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PERCEPTION OF ISCHAEMIC HEART DISEASE, KNOWLEDGE OF AND ATTITUDE TO REDUCTION OF ITS RISK FACTORS

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ABSTRACT

Objectives: To assess the perception of ischaemic heart disease (heart attack) as a cause of mortality and determine the current knowledge of its risk factors as well as the level of adoption of preventive strategies among Nigerians working in a tertiary institution.

Design: Cross-sectional study.

Setting: University of Calabar, Calabar, Nigeria.

Subjects: Five hundred randomly selected University workers both senior and junior staff.

Main outcome measures: Assessment of the awareness of ischaemic heart disease as a cause of morbidity and mortality, knowledge of risk factors and degree of adoption of lifestyle modification strategies.

Results: Only 136 (27.7%) of respondents considered ischaemic heart disease (heart attack) as the leading cause of death in their environment while 201 (40.2%) thought it was hypertension.

Smoking was readily identified by 70.6% as a risk factor, excessive alcohol use by 52.8% and 41.6% of respondents identified obesity. Sedentary life-style and oral contraceptive use were least identified with only 16.6% and 6.4% of respondents respectively identifying them. This knowledge was significantly influenced by the educational status and cadre of the subjects. The senior staff who were also better educated demonstrated more knowledge. Two point two percent of respondents were smokers and smoked ten sticks of cigarettes or less per day. All expressed willingness to stop. One hundred and fifty eight admitted taking alcohol, most taking less than ten units a week and of these, only 64 were willing to quit. Fifty three point four percent (29.2% of senior and 24.2% of junior undertook some exercise while only 45.6% checked their body weights regularly. Only 25% of all the respondents visited the hospital or clinic for routine medical check-up. No statistically significant difference was found between the senior/better educated and the junior/less educated members of staff in the adoption of these life style modification measures. Sixty four point four percent got medical information from doctors and other health workers.

Conclusion: Level of awareness of ischaemic heart disease as a leading cause of death is poor even in an academic environment. Knowledge of risk factors is also poor and is influenced by the level of educational attainment. Life style modification strategies are still not widely accepted irrespective of educational status. A concerted public health response is advocated to improve the present level of knowledge and establish behavioural changes.

INTRODUCTION

Ischaemic heart disease remains a major public health problem in developed or industrialised countries (1). It is thought to be a disease of affluence and is the most common cause of death in these countries (2). Owing to the alarm about the spread of HIV and AIDS as well other communicable diseases such as malaria and tuberculosis, epidemics of cardiovascular disease have insidiously established themselves in developing countries. This has happened without attracting global attention or local action (3).

Ischaemic heart disease was thought to be of low prevalence in developing countries where affluence was said to be low and western diet not consumed to a large extent (4,5). However, recent reports indicate that the prevalence is increasing among affluent blacks in many African countries including Nigeria (6-8). It has also been documented that in these countries the more affluent do not always suffer the greatest burden. Risk factors exist across the socio-economic spectrum in the urban areas (8).

Surveys done in the USA and other developed countries have demonstrated marked deficiency of knowledge of risk factors, attitude to and adoption of preventive measures for ischaemic heart disease in cross-sections of the population (9,10). The studies demonstrated that even in these areas of documented high prevalence, the perception of the effect of cardiovascular disease is not in agreement with the severity of the known consequences of ischaemic heart disease on morbidity and mortality. Poor awareness of the risk factors may impede preventive efforts and the adoption of positive life style changes.

The objective of this study was to assess the perception of ischaemic heart disease, current level of knowledge of risk factors and the level of adoption of preventive strategies among Nigerians working in a tertiary institution.

MATERIALS AND METHODS

This was a cross-sectional study conducted at the University of Calabar, Calabar. Calabar is located in the south-south geopolitical zone of Nigeria. It is undergoing rapid urbanisation with the attendant changes in life-style and population dynamics.

The University is involved in teaching, research and community services and has staff strength of 2,814 comprising both junior (1,321) and senior staff (1,493) in the academic, administrative and laboratory units.

Five hundred workers were selected by systematic random sampling using the departmental staff list. Each department has staff strength of approximately 35; at least 15 members were selected from each of the 32 departments visited. Data were collected using a self-administered questionnaire. Two visits were made to each department and those not available for interview after this were replaced. Members of staff in the Faculties of Clinical Sciences and Allied Medical Sciences were excluded as they may have a fair knowledge of the subject and thus have undue advantage over others.

The questionnaire noted the respondents' demographic characteristics, level of education, profession and cadre. Enquiries were made of what non-communicable disease they considered the leading cause of death in their environment, consumption of cigarettes and use of alcohol by respondents. Their knowledge of the risk factors for ischaemic heart disease (heart attack) and the level of adoption of preventive strategies were also assessed.

Data were analysed in groups and percentages using Epi-Info 2002 Software. Chi square test was used to analyse differences between groups. Statistical significance was fixed at $P < 0.05$.

RESULTS

Demographics: Table 1 shows the demographic characteristics of respondents. Three hundred and two (60.4%) were male while 198 (39.6%) were female. Majority 34 (70.8%) were in age range 41–50 years.

Educational status and staff cadre – Table 2: There were 270 senior staff and 230 in the junior cadre. When related to their educational attainment, 98.8% of senior staff had tertiary education as against only 27.4% in the junior cadre. Majority 60% of the junior staff had only secondary education while 29 (12.6%) had only primary school education. The senior members of staff were thus better educated than the junior ones. The observed difference was statistically significant ($p = 0.000$).

Perception of the leading non-communicable disease causing death: Two hundred and one (40.2%) considered hypertension as the leading cause of death, 136 (27.2%) considered ischaemic heart disease (heart attack) while 50 (10%) thought of diabetes mellitus. Only 45 (9%) considered cancer.

Prevalence of smoking and use of alcohol: Only 11 (2.2%) of respondents admitted to smoking cigarettes. Of these 85.7% smoked less than ten sticks a day while 14.3% smoked ten sticks and above. Though more in the senior staff cadre smoked, there was no statistically significant difference ($p = 0.5$). However all the smokers expressed willingness to stop. As regards alcohol consumption, 158 (31.6%) consumed alcoholic beverages of various types. Majority (97.3%) admitted to consuming ten units or less per week while only 0.7% took ten units and above. Sixty four (40.5%) expressed willingness to stop drinking alcohol and 94 (59.5%) did not see any reason to stop. More of the senior staff admitted to alcohol use and the difference was found to be statistically significant ($p = 0.000$).

Knowledge of risk factors – Table 3: Most of subjects were able to readily identify smoking, obesity and use of excessive alcohol as cardiovascular risk factors. Smoking was mentioned most (70.6%), use of excessive alcohol 52.8% while obesity was mentioned by 41.6% of respondents. Sedentary life style and oral contraceptive use were least identified and mentioned 16.6% and 6.4% respectively. Senior staff members who were also better educated were more readily able to identify all these risk factors

than the junior ones. The observed difference was statistically significant ($p < 0.05$). However as regards the knowledge of alcohol as a risk factor, though more of the senior staff also readily identified it, the observed difference was not statistically significant ($p > 0.05$).

Adoption of preventive strategies: Two hundred and sixty seven (53.4%) of respondents undertook some form of exercise (29.2% senior and 24.2% junior) members of staff. The difference was not statistically significant ($p = 0.850$). A large number 233 (46.6%) of staff of both cadre did not exercise at all or rarely did so.

As regards regular checking of body weight 228 (45.6%) did and of these 127 (25.4%) were senior staff members while 111(22.2%) were junior ones. The observed difference was statistically significant ($p = 0.042$).

Only 125 (25.0%) of respondents visited the hospital for routine medical check up. Though more were in the senior cadre, the difference was not statistically significant ($p = 0.917$). Majority 375 (75%) only went to hospital when ill.

Source of medical information: Three hundred and twenty (64.4%) of subjects admitted to getting most of their medical information from doctors and other health workers. One hundred and eighty one (36.2%) respondents got information from books while those that got their information from the mass media were 144 (28.8%). There was however source overlap as some subjects had more than one source of information.

Table 1

Age and sex distribution

| Age group (years) | Male | Female | Total | (%) |
|-------------------|------|--------|-------|------|
| 21–30 | 41 | 57 | 98 | 19.6 |
| 31–40 | 113 | 74 | 187 | 37.4 |
| 41–50 | 110 | 57 | 167 | 33.4 |
| 51–60 | 36 | 10 | 46 | 9.2 |
| >60 | 2 | 0 | 2 | 0.4 |
| Total | 302 | 198 | 500 | 100 |

Table 2
Educational status/staff cadre

| Staff cadre | Educational status | | | | | | Total | |
|-------------|--------------------|------|-----------|------|---------|------|-------|-----|
| | Tertiary | | Secondary | | Primary | | No. | (%) |
| | No. | (%) | No. | (%) | No. | (%) | No. | (%) |
| Junior | 63 | 27.4 | 138 | 60 | 29 | 12.6 | 230 | 100 |
| Senior | 256 | 94.8 | 14 | 5.2 | 0 | 0 | 270 | 100 |
| Total | 319 | 63.8 | 152 | 30.4 | 29 | 5.8 | 500 | 100 |

Chi² = 245.29; df = 2; p = 0.000

Table 3
Knowledge of risk factors

| Risk factor | Response | Senior staff | Junior staff | Total | | P-value |
|------------------------|----------|--------------|--------------|-------|------|-------------|
| | | | | No. | (%) | |
| Smoking | Yes | 180 | 173 | 353 | 70.6 | 0.0364 |
| | No | 90 | 57 | 147 | 29.4 | Significant |
| Excessive alcohol | Yes | 139 | 125 | 264 | 52.8 | 0.522 |
| | No | 131 | 105 | 236 | 48.2 | NS |
| Obesity | Yes | 13 | 70 | 208 | 41.6 | 0.000 |
| | No | 132 | 160 | 292 | 58.4 | Significant |
| Sedentary lifestyle | Yes | 65 | 18 | 83 | 16.6 | 0.000 |
| | No | 205 | 212 | 417 | 93.4 | Significant |
| Oral contraceptive use | Yes | 24 | 8 | 32 | 6.4 | 0.0137 |
| | No | 246 | 222 | 468 | 93.6 | Significant |

NS = Not Significant

DISCUSSION

Systemic hypertension was considered the leading cause of death by majority of subjects while ischaemic heart disease (IHD) was considered a cause of death by only 27.2%. This is not surprising as post mortems are not frequently done thus the actual disease associated with hypertension which may lead to death may not be known. In one study, myocardial infarction complicated 20% of deaths from hypertensive heart disease at post mortem in Ife (7). Clinically ischaemic heart disease is increasingly being diagnosed in this country (6). In countries where the disease is rife a segment of the population especially women still do not consider IHD a leading cause of death (9). A lot of work thus has to be done to enlighten persons in

our environment that the disease is beginning to be considered a public health problem.

As regards knowledge of risk factors, smoking, obesity and excessive consumption of alcohol were readily identified by respondents. Educational attainment did not seem to influence this as the difference noted between the highly educated and the less educated was not statistically significant except in respect of obesity where the influence of education was apparent and statistically significant. The more educated respondents appeared to understand better the deleterious effect of obesity particularly on cardiovascular health. In the locality where this study was carried out, there is deliberate attempt to increase the body weight of young maidens in preparation for marriage (the fattening room culture). This culture is still being held onto by the less educated as it is

still thought to connote the level of care given to the maidens by the spouses or parents. The desirable influence of education on the knowledge of obesity as a risk factor is corroborated by findings in Brazil which showed that lower income groups have had increasing rates of overweight and obesity over the last decade compared the significant decrease observed in the higher income groups (11). With regards to awareness of smoking and excessive alcohol use as cardiovascular risk factors, this can be explained by the fact that the global expansion of tobacco and alcohol trade has led to large increases in the rate of smoking and use of alcoholic beverages (2) and a concomitant increase in campaign against the abuse of these agents by religious and moral organisations. The level of educational attainment also influenced the recognition of contraceptive use and the role of sedentary life style as cardiovascular risk factors. The few that identified them as risk factors were respondents with post secondary education. This observation was statistically significant. Sedentary jobs are still seen as signifying an elevation in social status and therefore are highly sort after thus not easily associated with cardiovascular morbidity by the less educated. The use of oral contraceptives has not been widely accepted by the less educated and thus awareness of the side effects by this group is low.

Though respondents readily identified smoking and excessive use of alcohol as cardiovascular risk factors a few still indulged in the habits. It is however gratifying that the quantity of both substances consumed were tolerable. The Framingham heart study showed that cardiovascular mortality increased by 18% and 31% in men and women respectively for each ten sticks smoked per day (12). Most of our respondents smoked less than ten sticks. In one study, approximately 70% of current smokers reported a desire to stop completely and corroborates findings in this study where all expressed this desire (13).

The role of alcohol is complicated by difficulty in obtaining accurate data but moderate alcohol consumption is associated with decreased coronary risk (14). The amount of alcohol consumed by our subjects were within normal limits and may account for the unwillingness of many to stop its consumption.

Only 53.4% of respondents maintained healthy style by exercising at least three times a week.

This was not influenced by educational status as there was no statistically significant difference between the educated and the less educated. In a study in Pakistan among middle class persons 68.4% did not exercise (15). Physical activity is one of the critical factors for the control of the rapidly increasing global burden of cardiovascular disease and enough is now known about the quantity and quality of physical activity required for health benefits (16). Only 20.4% regularly weighed themselves as a way of checking overweight and just 25% visited the hospital regularly for routine check up. Majority only went to hospital when sick. These findings show that respondents irrespective of the educational status did not appreciate the benefit of these measures to cardiovascular health. Sixty four point four percent of respondents in this study admitted to getting their medical information from doctors and other health workers. This is gratifying as it indicates a significant level of patient interaction with health personnel in this country. This contrasts with findings in some developed countries where the major source of information was said to be magazines (9,10).

We conclude that the level of awareness of risk factors for ischaemic heart disease and adoption of healthy life styles is still poor in our environment even among those considered to be enlightened or working in an environment where they could be easily enlightened. This corroborates findings from studies done in both developed and developing countries (8-10,15). It is thus a pointer to the enormity of work to be done in the enlightenment of these and most especially the less educated who are adopting western life style as status symbol.

Death from cardiovascular disease tends to occur a decade or two earlier in Africa and other developing countries than they do in Western countries (17). This implies the onset of an oncoming epidemic and predicts a large increase in cardiovascular disease in these regions in the nearest future. The poor state of health infrastructure in the country will definitely be unable to cope with the catastrophe.

A concerted public health response is thus required. The population approach is more rewarding and sustainable as even small reductions in each risk factor can add up to a huge reduction in the rate of cardiovascular events. It is expected that if healthy behaviour is established as a desirable norm in a society, it should have a multigenerational effect.

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