EDUCATIONAL JOURNAL OF SPORT SCIENCE

UNIVERSITYOF PORT HARCOURT
VOL. 5 FEBRUARY 2016, ISSN: 0896-8164

EDUCATIONAL JOURNAL

OF

SPORT SCIENCE
UNIVERSITY OF PORT HARCOURT

VOL. 5, FEBRUARY 2016, ISSN: 0896 – 8164

TABLE OF CONTENT

PREDISPOSING FACTORS TO HYPERTENSION AMONG JUNIOR STAFF OF UNIVERSITY OF IBADAN, IBADAN OYO STATE, NIGERIA

Jacob Olusola Odelola Ph.D.
Department of Human Kinetics and Health Education
Faculty of Education
University of Ibadan, Ibadan
E-mail: olualade77@gmail.com
And
Faderera Christianah Olayiwola M.Ed.
Department of Human Kinetics and Health Education
Faculty of Education
University of Ibadan, Ibadan
E-mail: olayiwolafaderera@gmail.com

Abstract

The study examined psychosocial and economic variables as predisposing factors to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria. A descriptive survey research design was adopted for the study. The study sampled 1004 respondents using simple random sampling technique. Data were collected through questionnaire. The result of the study shows that psychological variables ($F_{(2,1001)}$=44.715, p<0.05) as well as social variables ($F_{(3,1000)}$=26.506, p<0.05) were predisposing factors to hypertension among junior staff of University of Ibadan while economic factor was not. It was concluded that psychological and social variables were predisposing factors to hypertension in the study. It was recommended that management of educational institutions in the country should ensure good physical and emotional work environment so as to enhance health status of workers.

Keywords: *psychosocial and economic factors, hypertension, stress, work environment, junior staff.*

Introduction

Hypertension is elevated blood pressure overtime. Blood pressure is the force that heart muscle exerts to circulate blood throughout the body. It is summarized by two measurements: systole and diastole. Systole is the phase of the heartbeat when the heart muscle contracts and pumps blood from the chambers into arteries while diastole is the part of the cardiac cycle when the heart refills with blood.(Shaikh, 2015) Blood pressure readings are usually given as two numbers; for example, 120 over 80 (written as 120/80 mmHg). One or both of these numbers can be too high. The top number is called the systolic blood pressure and the bottom number is called the diastolic blood pressure (Carretero and Oparil, 2000). Normal blood pressure is when blood pressure is 120/80mmHg most of the time. High blood pressure (hypertension) is indicated when blood pressure is 140/90 mmHg or above most of the time. Hypertension puts strain on the heart leading to hypertensive heart disease

and coronary artery disease. It is a major risk factor for stroke, aneurysms of the arteries, peripheral arterial disease and chronic kidney disease.

In 2000, nearly one billion people or 20% of the adult population of the world had hypertension (Kearrey, Whelton, Reynolds, Munta, Whelton and He, 2005). Hypertension is recognized worldwide as a widespread cardiovascular disease and risk factor in the development of coronary heart disease, stroke and congestive heart failure. World Health Organisation (2002) acknowledged cardiovascular diseases as the leading cause of mortality and morbidity in developed countries and are emerging as a prominent health problem in developing countries. In the same vein Oladipo and Ayoade (2012) stated that cardiovascular diseases including hypertension are the main cause of death in the developed world and there is growing evidence that similar epidemic is inevitable for developing countries.

Hypertension is a leading cause of Target Organ Damage (TOD) like blindness, kidney failure and coronary artery diseases. Familoni, Ogun and Aina (2004) identified in a study that hypertension or its complication is the most common non-communicable disease in Nigeria. In 2007, mortality from stroke in the country was put at 126 per 100,000 population and rising (Okechukwu, Ikechi, Innocent, Joshua, Onwubere, Falase and Sliwa, 2012). Ajayi, Sowemimo, Akpa and Ossai (2016) reported in a study that there was a high prevalence of hypertension and that majority of the hypertensives were not aware of their status prior to the survey. Adeloye, Basquil, Aderemi, Thompson and Obi (2015) predicted increase in the rate of complication such as cerebro-vascular accidents, heart failure and renal failure after noting low levels of awareness, treatment and control of hypertension in Nigeria.

In this study, psychosocial and economic factors are the identified predisposing factors as well as independent variables. Hemingway and Marmot (1999) defined a psychosocial factor as measurement that potentially relates psychological phenomena to the social environment. They further stated that psychological factors such as stress, hostility, depression, hopelessness and job control seem to be associated with physical health; particularly heart disease. Self-esteem and work stress are the indices of psychosocial factor in this study. Self-esteem has long been identified as an important predictor of adjustment to stress (Lazarus and Folkman, 2007). According to Kivimaki and Kalimo (2006) self-esteem is inversely related to psychological indicators of stress and strain. Therefore, it may have a role to play in attenuating physiological responses to stress. It then follows that a case can be made for the implication of low psychosocial status in the etiology of disease that is affected by physiological responsivity to stress such as hypertension.

Much research attention has been focused on the issue of workplace stress, so much so that theories have emerged to explain the relationship that exists between stress and the work environment (Grimshaw, 2009). The three most influential and popular theories of occupational stress are Person-Environment (PE) fit theory, the Framework of Occupational Stress and the Demand Control Support Model (Vandenber, Park, DeJoy, Wilson and Griffen-Blake, 2002). The basic premise of the Person-Environment fit theory is that stress arises from a misfit between person and environment – not from the two components separately but as the factors of each

relate to one another. When individuals perceive that their work environments are not good or do not fit well with the needs, wants, and desires that they personally would like fulfilled from work, the discrepancies create diverse strains, which are then hypothesized to affect workers' health and wellbeing. The framework of occupational stress is based around the same foundation as the PE fit theory. They share two principles, first, that stress arises from the misfit between person and environment, and second, that subjective perceptions of work environment primarily determine strains. The difference between the two viewpoints lies with the framework core definition which states that occupational stress is a total process including the environmental sources of stress and the individual's perception of them, short term and long term physiological, and psychological, and behavioural responses as well as a number of modifying factors that influence the relationships among variables in the stress process such as social support and the quality of interpersonal relationships within the work environment (Newman, 2004). Environmental demands include job requirement, role expectations, and group and organizational norms. The ability of an individual to counter the demands largely depend on aptitudes, skills, training, time and energy a person uses to meet the demand . The idea is that the larger the discrepancy between a person and the environment, the greater the likelihood of strain, and a need for coping will arise (Grimshaw, 2009)

Interpersonal relationships are social associations, connections or affiliations between two or more people. Bryan (2010) found in a study that negative social relationship is a risk factor for heart disease. Adoption of healthy lifestyle is a potent strategy to reduce or even prevent high blood pressure. Beiling (1999) had earlier asserted that weight control, exercise, dietary pattern characterized by a low intake of saturated fat and high intake of fruit, vegetable, fish and moderation of heavy alcohol consumption all have beneficial effect on cardiovascular function and general health. Work environment indices such as work role, design and content of task and relationship at workplace all increase stress, thereby leading to high blood pressure. Low income especially among salaried workers could be a source of stress leading to high blood pressure. This is probably why Barbin, Grorini, Ferruci, and Biggeri (2005) identified link between low job status with hypertension and cardiovascular disease risk.

Statement of the Problem

Sudden increase in death rate among staff of University of Ibadan in the early 2011 prompted the Vice Chancellor to give a directive that medical screening of all members of staff be conducted. The screening was done at University Health Service (Jaja) between April and June, 2011. A higher percentage of diagnosis of hypertension was indicated from the result of the medical screening especially among junior staff. Therefore this study sought to investigate psychosocial and economic variables as predisposing factors to hypertension among Junior Staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Objectives of the Study

The broad objective of the study was to find out psychosocial and economic variables as predisposing factors to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Specifically, the study examined:

(i) Psychological variables as predisposing factor to hypertension among junior staff.

(ii) Social variables as predisposing factor to hypertension among junior staff.

(iii) Economic variables as predisposing factor to hypertension among junior staff.

Hypotheses

1. There is no significant joint contribution of psychological variables (self-esteem and work stress) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State Nigeria.
2. There is no significant relative contribution of psychological variables (self-esteem and work stress) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.
3. There is no significant joint contribution of social variables (interpersonal relationships, lifestyle and work environment) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.
4. There is no significant relative contribution of social variables (interpersonal relationships, lifestyle and work environment) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.
5. There is no significant relative contribution of economic factor (income) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Methodology

Research Design

The study adopted a descriptive survey design.

Population

The population for this study comprised all junior staff of University of Ibadan, Ibadan, Nigeria.

Sample and Sampling Techniques

The sample for this study was one thousand and four (1004) respondents drawn from the junior staff of University of Ibadan. Simple random sampling of fish bowl without replacement method was used to select ten (10) units out of the seventeen units available. 60% respondents from each of the ten units were picked randomly.

S/N	NAME OF UNITS	POPULATION PER UNIT	NUMBER SAMPLED
1.	Central Administration	802	481
2.	Agriculture	162	97
3.	Distance Learning Centre	34	20
4.	Works and maintenance	78	47
5.	Science	108	65
6.	Security	315	189
7.	University Health Service	52	31
8.	International School	32	19
9.	Education	56	34
10.	Arts	35	21
	Total	1674	1004

Source: Management Information System (MIS) University of Ibadan (2015).

Research Instrument

The research instrument for this study was modified standardized questionnaire designed according to the variables tested in the hypotheses. The questionnaire was in five sections: Section A was used to gather information on the demographic data of the respondents, section B was on Psychological variable Scale (PVS), Section C was on Social Variable Scale (SVS), Section D was on Economic Variable Scale (EVS) and Section E was on Hypertension Scale (HS). All items of the instrument were close ended and were designed in line with the 4-point modified Likert type Scale and were rated as follows: SA – Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The questionnaire was validated by experts in the field of Health Education. The reliability of the questionnaire was established through a test retest procedure yielding a correlation coefficient of 0.71.

Procedure for Data Collection

The researchers administered the questionnaire on the respondents with the support of three research assistants.

Procedure for Data Analysis

Inferential statistics of regression was used to test the hypotheses set at 0.05 alpha level.

Results

Hypothesis One

There is no significant joint contribution of psychological variables (self-esteem and work-stress) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State Nigeria.

Table 1: *Multiple Regression Summary Table showing composite contribution of psychological variables to hypertension*

R= .286
R^2=.082
Adj. R^2 = .080
Std. Error of Estimate = 1.06665

ANOVA

Model	Sum of Square	Df	Mean Square	F	P	Remark
Regression	101.748	2	50.874	44.715	.000	Significant
Residual	1138.889	1001	1.138			
Total	1240.637	1003				

The result on the table one shows that there was significant contribution of the independent variable to hypertension (0.286, $p<0.05$). The table further shows that 8% (Adj. R^2=.080) variance in the perception of junior staff, hypertension occurrence was determined by self-esteem and work stress. The result of Analysis of Variance (ANOVA) from regression analysis also shows joint effect of the independent variables on hypertension ($F_{(2,1001)}$ = 44.715, $p<.05$). This implies that independent variables observed actually predicted hypertension among junior staff of University of Ibadan, Ibadan. The unexplained variance or chance factors were taken as variables that were not within the scope of this research.

Hypothesis Two

There is no significant relative contribution of psychological variables (self-esteem and work-stress) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Table 2: *Multiple regression table showing the relative contribution of psychological variables to hypertension*

Model	Unstandardized Coefficient		Standardised Coefficient	T	P-value	Remark
	B	Std. Error	Beta			
(Constant)	2.381	.110		21.733	.000	Significant
Self-esteem	.342	.047	.306	7.310	.000	Significant
Work Stress	.471	.050	.392	9.385	.000	Significant

Dependent variable: Hypertension

The result on table two shows relative contribution of the independent variables to hypertension. The significant contribution of each of the independent variables to hypertension in order of magnitude is presented as follows: work-stress β=0.392, t=9.385; $p<0.05$) and self-esteem β=0.306, t=7.310; $p<0.05$).

Hypothesis Three

Social variables (interpersonal relationship, lifestyle and work environment) will not be significant predisposing factors to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Table 3: *Multiple Regression table showing composite contribution of social variables to hypertension*

R = .271
R^2 = .074
Adj. R^2 = .071
Std. Error of Estimate = 1.07203

ANOVA

Model	Sum of Square	Df	Mean square	F	P	Remark
Regression	91.385	3	30.462	26.506	.000	Significant
Residual	1149.252	1000	1.149			
Total	1240.637	1003				

The result on table three shows that there was significant contribution of independent variables to hypertension (R=0.271, p<.05). The table further shows that 7.1% (Adj. R^2 = .071) variance in the perception of the junior workers, hypertension was determined by interpersonal relationship, lifestyle and work environment. The result of Analysis of Variance (ANOVA) from regression analysis also shows joint contribution of independent variables to hypertension ($F_{(3,1000)}$=26.506, p<.05). This implies that the independent variables observed actually predicted hypertension. The unexplained variance or chance factor were taken as variables that were not within the scope of this research.

Hypothesis Four

There is no significant relative contribution of social variables (interpersonal relationship, lifestyle and work environment) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Table 4: *Multiple Regression table showing the relative contribution of social variables to hypertension*

Model	Unstandardized Coefficients		Standardized coefficients	t	P-value	Remark
	B	Std Error	Beta			
(Constant)	3.139	.112		28.034	.000	Sig
Interpersonal relationship	.284	.289	.127	2.451	.007	Sig
Lifestyle	.170	.050	.162	3.379	.001	Sig
Work environment	.442	.055	.409	7.957	.000	Sig

Dependent variable: Hypertension

The result on table four shows relative contribution of the independent variables to hypertension. The significant contribution of each of the independent variables in order of magnitude is presented as follows: work environment (β=0.409, t=7.957; p<0.05), lifestyle (β=0.162, t=3.379; p<0.05) and interpersonal relationship (β=0.127, t=2.451; p=<0.05).

Hypothesis Five

There is no significant relative contribution of economic variable (income) to hypertension among junior staff of University of Ibadan, Ibadan, Oyo State, Nigeria.

Table 5: *Multiple regression table showing the relative contribution of economic variable to hypertension*

Model	Unstandardised coefficient		Standardised coefficient	T	P-value	Remark
	B	Std. Error	Beta			
Constant	2.761	.107		25.743	0.000	Not Sig.
Income	.054	0.35	.050	1.570	.117	

Dependent variable: Hypertension

The result on table five shows relative contribution of independent variables to hypertension. The magnitude of contribution of the independent variables revealed that income (β=0.050; 1.570, p<0.05) had no significant contribution.

Discussion of the findings

The finding from this study revealed that indices of psychological factor (self-esteem and work stress) when taken together contributed to hypertension. It was also revealed that self-esteem individually contributed to hypertension. Self-esteem influence to a great extent the state of health of an individual. This assertion arising from the finding is in line with the finding of Grimshaw (2009) that for people with good self-esteem, normal ups and downs may lead to temporary fluctuations in how they feel about themselves, but only to a limited extent; in contrast, for people with poor self-esteem, these ups and downs drastically impact the way they see themselves. In the study; work stress was found to have contributed to hypertension. This is in line with the finding of Djindjic, Jovanovic, Djindjic, Jovanovic, and Jovavic (2012) that there was a strong association between the occupational stress index and hypertension.

This study revealed that there was significant joint contribution of social variables (interpersonal relationship, lifestyle and work environment) to hypertension. Interpersonal relationship individually contributed to hypertension in this study. This result supported the finding of Bryan (2010) that poor interpersonal relationship is a significant risk factor for heart disease. Lifestyle was found in this study to have contributed significantly to hypertension. Such behaviour as smoking, drinking alcohol, abuse of drug, poor dieting, lateness in treating disease and inactivity have all been identified as poor lifestyle leading to heart diseases in health education programme. The junior staff were exposed to health education

programme in print and electronic media. This perhaps may have accounted for why they were able to identify poor lifestyle as predisposing factor to hypertension.

Work environment individually contributed to hypertension in this study. This finding corroborated that of Niedhammer, Goldberg, Lederc, David, Bugel and Landre (1998) that psychological demand, decision latitude and social support were significantly associated with hypertension. Income did not contribute to hypertension in this study. This is in contrast with finding of Sabri, Bener, Eapen, Azhar, Abdishakure and Singh (2005) that there was significant association between income and hypertension among United Arab Emirates population. However, the result could be as a result of the fact that during the period of the study salaries were paid regularly and promptly. There was free access to short and long term loans.

Conclusion

The study concluded that psychological factors (self-esteem and work-stress) as well as social factors (inter-personal relationships, lifestyle and work environment) significantly predisposed respondents to hypertension. The welfare programmes that will build self-esteem, reduce stress, promote good interpersonal relationship, promote healthy lifestyle can to a great extent prevent hypertension among workers. Improved health status of workers is a function of health promoting work-environment.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Medical screening programme for workers should be done yearly in institutions of learning throughout the country.
2. Health education programme in which knowledge and awareness of cardiovascular diseases will be given prominence should be instituted in all educational establishments.
3. Work schedule must be planned by the management of institutions of learning in the country in such a way that workers will not be carrying too heavy workload.
4. Educational institution managements should ensure health promoting work environment so as to improve health condition of workers.
5. Good policy making and researches should be included in the disease prevention programme for workers in institutions of learning.