100%)	0.01
24	36-40	34(56.7%)	26(43.3%)	60(100%)	
25	41-45	24(50.0%)	24(50.0%)	48(100%)	
26	46-50	15(41.7%)	21(58.3%)	36(100%)	
27	51+	11(35.5%)	20(64.5%)	31(100%)	0.00
28	Total	108(50.7%)	105 (49.3%)	213(100%)	

Table No.10: Factors associated with stress (*p< 0.05, ** p< 0.01, * p< 0.001)**

S.No	Exposure variable	Variables	Unadjusted Odds Ratio (COR) [95% CI]	Adjusted Odds Ratio (AOR) [95% CI]
1	position/staff grade	Lecturer	1	
		Part time Lecturer	4.127 [1.1-15.3]*	13.91 [2.33-82.95]**
		Researcher	1.03 [0.06-16.8]	1.19 [0.04-30.12]
		Senior Lecturer	0.78 [0.41-1.4]	0.63 [0.28-1.44]
		Principal Lecturer	0.68 [0.18-2.55]	0.50 [0.11-2.31]
2	Faculty type	Expatriate Staff	1	1
		National Staff	1.88 [1.07-3.29]*	1.81 [0.89-3.66]
3	College	CBSS	1	1
		OCMHS	6.83 [2.52-18.55]***	2.99 [0.76-11.68]
		COS	4.39 [1.65-11.67]**	4.47 [1.22-16.31]*
		COETEC	2.37 [0.89-6.27]	1.57 [0.41-6.15]
		COE	2.13 [0.60-7.47]	2.15 [0.43-10.65]
		HAC	8.29 [3.04-22.59]***	11.83 [3.19-43.80]**
4	Working time per week	Less than 40 hours	1	1

		more than 40 hours	1.88 [1.09-3.25]*	1.83 [0.91-3.68]
5	Problems in Demand	No	1	1
		Yes	2.67 [1.53-4.67]**	1.89 [0.91-3.91]
6	Problems in Control	No	1	1
		Yes	2.55 [1.46-4.43]**	1.53 [0.65-3.59]
7	Problems in Relation	No	1	1
		Yes	2.68 [1.53-4.69]**	1.51 [0.7-3.29]
8	Problems in Role	No	1	1
		Yes	1.86 [1.08-3.22]*	0.79 [0.35-1.81]
9	Problems in Change	No	1	1
		Yes	2.58 [1.47-4.52]**	1.80 [0.79-4.11]
10	Cope with Problem solving	No	1	1
		Yes	0.51 [0.29-0.88]*	0.57 [0.27-1.21]
11	Cope with Detachment	No	1	1
		Yes	1.86 [1.08-3.21]*	3.16 [1.49-6.68]**
12	Cope with Focus on positive substance	No	1	1
		Yes	0.55 [0.32-0.96]*	0.51 [0.24-1.07]

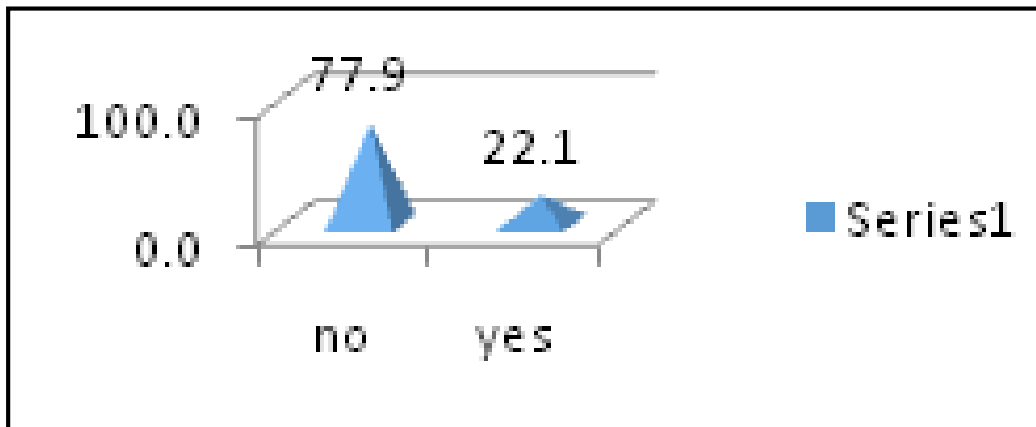


Figure No.1: Have you taken leave in the past 12 months due to work related stress?

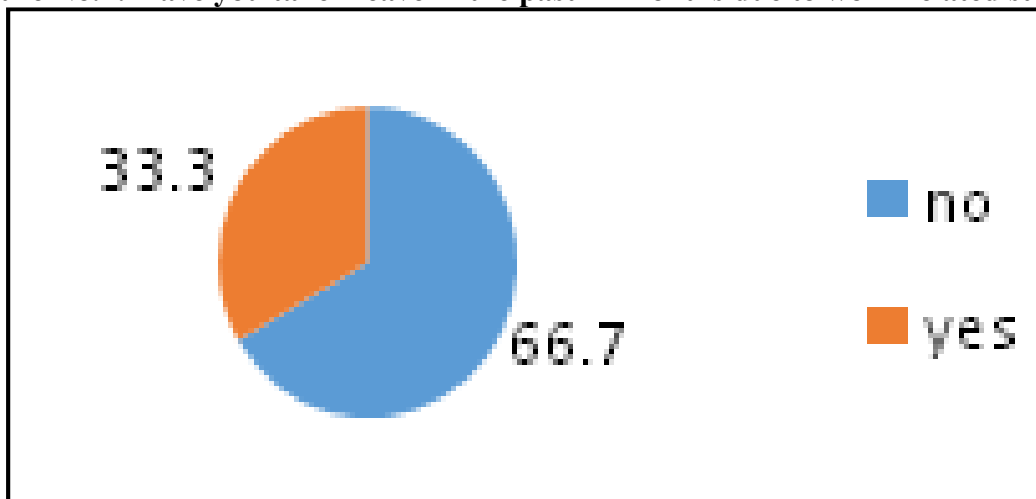


Figure No.2: Have stress related symptoms returned on your return to work?

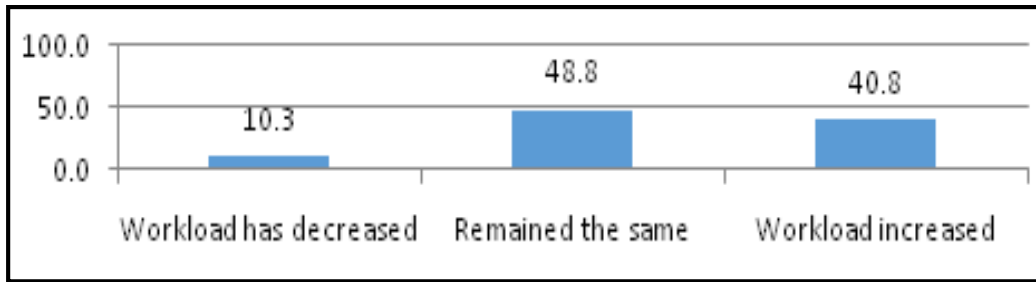


Figure No.3: Indicates how, if at all, your total workload has changed over the last five years

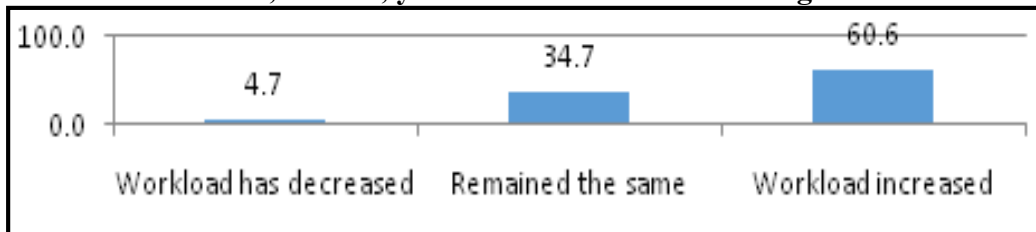


Figure No.4: Indicates how, if at all, your total workload has changed over the last two years

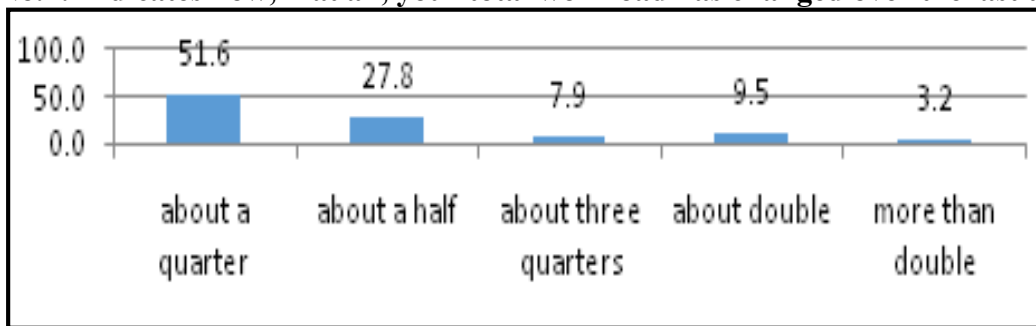


Figure 5: If your workload has increased, the approximate extent by which it has changed 5 years

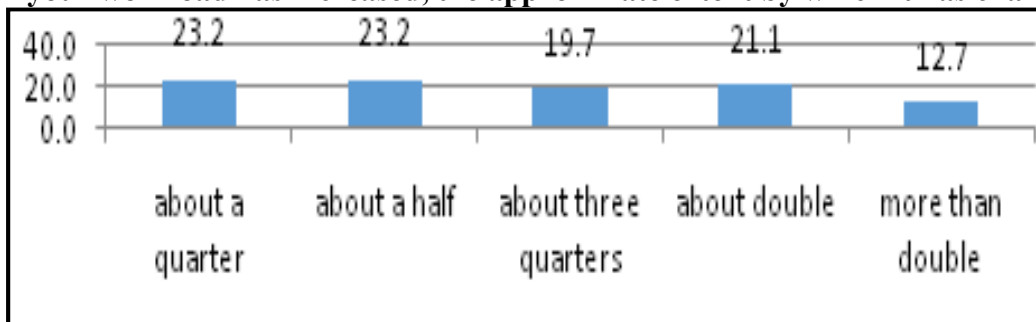


Figure No.6: If your workload has increased, the approximate extent by which it has changed 2 years

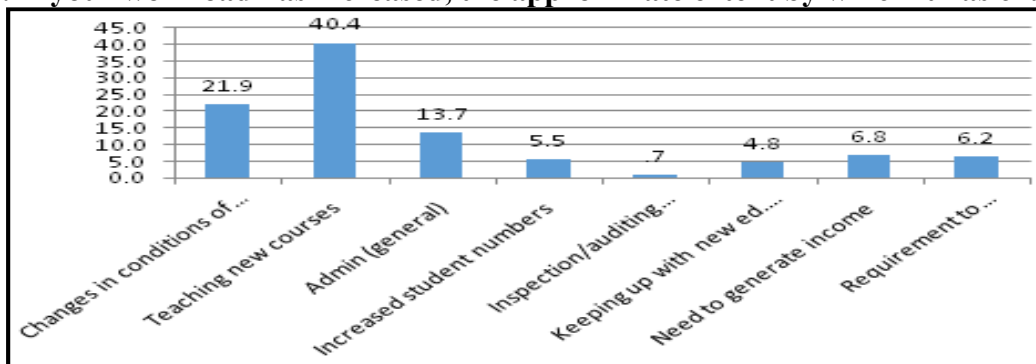


Figure No.7: Single most important factor that has contributed to your increased workload

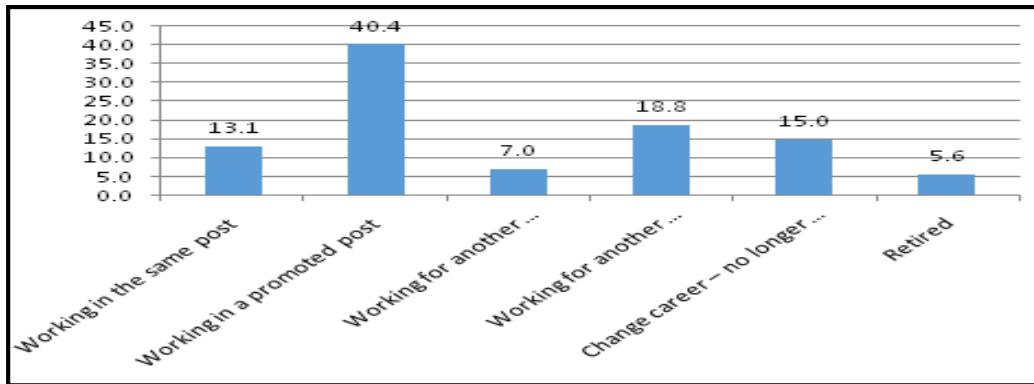


Figure No.8: What do you see yourself doing five years from now?

CONCLUSION

College Instructors in any nation are the builders of the future leading and educated members of society. As such, they are the bedrock of the nation and their mental and physical health need to be monitored and take care of. For a college instructor to lead an interactive life in his/her community is typically characterized by high levels of stress associated with adjusting to the social environment and increased academic demands. Moreover, social support networks undergo radical changes for the new instructors. While family may remain a part of the academic staffs social support network, the physical separation and long in and out of site working hours can be stressful for some instructors.

The risk factors identified in the study were six domains, these are Demand, Control, Relationship, Role, Change and support. For Academic staff hired as part timers or being staff the COS and HAC college were significantly associated with stress as more risk but positive coping with detachment was found to be as protective factor. Additionally, associations were examined among the socio demographic factors. This study founded that prevalence of stress is moderately high in Eritrean college instructors as 49.2% of the academic staff have stress and several of the risk factors were shown to have a strong association with it. The study found that the prevalence of stress increases with being an in patriate instructor, working time per week more than forty hours and problems in demand, control, relation, role and change. This is a very high statistic and urges for an intervention effort and more research studies to be conducted to

understand the influencing factors. We also conclude that this figure is similar with other developing countries studies. The results of this study may be useful to those looking to design and implement educational stress prevention programs among college instructors and have important implications for mental health professionals treating them and future research in this area.

Finally, factors associated with stress and its coping strategies need to be explored in order to understand possible causes and relating variables among academic staff.

RECOMMENDATION

These findings may point to promising coping strategies for stress prevention. A multidisciplinary approach should be employed to support academic staff with stress and an immediate attention should be intervened not only from the Ministry of education

but also from the Ministry of Health, other concerned governmental and nongovernmental organizations and the public at large. Academic workload (assigned credit hours and course) of academic staff in Colleges of Education if possible, should be reduced. Mental health experts, for example, school psychologists, behavior analysts and professional counselors should be available in the institutions to assist instructors to manage or overcome distress that may interfere with their overall mental health development. And instructors could also support one another to act as advisers on academic and personal matters. Take a college-wide

approach to address both individual and environmental factors associated with stress. The entire campus (not just the counseling center) needs to serve an active role, since stress is a complex problem. Active periodic screening of college academic staff anxiety levels, levels of depression and peer relationships and other stress symptoms may be a promising treatment approach to decrease the occurrence of stress. Develop programs in enhancing skills in problem solving, conflict resolution and nonviolent handling of disputes. Coping strategies in the group of cope in problem solving, cope with detachment and cope with focus on positive substance serves as a protective factor and more situationally suitable coping strategies should be explored and act upon.

ABBREVIATIONS

ACAB: Adikeih College of Arts and Business; ACOE: Asmara College of Education; COE: College of Education; COS: College of Science; EU: European union; HCAS: Hamelmalo College of Agricultural Science; HSE: Health and Safety Executive; LFS: Labor Force Survey; M: Mean; OCMHS: Orotta College of Medicine and Health Sciences; r: regression; SD: Standard Deviation; SPSS: Statistical Package for the Social Sciences; UCU: University and College Union; UK: United Kingdom; WOC: Ways of Coping.

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CONFLICT OF INTEREST

None declared.

AUTHORS' CONTRIBUTION

All authors participated in all phases of the study including topic selection, design, data collection, data analysis and interpretation. Samuel, Anjana Kuriakose and Dr. Linto contributes to write this manuscript.

AVAILABILITY OF DATA AND MATERIAL

The complete data set supporting the conclusions of this article is available from the corresponding author and can be accessed up on reasonable request.

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