Rapid Communication

Breast Cancer Risk Factors and Signs: How Much do Nigerian Women Know?

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INTRODUCTION

Rapid increase in breast cancer incidence is now occurring in many developing countries.[1] This has been attributed to change in reproductive behaviors, use of exogenous hormones, differences in weight, exercise, diet, and alcohol consumption.[2,3] Breast cancer among African women has been marked by advanced stage distribution, partially explained by delayed presentation for medical evaluation.[4] Factors related to women’s knowledge and beliefs about breast cancer and its management can contribute significantly to health-seeking behavior.[5]

Increasing exposure to breast cancer risk factors has been implicated in the rising incidence of breast cancer in Africa. Prevention strategies would, therefore, require an understanding of these risk factors by the vulnerable population. Study on knowledge of breast cancer risk factors among health workers in Nigeria has been previously conducted.[6] General knowledge of risk factors and symptoms among Nigerian women has also been reported.[7] However, there seems to be little or no report on the level of awareness associated with specific risk factors, signs, and symptoms associated with breast cancer incidence. These would be necessary to inform health education priorities.

It is against this backdrop, this re-analysis was aimed at reporting the level of awareness about specific breast cancer risk factors, signs, and symptoms among Nigerian women as well as to ascertain if such knowledge is related to practice as seen in our previous report.[7]

MATERIALS AND METHODS

This report is based on a cross-sectional study reported in an earlier publication.[7] It involved 336 women of reproductive age (19–49 years) attending Immunization Clinic in Benin City, Nigeria. The specified age group has been reported to be at the highest risk of breast cancer in Nigeria.[4,8] The sample size estimation, subject selection, data collection procedure, and ethical approval have been previously described.[7]

RESULTS

The sociodemographic information has been previously described.[7]

Table 1 shows that the leading risk factors known to the participants were alcohol intake (41.1%) and oral contraceptive use (39.6%). Lowest knowledge was expressed for age (14.6%) and menses before 12 years of age (12.8%). Age was indicated by only 49 (14.6%) women, family and previous history by 91 (27.1%) women. With the exception of alcohol intake, <40% had knowledge of other important specific breast cancer risk factors. The mean number of participants with knowledge of each of the risk factors was 78 (23.2%). Similarly, the highest level of awareness of breast cancer signs and symptoms was recorded for pain in the breast region, (57.4%), followed by nipple discharge (46.7) [Table 1]. Painless lump was acknowledged by 152 (45.2%) women, while pulling in of the nipple was the least acknowledged, by 109 (32.4%) women. With the exception of pain in the breast region, <50% of the participants knew about important signs/symptoms of breast cancer. Mean frequency for the knowledge of each of the specified signs and symptoms was 43.8%.

Table 2 shows that the number of people with right practices was higher for nonconsumption of alcohol (80.4%), followed by regular checking of weight (42.9%). Nonuse of oral contraceptives was the least practiced. However,

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irregular practice was highest for "consideration of fat content of foods (19%), followed by nonconsumption of alcohol (13.4%)."

Table 3 indicates a significant association between the knowledge of obesity as a risk factor and regular checking of weight ($P = 0.02$), between knowledge of family history as a risk factor and practice of breast self-examination (BSE; $P = 0.002$), as well as between knowledge of previous treatment of breast cancer as a risk factor and practice of BSE ($P = 0.001$).

Figure 1 indicates that electronic media indicated by 215 (63.99%) participants was the greatest source of information followed by hospital indicated by 76 (22.62%) participants.

**DISCUSSION**

We found that electronic media and hospital were the dominant sources of information. This has also been reported in previous studies. They certainly provide a good opportunity for dissemination of breast cancer information. People’s preference to learn from their physicians had been reported.

Knowledge of the leading risk factors known to the participants such as alcohol intake, and oral contraceptive use seemed not to agree with other previous studies consulted. There might be suggestions that some other health-related programs other than breast cancer awareness program might be the source of this knowledge. The need for specific breast cancer awareness program targeting a wide range of various risk factors associated with breast cancer is, therefore, necessary. Important risk factors such as age described in absolute terms as the greatest risk of developing breast cancer was indicated by only 14.6%. Though this was higher than the 5% reported in Australia, it was comparatively lower than reports from Britain and Malaysia.

Awareness of a family history of breast cancer was low compared to several other studies where it appeared as one of the leading or most cited risk factors. However, low knowledge of family history had been reported. Knowledge of the roles of nonmodifiable risk factors such as age and family history could enable women appreciate their vulnerability and make informed choices to reduce exposure to modifiable risk factors. The inability of respondents to appreciate other complex risk factors such as menstruation after the age of 55, early onset of menses, and first child after the age of 30 have been noted in previous studies, although figures in those

| Table 1: Knowledge of breast cancer (risk factors, signs, and symptoms) ($n=336$) |
|-----------------------------------------------|
| Risk factors | Yes (%) |                |                |
| Age | 49 (14.6) |                |                |
| Family history of breast cancer | 91 (27.1) |                |                |
| Fatty diet | 110 (32.7) |                |                |
| First child after the age of 30 | 51 (15.2) |                |                |
| Menstruation after the age of 55 | 56 (16.7) |                |                |
| Menses before the age of 12 | 43 (12.8) |                |                |
| Oral contraceptive use | 133 (39.6) |                |                |
| Alcohol intake | 138 (41.1) |                |                |
| Previous treatment of breast cancer | 91 (27.1) |                |                |
| Race | 40 (11.9) |                |                |
| Obesity | 53 (16.4) |                |                |
| **Mean** | **78 (23.2)** |                |                |

| Breast cancer signs and symptoms | Yes (%) |                |                |
| Painless lump | 152 (45.2) |                |                |
| Nipple discharge/bleeding | 157 (46.7) |                |                |
| Change in breast shape | 157 (46.7) |                |                |
| Pain in breast region | 193 (57.4) |                |                |
| Dimpling/discoloration of the breast | 146 (43.5) |                |                |
| Pulling in of the nipple | 109 (32.4) |                |                |
| Lump under the armpit | 116 (34.5) |                |                |
| **Mean** | **147 (43.8)** |                |                |

| Table 2: Practices toward breast cancer risk factors |
|-----------------------------------------------|
| Practices toward breast cancer risk factor | Yes (%) | No (%) | Irregular (%) | No response (%) |
| Consideration for fat content of foods | 112 (33.3) | 111 (33) | 64 (19) | 49 (14.6) |
| Nonconsumption of alcohol | 270 (80.4) | 17 (5.1) | 45 (13.4) | 4 (1.2) |
| Nonuse of oral contraceptive | 26 (7.7) | 291 (86.6) | 16 (4.8) | 3 (0.9) |
| Regular checking of weight | 144 (42.9) | 188 (56) | - | 4 (1.2) |

| Table 3: Does awareness of risk factors relate to their practices and practice of early detection? |
|-----------------------------------------------|
| Knowledge of risk factors versus its practices | Degrees of freedom | $\chi^2$ | $P$ | $n$ |
| Fatty diet and its consideration in the choice of diet | 2 | 4.820 | 0.09 | 278 |
| Alcohol and alcohol intake | 2 | 5.700 | 0.058 | 319 |
| Oral contraceptive and oral contraceptive use | 2 | 1.262 | 0.532 | 326 |
| Obesity and regular checking of weight | 1 | 5.237 | 0.02 | 325 |
| Family history of breast cancer and BSE | 2 | 12.047 | 0.002 | 324 |
| Previous treatment of breast cancer and BSE | 2 | 14.677 | 0.001 | 323 |

BSE=Breast self-examination
Concerning practices toward breast cancer risk factors, the highest practice level was found to be nonconsumption of alcohol, while the least was for nonuse of oral contraceptive. However, this good practice in relation to alcohol might not have resulted from knowledge of its implication in breast cancer incidence. This is in consideration of the fact that it was only 138 (41.1%) participants who had this knowledge. Association between knowledge and consumption of alcohol was not statistically significant ($P = 0.058$). For oral contraceptive, the number that knew it as a risk factor though low (39.6%) was high compared to the number that do not use it (17.7%). This tends to suggest that knowledge might not be related to practice. Association between the knowledge and nonuse of oral contraceptive was not statistically significant ($P = 0.0532$). It seems that their perception of its advantages was higher than their perception of the risk it poses. There was a strong association between knowledge of obesity as a risk factor and regular checking of weight ($P = 0.02$). This might be attributed to recent campaigns against obesity and promotion of weight-watching behavior. Such awareness might have created opportunity for knowledge of the dangers obesity poses in relation to cancer. Knowledge of high fatty diet as a risk factor, seemed to be related to its consideration in diet. However, association between the two was not statistically significant. Knowledge of the previous treatment of breast cancer as a risk factor and practice of BSE was statistically significant. Similar result was also obtained for knowledge of family history as a risk factor and practice of BSE where a significant association was found ($P = 0.002$). It seemed that previous and family experience of breast cancer increased their awareness of early detection. While there was evidence that knowledge of some of these risk factors might translate to right practices, it was also observed that some of the existing knowledge seemed not to be sufficiently adequate to bring about the desired attitudinal change toward prevention. In general, it seemed that most of the respondents were not yet sufficiently informed to improve their practices toward breast cancer prevention.

The limitation of the present study lies in the fact that measurement was done subjectively and answers obtained were subject to recall bias. However, we believe that the result is reliable enough to inform a tentative decision for intervention and for further investigation.

**Conclusion**

This study found a generally poor knowledge of breast cancer issues among participants which was worse for breast cancer risk factors than for signs and symptoms. The knowledge of key elements that could facilitate timely prevention and early diagnosis was very low. In some cases where good knowledge was recorded, it could not be attributed to breast cancer consciousness.

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Conflicts of interest

There are no conflicts of interest.

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