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Physical Activity and Nutritional Behaviour: Implication for Health of Christian Women in Bwari Area Council of Abuja

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ABSTRACT

Physical activity's (PA) benefits is consolidated by good nutritional behaviour. However, the problem of physical inactivity and sedentariness are burgeoning with females generally the most affected. Some church-based programmes are organised to encourage physical activities among Christians, but female participation is often low—a potential primary cause of non-communicable diseases among other consequences. The study's objective was to determine Physical Activity (PA) and Nutritional Behaviour (NB) implications on the health of Christian women in Bwari Area Council of Abuja. The study design was a cross-sectional survey consisting of all Christian women in Bwari Area Council of Abuja. A multistage sampling procedure comprised of random, proportionate and convenient sampling techniques was used to select 342 women. A validated researcher-developed questionnaire (r : Cronbach Alpha = 0.75) was used for data collection. For descriptive analyses of physical activity and nutritional behaviour percentage, Mean, and Standard Deviation were used, while inferential statistics of multiple regression was used with a 0.05 alpha level to determine their impact on the women's health. Findings show that majority of the women (282 or 82.50%) were physically active, with low levels of unhealthy nutritional behaviours such as skipping lunch, 48 women or 14.00%, had no consumption of fruits 18 (5.30%) and vegetables 42 (12.30%). 29.80% rated their health as 'fair' while PA and NBs have significant implications on self-rated health status accounting for 3.50% variations ($R^2 = 0.035$, $F(3, 338) = 4.136$, $p < 0.007$) while PA MET-min/wk ($= 0.114$, $p < 0.040$) and sedentary behaviour ($= -0.105$, $p 0.050$) were the only significant predictors of health having positive and negative impacts. Christian women might be at health risks due to high sedentary behaviour. It was recommended that the women should imbibe physical activity combined with good nutritional behaviour targeted to minimise overall daily sedentary behaviour in order to stay healthy.

Keywords: *Physical activity, lifestyle, health, Christian women, eating pattern*

INTRODUCTION

Physical activity is an internationally recognised means for promoting health, preventing and treatment of diseases. The World Health Organisation (WHO, 2020) recommends that adults between 18 – 65 years should participate in physical activity per week with at least 150 - 300 minutes of moderate intense aerobic physical activity, or at least 75 – 150 minutes of vigorous intense physical activity or an equivalent combination of moderate and vigorous intense physical activity throughout the week for substantial health benefits. As a result of WHO's recommendations, the American College of Sports Medicine (ACSM) runs a global programme, mandating physical activity as a standard clinical practice in diagnosis and treatment of patients including inculcation of community-based resources to back its effectiveness and sustainability towards reducing inactivity and sedentariness and its numerous chronic disease consequences (Dominic, 2021).

The function of the body's biological systems is critical for responding to exercise stimulus and is primarily supported by fuel derived from nutrients. As a result, good nutrition plays a complementary role in the body's response to physical activity as well as in the body's maintenance, decrease in the risk of developing of non-communicable diseases (NCDs) like obesity, high blood pressure, high cholesterol, diabetes, heart disease, stroke and cancer (Dominic & Onifade, 2005; United States Office of Disease Prevention and Health Promotion, 2021). This implies that physical activity, on the one hand, aids in the

proper utilization of food consumed, while healthy nutrients, on the other hand, improve recovery from exercise-induced physiological stress and other experiences.

Individuals have been exposed to a decrease in physical activity and sedentary behaviours as a result of technological advancement. The rate of decrease in sedentariness sees developing countries experiencing a higher rate of increase in NCDs (WHO, 2020). The females right from a young age have been reported to be less active than males with this behaviour tracking into adolescence and later adulthood (Carmen, Sabrina, Nicky, Simon & Rafael, 2016). Cultural and religious beliefs are also recognised as barriers to compliance to physical activity recommendation in Nigeria and the impacts of these beliefs seem to be more restrictive for females than males (Seidina, Afolabi, Joel, Okunloye & Ameen, 2019). Although some faith-based studies have pointed out the potentials of the church in enhancing physical activity behaviour (Webb, Bopp & Fallon, 2011; Pearson & Lam, 2015), there are few evidences in Nigeria and none specifically in Bwari. A few churches have begun to show interest recently through occasional keep fit and sports programmes but the researchers observed that participation of females remain low in most cases. Specifically, Christian women in Bwari seem overweight and often show symptoms of fatigue at church programmes; which are indicators of low physical activity that might be exacerbated by the high exposure to consumption of unhealthy foods that is fast becoming a common practice in some homes and public places. Hence, the current study became necessary to examine physical activity and nutritional behaviours and its impact on health of the women in Bwari Area Council of FCT. Abuja.

The study was conducted based on the following objectives:

1. To examine the physical activity behaviour of Christian women in Bwari Area Council of FCT Abuja.
2. To examine the nutritional behaviour of Christian women in Bwari Area Council of FCT Abuja.
3. To determine the implication of these behaviours on self-rated health of Christian women in Bwari Area Council of FCT Abuja.

METHODOLOGY

Cross-sectional survey research design was adopted in which a sample of 342 Christian women in Bwari Area Council of FCT Abuja were sampled. The sample was obtained through a multistage sampling procedure which involved proportionate, random and convenient sampling techniques. The instrument was a 25-item researcher developed questionnaire consisting of four sections. Section A assessed demographic characteristics, section B physical activity, section C food consumption and section D self-rated health status. The questionnaire was validated and has Cronbach Alpha reliability coefficient of 0.75 determined through the split-half method. All the participants were well informed about the study and gave consent. Administration of the instrument was done face-to-face and the retrieval was immediate. SPSS version 24.0 was used for the statistical analysis. Statistical tools used for the analysis were frequency, percentage, mean and standard deviation for descriptive analyses of demographic data, physical activity and nutritional behaviours. Multiple regression was the inferential statistic used to test for significant implication of physical activity and nutritional behaviours on self-rated health status with a 0.05 alpha level.

RESULTS

Table 1: Demographic Information

Variables		Frequency	Percentage (%)
Marital Status			
	Divorced	72	21.1
	Married	144	42.1
	Single	78	22.8
	Widowed	48	14.0
	Total	342	100.0

Variables		Frequency	Percentage (%)
Age Range	18–25 years	48	14.0
	26–35 years	90	26.3
	36–45 years	102	29.8
	46–55 years	72	21.1
	56–65 years	18	5.3
	above 65 years	12	3.5
	Total	342	100.0
Occupation	Civil servant	114	33.3
	Private sector employee	60	17.5
	Self-employed	84	24.6
	Student	36	10.5
	Other	48	14.0
	Total	342	100.0

Table 1 shows the demographic information of the respondents (n = 342). Majority of them were married 144 (42.10%), in the age range of 36 – 45 years, 102 (29.80%) and those who are civil servants were 114 (33.30%).

Table 2: Physical activity level

Accumulated PA Behaviour (Mean \pm Standard Deviation)	PA Category	Frequency	Percent
MET-min/wk	Inactive	60	17.5
1817.39 \pm 1592.06	Moderately active	150	43.9
	HEPA active	132	38.6
Sitting Duration/day	Total	342	100.0
5.35 \pm 3.41 hours			

Table 2 shows the analysis of the respondents' physical activity behaviour. The average accumulated expenditure in physical activity within a week was 1817.39 \pm 1592.06 MET-min/wk, average sitting duration per day (sedentary time) was 5.35 \pm 3.41 hours. majority of them fell into the category of moderately active 150 (43.90%).

Table 3: Nutritional behaviours of the respondents

Behaviours	Frequency	Percentage (%)
<u>Skip Breakfast</u>		
Not sure	18	5.3
Everyday	6	1.8
4 - 6 days weekly	18	5.3
2 - 3 days weekly	42	12.3
Once weekly	72	21.1
Never	186	54.4
Total	342	100.0
<u>Skip Launch</u>		
Not sure	18	5.3
Everyday	48	14.0
4 - 6 days weekly	42	12.3

Behaviours	Frequency	Percentage (%)
2 - 3 days weekly	78	22.8
Once weekly	30	8.8
Never	126	36.8
Total	342	100.0
<u>Skip Dinner</u>		
Not sure	24	7.0
Everyday	36	10.5
4 - 6 days weekly	60	17.5
2 - 3 days weekly	36	10.5
Once weekly	36	10.5
Never	150	43.9
Total	342	100.0
<u>Fruit Consumption</u>		
Not sure	42	12.3
Never	18	5.3
Once Weekly	96	28.1
2 - 3 days weekly	66	19.3
4 - 6 days weekly	30	8.8
Everyday	90	26.3
Total	342	100.0
<u>Vegetable Consumption</u>		
Not sure	36	10.5
Never	18	5.3
Once Weekly	36	10.5
2 - 3 days weekly	96	28.1
4 - 6 days weekly	96	28.1
Everyday	60	17.5
Total	342	100.0

Table 3 shows a summary of the nutritional behaviour of the respondent. They reportedly skipped meals across the day with launch been the most skipped meal (48 women or 14.00%) within the last month recall. Many of them included varying frequencies in the consumption of fruits and vegetables as part of their meals. However, 18 (5.30%) of them did not consume fruits or vegetables while 42 (12.30%) and 36 (10.50%) of them were not sure whether they consumed fruit or vegetable respectively within the last one month.

Table 4: Self-rated health of the respondents

Ratings	Frequency	Percentage (%)
Poor	18	5.3
Fair	102	29.8
Good	78	22.8
Very good	84	24.6
Excellent	60	17.5
Total	342	100.0

Table 4 shows the majority of the respondents 102 (29.80%) rated their health status to be fair, 84 (24.6%) and 60 (17.50%) of them rated their health status as very good and excellent respectively.

IMPLICATION OF PHYSICAL ACTIVITY AND NUTRITION ON HEALTH OF THE RESPONDENTS

1. **Hypothesis tested:** There is no significant implication of physical activity and nutritional behaviours on health of the respondents.

Table 5: Model summary of multiple regression analysis of implication of physical activity and nutrition on health

Model	R	R ²	Std. error of the estimate	F-Statistics			
				F	df1	df2	Sig.
1	0.188	0.035	1.177	4.136	3	338	0.007

Table 5 shows the model summary of multiple regression analysis for the implication of physical activity and nutritional behaviours on health of the respondents. The model was significant, showing a multiple co-relation ($R = 0.188$) of physical activity and nutritional behaviours with reported health. The variables, physical activity and nutrition account for 3.5% variations in self-reported health status ($R^2 = 0.035$), $F(3, 338) = 4.136$, $p < 0.007$.

Table 6: Coefficients of physical activity and nutrition predictors of health

Model of behaviours	Beta	Sig.
(Constant)		0.000
MET-min/wk	0.114	0.040
Sitting duration per day	-0.105	0.050
Accumulated nutrition score	-0.065	0.249

Table 6 shows the contributions of physical activity behaviour (active and sedentary time) and nutrition behaviour as independent predictors of health of the participants. The expenditure accumulated in physical activity was the highest predictor of health status with significant positive implication on respondents' health = 0.114, $p < 0.040$ while sitting duration per day (sedentary behaviour) was next with significant negative implication on the respondents' health = -0.105, $p < 0.050$. Nutritional behaviour, however, had no significant implication on the respondents' health. The tested hypothesis is rejected.

DISCUSSION OF FINDINGS

The study investigated the physical activity and nutritional behaviour and its implication on the health of a group of Christian women in Bwari Area Council of Abuja. The study was based on the suspicion that increasing rate of unhealthy behaviours of noncompliance to physical activity recommendation and unhealthy nutrition may increase the susceptibility of the women to several chronic diseases.

The findings of the study thus revealed that most of the women were physically active. Despite this, being more conversant with an active lifestyle and health nutrition will benefit the women a lot (Dominic, 2021; WHO, 2020). In addition, the study shows potentials for health problems arising from sedentariness (prolonged sitting) as many of them worked in the formal sector (the civil service and private organisation), thus sitting for long hours at work and are exposed to unhealthy nutritional choices (Federal Government of Nigeria [FGN], 2014; Obasohan, Okorie, Sule & Ndako, 2019; Baye, 2021) in that a number of them were inactive and many of them had unhealthy behaviours of skipping meals and not consuming sufficient fruits and vegetables which helps the body systems to function well and maintain healthy.

CONCLUSION

The study showed that Christian women in Bwari area council are physically active but might be at risks healthwise due to high sedentary behaviour.

RECOMMENDATION

Based on the finding, it is recommended that Christian women in Bwari Area Council of Abuja imbibe the physical activity behaviour targeted to minimise overall sedentary behaviour daily and practice healthy nutrition to stay healthy.

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