

Full Length Research Paper

Influence of smoking and job stress on the nutritional behaviour of factory workers in Ibadan metropolis

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Healthy life style is considered a significant factor in the total fitness and wellness of individuals and groups in the society. Individual healthy nutritional behaviour is a key element in preventing diseases and improving health. The study investigated the influence of smoking and job stress on the nutritional behaviour of factory workers in Ibadan, metropolis. The study adopted the descriptive survey design. The stratified and purposive sampling techniques were used to select eight hundred and eighty-four workers from sixteen factories in Ibadan. Data were collected using a validated questionnaire which yielded reliability co-efficient of 0.72 on the Cronbach alpha scale and were analyzed using inferential statistics of simple regression at 0.05 significance level. The result revealed a significant predictive effect of smoking and job stress on the nutritional behaviour of the respondents. Education through sensitization on the importance of healthy lifestyle among workers was recommended.

Key words: Smoking, job stress, nutritional behaviour, factory workers, influence.

INTRODUCTION

Nutrition is at the heart of man's health status as man, to a great extent, is basically a product of his nutritional behaviour. It is a common saying that one is what one eats. Good nutritional behaviour is therefore an important requisite for wellness. Wellness transcends health in that it connotes optimal health, that is, it implies operating at the peak of the health continuum. Smith et al. (2006) defined wellness as the optimal state of health of individuals and groups which involves the realization of the fullest physical, psychological, social, spiritual and economical potential and the fulfillment of one's role expectations in the family, community, place of worship, workplace and other settings. Health as well as wellness is determined by a constellation of factors that cut across the individual and his living environment to the social and

cultural factors within which he operates. As such, health is influenced by so many factors that are culturally, socially, economically and politically determined.

The impact of behaviour in determining the direction of health in the health continuum is enormous. As such, any effort targeted at ensuring wellness, must attempt to modify behaviour. Behaviour generally and health behaviour particularly is complex as it is affected by so many factors. Individual health behaviours are influenced by intrapersonal, socio-cultural, policy and physical environmental factors. These factors are likely to interact with multiple levels of environmental issues such as living and working conditions and community characteristics which are relevant for understanding and changing behaviours. When behaviour maintains particular pattern

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overtime, it is described as lifestyle. The world health organization (1998) thus defined lifestyle as “a way of living based on identifiable patterns of behaviour which are determined by the interplay between an individual’s personal characteristics, social interactions, and socio-economic and environmental living conditions.” In the same vein, Mandel et al. (1999) noted that *lifestyle* is a complex health dimension that dynamically involves personal, environmental, behavioural, and occupational factors. Although some researchers have attempted to conceptualize lifestyle as a matter of personal choice and individual responsibility, many others have argued for the existence of predetermined personal, cultural, environmental, and health factors that intertwine with various aspects of lifestyle (Lhussier and Carr, 2008).

Healthy lifestyle is a dominant force which helps to prevent diseases and promote health. It is considered a significant factor in the adoption of healthy habits and protective behaviours which are generally recognized as being centered on some areas of personal health behaviours, like smoking, diet, alcohol consumption and participation in physical activity (Conner and Norman 1996, Ewles and Simnet 1995). Ioannou (2002) stated that these personal health behaviours are classified within the lifestyle field of health related behaviours, and tend to be presented as a key element in preventing diseases and improving health.

Quoting the WHO, Goston et al. (2012) stated that the world is rapidly urbanizing with significant changes in people’s living and working conditions, lifestyles, social behavior and health. According to them, rising levels of diabetes, obesity, and other chronic conditions have attracted considerable attention. Healthy diet, increased physical activity, tobacco control, and reduced stress are at the centre of efforts aimed at preventing and controlling these health conditions. The workplace provides a unique and viable avenue for health promotion as various job characteristics can be used to identify potential target groups for implementation and evaluation of health promotion interventions (Goston et al., 2012; Beresford et al., 2007; Devine et al. 2007; Noblet 2003; Campbell et al., 2002).

Goston et al. (2012) noted that occupational categories may show differences in health-related behaviours such as diet and physical activity that contribute to chronic disease. Apart from occupational categories, various studies have identified a range of psychological, environmental and social factors that may influence an individual’s readiness to engage in healthy eating and regular physical activity (Burton and Turrell, 2000; AlQuaiz and Tayel, 2009; Nomura et al., 2010). Among workers, the most common barriers to healthy diet at the individual level are lack of willpower (AlQuaiz and Tayel, 2009) and the cost of healthy foods (Pawlak and Colby, 2009).

Smoking is a harmful lifestyle that has adverse effect

on health and wellness. Researchers have identified that tobacco intake causes cardio-vascular diseases; as about 1 in every 5 deaths from cardio-vascular diseases is attributable to smoking (Insel and Roth, 2002). Studies on the relationship between smoking and nutritional behaviour have indicated that there is a substantial difference in the nutritional behaviour of smokers and non-smokers. In a meta-analysis designed to assess the relationship between smoking status and nutrient intakes, it was established that smoking has negative effect on nutritional behaviour (Dallongeville et al., 1998). Fifty-one published nutritional surveys from 15 different countries with 47,250 nonsmokers and 35,870 smokers were used in the analysis in which unhealthy nutritional behaviour among smokers was higher than non-smokers. Findings of the meta-analysis revealed that smokers reported higher intakes of energy, total fat, saturated fat, cholesterol and alcohol and lower intakes of polyunsaturated fat, fiber, vitamin C, vitamin E and β -carotene than non-smokers. Dallongeville et al. (1998) thus concluded that the substantial difference in the nutritional behaviour of smokers and non-smokers may exacerbate the deleterious effects of smoke components on cancer and coronary heart disease risk among smokers.

Stress is considered another strong factor in shaping lifestyle. It is believed that life is full of stress and individuals react to stress in diverse ways. Some individuals, in a bid to evolve coping strategies might develop lifestyles that are harmful to health and poor nutritional habit could be a major one. What one does when stressed is basically to restore balance in the near-equilibrium state that the stressor has distorted and eating habit could be one of the ways of striving to regain this balance. Torres and Nowson (2007) stated that stress appears to alter overall food intake in two ways, resulting in under or overeating, which may be influenced by stressor severity. According to them, chronic life stress seems to be associated with a greater preference for energy- and nutrient-dense foods that is, foods that are high in sugar and fat. They concluded that stress-induced eating may be one factor contributing to the development of obesity. Moreover, Debbie and Jeffery (2003) in a study centered on assessing the relationship between stress and harmful health habits among working adults reported that high stress level for both men and women was associated with a higher fat diet, less frequent exercise, cigarette smoking, recent increases in smoking, less self-efficacy to quit smoking, and less self-efficacy not to smoke when stressed. In another study, Potocka and Moscicka (2011) reported unhealthy eating patterns among Polish employees who were under high stress level. The study reported that stressors as overload, lack of control over work and inappropriate work organization were especially related to poorer eating habits.

The nature of work in factories is suspected to predispose workers to a notable level of stress and some

lifestyle that might affect their nutritional behaviour and their overall health and well being. This study was therefore designed to examine the influence of health related lifestyles (smoking, and stress) on the nutritional behaviour of male factory workers in Ibadan metropolis.

Hypotheses

The following hypotheses were tested in this study.

1. Smoking behaviour will not significantly predict nutritional behaviour of male factory workers Ibadan metropolis
2. Job stress will not significantly predict nutritional behaviour of male factory workers Ibadan metropolis

METHODOLOGY

Study area

The city of Ibadan was chosen for this study because it is greatly undergoing industrialization which is tied to the congestion of Lagos state. Many industries are springing up in Ibadan as industrialists are somewhat looking for a fresh terrain as Lagos seems to be congested. Ibadan is located in south-western Nigeria. It is the capital of Oyo State, and is reputed to be the largest indigenous city in Africa, south of the Sahara. Ibadan had been the centre of administration of the old Western Region, Nigeria since the days of the British colonial rule. It is situated 78 miles inland from Lagos, and is a prominent transit point between the coastal region and the areas to the north. Parts of the city's ancient protective walls still stand till today, and its population is estimated to be about 3,800,000 according to 2006 estimates. The principal inhabitants of the city are the Yoruba.

Ibadan's beginnings are shrouded in mystery; they were recorded only in oral tradition. It is said that the earliest group of settlers at Ibadan were fugitives from justice who were expelled from nearby villages. This small group later swelled with the arrival of immigrants from all over Yoruba land (now western Nigeria). Recorded history begins in 1829, after the region was convulsed by extended intertribal wars. In that year the victorious armies of the Ife, Ijebu, and Oyo kingdoms camped at Ibadan and formed the nucleus of the modern city. The British colonial government assumed control of the city in 1893. After the railway arrived from Lagos (1901), the line was extended northward to Kano (1912), thus ensuring the city's continuing economic importance.

The economic activities of Ibadan include agriculture, commerce, handicrafts, manufacturing and service industries. Although the city's farming population has declined, it is still large for an urban area. Many cultivators are part-time farmers who augment their earnings with other work. Ibadan is an important commercial centre. Virtually every street and corner in the traditional core and the inner suburbs of the city is a market square or stall. Within the city there are two eight-day periodic markets—Ibuko (Bode) and Oje—and many daily markets. The largest daily market stretches in a belt from the railway station in the west to the centre of the city and is Ibadan's commercial core.

Sample and instrumentation

The descriptive survey research design was used in carrying out

the study. The population for this study comprised male factory workers in Ibadan metropolis. The stratified and purposive sampling techniques were used to select 884 respondents from selected factories in the metropolis. The instrument for the study was a modified structured questionnaire adapted from standardized instruments. The instrument was validated by obtaining experts' opinion from the department of human kinetics and health education and institute of education, university of Ibadan, Ibadan. The Cronbach alpha reliability scale was used to estimate the internal consistency of the instrument which was estimated at 0.72 Cronbach alpha.

Data collection and analysis

The instrument was administered by the researchers and their assistants and the collected data were analyzed using inferential statistics of simple regression at 0.05 level of significance.

RESULTS

Hypotheses

Hypothesis 1: Smoking behaviour will not significantly predict nutritional behaviour of male factory workers Ibadan metropolis (Table 1) The table revealed that smoking has significant influence on nutritional behaviour of the respondents ($R = 0.79$, $p < 0.05$). The table further revealed that 22.9% ($\text{Adj. } R^2 = 0.229$) of the variance in nutritional behaviour among the respondents were accountable for by smoking. Furthermore, the analysis of variance (ANOVA) results from the regression analysis showed that there was significant influence of the independent variable on the dependent variable; $F(1, 882) = 323.914$, $p = 0.000 < 0.05$.

Hypotheses 2: Job stress will not significantly predict nutritional behaviour of male factory workers Ibadan metropolis (Table 2). The regression table above revealed that job stress has significant influence on nutritional behaviour of the respondents ($R = 0.645$, $p < 0.05$). The table further revealed that 41.6% ($\text{Adj. } R^2 = 0.416$) of the variance in nutritional behaviour among the respondents were accountable for by job stress. Furthermore, the ANOVA results from the regression analysis showed that there was significant influence of the independent variable on the dependent variable; $F(1, 882) = 775.362$, $p < 0.05$.

DISCUSSION

The findings of the study revealed that nutritional behaviour is enhanced with enhanced lifestyle. The results of the hypotheses indicate that nutritional behaviour is strongly influenced by lifestyle. The findings of the study confirmed the framework that smoking, occupational stress and exercise are potent health behaviours that play enormous role in disease prevention, longevity and

Table 1. Regression table showing influence of job stress on nutritional behaviour

Analysis of variance (ANOVA)								
Model	Sum of Squares	df	Mean square	F	R	R ²	Adj. R ²	Sig.
Regression	969.821	1	969.821	323.914	0.79	0.23	0.229	.000
Residual	3251.557	882	2.994					
Total	4221.379	883						

a. Predictor: (Constant), Smoking
b. Dependent Variable: Nutrition behaviour

Source: Fieldwork 2013

Table 2. Regression table showing influence of job stress on nutritional behaviour

ANOVA								
Model	Sum of Squares	df	Mean square	F	R	R ²	Adj. R ²	Sig.
Regression	1758.442	1	1758.442	775.362	0.645	0.417	0.416	0.000
Residual	2462.937	882	2.268					
Total	4221.379	883						

a. Predictor: (Constant), Job stress
b. Dependent Variable: Nutrition behaviour

Source: Fieldwork 2013

wellbeing. Individuals who participate regularly in physical activity, due to the demand of exercise might record higher fluid (water) intake. They are also more likely to maintain good appetite corresponding to the burning of the calorie that follows physical activeness. It is also important to note that physically active individuals, who in most cases, aim at reducing weight, choose their food wisely thereby avoiding food with high fat contents that are more likely to predispose them to some health conditions associated with high fat intake. The finding of the study that indicated significant effect of occupational stress on nutritional behaviour corroborates the findings of Potocka and Moscicka (2011) which also indicated significant effect of occupational stress on nutritional behaviour among polish workers.

It is unfortunate to note that in Nigeria, most workers are tied to their job for the fear of losing it at the detriment of their health. Majority of Nigerian workers hardly create time for recreational activities as a result of their work and this has deleterious effect on their health. Devising strategies to improve the nutritional behaviour of Nigerian workers must be given serious attention as the adverse effect of poor nutritional behaviour on health and wellness is colossal. Glanz et al. (1994) reported that poor nutritional behaviour leads to the development of most chronic diseases, including coronary heart disease, some cancers (example, breast, colon, prostate, stomach, and cancers of the head and neck), type II diabetes mellitus and osteoporosis among others. They recommended that

for a healthful nutritional behaviour, attitude of people should include limiting consumption of high-fat foods, having a high intake of fruit and vegetables, increasing fiber, controlling caloric intake to prevent obesity, avoid smoking, alcohol, managing work stress and engaging in controlled social life.

CONCLUSION

Findings of the study revealed that smoking and job stress significantly influence the nutritional behaviour of male factory workers in Ibadan metropolis.

RECOMMENDATIONS

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

1. Concerted effort must be made by concerned stakeholders especially the labour unions, to ensure that the health and well-being of human elements in work places are given precedence over profits. Workers, in the course of pursuing the profit-driven targets of their employers are subjected to ugly work experiences which might have harmful effect on their health.
2. Effort must be made to increase awareness and knowledge on the benefits of healthy lifestyle of which

good nutritional behaviour is included among workers. Work place ethics must include zero tolerance to unhealthy habits like smoking, alcohol consumption and sedentary living. Defaulters of these policies must be handed stiff penalties to serve as deterrent to others.

3. There is the need to include health and healthy lifestyle education in all education curricula in Nigeria. This is because knowledge on healthy behaviour gained in school can be carried over to the work place later in life.

4. The work environment must also be made health friendly in order to facilitate healthy lifestyles. The sale of alcoholic beverages and cigarettes within and around the work place must be prohibited. It is also important to ensure that every corporation has a cafeteria with trained dieticians as operators. This is to ensure health friendly eating outlet to workers and prevent them from resorting to any available eatery where their nutrition requirement might not be adequately met.

Conflict of Interests

The author has not declared any conflict of interest.

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