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Original Paper

Knowledge of Home Gardening and Anthropometric Status of Adult Women in Odeda Local Government, Abeokuta, Ogun State, Nigeria

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***Abstract*— A healthy lifestyle and illness prevention depend on adequate nutrition, and homestead food production, including home gardening, is one way to increase access and lower the cost of healthy foods. This study was carried out in Odeda Local Government Area of Ogun State to assess the anthropometric indices and knowledge of home gardening of women. The sample size comprised of 170 respondents which were chosen using a multistage sampling technique. Data on sociodemographic, socioeconomic variables, and home gardening knowledge were obtained using an interviewer-administered, well-structured questionnaire. Anthropometric measurements were taken using standard procedures. The nutritional status was assessed using anthropometric measurements. Version 20.0 of Statistical Product and Service Solutions (SPSS) was used to analyze the data. The findings were presented as frequency, percentage, mean, and standard deviation. The threshold for statistical significance was set at p 0.05. The responders were 33.5 years old on average. The majority of respondents (85.3%) had at least a primary education. It was found that 94.7% of the adult women had good knowledge of home gardening, 4.7% had average knowledge, and 0.6% had low knowledge. The nutritional status of the respondents showed that 24.1 percent were overweight, 10.6 percent were underweight, and 10.6 percent were obese. The home garden knowledge score and the anthropometric measurement (BMI) were shown to be significantly associated. The result of this study is an indication that women who are knowledgeable about gardening at home are more likely to have higher nutritional status.**

Keywords*—Home gardening, Anthropometric, Adult women, adequate nutrition, food production

I. INTRODUCTION

Homestead food production, which includes home gardening, is one strategy for increasing the availability and affordability of healthful foods [1]. Home gardens are a typical method of food production in many rural areas of developing nations, and they have a lot of potential to increase household food security [2, 3]. A home garden can be described as a small area of land having a variety of cropping systems that includes fruits, vegetables, plantations, spices, herbs, ornamental and medicinal plants, and also livestock, which can be utilized as a secondary source of income and food primarily for consumption at home. [4]. In order to enhance dietary diversity and help families improve their food security, health, and nutritional status, home gardening is frequently encouraged in developing nations [4]. Home garden interventions boost the year-round availability of and demand for nutrient-rich food inside the family by combining hands-on instruction in vegetable planting, the provision of high-quality vegetable seed, and nutrition education. These interventions typically target women because they are typically in charge of maintaining the family's health and preparing meals at home [3]. A sizable portion of people living in developing nations continue to experience significant physical, financial, and social burdens as a result of food insecurity and malnutrition [5, 6]. Women in low-income households typically consume meals that are poor in nutrients, which subtly results in concealed hunger because of low wages, high food costs, and a lack of knowledge about the variety of nutrient-rich foods [7]. In addition, home gardens are becoming extinct in society as a result of urbanization, the construction of infrastructure and industries, and the loss of land to housing [2]. This reduces the opportunity to increase household food security and reduce micronutrient deficiencies. As a result, this study offers data on adult women's anthropometric indices and knowledge of home gardening in Odeda local government area of Ogun State.

II. MATERIALS AND METHODS

A. Study design and Location

The Study on the knowledge of home garden and anthropometric status was carried out among adult women in Odeda local government area of Ogun State, Nigeria. Odeda Local Government is one of the six local governments in Abeokuta, Ogun State. It is about 20km from the state capital, Abeokuta. Abeokuta is the state capital of Ogun State in south

west Nigeria. The anthropometric status of adult women in the communities of Odeda Local Government Area as well as their knowledge of home gardening were evaluated using a cross-sectional community-based and descriptive approach.

B. Sample population and sampling techniques

The Odeda Local Government Area's five wards were chosen. One community out of the five wards was selected using simple random sampling, Thirty-four respondents from each community, representing one household each were selected using stratified sampling techniques. This study selected 170 respondents who are adult women between the ages of 18 and 59 who are resident in the Odeda local government area, Abeokuta, Ogun state. The sample size was determined using Cochran's formula for sample size determination [8].

C. Informed consent

All respondents provided informed consent before the data collecting process. Written on the questionnaire, the informed consent also contained a verbal description of the study's goals, its confidentiality policies, and the respondents' right to decline participation.

D. Data collection

Socio-demographic and socio-economic information was gathered using a semi-structured, self-administered questionnaire. Respondents' knowledge of home gardens was assessed using a modified closed-ended questionnaire [9]. Questions were asked on sowing and harvesting of specific crops. The respondents were presented with five hypothetical situation covering different field of home gardening knowledge, and asked to deal with the situation by selecting from responses using a 7-point hedonic scale. The anthropometric data [weight and height] of the respondents were obtained. A locally made, uniform height meter was used to measure the respondents' height. Using a medical scale, the respondents' weight was determined while standing with their arms at their sides and wearing light clothing [10]. Using the body mass index, the respondents' nutritional state was evaluated; data were compared to WHO reference standards.

E. Data Analysis

Descriptive and inferential statistics were presented for the respondents' socioeconomic and demographic characteristic, knowledge of home gardening and anthropometric status. These were computed using SPSS version 20.0 (Statistical Product and Service Solutions).

III. Results and Discussion

The socio-demographic and economic characteristics of the respondents that were analysed in this research include age, religion, ethnic group, occupation, marital status, level of education, estimated monthly income, family structure and family size in Table 1 and 2.

TABLE I. Socio-demographic characteristics of the adult women [N=170]

Variable	Frequency	Percentage
Age		
18-25 years	38	22.4
26-35 years	65	38.2
36-45 years	39	22.9
45 years and above	28	16.5
Mean Age		33.5 ± 9.38
Marital status		
Married	138	81.2
Single	24	14.1
Widow	7	4.1
Divorced	1	0.6
Religion		
Christianity	124	72.9
Islam	46	27.1
Others	0	0
Ethnic group		
Yoruba	128	75.3
Igbo	11	6.5
Hausa	4	2.4
Egede	27	15.9
Occupation		
Civil servant	21	12.4
Farming	23	13.5
Trader	60	35.3
Artisan	37	21.8
Housewife	29	17.1

The knowledge score of the respondents in Figure 1 on home gardening showed that the majority (94.7%) of the respondents had good knowledge while 4.7% had average knowledge and 0.6% had low knowledge on home gardening.

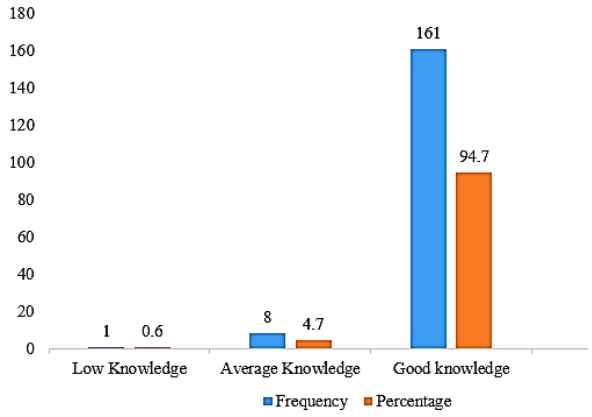

Fig. 1. Knowledge Score of the respondent on home gardening [n=170]

Table 3 shows that while 10.6% of respondents were underweight and 24.1% were overweight, 54.7% of respondents had a normal weight. However, 1.2% and 9.4% of the respondents, respectively, were classified as class 1 and class 2 obese.

TABLE II. SOCIO-ECONOMIC CHARACTERISTICS OF THE ADULT WOMEN

Variable	Frequency	Percentage
Estimated monthly income		
Less than #10000	20	11.8
#10001- #20000	32	18.8
#20001- #30000	52	30.6
#30001-#40000	29	17.1
greater than #40000	37	21.8
Total	170	100
Education level		
No Formal Education	25	14.7
Primary Education level	35	20.6
Secondary Education level	59	34.7
Tertiary Education level	47	27.6
Post Tertiary Education level	4	2.4
Total	170	100
Accommodation type		
Rented	96	56.5
Owned	73	42.9
Others	1	0.6
Total	170	100
Family structure		
Monogamous	111	65.3
Polygamous	58	34.1
Polyandry	1	0.6
Total	170	100
Family size		
1—3	33	19.4
4—6	86	50.6
Greater than 6	51	30
Total	170	100

TABLE III. ANTHROPOMETRIC MEASUREMENT (BMI) OF THE RESPONDENTS

Variable	Frequency	Percentage
Underweight	18	10.6
Normal Weight	93	54.7
Overweight	41	24.1
Class 1 Obesity	16	9.4
Class 2 Obesity	2	1.2

This study was done to evaluate the knowledge of home gardening among adult women and its relationship with their nutritional status. The analysis of the socioeconomic and demographic status of the respondents revealed that the majority of the women had at least a primary education, earn more than the country's monthly minimum wage, had a small number of children, and lived in their own apartments—about half of them—in their own homes. Although urbanization, the construction of infrastructure and industries, and the abandonment of land for habitation can reduce the likelihood of having a home garden, affecting household food security and addressing micronutrient deficiencies [2], the study's findings may be an exception. This research supports a study by Uzokwe et al. [11] on the benefits of backyard gardening for family stability in Delta state north agricultural zone. Women have been making prominent and important contributions to agriculture right from creation and they actually constitute the bulk of the world's food producers. Many studies [1] have established that Women in Nigeria engage in various home farming activities that has the potential to improve nutrition in developing countries. The majority of these women in Nigeria are directly involved in the cultivation of several significant crops, including groundnuts, yams, maize, and cassava, according to a study by Adekunle et. al. [13]. In a similar vein, many women handle a variety of tasks related to the upkeep and management of farm animals, including as sheep, goats, and chickens, for subsistence use.

In this study, it was shown that most women (94.7%) had good understanding of indoor gardening. According to Udoh and Udoh [12], the respondents' high degree of good knowledge on home gardening may be related to their level of education. The home garden is one area in which women have comparatively more liberty, according to previous studies [15,16,17, 18]. Furthermore, it was shown that underweight, obesity, and overweight coexist among the respondents. The majority of respondents (54.7%) had a normal BMI, compared to 24.1% who were overweight, 10.6% who were obese, and 10.6% who were underweight. This is in line with a study by Blackstad et al. [1], Neighbour home gardening predicts dietary diversity among rural Tanzanian women. The knowledge score and the BMI were significantly correlated in this study ($p=0.042$). This indicates a correlation between knowledge score and body mass index (BMI) that is favorable. The findings of this study suggest that the majority of respondents have a good knowledge of home gardening, which is strongly associated with their anthropometric measurements. This is a crucial discovery because it demonstrates that women who are knowledgeable about gardening at home are more likely to have higher nutritional status. Home gardens were still linked to BMI after adjusting for a number of sociodemographic factors and degree of rurality, according to a prior study [22]. The majority of the long-term effects were caused by changes in knowledge and practices, which are the two main components of an integrated home garden intervention. A study by Baliki et al. [21] demonstrates that the intermediate nutritional outcomes of home garden interventions are sustained for at least three years after an intervention ends. According to Weinberger et. al [19], home garden interventions can make an effective contribution to addressing micronutrient undernutrition. This is a useful food-based strategy to promote better balanced diets among poor rural households that have access to a small plot of land and are willing to engage in gardening. Home gardens can complement other interventions such as micronutrient

supplementation, fortification and biofortification [20]. The fact that just the respondent's knowledge of a home garden was evaluated rather than how often they grew a garden at home was a significant study limitation.

TABLE IV. ASSOCIATION BETWEEN THE ANTHROPOMETRIC MEASUREMENT [BMI] AND HOME GARDENING KNOWLEDGE SCORE

	BMI Class													
	Under weight		Normal Weight		Overweight		Class 1 Obesity		Class 2 Obesity		Total		X^2	**P - Value**
Variables	F	%	F	%	F	%	F	%	F	%	F	%		
Low Knowledge	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	1	0.6		
Average Knowledge	4	2.4	1	0.6	2	1.2	1	0.6	0	0.0	8	4.7	15.997	0.042
Good knowledge	14	8.2	91	53.3	39	22.9	15	8.8	2	1.2	161	94.7		
Total	18	10.6	93	54.7	41	24.1	16	9.4	2	1.2	.170	100		

IV. CONCLUSIONS

This study found that the majority of adult women surveyed had a good knowledge of home gardening and that this knowledge was positively correlated with their nutritional status. The results imply that women with better nutritional status are more likely to be informed about home gardening. It is crucial to remember that this study did not examine the respondents' actual gardening techniques; rather, it assessed their knowledge about home gardening. Thus, more investigation is required to determine the precise effect of home gardening on nutritional status. However, these results highlight how critical it is to promote and encourage home gardening as a viable strategy for enhancing food security and combating malnutrition, especially in women.

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