

Cancer Risk Factors and Awareness Among Female Senior Secondary School Students in Bauchi State

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ABSTRACT

Cancer continues to increase global disease burden with Breast cancer being leading cause of cancer death among female and about 72,000 cancer death estimated to occur in Nigeria annually. This study determined cancer risk factor and awareness among female students in senior secondary schools in Bauchi, four hundred and six students were selected from 10 secondary schools using random and stratified sampling techniques. Structured questionnaire on cancer risk factor and awareness was administered to the students while digital bathroom scale and stadiometer were used to measure the students' weights and heights. Demography profile of the students indicated that about 80.0% were between 14-17 years old and 40.6 % resided in rural area, furthermore 74.6% were from nuclear family. About 96.80% respondents indicated cancer awareness while only 42.6% obtained the cancer information from school, respondents' knowledge on cancer risk factors due to unhealthy food consumption that were not sure were (54.2)% for white refine flour, (48.0)% for processed meat and (53.4)% for microwave popcorn, frequent consumption of those foods could predispose them to cancer. About 35.2% of respondents in their third year (SS3) between 14-17 years were overweight while only 43.4% of engaged in sporting activity for 60 minutes once per week. Findings of the study showed that majority of students were aware of cancer but were very poor on cancer risk factors due to food and sporting practice. Schools as agents of change need to intensify their efforts on cancer awareness and educate them on public health issues like cancer to prevent misinformation on food related risk factors on cancer and should also promote healthful lifestyle.

Keywords – Cancer, Risk Factors, Awareness, Female, Senior Secondary School, Students, Bauchi & Nigeria

Aims Research Journal Reference Format:

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1. INTRODUCTION

Cancer is one of the dreaded diseases that persistently steer public concern in the last few decades. It is one of the public health issues of concern of the 21st century. It occurs in individuals regardless of gender, age and status but particularly prominent among female. cervical and breast cancer patients continue to increase in women (Boulos & Ghali, 2014; Kamzol, Jaglarz, Tomaszewski, Puskulluoglu, & Krzemieniecki, 2013; Ranasinghe, Ranasinghe, Rodrigo, Seneviratne, & Rajapakse, 2013). Cancer is the leading cause of death in economically developed countries and the second leading cause of death in developing countries (Jemal et al., 2011). Nigeria and many African countries are also faced with high prevalent of cancer patients among their citizens. Cancer risk factors and awareness by the public are still as at its infancy, particularly among adolescents and youth. Adolescents and young are prone to cancer due to their lack of adequate knowledge, awareness and modifiable risk factors (Al-Hazzaa, Musaiger, Group, & others, 2011; Al-Maskari et al., 2013; Davis, Bennett, Befort, & Nollen, 2011; Kushi et al., 2012; Omobuwa, Alebiosu, Olajide, & Adebimpe, 2014; Robinson et al., 2015).. Certain food and health behaviour constitute a greater assets to minimize cancer incidence especially for modifiable factors including alcohol use, physical activity, dietary factors and human papillomavirus (HPV) infection (Eisenberg, Neumark-Sztainer, & Story, 2003; Karadag, Gungormus, Surucu, Savas, & Bicer, 2014; Mays et al., 2000; Naeeni et al., 2014; Oh, Lim, Yun, Lee, & Shin, 2010; Zebrack, Mathews-Bradshaw, & Siegel, 2010). In the last 3 to 4 decades physical activity practice among school age pupils has declined, sedentary behaviours are on the increase due to changing in lifestyles of people, a condition that is attributed to development of cancerous process (Kimm et al., 2002; Patrick et al., 2004; Reinehr, 2011; Rhodes, Mark, & Temmel, 2012; Tudor-Locke, Craig, Thyfault, & Spence, 2012).

Most adults with advanced age are conscious of the danger that cancer could pose to their health from several studies that were conducted, however, not many studies have been conducted on adolescents' lifestyle factors in association with cancer development in Nigeria. Providing adolescents with information about increased cancer risk associated with certain behaviours may be one way to encourage protective behaviours to provide the foundation for a healthy adulthood (Kyle, Forbat, & Hubbard, 2012a). According to Ayodamola in his article published in Nigeria Premium Times Newspaper of February 5th, 2017 on "World Cancer Day: he advocated for more awareness on cancer incidence among the public in order to reduce the risk factors. Cancer risk factors due to unhealthy food consumption and food practices need to be emphasized in adolescents and youth because of their exposure to "westernized" diets that are high in calories and additives that could trigger cancerous processes in human tissues.

The economic burden of treating and managing cancer patients will be so huge to accommodate for a country like Nigeria that is trying to emerge from economic recession and has poor health care facilities for cancer patients. Consequently, continuous campaigns and advocacy for cancer awareness and risk factors should be taken to adolescents and pupils in our schools in order to promote cancer development process consciousness and healthy lifestyle behaviour among the pupils. This study seeks to assess the cancer awareness and risk factors due to food consumption practices among female secondary schools students with a view to determine their level of awareness on cancer.

2. METHODOLOGY

Survey study design was adopted in which ten secondary schools from Bauchi metropolis were randomly selected for the study. Students from senior secondary class who were within three years of their education were randomly selected through ballot. The respondents were duly informed of the purpose of the study and their consent was sought and secured. Self-administered questionnaire vetted by a Nutrition Expert at the Department of Nutrition and Dietetics, Federal Polytechnic Bauchi was administered on the respondents in a well-ventilated classroom. A digital bathroom scale was used to measure respondents' weight to the nearest kilograms and a stadiometer was used to measure the respondents' height to the nearest meters in a standing posture and according to standard procedure. Permission to conduct the study was obtained from the relevant authority and each school management granted the approval for the study to be carried out in their school. Data obtained was analyzed using statistical package for social sciences (SPSS) and the results obtained were presented in percentages, mean, and charts.

3. RESULT AND DISCUSSION

TABLE 3.1: DEMOGRAPHIC PROFILE OF RESPONDENTS AND THEIR PARENTS/GUARDIANS

| | VARIABLE | FREQUENCY | PERCENTAGE (%) |
|--|---------------------------------------|------------|----------------|
| | Respondents' Class | | |
| | SS1 | 124 | 30.5 |
| | SS2 | 146 | 36.0 |
| | SS3 | 136 | 33.5 |
| | Total | 406 | 100.0 |
| | Respondents' Age (years) | | |
| | (14-17) | 328 | 80.8 |
| | (18-21) | 76 | 18.7 |
| | (22-25) | 2 | .5 |
| | Total | 406 | 100.0 |
| | Respondents' Tribe | | |
| | Hausa/Fulani | 239 | 58.9 |
| | Igbo | 70 | 17.2 |
| | Yoruba | 23 | 5.7 |
| | Others | 74 | 18.2 |
| | Total | 406 | 100.0 |
| | Respondents' Family Background | | |
| | Nuclear | 303 | 74.6 |
| | Polygamous | 103 | 25.4 |
| | Total | 406 | 100.0 |

| | VARIABLE | FREQUENCY | PERCENTAGE (%) |
|--------------|---|--------------|----------------|
| | Respondents' Residential Area | | |
| | Urban | 241 | 59.4 |
| | Rural | 165 | 40.6 |
| | Total | 406 | 100.0 |
| | Respondents' Father's Occupation | | |
| | Civil Servants | 195 | 48.0 |
| | Traders | 91 | 22.4 |
| | Artisan | 9 | 2.2 |
| | Farmers | 55 | 13.5 |
| | Others | 56 | 13.8 |
| | Total | 406 | 100.0 |
| | Respondents' Mothers Occupation | | |
| | Fulltime Housewife | 163 | 40.1 |
| | Civil Servant | 111 | 27.3 |
| | Trader | 79 | 19.5 |
| | Farmer | 20 | 4.9 |
| | Artisan | 4 | 1.0 |
| | Others | 29 | 7.1 |
| Total | 406 | 100.0 | 100.0 |

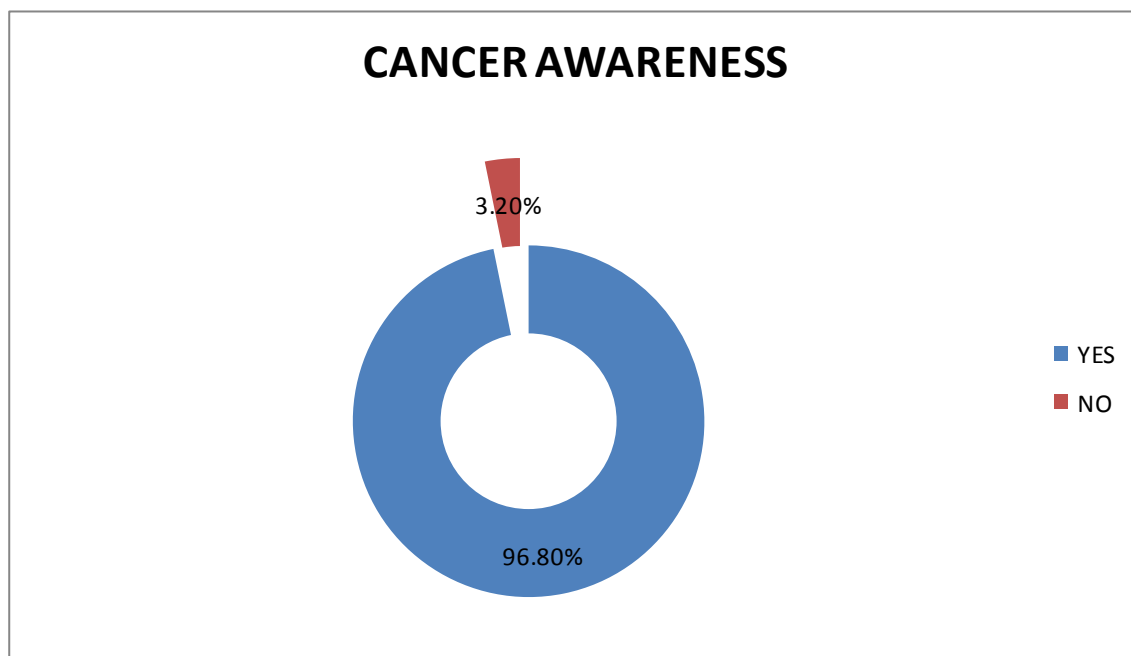


Figure 1: Cancer Awareness of the Respondents

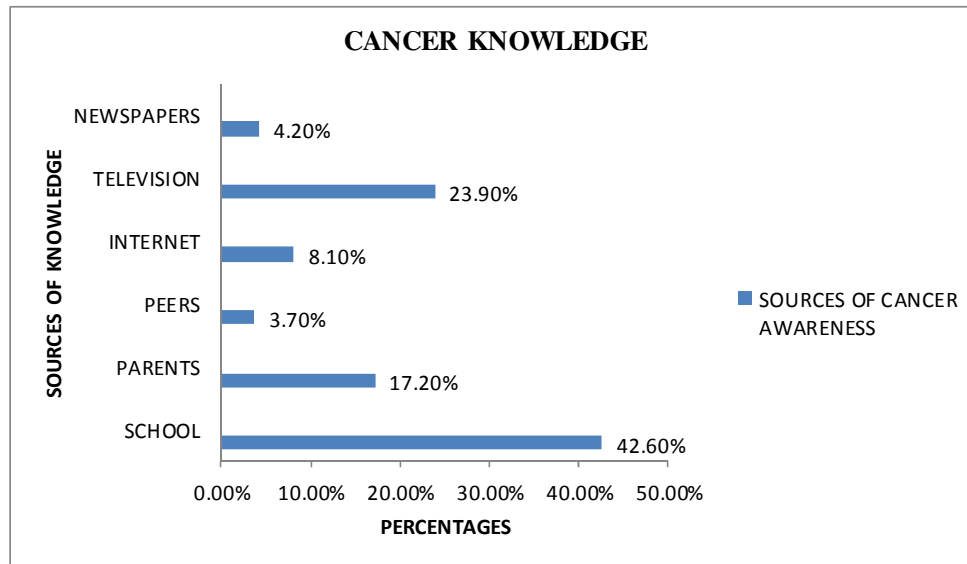


Figure 2: Sources of Cancer Knowledge by Respondents

TABLE3.2: Knowledge of Food Risk Factor on Cancer by Respondents

N = 406

| VARIABLE | INCREASES CANCER RISK | | DECREASES CANCER RISK | | NOT SURE | | MEAN± STD. DEVIATION |
|--|-----------------------|------|-----------------------|------|-----------|------|----------------------|
| | Frequency | % | Frequency | % | Frequency | % | |
| Eating Smoked Foods frequently | 154 | 37.9 | 132 | 32.5 | 120 | 29.6 | 1.92±0.82 |
| Eating Red Meat frequently | 192 | 47.3 | 77 | 19.0 | 137 | 33.7 | 1.86±0.89 |
| Eating Processed Meat frequently | 81 | 20.0 | 130 | 32.0 | 195 | 48.0 | 2.28±0.78 |
| Using White Refined Flour frequently | 88 | 21.7 | 98 | 24.1 | 220 | 54.2 | 2.33±0.81 |
| Eating Fried Food frequently | 136 | 33.5 | 124 | 30.5 | 146 | 36.0 | 2.02±0.83 |
| Using much Artificial Sweeteners | 245 | 60.3 | 75 | 18.5 | 86 | 21.2 | 1.61±0.81 |
| Eating Stored Nuts frequently | 95 | 23.4 | 115 | 28.3 | 196 | 48.3 | 2.25±0.81 |
| Eating Salted Foods And Pickles frequently | 159 | 39.2 | 85 | 20.9 | 162 | 39.9 | 2.00±0.89 |
| Eating Noodles frequently | 180 | 44.3 | 87 | 21.4 | 139 | 34.2 | 1.90±0.88 |
| Drinking Canned Juice frequently | 169 | 41.6 | 79 | 19.5 | 158 | 38.9 | 1.97±0.90 |
| Eating Microwave Popcorn frequently | 80 | 19.7 | 109 | 26.8 | 217 | 53.4 | 2.34±0.79 |

TABLE 3.3: Days Engaged In Sporting Activity for 60minutes Daily per Week Based On Age and Class By Respondent

| N = 406 | | | | | | | | | |
|---------------------------------|--------------------------------|------------|------------------|------------|------------------|------------|------------------|------------|--|
| | Respondents age (years) | | | | | | | | |
| Respondents' class | 14-17 | | 18-21 | | 22-25 | | Total | | |
| | frequency | % | frequency | % | frequency | % | frequency | % | |
| Secondary school 1 (SSI) | | | | | | | | | |
| 1 day | 104 | 31.7 | 11 | 14.5 | - | - | 115 | 28.3 | |
| 2 day | 8 | 2.4 | 1 | 1.3 | - | - | 9 | 2.2 | |
| | | | | | | | | | |
| Secondary school 2 (SS2) | | | | | | | | | |
| 1 day | 112 | 34.1 | 27 | 35.5 | - | - | 139 | 34.2 | |
| 2 day | 6 | 1.8 | 1 | 1.3 | - | - | 7 | 1.7 | |
| | | | | | | | | | |
| Secondary school 3 (SS3) | | | | | | | | | |
| 1 day | 92 | 28.0 | 33 | 43.4 | 2 | 100.0 | 127 | 31.3 | |
| 2 day | 6 | 1.8 | 3 | 3.9 | - | - | 9 | 2.2 | |
| | | | | | | | | | |
| Total | 328 | 100 | 76 | 100 | 2 | 100 | 406 | 100 | |

**TABLE 3.4: Respondents' Body Mass Index (Bmi) Based On Age And Class According To (WHO, 2007) Chart
 N = 406**

| Respondents age & class | BODY MASS INDEX (BMI) | | | | | | | | | | Total | |
|----------------------------|--------------------------|------|-------------------------|------|--------------------------------|------|---------------------------|------|-----------------|-----|-------|------|
| | Severe Thinness<16.75 | | Thinness 16.76-18.75 | | Normal weight 18.76-25.0 | | Overweight 25.01-29.00 | | Obese >29.01 | | | |
| | F | % | F | % | F | % | F | % | F | % | F | % |
| 14 – 17(Years) | | | | | | | | | | | | |
| SS1 | 16 | 41.0 | 18 | 28.6 | 71 | 28.9 | 6 | 11.1 | 1 | 25 | 112 | 27.6 |
| SS2 | 5 | 12.8 | 21 | 33.3 | 76 | 30.9 | 16 | 29.6 | - | - | 118 | 29.1 |
| SS3 | 8 | 20.5 | 14 | 22.2 | 56 | 22.8 | 19 | 35.2 | 1 | 25 | 98 | 24.1 |
| 18 – 21(Years) | | | | | | | | | | | | |
| SS1 | 1 | 2.6 | 3 | 4.8 | 7 | 2.8 | 1 | 1.9 | - | - | 12 | 3 |
| SS2 | 5 | 12.8 | 3 | 4.8 | 12 | 4.9 | 7 | 12.9 | 1 | 25 | 28 | 6.9 |
| SS3 | 4 | 10.3 | 4 | 6.3 | 22 | 8.9 | 5 | 9.3 | 1 | 25 | 36 | 8.7 |
| 22 – 25(Years) | | | | | | | | | | | | |
| SS1 | - | - | - | - | - | - | - | - | - | - | - | - |
| SS2 | - | - | - | - | - | - | - | - | - | - | - | - |
| SS3 | - | - | - | - | 2 | 0.8 | - | - | - | - | 2 | 0.5 |
| TOTAL | 39 | 100 | 63 | 100 | 246 | 100 | 54 | 100 | 4 | 100 | 406 | 100 |

4. DISCUSSION

The result obtained from study on cancer awareness and risk factors among females secondary schools students in Bauchi metropolis, in Table 3.1 indicated that majority (80.8) % of the students were aged between (14-17) years old, this implied that most of the respondents were teenagers and study carried out on adolescents on pupils in secondary schools were in these range of years, this was supported by several studies conducted among high schools pupils.

Furthermore, in Fig.3.1, the result on cancer awareness showed that about 96.8% of respondents had knowledge on cancer awareness, although this was encouraging but it was contrary to a similar study in Britain where little was known about adolescents' cancer awareness and help-seeking behaviour the respondents (Kyle, Forbat, & Hubbard, 2012b) . Fig. 3.2 showed that about 42.3% of respondents obtained cancer knowledge from schools, this shows that schools still remain functional agents of change for health awareness and for effective awareness campaign schools should play prominent role. Table 3.2 showed respondents' knowledge on food based cancer risk behaviour where about 60.3% of respondents thought that frequent usage of artificial sweetener could increase cancer risk, while about 47.3% agreed that frequent consumption of red meat could increase cancer risk, this results indicates that more than half respondents did know that frequent consumption of red meat could predispose an individual to cancer risk.

These should be sources of concern to caregivers and parents because most respondents are still in formative years and carrying poor knowledge on dietary consumption to their adulthood could be detrimental to health in the many years to come. Table 3.3 showed that about two- third of respondents did not engage in sporting activity for more than a day within one week, among 14-17 years only about 31.7%, in their first year, 34% in second year and 28% in their third years, this finding was in agreement with several studies that indicated sporting and physical activities practices among adolescents was on the decline (Adamo et al., 2011; Ebbeling, Pawlak, & Ludwig, 2002; Kimm et al., 2002; Patrick et al., 2004; Te Velde et al., 2012). Poor sporting activity increase overweight and obesity in individual and this will further predisposes adolescents to cancer conditions. Table 3.4 indicated the body mass indices and categories of respondents; it showed that in age categories (14-17) years about 35.2% of respondents were overweight; the finding was in agreement with several studies on overweight and obesity among adolescents and teenagers in secondary schools particularly in Nigeria.

Although, this trend is a global phenomena and it has been source of concern to policymakers and various intervention programs are geared towards addressing the situations. Findings from this study indicated that there was general awareness on cancer among the respondents; although majority of respondents had poor knowledge on cancer food based risk factors and poor sporting activity practice. Furthermore, there was a fairly high incidence of overweight among the respondents, therefore effort should geared towards improve knowledge on healthy food dietary practices as well as more physical activity involvements by the students in order to curtail cancers development process among Nigerian girls.

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