

Prevalence and Determinants of Cardiac Personality Tendencies: An Assessment of Type A Behavioural Patterns Among Youths in Kaduna State, Nigeria

Ezeh O.H^{1*} and Ezeh C.C²

¹Department of Community Medicine, Ahmadu Bello University, Zaria, Nigeria.

²College of Agriculture, Ahmadu Bello University, Zaria, Nigeria.

*Correspondence:

Ezeh O.H, Department of Community Medicine, Ahmadu Bello University, Zaria, Nigeria, E-mail: drohezeh@gmail.com.

Received: 12 January 2018; Accepted: 07 February 2018

Citation: Ezeh O.H, Ezeh C.C. Prevalence and Determinants of Cardiac Personality Tendencies: An Assessment of Type A Behavioural Patterns Among Youths in Kaduna State, Nigeria. *Cardiol Vasc Res.* 2018; 2(1): 1-4.

ABSTRACT

Background: Deaths from hypertension, stroke, heart attacks (CHD) are on the increase in Sub Sahara Africa including Nigeria. Type- A behavioral pattern or Type- A personality also called cardiac personality, is associated with heart disease, self-made stress, unintentional injury, anxiety and depression. It is characterized by: time-urgency, anger, hostility, competitiveness, irritation e t c. Therefore, reducing levels of type- A tendencies may help to reduce and prevent severity of heart disease, and improve quality of life of sufferers.

Objectives: To identify Type- A personalities in a population of undergraduate medical students. To assess prevalence rates of Type- A tendencies among male and female students. To recommend strategies to reduce levels of Type A behavioral patterns (TABP) in a stress-prone population of medical students.

Methods: A cross-sectional descriptive, total population study was carried out among 120 second year medical students of Ahmadu Bello University (ABU), Zaria, Nigeria. Participants were administered, 14-item questionnaire assessing type- A behavior tendencies. All the second year medical students receiving lectures in Behavioral Sciences, participated in the study, and response rate totaled 82.7 percent.

Results: Both descriptive and inferential statistics were performed on the data using SPSS software version 15. Results indicate that the total prevalence rate of cardiac personality tendencies among participants was 52.5 percent-- 23.9 percent had mild tendencies, 18.2 percent had moderate and 10.4 severe tendencies. More male participants (55.7 percent) had higher levels of cardiac personality tendencies than their female counter-parts (48 percent). Though this difference was not significant ($X=0.297$, $p=0.585$), using qui-square statistics.

Conclusion/Recommendation: Type A behavioural pattern was highly prevalent among undergraduate medical students of Ahmadu Bello University (A B U), Zaria, Nigeria. There is need for early detection, modification and management of risk factors and tendencies to prevent heart disease and improve psychological health.

Keywords

Medical students, Cardiac personality tendencies, Heart disease, Risk factors, Prevention.

Introduction

The World Health Organization [1] fact sheets indicate that cardiovascular diseases (CVDs) are the number one cause of deaths

globally with more people dying annually from CVDs than from any other cause. Cardiovascular diseases are the most common civilization-related diseases world-wide [2]. They are also number one cause of deaths in Sub-Sahara Africa.

Over 93.7 percent of sudden unexpected deaths (SUD) in Nigeria are due to hypertension-induced medical conditions such as

coronary heart disease (CHD) or heart attack, stroke, heart failure etc. Medical training and practice have been associated with high levels of academic and practice demands in Nigeria [3]. Type-A behavior pattern is the product of the landmark investigation of two renowned cardiologists [4] Meyer Friedman and Ray Rosenman, in the 1950s. Type- A behavior pattern, also called cardiac personality, is an action-emotion complex activated by certain factors in the environment. It is a behavioral risk factor that places a person at high risk for heart disease. It has also become a psychosocial risk factor for CHD. Anger, hostility, self-created stress, irritation, competitiveness and impatience are the characteristics of Type-A personality. While anger and hostility are the major psychological components of the cardiac personality, the behavioral patterns predictive of future heart problems.

These negative emotions may promote the release of stress hormones in the blood which may accumulate overtime to raise risks of heart disease. The chemicals produced during stress do actually alter body physiology negatively. Feelings of anger and hostility are strongly related to increased risk of heart attack [5]. Type -A personality may be more appropriately conceptualized as a trait-continuum with extremes of Type-A and Type-B individuals on each end [6]. There are also Type-A cities based on pace of life, similar to Type A personality. For example, [7], identified four indicators for rating a city's pace of life: walking speed, working speed, talking speed and the percentage of men and women wearing 'watches'. Individuals with Type-A personality may be more attracted by Type-A cities than Type-B individuals.

Feelings of anger and hostility are strongly related to increased risk of heart attack. For example, about 15 percent of a group of 25-year old doctors and lawyers who scored high on a hostility test were dead by age 50 [8]. Anger and hostility may be the core lethal factor for the heart-attack-prone personality. Behaviors related to hostility were the actual culprits for heart problems. Yet there are effective and adequate psychological strategies to reduce anger, hostility and distress, associated with Type- A behavioral pattern. In another example, Psychological Fact [9], reported that laughter relieves anger, tension and hostility by over 80 percent and cuts the risk of heart attack by over 70 percent. For example Early detection and characterization of type A tendencies in a stress-prone population ('who cope badly under stress), would help to predict, reduce and prevent future hypertension, cardiovascular accident (CVAs) and coronary heart disease and improve heart health in this specific population.

Two cardiologists, Friedman and Rosenman who identified Type -A behavior patterns the first time in the 1950s demonstrated the health risks associated with the behavior patterns which include but not limited to; coronary heart disease, hypertension, smoking, depression, unintentional injury at work, etc. Despite these negative health consequences associated with the type- A behaviors, little if any empirical research has been done among youth population in Kaduna state, Nigeria. Assessing these patterns of behavior in this population would constitute initial step towards possible psychological and behavioral.

Interventions in those identified with the tendencies.

Objectives

- To identify Type- A personalities in a population of undergraduate medical students.
- To assess prevalence rates of Type- A tendencies among male and female students.
- To recommend strategies to reduce levels of Type- A behavioral patterns(TABP) in a stress-prone population of medical students.

Methods

The research was a cross-sectional, descriptive, total population study, carried to screen all second year undergraduate medical students of Ahmadu Bello University (A B U), Zaria, Nigeria, for type-A behavioural tendencies. A total of 120 students were used for the analyses; the response rate was 82.7 percent with non-response and incomplete response of 25 subjects. The participants ranged in age between 19 and 27 years. A 14-item identification test, which was shortened and adapted from Friedman and Rosenman [10]. Type- A test was used to identify Type A tendencies. The short identification test was reliable and indeed contained characteristics of type- A persons. Socio-demographic characteristics of the participants were also assessed.

The identification test was a self-administered questionnaire with fourteen items and cronback's alpha of 0.78 after pretesting. All the 14 items were related to Type-A behavior patterns. The more items endorsed by subjects, the higher the type- A tendencies. Consent was obtained from both the participants and the assistant dean (Undergraduates), they were aware of the objectives of the study and were assured of confidentiality of their responses.

Results

Responses gathered were fed into computer using SPSS version 15. Various analyses were performed on the data including descriptive and inferential statistics. The total score for each participant was calculated by adding together all the items endorsed by the subjects, with a possible total range of 0-14. The mean type- A score was 5.47, with a standard deviation (SD), of 2.9. Mild, 7-8 (29); moderate, 9-10 (22); severe/extreme, 11 and above (12), (Table 1). More than 50 percent of the participants scored above the mean. The association between type -A personality and gender was tested using chi-square test of significance at 95 percent confidence interval.

Results indicate that the total prevalence rate of cardiac personality tendencies among participants was 52.5 percent (63), 23.9 percent had mild tendencies, 18.2 percent had moderate while 10.4 percent had severe tendencies (Figure 1), therefore only 47.5 percent(57) of the participants were Type B personalities. More male participants (55.7percent) Figure 2, were found to have higher levels of cardiac personality tendencies than their female counterparts (48 percent) Figure 3, though this difference was not statistically significant ($\chi=0.297$, $p=0.585$), using qui-square statistics.

Type A Scores	Severity	Number of cases (n=63)
7-8	Mild	29
9-10	Moderate	22
11 & above	Severe	12
		Total=63

Table 1: Distribution type- A scores based on Severity.

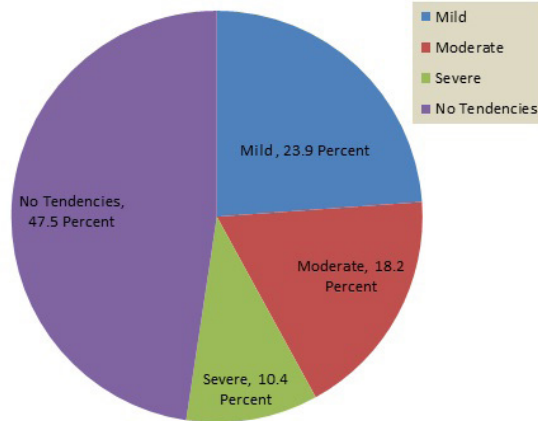


Figure 1: Prevalence of Cardiac Personality Tendencies. Total Prevalence Rate; $23.9 + 18.2 + 10.4 = 52.5$ Percent

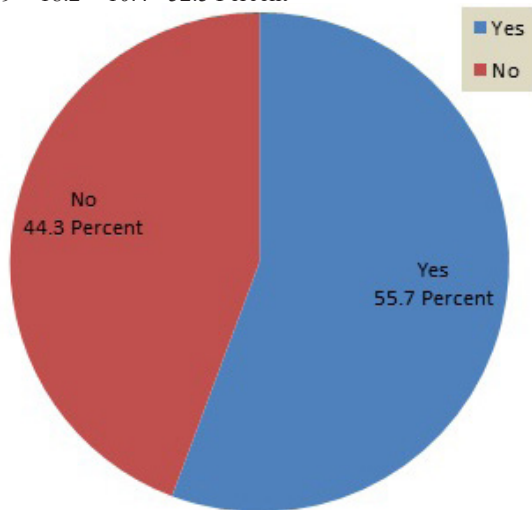


Figure 2: Male Prevalence rate of Cardiac Personality Tendencies. =55.7 Percent

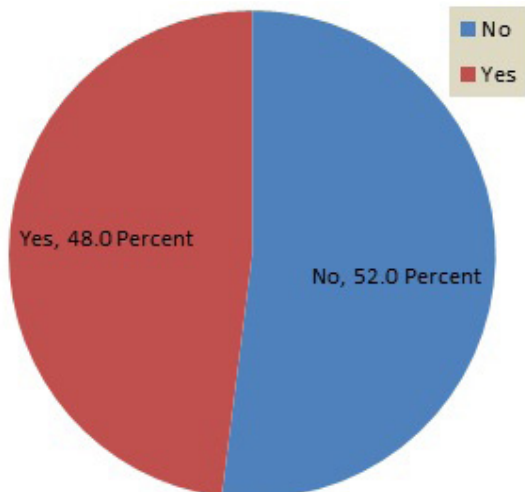


Figure 3: Female Prevalence rate of Cardiac Personality Tendencies. =48.0 Percent.

Discussion

The present study indicates that type- A behavior was highly prevalent among undergraduate medical students of Ahmadu Bello University (A B U) Zaria, Nigeria and also more prevalent among male students than females, although this difference did not reach significant level.

These findings were in line with some previous studies [11] and contrary to others [12]. So many factors would have combined to explain these findings. It may have been due to persistent use of dysfunctional coping mechanisms, since psychological facts indicate that stress had greatest effects on individuals with type- A behavior patterns, neuroticism, disease-prone personalities etc. Personality may determine how well individuals are able to resist negative effects of stress. Specific personality traits such as stress -hardy personality [13] and type B personality may enable individuals to effectively and adequately cope with academic tension and stress associated with medical training and practice.

High levels of type- A behavior patterns are risk factors for both physical and psychological morbidities and learning functional coping strategies may help to reduce associated mortalities and morbidities [14]. It may also escalate rates of high risk behaviors. One of the possible strategies that may help to prevent self-made stress associated with Type-A tendencies is to adopt behaviors opposite those listed in the Type-A identification-test, that is Type B and stress-hardy personalities. In summary, psychological science suggests that physical and psychological morbidity may arise from each order, that is, psychological morbidity may arise from physical morbidity and vice-versa.

Conclusion and Recommendations

In conclusion, the study has been able to identify medical students with cardiac (Type A) personality tendencies, the behavioral patterns predictive of future heart problems. The relatively high prevalence rate of these tendencies found among these students pressed home, the need for routine screening of the students for these traits, in order to prevent and treat future heart problems. Self-made stress, hostility and anger bottled-up may increase heart rate, blood pressure, demands for oxygen and ultimately put a tremendous strain on the heart.

Specific psychological strategies to reduce levels of self-made stress, anger and hostility- the core lethal psychological components of Type A behavior pattern- should be employed which include; coping skills training, stress management intervention, building stress-hardy personality traits, behavioural and psychological interventions etc We see heart diseases as holistic events and recommend holistic approach to prevention and treatment a bio-psycho-social model of health and illness, multi-factorial , multi-disciplinary cooperation and collaboration in diagnosis, treatment, rehabilitation and prevention of heart diseases and improvement of heart health.

References

1. www.who.int/mediacentre/factsheets
2. www.who.int/healthinfo/global_burd
3. Ezeh OH, Ezeh CC, Okey BI, et al. Prevalence, Sources and Patterns of Stress among University Students. African Journal of Psychological Study of Social Issues (AJSSI). 2016; 19: 60-69.
4. Friedman M, Rosenman RH. Association of specific overt behavior patterns with blood and cardiovascular findings. Journal of American Medical Association. 1959; 169: 1286-1296.
5. Niaura R, Todaro JE, Stroud L, et al. Hostility, the metabolic syndrome, and incident coronary heart disease. Health Psychology. 2002; 21: 588-593.
6. www.simplypsychology.org/personality-a.html
7. Levine RV. A geography of time. New York: Basic Books. 1998.
8. Coon D, Mitterer JO. Introduction to Psychology: India, Akash Press. 2007.
9. <https://mobile.tweeter.com>
10. Friedman M, Rosenman RH. Type A behavior and Your Heart: New York, Knopf. 1983.
11. Shaygannejad V, Dehnavi SR, Ashtari F, et al. Study of Types A and B Behavior patterns in Patients with Multiple Sclerosis in an Iranian Population. Journal of Preventive Medicine. 2013; 4: S279-S283.
12. Hisam A, UrRahman M, Mashhad SF, et al. Pakistan Journal of Medical Science. 2014; 30: 1304-1307.
13. Kobasa SC. Stressful life events, personality, and health: an enquiry into hardiness. Journal of Personality and Social Psychology. 1979; 37: 1-11.
14. Friedman M, Rosenman RH. Type a behavior: It's Diagnosis and Treatment: Springer. 1996.