

Title: Influence of Culture on Obesity and Overweight among Ghanaian Adults

Abstract

This study investigates the influence of culture on obesity and overweight among Ghanaian adults, aiming to identify key cultural practices contributing to these health issues. A descriptive survey research design was employed, targeting a population of over 15 million adults in Ghana, from which a sample of 500 participants was selected using a convenience sampling method. Data were collected through a self-administered online questionnaire focusing on cultural dietary practices and lifestyle behaviors. The findings reveal that frequent consumption of fried foods and regular intake of sugary drinks are perceived as significant contributors to obesity, with 62% of respondents agreeing that these practices lead to weight gain. Additionally, large portion sizes were noted by 60% of participants as a cause of excessive consumption. Cultural events, such as traditional festivals, were identified by 68% of respondents as promoting unhealthy eating habits, emphasizing the role of social gatherings in dietary choices. Furthermore, 79% of respondents indicated that sedentary lifestyles, exacerbated by urbanization, contribute to obesity, highlighting the need for increased physical activity. The study concludes that cultural practices play a crucial role in shaping dietary habits and physical activity levels among Ghanaian adults. These insights underscore the necessity for culturally tailored public health interventions to effectively address obesity and overweight in this population.

Keywords: Obesity, overweight, cultural factors, dietary practices, physical activity, sedentary lifestyle, nutrition, health behavior, urbanization, cultural events.

1. Introduction

The rising prevalence of obesity and overweight among adults in Ghana presents a significant public health issue, with cultural factors playing a key role in driving this trend.

Cultural beliefs and practices strongly shape the dietary habits and physical activity levels of Ghanaians. Traditions such as ceremonial feasting, coupled with low levels of physical activity, are key contributors to the high obesity rates in the country. Additionally, many Ghanaian adults engage in sedentary activities, like watching television or playing video games during their leisure time, which reduces exercise and promotes weight gain.

Global statistics from the World Health Organization (WHO) stated that over 2.5 billion adults aged 18 years and older are overweight in both developed and developing countries, of which 890 million of them are obese (World Health Organization, 2021). The current trends suggest that issues of overweight and obesity have become a serious public health concern in these countries, with over 115 million people affected by overweight and obesity health-related problems (Agyemang et al., 2016). Obesity, according to Powell-Wiley et al. (2021), is a medical condition, sometimes considered a disease, in which excess body fat has accumulated to such an extent that it can potentially have adverse effects on health. People are classified as obese when their body mass index (BMI)-a person's weight divided by the square of their height -is over 30 kg/m²; the range 25-30 kg/m² is defined as overweight. Obesity is a major cause of disability and is correlated with various diseases and conditions, particularly cardiovascular diseases, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis (Haslam & James., 2005). Obesity is a leading preventable cause of death worldwide, with increasing rates in adults and children (James., 2005). In 2022, over 1 billion people were obese worldwide (879 million adults and 159 million children), representing more than double of adult cases (and four times higher than cases among children) registered in 1990 (NCD Risk Factor Collaboration, 2024). Today, obesity is stigmatized in most of the world. Conversely, some cultures, past and present, have a favorable view of obesity, seeing it as a symbol of wealth and fertility.

On the other hand, overweight is generally defined as having a body mass index (BMI) between 25 and 29. Factors that may increase a person's risk of being overweight include a poor diet, stress, not getting enough sleep or exercise, and taking certain medicines. A person's genetics and some health conditions, such as metabolic syndrome and polycystic ovarian syndrome, can also lead to being overweight. Being overweight can increase the risk of many health problems, including diabetes, high blood pressure, heart

disease, stroke, sleep apnea, arthritis, and certain types of cancer (Centres for Disease Control and Prevention, 2016).

There is a significant upsurge in the incidence of overweight and obesity in low-income countries with a double burden of the co-existence of both communicable and chronic non-communicable diseases (Adeboye, Bermano & Rolland, 2012). Ghana, like other sub-Saharan countries, is not immune to the menace of the overweight and obesity epidemic, despite the persistent problem of under-nutrition in many parts of the continent (Lopez et al. I, 2006). According to Ziraba, Fotso and Ochako (2009), the prevalence of overweight and obesity increased by almost a third in sub-Saharan Africa, especially among women and people living in urban populaces. This growing epidemic is not only associated with adults but also among children and adolescents. It has been observed that cultural factors, such as social norms and food preferences, play a significant role in the development of obesity and overweight among Ghanaians.

Culture encompasses a broad range of intangible aspects of social life, including shared values, beliefs, language, and practices, which shape how individuals behave as part of a collective (Cole., 2024). In Ghana, cultural norms significantly influence both dietary habits and perceptions of health, contributing to the rising rates of obesity and overweight among adults. Social customs, such as eating in groups, often encourage overeating, while traditional beliefs that associate being overweight with wealth and prosperity can diminish awareness of the health risks linked to obesity (Boateng, Kwakye & Agyemang, 2020). Popular Ghanaian dishes like fufu and banku, which are high in calories and fat, are often consumed during celebrations, leading to excessive intake (Anim & Asante., 2023). Additionally, the shift towards processed foods and a more sedentary lifestyle has further exacerbated this issue. For many, thinness is culturally undesirable, contributing to a lack of recognition of the dangers posed by weight gain (Sarpong., 2024). This complex interaction between cultural beliefs, food preferences, and social norms underscores the role of culture in shaping health outcomes in Ghana.

In Ghana, obesity and overweight have been recognized to be increasing public health problems that could impact significantly on national resources (Ofei., 2005). The Ghana Demographic and Health Surveys (GDHS) from 2014 to 2023 reported an increasing prevalence of obesity among Ghanaian women (15-49 years) from 3.4% to 15.3% [29–31].

World Obesity Federation reports that in 2023, around 7.5% of Ghanaians were obese, with a higher prevalence in women (10.9%) than men (4.1%).

Statement of the Problem

Obesity and overweight are medical conditions characterized by the accumulation of excessive fat in the body (Favieri, Forte & Casagrande, 2019). They can be assessed using anthropometric measurements and indices such as body mass index (BMI), body fat percentage and waist-to-hip ratio (WHR) (Adedia et al, 2020). While there are several factors that contribute to obesity and overweight, culture has been identified as a significant influencer. Several studies have revealed that in Ghana, traditional dietary practices, such as consuming large amounts of fatty foods and sweetened beverages, are deeply ingrained in the country's culture, and this contributes to high rates of obesity and overweight. Forwardly, it was observed that cultural norms in Ghana surrounding food and physical activity, such as the emphasis on eating large meals and avoiding physical activity, have also contributed to high rates of obesity and overweight. Despite these findings, there is a lack of research on the specific cultural factors that contribute to obesity and overweight among Ghanaian adults. Therefore, this study aims to provide answers to the following research questions:

- i. What are the specific traditional dietary practices that contribute to high rates of obesity and overweight among Ghanaian adults?
- ii. How do cultural norms surrounding food and physical activity influence obesity and overweight rates among Ghanaian adults?
- iii. What is the role of cultural beliefs and values in shaping eating habits and physical activity levels among Ghanaian adults?
- iv. Are there any specific cultural events that promote unhealthy eating habits and physical inactivity among Ghanaian adults?

Comment [AB1]: To enhance focus, you could streamline the problem statement. Consider briefly explaining how urbanization and globalization might also interact with traditional practices, as these factors are relevant but not extensively covered in this section.

2. Review of Literature

Conceptual Review

Culture denotes a vast and varied array of predominantly intangible elements of social existence. It comprises the shared values, beliefs, linguistic systems, communication methods, and behaviour that collectively identify a group (Cole., 2024). Culture encompasses the tangible artefact prevalent within a community or culture. It is separate from the social structure and economic dimensions of society, yet it is interrelated with them, perpetually influencing and being influenced by them. Prevalent cultures are influenced by regional traditions, religious convictions, and historical events (Cole., 2024). Culture is a dynamic and essential component of society, comprising both non-material elements, such as values and ideas, and material components, including items and technology, all of which influence and are influenced by society (Cole., 2024). Obesity is a medical condition, occasionally seen as a disease, characterized by the accumulation of excess body fat to a degree that may adversely impact health. Individuals are categorized as obese when their body mass index (BMI)—calculated as weight divided by the square of height—exceeds 30 kg/m²; a BMI between 25 and 30 kg/m² is categorized as overweight (Powell-Wiley et al, 2021). Obesity is a significant contributor to disability and is associated with numerous diseases and ailments, especially cardiovascular diseases, type 2 diabetes, obstructive sleep apnoea, certain cancers, and osteoarthritis (Haslam & James., 2005). Obesity is a predominant preventable cause of mortality globally, with rising prevalence among adults and children (James., 2005). In 2022, more than 1 billion individuals were classified as obese globally, comprising 879 million adults and 159 million children, which signifies more than a twofold increase in adult cases and a fourfold rise in paediatrics cases compared to 1990 (NCD Risk Factor Collaboration 2024). Obesity is more prevalent in women than in males. Currently, obesity is stigmatized globally. In contrast, several societies, both historical and contemporary, see obesity positively, perceiving it as an emblem of affluence and fecundity. Being overweight is often characterized by a body mass index (BMI) ranging from 25 to 29. Factors that may elevate an individual's risk of obesity include an inadequate diet, stress, insufficient sleep or physical activity, and the consumption of specific medications. Genetics and certain health disorders, including

metabolic syndrome and polycystic ovarian syndrome, might contribute to overweight status. Excess weight can elevate the risk of numerous health issues, including diabetes, hypertension, cardiovascular disease, stroke, sleep apnoea, arthritis, and specific cancers (Centres for Disease Control and Prevention, 2016).

Empirical Review

Specific Traditional Dietary Practices that Contribute to High Rates of Obesity and Overweight among Adults

Traditional diets are the eating patterns and food practices that have been passed down through generations within specific cultural or ethnic communities. These diets often emphasize local ingredients, preparation methods, and culinary practices that reflect the values and identity of the people who consume them. They serve as an important link to cultural heritage and can shape both individual and communal identities (Fiveable Inc., 2024). Traditional diets often include a diverse range of foods, showcasing seasonal and local produce, which enhances nutritional benefits and sustainability. These diets are typically aligned with cultural values, rituals, and social practices, making food an essential part of identity and community cohesion (Fiveable Inc., 2024). Traditional dietary practices can contribute to biodiversity by encouraging the cultivation and use of indigenous crops and livestock. Many modern health movements are rediscovering traditional diets as models for healthy eating, linking them to lower rates of chronic diseases. Traditional diets may face challenges due to globalization, industrialization, and urbanization, leading to a loss of culinary knowledge and practices (Fiveable Inc., 2024).

There is increasing evidence associating obesity with fluctuations in dietary habits, chiefly due to the inadequate intake of vegetables, fruits, and grains; a persistent rise in the consumption of processed foods; heightened intake of sugary beverages and other sweetened products; and eating outside the home. These alterations substantially enhance energy, leading to a notable transformation in metabolic health (Vandevijvere, et al., 2015). The majority of Asian individuals exhibit a positive energy balance attributed to reduced physical activity in their occupations, resulting from automation, enhanced transportation, and a significant amount of time spent watching television (Parizkova et al, 2007). Numerous experts connect obesity to the transition from indigenous dietary practices to

Western dietary patterns characterized by ultra-processed foods; thus, it is regarded as a consequence of societal modernization (Horaib et al, 2013). These changes have infiltrated the societies of the Middle East during the past few decades.

Role of Social Beliefs and Values in Shaping Eating Habits and Physical Activity Levels among Adults

Dietary habits are shaped by various factors, including personal taste, culture, customs, and beliefs (Nordstrom et al, 2013). Individuals typically take pride in their identity and origins. The foods consumed throughout childhood frequently remain favoured throughout one's life. Amid glocalization, when many facets of healthy living are scrutinized, individuals cling to ethnic culinary practices that are esteemed and have contributed to their identities and beliefs about life (Morgan, 2000). Nonetheless, this does not imply that all forms of cooking are healthful. In the United States, specifically in Georgia, Mississippi, and Alabama, a majority of the population is classified as overweight or obese. This pertains significantly to the renowned Southern cuisine, which has historically relied on mainstays such as fatback, fried potatoes, fried chicken, fried cabbage, fried catfish, fried eggs, and several other fried dishes (Popkin, 1998, 2001). In addition to prevalent obesity rates, there are also heightened incidences of lifestyle diseases (Popkin, 1998). Physical activity is characterized as any movement of the body generated by skeletal muscles that necessitates energy expenditure (Singh, 2013). It is a crucial factor in energy expenditure and, hence, essential to energy equilibrium. Physical inactivity, defined as insufficient physical exercise, constitutes an independent risk factor for lifestyle illnesses. It is linked to elevated rates of obesity, breast cancer, colon cancer, osteoporosis, stress, anxiety, and depression. It is a key underlying cause of global mortality (Booth et al., 2012).

Specific Cultural Beliefs that Promote Unhealthy Eating Habits and Physical Inactivity among Adults in Ghana.

In Ghana, as in numerous sub-Saharan nations, the notions of overweight and obesity are associated with affluence (indicative of a prosperous lifestyle), attractiveness, health, and esteem, and are linked to happiness, in contrast to the Western viewpoint, which typically correlates these conditions with the emergence of illness (Puoane et al.,

2005). In certain traditional communities in Ghana and potentially other areas in sub-Saharan Africa, such as Nigeria, both early and late adolescent girls are groomed for future marriages in specialized fattening homes, where they are regularly provided with high-energy dense meals, including meat and fried foods (Smith, 2009). Weight increases following marriage indicate that husbands are effective providers and attentive to their wives' needs. Conversely, overweight husbands are viewed as well-nourished by their wives, who are regarded as proficient cooks and exemplary spouses, symbolizing elevated social standing and ensuing societal endorsement (Puoane et al., 2005). Certain foods laden with preservatives and additives (e.g., canned, packaged items such as fish, meat, butter, margarine, and cheese) and diets high in sugar are regarded as products of the Western world, specifically associated with "whites." Despite their elevated prices, these items have been widely embraced and readily consumed by the local populace (Puoane et al., 2005).

Individuals residing mostly in rural and semi-urban regions are chiefly focused on energy conservation through their dietary choices rather than energy expenditure, aiming to save their family food reserves (World Health Organization, 2004). Certain religious practices and traditions may significantly influence the physical activity habits of their adherents (Caperchione et al., 2009). Ghanaians with fervent religious convictions may abstain from physical activity and/or exercise, believing that a supreme entity governs their health and that their future is beyond their control. Individuals of this nature may fail to recognize the significance of engaging in preventative health practices such as physical activity or exercise (Evenson et al., 2004).

3. Methodology

The study adopted a survey method of descriptive research design to investigate the influences of culture on obesity and overweight among Ghanaian adults. According to UNICEF, the population of Ghanaian adults is estimated to be over 15 million. However, a 500-sample size was selected using a convenience sampling technique, whereby participants were chosen based on their availability and willingness to participate in an online survey, which allowed ease of response. A well-structured questionnaire was

Comment [AB2]: While convenience sampling is practical, it might limit the generalizability of the findings. It could be helpful to address this limitation in the methodology, as well as in the conclusion, to acknowledge the potential bias.

developed and reviewed to ensure face and content validity, with items targeting variables such as age, gender, residence, ethnicity, region, education, BMI categories, and obesity/overweight status. The questionnaires were distributed online to respondents, and efforts were made to ensure accuracy in responses, contributing to the reliability of the findings. The data were analyzed using descriptive statistics, including frequency distributions, percentages, and mean and standard deviation calculations for the key demographic variables. The analysis provided clear insights into the demographic patterns and their association with obesity and overweight. Ethical considerations were strictly adhered to, with informed consent obtained from all participants, and confidentiality and anonymity were maintained throughout the research process, ensuring the ethical integrity of the study.

4. Results

Table 1: Distribution of the Respondents' Background Data

S/N	Variable	Categories	Frequency (n)	Percentage (%)
1	Age	18 – 25 years	75	15.0%
		26 – 35 years	160	32.0%
		36 – 45 years	110	22.0%
		46 – 55 years	90	18.0%
		56 years and above	65	13.0%
	Total		500	100%
2	Gender	Male	230	46.0%
		Female	270	54.0%
		Total	500	100%
3	Residence	Urban	320	64.0%

S/N	Variable	Categories	Frequency (n)	Percentage (%)
		Rural	180	36.0%
	Total		500	100%
4	Ethnicity	Akan	210	42.0%
		Ewe	130	26.0%
		Ga Dangme	80	16.0%
		Other	80	16.0%
	Total		500	100%
5	Region	Accra	180	36.0%
		Ashanti	220	44.0%
		Western	50	10.0%
		Northern	30	6.0%
		Other	20	4.0%
	Total		500	100%
6	Education	Tertiary	240	48.0%
		Senior High School	180	36.0%
		Junior High School	80	16.0%
	Total		500	100%
7	BMI Categories	Underweight (BMI < 18.5)	35	7.0%
		Normal Weight (BMI 18.5 – 24.9)	220	44.0%
		Overweight (BMI 25 – 29.9)	150	30.0%
		Obese (BMI ≥ 30)	95	19.0%

S/N	Variable	Categories	Frequency (n)	Percentage (%)
	Total		500	100%
8	Obesity/Overweight	Yes	245	49.0%
		No	255	51.0%
	Total		500	100%

Source: Author's Field Work, 2024

The demographic table provides a comprehensive overview of the characteristics of the respondents in this study. A total of 500 participants were surveyed, with the majority (32%) falling within the 26–35 years age range and a relatively even distribution between genders (46% male and 54% female). Most respondents resided in urban areas (64%), reflecting a higher concentration of participants from cities than rural locations. Ethnic representation shows that Akan respondents comprise the largest group at 42%, followed by Ewe (26%), Ga Dangme (16%), and others (16%). Geographically, 36% of participants are from the Accra region, while 64% are from the Ashanti region. Additionally, 10% of respondents are from the Western region, 6% from the Northern region, and 4% categorized as Other, indicating a diverse geographic distribution. In terms of education, almost half of the respondents (48%) have attained tertiary education, 36% completed senior high school, and 16% have a junior high school education. Regarding BMI categories, 44% of respondents fall within the normal weight range, while 49% are classified as overweight or obese, indicating a significant concern regarding weight status among the population surveyed.

Analysis of Research Questions

Research Question 1: What are the specific traditional dietary practices that contribute to high rates of obesity and overweight among Ghanaian adults?

Table 2: Specific traditional dietary practices that contribute to high rates of obesity and overweight among Ghanaian adults

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
1	Frequent consumption of fried foods such as fried plantains and fried fish	121 (24.2%)	171 (34.2%)	89 (17.8%)	72 (14.4%)	47 (9.4%)	3.50	1.26
2	High intake of palm oil and other hydrogenated fats	110 (22.0%)	159 (31.8%)	103 (20.6%)	79 (15.8%)	49 (9.8%)	3.41	1.27
3	Regular consumption of sugary drinks including fruit juice and sweetened tea	132 (26.4%)	154 (30.8%)	98 (19.6%)	70 (14.0%)	46 (9.2%)	3.51	1.29
4	High carbohydrate diet including starchy foods like banku and kenkey	118 (23.6%)	162 (32.4%)	92 (18.4%)	76 (15.2%)	52 (10.4%)	3.43	1.30
5	Limited consumption of fruits and vegetables	93 (18.6%)	137 (27.4%)	113 (22.6%)	98 (19.6%)	59 (11.8%)	3.22	1.34
6	High salt intake from processed foods and sauces	102 (20.4%)	148 (29.6%)	106 (21.2%)	88 (17.6%)	56 (11.2%)	3.30	1.30
7	Frequent use of sugar as a condiment especially in traditional dishes	111 (22.2%)	145 (29.0%)	105 (21.0%)	85 (17.0%)	54 (10.8%)	3.35	1.31
8	High consumption of meat particularly beef and chicken which is often high in fat	101 (20.2%)	156 (31.2%)	97 (19.4%)	86 (17.2%)	60 (12.0%)	3.30	1.30

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
9	Infrequent consumption of whole grains such as brown rice and whole wheat bread	91 (18.2%)	133 (26.6%)	108 (21.6%)	105 (21.0%)	63 (12.6%)	3.16	1.33
10	Traditional breakfasts often high in calories and fat such as fried eggs and sausage with bread	117 (23.4%)	149 (29.8%)	101 (20.2%)	84 (16.8%)	49 (9.8%)	3.39	1.28
	Grand Mean / SD						3.37	1.30

The grand mean of 3.37 indicated moderate agreement that specific traditional dietary practices contribute to obesity and overweight among Ghanaian adults. The statement with the highest mean score is regular consumption of sugary drinks, including fruit juice and sweetened tea (mean = 3.51, SD = 1.29), suggesting that sugary beverages are perceived as specific contributors. Similarly, Frequent consumption of fried foods such as fried plantains and fried fish (mean = 3.50, SD = 1.26) is another practice widely associated with obesity. On the other hand, Infrequent consumption of whole grains such as brown rice and whole wheat bread (mean = 3.16, SD = 1.33) has a slightly lower mean, indicating a less strong association with obesity.

Research Question 2: How do cultural norms surrounding food and physical activity influence obesity and overweight rates among Ghanaian adults?

Table 3: Cultural norms surrounding food and physical activity influence obesity and overweight rates among Ghanaian adults

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
1	Traditional diets high in carbohydrates and low in fruits and vegetables	143 (28.6%)	167 (33.4%)	81 (16.2%)	66 (13.2%)	43 (8.6%)	3.60	1.25
2	Portion sizes are large leading to excessive consumption	135 (27.0%)	169 (33.8%)	84 (16.8%)	68 (13.6%)	44 (8.8%)	3.56	1.26
3	Fried foods and sweet treats are popular snacks increasing energy intake	127 (25.4%)	158 (31.6%)	97 (19.4%)	72 (14.4%)	46 (9.2%)	3.49	1.28
4	Sedentary lifestyles are common due to urbanization and lack of physical activity opportunities	139 (27.8%)	159 (31.8%)	93 (18.6%)	73 (14.6%)	36 (7.2%)	3.59	1.23
5	Limited access to recreational spaces and walking infrastructure discourages physical activity	134 (26.8%)	162 (32.4%)	88 (17.6%)	68 (13.6%)	48 (9.6%)	3.53	1.27
6	Food is often used as a symbol of hospitality and abundance leading to overeating	128 (25.6%)	153 (30.6%)	98 (19.6%)	74 (14.8%)	47 (9.4%)	3.48	1.28
7	Traditional cooking methods involve high-heat frying increasing fat intake	120 (24.0%)	157 (31.4%)	102 (20.4%)	71 (14.2%)	50 (10.0%)	3.45	1.29
8	Cultural events and celebrations often center around food leading to overconsumption	141 (28.2%)	164 (32.8%)	79 (15.8%)	73 (14.6%)	43 (8.6%)	3.58	1.28

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
9	Limited awareness of healthy eating habits and nutrition education contributes to poor dietary choices	125 (25.0%)	146 (29.2%)	103 (20.6%)	75 (15.0%)	51 (10.2%)	3.44	1.30
10	Social norms around body shape and size promote weight gain as larger individuals are often perceived as more attractive or successful	133 (26.6%)	162 (32.4%)	87 (17.4%)	71 (14.2%)	47 (9.4%)	3.52	1.29
	Grand Mean / SD						3.53	1.27

The grand mean of 3.53 shows a general agreement that cultural norms surrounding food and physical activity play a significant role in obesity and overweight among Ghanaian adults. Traditional diets high in carbohydrates and low in fruits and vegetables (mean = 3.60, SD = 1.25) and Sedentary lifestyles due to urbanization and lack of physical activity opportunities (mean = 3.59, SD = 1.23) are considered the most significant contributors. Moreover, Cultural events and celebrations often center around food, leading to overconsumption (mean = 3.58, SD = 1.28), which is also a major factor in the perception of how cultural practices influence obesity. On the other hand, Social norms around body shape and size promote weight gain as fatter individuals are often perceived as more attractive or successful (mean = 3.52, SD = 1.29), reflecting that cultural beliefs about body image contribute to overeating and a sedentary lifestyle. Overall, cultural norms related to food and physical activity are strongly associated with obesity among Ghanaian adults.

Research Question 3: What is the role of cultural beliefs and values in shaping eating habits and physical activity levels among Ghanaian adults?

Table 4: The role of cultural beliefs and values in shaping eating habits and physical activity levels among Ghanaian adults

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
1	Prioritizing traditional foods such as fufu and banku over Westernized diets	154 (30.8%)	139 (27.8%)	87 (17.4%)	72 (14.4%)	48 (9.6%)	3.56	1.31
2	Food is a central part of social gatherings encouraging overeating	146 (29.2%)	151 (30.2%)	88 (17.6%)	72 (14.4%)	43 (8.6%)	3.57	1.27
3	Family obligations lead to frequent consumption of high-calorie foods	133 (26.6%)	145 (29.0%)	92 (18.4%)	79 (15.8%)	51 (10.2%)	3.46	1.29
4	Physical activity is seen as unnecessary especially for older adults	128 (25.6%)	137 (27.4%)	97 (19.4%)	79 (15.8%)	59 (11.8%)	3.39	1.31
5	Limited economic resources restrict access to healthy food options and exercise	138 (27.6%)	152 (30.4%)	91 (18.2%)	70 (14.0%)	49 (9.8%)	3.53	1.28
6	Afternoon relaxation and siestas reduce physical activity	130 (26.0%)	148 (29.6%)	96 (19.2%)	76 (15.2%)	50 (10.0%)	3.46	1.28
7	Respect for elders encourages traditional eating habits which may be high in calories	126 (25.2%)	157 (31.4%)	102 (20.4%)	66 (13.2%)	49 (9.8%)	3.49	1.26
8	Exercise is viewed as unnecessary in many cultural settings	120 (24.0%)	136 (27.2%)	101 (20.2%)	85 (17.0%)	58 (11.6%)	3.35	1.30
9	Traditional practices focus on food and rest rather than exercise	118 (23.6%)	145 (29.0%)	103 (20.6%)	84 (16.8%)	50 (10.0%)	3.40	1.29
10	Cultural beliefs about body size encourage weight gain	132 (26.4%)	148 (29.6%)	92 (18.4%)	76 (15.2%)	52 (10.4%)	3.47	1.29
	Grand Mean / SD						3.47	1.29

The grand mean of 3.47 reflects a moderate agreement that cultural beliefs and values shape eating habits and physical activity levels among Ghanaian adults. Prioritizing traditional foods such as fufu and banku over westernized diets (mean = 3.56, SD = 1.31) and Food is a central part of social gatherings encouraging overeating (mean = 3.57, SD = 1.27) are the most prominent beliefs influencing eating habits. The view that Physical

activity is seen as unnecessary, especially for older adults (mean = 3.39, SD = 1.31) and the Respect for elders encourages traditional eating habits which may be high in calories (mean = 3.49, SD = 1.26) also contribute to shaping behaviors that influence obesity.

Research Question 4: Are there specific cultural events that promote unhealthy eating habits and physical inactivity among Ghanaian adults?

Table 5: Specific cultural events that promote unhealthy eating habits and physical inactivity among Ghanaian adults

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
1	Traditional festivals such as Akwasidae involve large food consumption with limited physical activity	171 (34.2%)	146 (29.2%)	83 (16.6%)	62 (12.4%)	38 (7.6%)	3.71	1.25
2	Funerals where heavy meals such as rice and fufu are served	164 (32.8%)	143 (28.6%)	91 (18.2%)	65 (13.0%)	37 (7.4%)	3.67	1.26
3	Weddings where large quantities of fried foods and sugary drinks are served	155 (31.0%)	149 (29.8%)	89 (17.8%)	63 (12.6%)	44 (8.8%)	3.62	1.28
4	Religious events with prolonged sitting such as church services	139 (27.8%)	151 (30.2%)	97 (19.4%)	67 (13.4%)	46 (9.2%)	3.54	1.28
5	Special occasions such as birthdays where cakes and sugary drinks are consumed	148 (29.6%)	140 (28.0%)	96 (19.2%)	68 (13.6%)	48 (9.6%)	3.55	1.28
6	End-of-year parties involve large amounts of snacks and limited physical activity	136 (27.2%)	147 (29.4%)	99 (19.8%)	74 (14.8%)	44 (8.8%)	3.51	1.27
7	Traditional naming ceremonies often feature long periods of sitting with heavy food consumption	144 (28.8%)	139 (27.8%)	102 (20.4%)	67 (13.4%)	48 (9.6%)	3.53	1.28
8	Community festivals encourage overeating due to large quantities of food being served	145 (29.0%)	148 (29.6%)	89 (17.8%)	66 (13.2%)	52 (10.4%)	3.54	1.29
9	Traditional hunting and farming festivals involve large food portions	138 (27.6%)	140 (28.0%)	102 (20.4%)	70 (14.0%)	50 (10.0%)	3.50	1.28

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
	with limited physical exertion							
10	Religious gatherings often involve long periods of inactivity during prayers and meetings	129 (25.8%)	142 (28.4%)	103 (20.6%)	77 (15.4%)	49 (9.8%)	3.46	1.28
	Grand Mean / SD						3.56	1.28

The grand mean of 3.56 suggests strong agreement that specific cultural events promote unhealthy eating habits and physical inactivity among Ghanaian adults. Traditional festivals such as Akwasidae involve large food consumption with limited physical activity (mean = 3.71, SD = 1.25), which is a significant contributor to unhealthy behaviors. Similarly, Funerals, where heavy meals such as rice and fufu are served (mean = 3.67, SD = 1.26), are perceived as cultural events that promote overeating and inactivity. Events like Weddings where large quantities of fried foods and sugary drinks are served (mean = 3.62, SD = 1.28) also contribute significantly to these behaviors.

Research Question 5: How can public health initiatives address obesity and overweight issues among Ghanaian adults?

Table 6: How public health initiatives address obesity and overweight issues among Ghanaian adults

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
1	Promoting awareness about healthy eating habits	198 (39.6%)	159 (31.8%)	81 (16.2%)	41 (8.2%)	21 (4.2%)	3.94	1.08

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
2	Providing better access to recreational spaces and exercise opportunities	176 (35.2%)	154 (30.8%)	88 (17.6%)	49 (9.8%)	33 (6.6%)	3.79	1.18
3	Encouraging the reduction of traditional high-calorie meals	165 (33.0%)	151 (30.2%)	95 (19.0%)	58 (11.6%)	31 (6.2%)	3.72	1.21
4	Implementing policies to reduce sugary drink consumption	153 (30.6%)	160 (32.0%)	93 (18.6%)	63 (12.6%)	31 (6.2%)	3.69	1.19
5	Educating the public on the risks of obesity-related diseases	192 (38.4%)	153 (30.6%)	79 (15.8%)	47 (9.4%)	29 (5.8%)	3.87	1.14
6	Promoting healthy, low-cost alternatives to traditional meals	167 (33.4%)	149 (29.8%)	92 (18.4%)	57 (11.4%)	35 (7.0%)	3.72	1.22
7	Campaigns on reducing portion sizes during cultural events	162 (32.4%)	156 (31.2%)	91 (18.2%)	61 (12.2%)	30 (6.0%)	3.72	1.19
8	Encouraging physical activity through traditional cultural events	174 (34.8%)	143 (28.6%)	99 (19.8%)	57 (11.4%)	27 (5.4%)	3.76	1.18

S/N	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	SD
9	Subsidizing access to healthy food	168 (33.6%)	152 (30.4%)	93 (18.6%)	53 (10.6%)	34 (6.8%)	3.74	1.20
10	Educating traditional leaders on the importance of health interventions	164 (32.8%)	148 (29.6%)	98 (19.6%)	59 (11.8%)	31 (6.2%)	3.71	1.21
	Grand Mean / SD						3.76	1.18

The grand mean of 3.76 suggests strong agreement that public health initiatives are essential for addressing obesity and overweight issues among Ghanaian adults. Promoting awareness about healthy eating habits (mean = 3.94, SD = 1.08) and Educating the public on the risks of obesity-related diseases (mean = 3.87, SD = 1.14) are perceived as the most effective strategies. Providing better access to recreational spaces and exercise opportunities (mean = 3.79, SD = 1.18) is also a critical intervention.

5. Discussion of the Findings

In this study, four research questions were formulated and tested on the study's main objectives. These research questions include:

The findings revealed that frequent consumption of fried foods, such as fried plantains and fried fish, high intake of palm oil and other hydrogenated fats, regular consumption of sugary drinks, including fruit juice and sweetened tea, high carbohydrate diet, including starchy foods like banku and kenkey, high salt intake from processed foods and sauces, frequent use of sugar as a condiment, especially in traditional dishes, high consumption of meat, particularly beef and chicken, which is often high in fat and traditional breakfasts often high in calories and fat, such as fried eggs and sausage with

Comment [AB3]: Some subsections could benefit from more comparative analysis. For example, instead of only reporting on the effects of traditional festivals, you could discuss how similar cultural practices affect other populations or provide examples of countries where such festivals promote healthier practices. This would help situate Ghana's cultural practices within a broader context.

Cultural Nuances: Highlighting specific cultural nuances, such as the symbolism of food in Ghanaian society, enriches the discussion. However, elaborating on how these cultural practices can be balanced with healthier alternatives would add a practical perspective to the discussion.

bread contributes to high rates of obesity and overweight. This study is in line with Vandevijvere et al. (2015), who revealed that there is growing evidence linking obesity with vicissitudes in eating practices, primarily because of consuming low quantities of vegetables, fruits, and grains; a constant rise in processed foods intake; increased consumption of sugary beverages and other sugary items, and dining away from home. These changes dramatically boost energy, resulting in a significant shift in metabolic health. This study was also supported by Fiveable Inc. (2024), which revealed that traditional diets often include a diverse range of foods, showcasing seasonal and local produce, which enhances nutritional benefits and sustainability. These diets are typically aligned with cultural values, rituals, and social practices, making food an essential part of identity and community cohesion.

The findings revealed that traditional diets high in carbohydrates and low in fruits and vegetables contribute to high caloric intake, portion sizes are large, leading to excessive consumption, fried foods and sweet treats are popular snacks, increasing energy intake, and sedentary lifestyles are common due to urbanization and lack of physical activity opportunities, limited access to recreational spaces and walking infrastructure discourages physical activity, food is often used as a symbol of hospitality and abundance, leading to overeating, traditional cooking methods involve high-heat frying, increasing fat intake, cultural events and celebrations often center around food, leading to overconsumption, limited awareness of healthy eating habits and nutrition education contributes to poor dietary choices, and social norms around body shape and size promote weight gain, as larger individuals are often perceived as more successful. This study is in line with Varela-Moreiras (2006), who discovered that obesity results from the intricate interactions of biology, behaviour, and environment. The current obesity epidemic is being primarily driven by environmental factors (e.g., high energy/high-fat foods, fast food consumption, television watching, super-sized portions, etc.) rather than biological ones. Individuals are bombarded with images and offers of high-fat, high-calorie, highly palatable, convenient, and inexpensive foods. These foods are packaged in portions far exceeding federal recommendations (Varela-Moreiras, 2006).

The findings revealed that Ghanaian adults often prioritize traditional foods like fufu and banku over Westernized diets, food is often a central aspect of social gatherings,

encouraging overeating and unhealthy eating habits, family obligations and cultural expectations lead to frequent consumption of high-calorie foods and beverages, offering food to others is seen as a symbol of love and respect, leading to overeating and unhealthy eating habits, some Ghanaian adults believe that physical activity is not necessary, leading to reduced physical activity levels, there is a stigma around being overweight in Ghanaian culture, leading to individuals hiding their weight or avoiding exercise, afternoon siestas and relaxation are common in Ghanaian culture, which lead to reduced physical activity levels, Ghanaian adults engage in traditional physical activities like farming, which can contribute to low levels of formal exercise, Ghanaian adults view exercise as a Western concept, leading to skepticism or disinterest in engaging in physical activity, and limited economic resources limit access to healthy food options and exercise opportunities, contributing to unhealthy eating habits and physical activity levels. This study is in line with Nordstrom et al. (2013), who revealed that many factors, including individual preference, culture, traditions and beliefs, influence nutrition patterns. People are normally proud of who they are and where they come from. The foods that people feed throughout their childhoods most often stay with them throughout their lives, like favorite food types. This study was also supported by Morgan (2000), who discovered that even amid globalization, where many aspects of healthy living are a concern, people hold onto the cultural cooking practices that are known to be the best and have helped them to shape up to the people they are and what they believe about life in general.

The findings revealed that traditional festivals like Akwasidae, where large amounts of food are consumed and dancing is limited, funerals, where heavy foods like rice and fufu are served and people sit for long periods, weddings, where large quantities of fried foods and sugary drinks are served and guests often sit for extended periods, special occasions like birthdays, where excessive cake consumption is common, traditional ceremonies like naming ceremonies, where rich foods like jollof rice are served and sitting is encouraged, end-of-year parties, where high-calorie snacks and sugary drinks are abundant and physical activity is limited, Sunday worship services, where lengthy sermons can lead to prolonged sitting, family gatherings, where sitting and eating large amounts of food are common, cultural celebrations like the Homowo festival, where large amounts of food are consumed and physical activity is limited, and traditional hunting and farming ceremonies,

where heavy manual labor is not encouraged and physical activity is limited. This study aligns with Puoane, Bradley, and Hughes (2005), who observed that weight gain after marriage proves that husbands are good providers and care for their wives. Alternatively, fat husbands are perceived as being well-fed by their wives, who are seen as good cooks and wives, an epitome of good social status and subsequent societal approval. This study was also supported by the World Health Organization (2004), which revealed that people living predominantly in rural and semi-urban areas are primarily more concerned about energy conservation through eaten foods than energy expenditure in order to preserve family food stock.

6. Conclusion

In view of the findings, it was revealed that frequent consumption of fried foods, such as fried plantains and fried fish, high intake of palm oil and other hydrogenated fats, regular consumption of sugary drinks, including fruit juice and sweetened tea, high carbohydrate diet, including starchy foods like banku and kenkey, high salt intake from processed foods and sauces, frequent use of sugar as a condiment, especially in traditional dishes, high consumption of meat, particularly beef and chicken, which is often high in fat and traditional breakfasts high in calories and fat, such as fried eggs and sausage with bread contributes to high rates of obesity and overweight. It was discovered that traditional diets high in carbohydrates and low in fruits and vegetables contribute to high caloric intake, portion sizes are large, leading to excessive consumption, fried foods and sweet treats are popular snacks, increasing energy intake, sedentary lifestyles are common due to urbanization and lack of physical activity opportunities, and social norms around body shape and size promote weight gain, as larger individuals are often perceived as more successful. Furthermore, from the findings, it was discovered that Ghanaian adults often prioritize traditional foods like fufu and banku over westernized diets, food is often a central aspect of social gatherings, encouraging overeating and unhealthy eating habits, family obligations and cultural expectations lead to frequent consumption of high-calorie foods and beverages, offering food to others is seen as a symbol of love and respect, leading to overeating and unhealthy eating habits, and limited economic resources limit access to healthy food options and exercise opportunities, contributing to unhealthy eating habits

Comment [AB4]: To strengthen the conclusion, reiterate how the study contributes to the field by filling the identified research gap. You could also propose further research areas, such as exploring interventions that successfully address cultural aspects of obesity in other regions, and adapting them to Ghana.

and physical activity levels. Finally, from the findings, it was revealed that traditional festivals like Akwasidae, where large amounts of food are consumed, and dancing is limited, funerals, where heavy foods like rice and fufu are served and people sit for long periods, weddings, where large quantities of fried foods and sugary drinks are served and guests often sit for extended periods, special occasions like birthdays, where excessive cake consumption is common, traditional ceremonies like naming ceremonies, where rich foods like jollof rice are served and sitting is encouraged, end-of-year parties, where high-calorie snacks and sugary drinks are abundant and physical activity is limited, and traditional hunting and farming ceremonies, where heavy manual labor is not encouraged and physical activity is limited.

The following recommendations are suggested: Ministry of Health and Ghanaian nutritionists should conduct public awareness campaigns and educational programs to inform Ghanaian adults about the adverse effects of traditional diets high in carbohydrates and low in fruits and vegetables, government and private sector organizations should support the development of healthy food options and exercise opportunities in urban areas, particularly in communities with limited access to these resources, traditional leaders and cultural organizations should modify traditional celebrations and ceremonies to promote healthy eating habits and physical activity, and government in conjunction with non-governmental organizations should address social norms that promote weight gain by promoting a positive body image and encouraging healthy behaviors.

Disclaimer (Artificial intelligence)

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of manuscripts.

Comment [AB5]: Overall Suggestions

- Clarity and Flow:** The paper is generally well-organized. Some paragraphs, especially in the discussion, could benefit from additional transition sentences to improve flow.
- Cultural Sensitivity:** As you discuss the impact of cultural practices on obesity, ensure that the tone remains neutral and culturally sensitive. This can be achieved by recognizing the positive aspects of traditional diets and how they can be adjusted rather than completely replaced.
- Limitations:** Consider including a section on the study's limitations (e.g., convenience sampling, self-reported data) and how they might impact the findings.

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