Data on the agricultural household’s dietary diversity and health in the South West geopolitical zone of Nigeria

Abiodun Olusola Omotayo

Food Security and Safety Niche Area, Faculty of Natural and Agricultural Sciences, North West University, Private Mail Bag X2046, Mmabatho 2790, North West Province, South Africa

ARTICLE INFO

Article history:
Received 24 January 2020
Revised 2 March 2020
Accepted 4 March 2020
Available online 10 March 2020

Keywords:
Body mass index
Food intake
Health outcome
Nutrition
Rural development

ABSTRACT

Food intake remains an essential component of human health life and productivity. Poor health inextricably threaten the ability of several developing nations to achieve the Millennium Development Goals by 2015, this stubborn threat is still a major concern to the achievement of the sustainable development goals (SDG, 2030). The economic burdens of poor nutrition and ill health in the development of African continent cannot be overemphasized. Therefore, eating a varied, well-balanced food groups daily, in the recommended amounts is important. Considering the existing malnutrition and ill health situation report in Nigeria, rural farmer's dietary diversity and health record is important for pertinent policy evaluation since these people are the principal operators of the nations’ food system but yet one of the most vulnerable category of the country's working class. The survey that gave this dataset was conducted through a multi stage sampling technique with a well structured questionnaires with in the months of September 2014 and April 2015 from households selected from 18 randomly sampled villages. The administered questionnaires were divided in seven sections namely; respondent's socio-economic characteristics, health and environmental profile, food utilization and nutrition, requested information about respondent's agricultural labour productivity, agricultural production cost and return, cost implication of health and nutrition and dietary diversity nutrition and other problems. The questionnaires were...
written in English language but translated in local language during the interview for ease of understanding by the participants, the survey successfully ended with a total of 420 properly filled and captured questionnaires which was quite representative. The dataset is hereby made available as it is considered vital for policy recommendations.

© 2020 The Author(s). Published by Elsevier Inc. This is an open access article under the CC BY license. (http://creativecommons.org/licenses/by/4.0/)

Specifications table

| Subject                  | Agricultural sciences                           |
|--------------------------|-------------------------------------------------|
| Specific subject area    | Food value chain, food intake and health        |
| Type of data             | Table, chart, figure and SPSS data file         |
| How data were acquired   | Rural household’s survey with a well-structured questionnaire (Submitted with the article) |
| Data format              | Raw and analysed                                 |
| Parameters for data collection | Face to face interviews                        |
| Description of data collection | A survey that gave this dataset which was conducted with a well structured questionnaires administered in 18 randomly sampled villages, making a total of 420 rural interviewed households |
| Data source location     | South West geopolitical zone of Nigeria         |
| Data accessibility       | Submitted with the article                      |

Value of the data

- The data provides information on dietary diversity of farmers and health capital.
- The data present descriptive representation of socioeconomic characteristics of the households as it relate to their nutritional diversity and their health outcome. This is geared towards understanding the dietary diversity and health outcome of the rural farming households.
- This data provides valuable information that may be functional at different levels for both government organizations (GOs) and non-government organizations (NGOs) in order to formulate appropriate policy and intervention strategy for the improvement of rural food system and health.
- The data can be further analysed to understand the synergy between dietary diversity and health. It can also explore some correlates of dietary diversity and health of farmers.
- The dataset can assist to promote the understanding of the factors explaining food diversity, health and farming household’s productivity.

1. Data description

The dataset was compiled after a questionnaire administration, coding and data cleaning of data from 420 farming households between September 2014 and April 2015. Table 1 reveals that majority of the respondent fall into the age intervals of 40–60 years with 58.90%, 54.20% and 54.20% in Oyo, Ogun and Osun states, respectively. Also, the average age of households’ head across the selected states and their standard deviation (in parenthesis) were 54.6 years (11.30), 51.0 years (11.840) and 53.8 years (11.18) in Oyo, Ogun and Osun states, respectively [1].

Table 2 shows that 82.20%, 80.80% and 80.00% of the respondents were male in Oyo, Ogun, and Osun respectively.
Table 1
Respondents distribution according to age across the selected states.

| Age  | Oyo State | Ogun State | Osun State | Study Area |
|------|-----------|------------|------------|------------|
|      | Freq  | %    | Freq  | %    | Freq  | %    | Freq  | %    |
| 21–40| 26    | 14.40| 28    | 23.30| 19    | 15.80 | 73    | 17.38|
| 41–60| 106   | 58.90| 65    | 54.20| 65    | 54.20 | 236   | 56.19|
| 61–80| 48    | 26.70| 27    | 22.50| 36    | 30.00 | 111   | 26.43|
| Total| 180   | 100  | 120   | 100 | 120   | 100  | 420   | 100  |

X=54.6 SD=11.30 X=51.0 SD=11.84 X=53.8 SD=11.18 X=53 SD=11.44

Note: SD= Standard deviation; x=Mean; %= Percentage; Freq=Frequency.

Table 2
Sex distribution of respondents across the selected states.

| Gender | Oyo State | Ogun State | Osun State | Study Area |
|--------|-----------|------------|------------|------------|
|        | Freq  | %    | Freq  | %    | Freq  | %    | Freq  | %    |
| Male   | 148   | 82.20| 97    | 80.80| 96    | 80.00| 341   | 81.19|
| Female | 32    | 17.80| 23    | 19.20| 24    | 20.00| 79    | 18.81|
| Total  | 180   | 100  | 120   | 100 | 120   | 100  | 420   | 100  |

Table 3
Distribution of respondents by their marital status in the selected states.

| Marital Status | Oyo State | Ogun State | Osun State | Study Area |
|----------------|-----------|------------|------------|------------|
|                | Freq  | %    | Freq  | %    | Freq  | %    | Freq  | %    |
| Singles        | 22    | 12.20| 23    | 19.20| 13    | 10.80| 58    | 13.81|
| Married        | 139   | 77.20| 82    | 68.30| 92    | 76.70| 313   | 74.52|
| Divorced       | 11    | 6.10 | 4     | 3.30 | 4     | 3.30 | 19    | 4.52 |
| Widow(er)      | 7     | 3.90 | 9     | 7.50 | 10    | 8.30 | 26    | 6.19 |
| Separated      | 1     | 0.60 | 2     | 1.70 | 1     | 0.80 | 4     | 0.95 |
| Total          | 180   | 100  | 120   | 100 | 120   | 100  | 420   | 100  |

1.1. Distribution of respondents according to marital status

Table 3 shows that majority of the respondents representing 77.20%, 68.30%, and 76.70% are married in Oyo, Ogun and Osun states respectively while 12.20%, 19.20% and 10.80% of the respondents are single [2].

1.2. Households’ dietary diversity score across the selected states

Fig. 1 shows the dietary diversity scores which was based on the 12 food groups set by the FAO. The mean food intake score recorded across the selected states were 5.20, 5.10 and 4.31 from Oyo, Ogun and Osun states as against the mean cut-off point of 6 recommendation.

1.3. Body Mass Index (BMI)

This measures the variation of nutrition and health status in the human life cycle. It is a very good indicator of health at individual and population level. It also serves as a proxy measure of adiposity, which is independent of gender, age and ethnicity. The various categories are as tabulated in Table 4 below:

Fig. 2 reveals the body mass index of the farmers with a minimum value of 15 kg/m², maximum BMI of 39 kg/m² and average BMI of 26.08 kg/m² ± 2.88. Majority (60.24%) of the farmers were overweight as compared with the other groups of 1.17%, 32.14%, 5.24 and 0.71 being
Table 4  
BMI classifications are as follows.

| BMI Figure | Categories                          |
|------------|-------------------------------------|
| < 18.50    | Underweight                         |
| 18.50–24.90| Normal/desirable weight or healthy  |
| 25.00–29.90| Overweight                          |
| 30.00–34.90| Obese I                             |
| 35.00–39.90| Obese II                            |
| > 40.00    | Severely Obese                      |

Source: [3].

**Fig. 1.** Respondents households HDDS across the selected states.

**Fig. 2.** Distribution of respondents households BMI across the selected states.
underweight, healthy, obese 1 and obese 2 respectively. However, when the body mass index (BMI) was further analysed across the selected states of the study area. This indicates an average BMI of 25.63, 26.42 and 26.22 kg/m² for Oyo, Ogun and Osun states respectively.

2. Experimental design, materials, and methods

The survey and data collection that leads into the compilation of this dataset was conducted between September 2014 and April 2015. A multi-stage sampling procedure was adopted in the selection of respondents in the study from Ogun, Oyo, and Osun state. Data were purposively selected from the six states in the geopolitical zone, based on the prominence of agricultural activities in these states. The major occupation of the people of this geopolitical zone include farming, artisans and agricultural products' processors and marketers. The three selected states were purposefully chosen because they were popular with small scale agricultural farming and are the food hub of the geopolitical zone. Data was collected through a well structured questionnaire (with a pass reliability test using a split half technique to determine the reliability of the instrument which gave a high-reliability coefficient of \( r=0.81 \), indicating that the instrument was consistent and highly reliable) which includes the participants' demographics characteristics, housing conditions, environment-related issues, consumption expenditures pattern, cost and food compositions, cost and returns of enterprises, nutrition, and health status. The utilised questions were translated into the local language of the respondents during administration and their response was recorded in English language. The second stage was the selection of one Agricultural Development Programme (ADP) zone from each selected state regarded as the food basket of the state. The third stage was a random selection of two (2) Local Government Area in each of the ADP zones. Based on the total household population figure provided by the National Population Commission of 203,631 for the six (6) selected LGA, four hundred and fifty (450) households were then randomly selected from 18 villages (3 prominent villages from each LGA) using a proportionate properly filled sample of 130, 160, and 130 from Ogun, Oyo and Osun respectively making a finally compiled 420 households dataset. This was robust and representative of the selected households in the research.

Funding

The funding for the dataset was obtained from the author's 2014 institutional bursary, North West University, South Africa.

Acknowledgments

The author acknowledge the farmers who were selected and participated in the survey (year 2014/2015). The PhD research supervisory role by Professor Abayomi Samuel Oyekale is also appreciated.

Conflict of Interest

The author declare that there is no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] A.O. Omotayo, Farming households’ environment, nutrition and health interplay in South West, Nigeria, Int. J. Sci. Res. Agricult. Sci. 3 (3) (2016) 84–98.
[2] A.O. Omotayo, Economics of farming household’s food intake and health-capital in Nigeria: a two-stage probit regression approach, J. Dev. Areas 51 (4) (2017) 109–125.

[3] L. Marengo, N.H. Farag, M. Canfield, Body mass index and birth defects: Texas, 2005–2008, Matern. Child Health J. 17 (10) (2013) 1898–1907.