International Journal of Scientific Research in Multidisciplinary Studies
Vol.7, Issue.12, pp.07-11, December (2021)

Research Paper
E-ISSN: 2454-9312
P-ISSN: 2454-6143

Analysis of Healthy Lifestyle Among Girl-Children in the Notheren Nigeria

A.O. Adeniran[1*], T.M. Abdullahi[2], O. Tayo-Ladega[3]

[1]Department of Logistics and Transport Technology, Federal University of Technology Akure, Nigeria
[2]Department of Chemical Pathology, University of Ibadan
[3]CEO His Marvellous Grace Support Foundation, Nigeria; PHD Student, Bangor University, UK

[*]*Corresponding Author: adeniranaoa@futa.edu.ng, Tel.: +234-703-619-6773*

Available online at: www.isroset.org

Received: 25/Nov/2021, Accepted: 13/Dec/2021, Online: 31/Dec/2021

***Abstract*—**Studies have revealed that there are numerous springing forth in the northern part of Nigeria, which inflicts the girl-children. This cross-sectional study was conducted to analyze healthy lifestyles among girl-children in the northern part of Nigeria. A total of 347 participants (parents of 347 girl-children) participated in this study, and primary data was gathered from the period of 2nd July to 8th July 2021 in Minna, Niger State. The majority of participants were in the categories of 15-18 years constituting 62.54%, 55.33% of the participants were underweight which may be as a consequence of short of balanced diet, short of access to food, poor feeding in infant; 35.45% of the participants were average weight and 9.22% were overweight. From the analysis, it was revealed that there is a connection between parents' education and physical activities of girl-children ($p = 0.001 < 0.05$). Also, there is a connection between parent's education and the eating habit of girl-children ($p = 0.027 < 0.05$) in Minna, Nigeria. Literate parents have proper knowledge and observance of recommendations on balanced diet, healthy eating habits and physical activity, while illiterate parents are not exposed to health education programs. Finally, the study found that a greater number of girl-children do not cultivate the healthy living because of parent influence and the education level of children. Hence, it is recommended that the public and private stakeholders should engineer, educate, and enforce health training programmes for all parents in the northern part of Nigeria, especially Minna, Niger State which is the study area. Health education subjects should be included in the education curriculum from the primary to the secondary level.

Keywords— Health lifestyle, Girl-children, Healthy behavior, Northern Nigeria

I. INTRODUCTION

The behaviours of individuals are being determined by their health lifestyles and general well-being. In fact, significant health behaviour such as eating balanced diet, frequent exercise, and other form of physical activities are related to positive well-being. While smoking, eating unbalanced meal, eating at odd times, poor intake of food and drinks among all, often result to negative well-being and it may cause obesity, diabetes, stunted growth, hypertension, poor reasoning and other form of vulnerabilities[1].

Aldeen and Ibrahim[2], Manwa[3] noted that the behaviours of individuals toward health promotion are a positive means to living and a means of increasing self-actualization and well-being. There is evidence that the adoption of four major health behaviours such as the avoidance of smoking, moderate drinking of alcohol, engaging in physical activities and daily consumption of at least five portions of vegetables and fruits may extend one's life[4].

On the opposite, Higgins and Dale[5] posits that it is erroneous to presume that the daily intake of five portions of vegetables and fruits is a determinant of balanced diet. They concluded in their study that there is not enough substantiation to agree to the supposition of a positive relationship between healthy eating of fruits and vegetables with human well-being and suggested more studies to verify the link between good health and the intake of fruits and vegetables. Nonetheless, the studies of Awosan et al. [6] and Hicks et al. [7] confirmed that fewer people partake in regular physical activity and partake in healthy food intake. In fact, AsekunOlarinmoye et al. [8]; WHO[9], Aghaji[10]; Garrusi et al. [1]; Mokdad et al. [11] noted that alcohol usage, tobacco intake, physical inactivity and poor food intake were among the foremost causes of death reported globally.

The statistics of the World Health Organisation[12] indicated that at least: 4.9 million die annually as a consequence of tobacco intake; 1.9 million die annually as a consequence of physical inactivity; 2.7 million die annually as a consequence of low fruit and vegetable intake. Globally, the trend of contagious and non-contagious diseases has become a major issue in the health

sector. In the developing countries, there was prediction in the year 2020 that out of every 10 deaths, 7 deaths will emanate as a consequence of either communicable or non-communicable diseases[13].

Additionally, it was revealed in an international publication that unending diseases are beginning to inflict the younger generation instead of being restricted to adulthood[14]. Particularly, the trends of obesity and stunted growth will be rising (Vander et al., 2016), and will be a major factor of chronic diseases and death[15]. According to Al-Rethaiaa et al.[16], unhealthy lifestyle involves poor food intake, substance intake and short of physical activities; they are among the chief causes of stunted growth and obesity. One major approach to combat health related diseases among all ages including girl-children is the promotion of healthy lifestyle[13].

Walker, Sechrist, and Pender[17] defined lifestyle as the way and manner of living, whether healthy or unhealthy. Lifestyle is rooted on individuals' or parental choice factors which are influenced by socioeconomic factors. Walker et al. further stated that a healthy lifestyle induces human wellness, self-actualization, and fulfillment of an individual. A healthy lifestyle is essential for improving health conditions[18];[19].

Al-Hazzaa et al. [20[and Yahia et al. [21] conducted their study in the Western and Arab regions, and found that young people are not partake in food intake that consist of balanced diet. They were consuming more fats, and not participating in some forms of physical activity. Also, smoking is most prevalent among the participants particularly from aged 15 years or older, and most practiced by males. Greaney et al. [22] found that during the growth process there is a need for intake of balanced diet and engaging in physical activities. It is a period whereby children adapt to a variety of circumstances. In this period, children are more likely to partake in risky health behaviors such as stress, physical inactivity, and poor dietary habits that can negatively affect their well-being[23].

Studies were carried out in Saudi Arabia and found that poor health lifestyles such as poor eating habits and short of physical activities are predominant among the adults[24]. Nevertheless, they found that exercise contributes significantly to the physical, psychological, and academic progress of students. This was further expanded by Al-Drees et al., [25].

In Nigeria, many studies have examined healthy lifestyles and behaviour[26]; [2]; [27]; [28]; [29]; [30]. Nonetheless, while these studies have provided useful data about individual's health issues, they may not be conducted on girl-children especially in the northern part of Nigeria.

Despite the gaps, there is ample evidence to show that girl-children in the northern part of Nigeria are exposed to unhealthy lifestyle that could affect their health and wellbeing. Therefore, inasmuch as the girl-children are vulnerable and exposed to unhealthy living, there is a need to provide a plausible research to educate the girl-children and parents on the implications of healthy living. Assessing the lifestyles of girl-children is paramount for achieving fashioned interventions of health promotion in the northern Nigeria which is targeted at improving the quality of living. This study examines girl-children lifestyle behaviours (such as food intake, fruits and vegetable intake, exposure to physical activities, and drug uses. This study is purposed to reveal the determining factors and the current state of promoting healthy lifestyles among girl-children in the northern part of Nigeria, particularly in Minna, Niger state.

Assuming that girl-children and their parents are educated and knowledgeable about achieving a healthy lifestyle, it was hypothesized in this study that educated parents of girl-children would display a higher level of observance to healthy lifestyles than the uneducated parents of girl-children. The findings that emanate from this study are expected to tailor actions and efforts toward realizing robust healthy living for the citizenry especially the northern dwellers).

II. METHODOLOGY

This is a cross-sectional study that was conducted to analyze healthy lifestyles among girl-children in Minna, Nigeria. According to Adeniran, Stephens, and Akinsehiwa[31], the error allowance calculation was used to determine the sample size. The error term was chosen based on the researchers' discretion. The chosen error allowance of 0.05 and Z score was employed to establish the sample size of 384 based on the equation below.

The formulae for achieving sample size n =Z^2/⟦4E⟧^2
Based on the sample size of 384, questionnaire distribution was targeted to parents or guardians of 384 girl-children. It is assumed that one parent or guardian represent individual girl-child. In the situation whereby there are more than one girl-child in a household, one girl-child will be chosen. Primary data were collected through a convenience sampling technique. A total of 384 girl-children participated in this study but responses obtained from 347 participants were valid for data analysis and reporting. The primary data was gathered from the period of 2nd July to 8th July 2021 in Minna, Niger State).

III. RESULTS AND DISCUSSION

Statistical Package for Social Sciences (SPSS) version 21 (SPSS Inc., Chicago, IL, USA) was employed for data analysis. Primary data was employed to achieve descriptive statistics which comprises demographic variables and healthy lifestyle which were reported with frequencies and percentages. Chi-square test was used to establish the significant difference between girl-children that have educated parents and those that have illiterate parents based on the health education factor adoption during parenting of girl-children.

From table 1, findings reveal the demographic characteristics of the participants. A total of 347 girl-children fully completed the surveys and their responses were considered valid for data analysis and reporting. The majority of the participants were between the ages of 15-18 years, constituting 62.54%. The girl-child is a biological female offspring from birth to 18 years. This period covers the pre-nursery, nursery (0-5 years), primary (6-12 years) and secondary (12-18 years). During this period, the child is fully under the control and care of her parents or guardians or older siblings[32]. Based on this definition, it can be inferred that the major participants will be in secondary school, and they will be able to give reliable information.

Furthermore, the National Institute of Health Managing Overweight and Obesity in Adults [33] defined Body Mass Index (BMI) as a person's weight in kilograms divided by the square of height in meters. It is important to note that the average BMI should fall between 18.5 kg/m2 to 24.9kg/m2; if the BMI falls within the range of 25.0 to 29.9, the body is said to be overweight; if it is 30 kg/m2 and above, the body is said to be obese; and if it is below 18.5, the body is said to be underweight. Regarding the BMI of the girl-children, it was revealed that 55.33% of the participants were underweight which may be as a consequence of short of balanced diet, short of access to food, poor feeding in infant; 35.45% of the participants were average weight; and 9.22% were overweight. The issue of underweight is majorly as a consequence of malnutrition as emphasized by UNICEF[34] which says that 5 in 10 children suffer from the effects of being malnourished and poor diets.

In addition, regarding the literacy of parents/ guardians on health education, this study revealed that majority of the parents representing 70.89% are not exposed to health education. The short of exposure to health education may be the chief reason for the record of underweight. While the remaining educated parents representing 26.11% are exposed to health education and will be able to deliver quality health dynamics to their girl-children.

Almost all of the participants representing 75.22% belong to an extended family structure consisting of father, two or more wives, children, grandparents and other relatives, while only 24.78% are from nuclear family structure which consists of father, mother and the children. Regarding the health-promoting lifestyle, the mean score was also depicted in Table 1. Nutrition or eating habits accounted for the highest mean of 19.14 ± 4.74 followed by physical activity behaviour which accounted for 12.15 ± 3.42

Table 1. Demographic characteristics of participants

Variable	**Total (N = 347)**	
	N	%
Age		
Below 5 years	10	2.88
5-9 years	37	10.66
10-14 years	83	23.92
15-18 years	217	62.54
BMI status (kg/m^2)		
Underweight (Below 18.5)	192	55.33
Average weight (18.5–24.9)	123	35.45
Overweight (25.0–29.9)	32	9.22
Obese (30 and above	0	0
Health literacy of parents		
Literate	101	29.11
Illiterate	246	70.89
Yes	101	29.11
No	246	70.89
Family structure		
Nuclear family	86	24.78
Extended family	261	75.22
Health problem		
Yes	77	12.32
No	548	87.68
Health Promoting Lifestyle Profile (HPLP)	Mean ± SD	
Physical activity	12.15 ± 3.42	
Nutrition /eating habits	19.14 ± 4.74	

Source: Authors' Fieldwork (2021)

The factors associated with the healthy lifestyle of girl-children in Minna, Nigeria were shown in Table 2. The socio-demographic factors such as age, parents' education and family structure of girl-children were analyzed. The model reveals there is a connection between parents' education and physical activities of girl-children ($p = 0.001 < 0.05$). Also, there is a connection between parent's education and the eating habit of girl-children ($p = 0.027 < 0.05$) in Minna, Nigeria. This implies that the parent's level of education can influence the girl-children healthy lifestyle. For instance, educated parents have proper knowledge and observance of recommendations on balanced diet, healthy eating habits and physical activity.

Bhutta et al. [35] noted that malnutrition contributes majorly to child mortality; hence, there is a strong rationale for improving nutrition. Globally, there were suggestions on scaling up interventions of effective nutrition by 20% most especially in the low- and middle-income countries which has high record of malnutrition [35]; [36]. Among these interventions is educating the parents on nutrition as knowledge of effective nutrition would reduce malnutrition. Studies of Fafchamps and Shilpi [37]; Headey [38]; Duflo and Breirova[39] found a nexus between the education of adults and the health condition of the future generation.

Table 2. Association of a healthy lifestyle and demographic factors of girl-children

Variable	**Physical activity**	**Nutrition or eating habit**
	P-value	*P-value*
Age	0.063	0.340
Parent's education	**0.001**	**0.027**
Family structure	0.425	0.162

Note: p-value significant at $p<0.05$

IV. CONCLUSION AND FUTURE SCOPE

The main conclusions of the study may be presented in a short Conclusion Section. In this section, the author(s) should also briefly discuss the limitations of the research and Future Scope for improvement.

REFERENCES

[1] B. Garrusi, H. Safizadch, and O. Pourhosseni, "A study on the Lifestyle of the Iranian university students", Iranian Journal of psychiatry and Behavioural Sciences, Vol. **2**, Issue. **2**, **2018**.

[2] L. D. Aldeen, and C. Ibrahim, "Knowledge and practice of dietary and healthy lifestyle in a sample of medical and non-medical college students in Baghda", World Family Medicine Journal, Vol. **12**, Issue. **3**, pp.**8**, **2014**.

[3] L. Manwa, "University students dietary patterns: A case of a University in Zimbabwe", Journal of Emerging trends in Educational research and policy studies, Vol. **4**, Issue. **1**, pp. **191-197**, **2013**.

[4] World Health Organization, "The Global economic burden of non-communicable disease", A report by the World Economic Forum and the Harvard School of Public Health, pp. **1-37**, **2011**. Retrieved on September, 14, 2021, from http://www.weforum.org.

[5] V. Higgins, and A. Dale, "Ethnic differences in physical activity and obesity. Understanding population Trends and process, Vol. **3**, **2009**. Ethnicity and integration. Retrieved on August, 21, 2021, from http:// www.CCSr..ac.uk.

[6] A. K. Awosan, M. T. O. Ibrahim, E. Essien, A. A. Yusuf, and A. C. Okolo, "Dietary Pattern, lifestyle, nutrition status and prevalence of hypertension among traders in Sokoto central market, Sokoto, Nigeria . International Journal of Nutrition and metabolism, Vol. **6**, Issue. **1**, pp. **9-17**, **2014**.

[7] lL. G. Haddad, R. M. Al-Ma'aitah, S. J. Cameron, and M. Armstrong-Stassen, "An Arabic language version of the health promotion lifestyle profile", BMC Public Health, Vol. **15**, Issue. **2**, pp. **74–81**, **2018**. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9564211.

[8] E. Asekun-Olarinmoye, P. Akinwusi, W. Adebimpe, M. Isawunmi, M. Hassan, O. Olowe, O. Mankanjuola, C. Alebiosu, and T. Adewole, "Prevalence of hypertension in the rural adult population of Osun State, South-western Nigeria", International Journal of General Medicine, Vol. **6**, Issue. **3**, pp. **17-22**, **2013**.

[9] World Health organization, "Preventing chronic diseases: a vital investment. WHO global report. Geneva: World Health Organization", **2013**. Retrieved on August, 9, 2021, from http://www.who/chp/chronic_disease_report/fo

[10] M., N. Aghaji, "Hypertension and risk factors among traders in Enugu, Nigeria". Journal College Medicine, Vol. **13**, Issue. **2**, pp. **111-115**, **2008**.

[11] E. Mokdad, H. S. Vander, A. D. Lopez, G. Danaei, A. Rodgers, C. D. Mathers, and C. J. L. Murray, "Comparative quantification of mortality and burden of disease attributable to selected risk factors", Global Burden of Disease and Risk Factors, **2016**. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21250375.

[12] World Health organization, "Preventing chronic diseases: a vital investment. WHO global report. Geneva: World Health Organization", 2005 Retrieved on August, 9, 2021, from http://www.who/chp/chronic_disease_report/fo

[13] A. Boutayeb, and S. Boutayeb, S. "The burden of non-communicable diseases in developing countries", International Journal of Equity Health, Vol. **4**, Isssue. **1**, pp. **2**, **2005**. https://doi.org/10.1186/1475-9276-4-2

[14] The U.S. Health in International Perspective. Washington. D.C.: National Academies Press; **2013**. https://doi.org/10.17226/13497.

[15] S. O. Fadare, and A. O. Adeniran, "Comparative analysis of publicly operated airport terminal and concessioned airport terminal in Lagos, Nigeria". Discovery, Vol. **54**, Issue. **272**, pp. **304-318**, **2018**.

[16] N. T. Nguyen, C. P. Magno, K. T. Lane, M. W. Hinojosa, and J. S. Lane, "Association of hypertension, diabetes, dyslipidemia, and metabolic syndrome with obesity: findings from the National Health and nutrition examination survey, 1999 to 2004", J Am Coll Surg. Vol. **207**, Issue. **6**, pp. **928–34**, **2008**. https://doi.org/10.1016/j.jamcollsurg.2008.08.022.

[17] S. N. Walker, K. R. Sechrist, and N. J. Pender, "The health-promoting lifestyle profile: development and psychometric characteristics. Nurs Res. Vol. **36**, Issue. **2**, pp. **76–81**, **1987**.

[18] M. Mirghafourvand, A. Baheiraei, S. Nedjat, E. Mohammadi, S. M. A. Charandabi, and R. Majdzadeh, "A population-based study of health-promoting behaviors and their predictors in Iranian women of reproductive age", Health Promot Int., Vol. **30**, Issue. **3**, pp. **586–94**. **2015**. https://doi.org/10.1093/heapro/dat086.

[19] W. El Ansari, C. Stock, J. John, P. Deany, C. Phillips, S. Snelgrove, H. Adetunji, X. Hu, S. Parke, M. Stoate, and A. Mabhala, "Health Promoting behaviours and lifestyle characteristics of students at seven universities in the UK", Central European Journal of Public Health, Vol. **19**, Issue. **40**, pp. **197-204**, **2011.**

[20] H. M. Al-Hazzaa, N. A. Abahussain, H. L. Al-Sobayel, D. M. Qahwaji, and A. O. Musaiger, "Physical activity, sedentary behaviors, and dietary habits among Saudi adolescents relative to age gender, and region", International Journal of Behavioral Nutrition and Physical Activity, Vol. 8, Issue. 1, pp. 140, 2011. https://doi.org/10.1186/1479-5868-8-140.

[21] N. Yahia, D. Wang, M. Rapley, and R. Dey, "Assessment of weight status, dietary habits and beliefs, physical activity, and nutritional knowledge among university students", Perspectives in Public Health, Vol. **136**, Issue, **4**, pp. **231–44**, **2016**. https://doi.org/10.1177/1757913915609945.

[22] M. L. Greaney, F. D. Less, A. A. White, S. F. Dayton, D. Riebe, and B. Blissmer, "College students' barriers and enablers for healthful weight management: a qualitative study", Journal of Nutrition Education Behavour, Vol. **41**, Issue. **4**, pp. **281–6**, **2009**. https://doi.org/10.1016/j.jneb.2008.04.354.

[23] A. O. Musaiger, M. S. Awadhalla, M. Al-Mannai, M. AlSawad, and G. V. Asokan, "Dietary habits and sedentary behaviors among health science university students in Bahrain", International Journal of Adolescent Medical Health, Vol. **29**, Issue. **2**, **2016**. https://doi.org/10.1515/ijamh-2015-0038.

[24] H. H. Al-Otaibi,. The pattern of fruit and vegetable consumption among Saudi University students. Global Journal of Health Science. Vol. **6**, Issue. **2**, pp. **155–62**, **2013**. https://doi.org/10.5539/gjhs.v6n2p155.

[25] A. Al-Drees, H., Abdulghani, M., Irshad, A. A. Baqays, A. A. Al-Zhrani, S. A., Alshammari, and N. I. Alturki, Physical activity and academic achievement among medical students: a cross-sectional study. Medical Teacher, Vol. 38, Issue 1, pp. **S66–72**, **2016**. https://doi.org/10.3109/0142159X.2016.1142516.

[26] T. L. Oluwadamisi, "Analysis of Healthy Lifestyle among University Students: A Case Study of University of Ilorin. Discovery, Vol. **57**, Issue. **303**, pp. **276-281**, **2021.**

[27] E. U. Onyezugbo, "Self-efficacy and test anxiety as correlates of academic performance". International Research Journal, Vol. **1** ,Issue **10**, pp. **477-480**, **2010**.

[28] A. S. Al-Rethaiaa, A. Fahmy, and N. M. Al-Shwaiyat, "Obesity and eating habits among college students in Saudi Arabia: a cross-sectional study", Nutrition Journal, Vol. **9**, Issue, **1**, pp. **39**, **2010**. https://doi.org/10.1186/1475-2891-9-39.

[29] U. A. Onyechi, and A. C. Okolo, "Prevalence of obesity among undergraduate students, living in hall of residence, university of Nigeria, Nsukka campus Enugu state", *Animal Research International, Vol. 5, Issue. 3, pp. 928-931, 2008.*

[30] R. T. Mikolajczyk, A. E. Maxwell, V. Naydenova, S. Meier, and W. Ansari, "Depressive symptoms and perceived burdens related to being a student: Survey in three European countries", *Journal of Clinical Practice and Epidemiology in Mental Health, Vol. 4, Issue. 19, 2008.*

[31] A. O. Adeniran, M. S. Stephens, and F. O. Akinsehinwa, "Factor Analysis of Passengers' Satisfaction at Murtala Muhammed Airport (MMA2)", *Aeronautics & Aerospace Open Access Journal,* Vol. **4**, Issue. **1**, pp. **13–24**, **2020**. DOI: 10.15406/aaoaj.2020.04.00101

[32] Proshare "The Value of Girl-child Education in Nigeria", **2018**. https://www.proshare.ng/new/Education-knowledge/The-Value-of-Girl-child-Education-in-Nig/41338.

[33] National Institute of Health Managing Overweight and Obesity in Adults, pp. **501**, **2013**.

[34] UNICEF, "Poor Diets Damaging Children's Health Worldwide, Including Nigeria, **2019**. https://www.unicef.org/nigeria/press..

[35] Z. A. Bhutta, J. K. Das, A. Rizvi, M. F. Gaffey, and N. Walker,. Evidence-Based Interventions for Improvement of Maternal and Child Nutrition: What can be Done and at What Cost?. The Lancet, Vol. **382**, pp. **452–477**, **2013**.

[36] M. Ruel, and H. Alderman, "Nutrition-Sensitive Interventions and Programs: How can they Help Accelerate Progress in Improving Maternal and Child Nutrition?", *The Lancet*, Vol. **382**, pp. **536–551**, **2016**

[37] M. Fafchamps, and F. Shilpi, Education and Household Welfare. Economic Development and Cultural Change, Vol. **63**, Issue. **1**, pp. **73–115**, **2014**.

[38] D. Headey, "Developmental Drivers of Nutritional Change: A Cross-Country Analysis", *World Development*, Vol. **42**, pp. **76–88**, **2013**.

[39] E. Duflo, "Women Empowerment and Economic Development. *Journal of Economic Literature*, Vol. **50**, pp. **1051–1079**, **2012**.

AUTHORS PROFILE

Mr. C T Lin pursed B. Tech., M.Tech., and Ph.D. Physical Science from IIT, Bombay in 1998, 2002 & 2008. He is currently working as Professor in Department of Physical Science from IITRS, Bombay since 2010. He is a member of ISROSET since 2013, Life member of ACM since 2011 and a life member of the IIT Research Spectrum since 2015. He has published more than 50 research papers in reputed international journals including Thomson Reuters (SCI & Web of Science) and conferences including IEEE and it's also available online. His main research work focuses on Cryptography Algorithms, Network Security, Cloud Security and Privacy, Big Data Analytics, Data Mining, IoT and Computational Intelligence based education. He has 15 years of teaching experience and 10 years of research experience.

