

Assessing the Preferences of Animal Protein among Ghanaians: A Case Study in Jaman North and South District in Brong-Ahafo Region of Ghana

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ABSTRACT

This research was aimed at assessing the preferences of animal protein among the people of Jaman North and South District in the Brong Ahafo Region of Ghana. The specific objectives were to examine the preferences of animal protein among the people of Jaman, factors that influence the choice of animal protein they make, knowledge about animal protein and the health implications associated with it. A sample of one hundred and fifty (150) respondents comprising teachers, mothers, nurses, farmers and the aged were selected from the selected towns and villages used for the study. The methodology involved field work, questionnaire, interview and survey. The results revealed that, the consumption of meat is high while consumption of fish is low in the districts. The people are also ignorant about the health implication associated with high intake of meat. Diet related diseases are common in the district. The result again revealed that, high consumption of meat does not only affect the health of the people but the environment as well. The study recommended that awareness creation should be made through education by home economic teachers, health professionals and nutritionist in the district. The preference of animal protein by the settlers of Jaman District has served as a basis for possible further research on the subject matter.

Keywords: Preferences, Animal, Protein, Jaman District

INTRODUCTION

Food like oxygen is a necessity for life (Gamen & Sherrington 1981). Food ranks third after air and water as a necessity for human survival. Available historical information indicates that man has often preferred certain plant and animal food product as food to other substances (Lewenbeg, 1994). These preferences of one type of food to another usually lead people to make choices of food. The practice of food preferences, food choices and selection has major influence on the nourishment and health of the body (Bennion 1995). Food is vital for life and humans as biological being require food to sustain life (Bennion 1995). This means food is supreme. Food is defined as any substance solid or liquid which when taken by the body provides it with the necessary materials to enable it to grow, to replace worn-out tissue and to function normally (Tull 1996).

The necessary materials provided by food are known as nutrient. These nutrients are protein, carbohydrate, vitamins, water, mineral elements and fats and oils. Each of these nutrients plays a vital role in the body. The health of an individual will suffer if any of these nutrients is in short supply. Food has been categorised according to the main job it does in the body. The first groups of foods are the body building foods as protein food. Examples are fish, meat and meat product and pulses. (Adow et al 1997).

The second groups of foods are energy giving food which is made up of starchy roots, cereals and fats and oils. The groups of foods are protective foods which provide the body with

mineral elements and vitamins. Examples are fruits and vegetables. They are used by the body in smaller quantities (Adow et al 1997).

Among the food nutrients and the groups of food are very important. Protein is the major nutrients found in food because of the nitrogenous substance it contains. It is used by the body for growth, repair and replacing hair, nails and skin and no other nutrient can be used as a substitute (Adow et al 1997). Bennion (1995) opined that protein comes from a Greek word proteos meaning of prime importance or to take the first place.

Protein comes in two types, vegetable and animal protein. Animal protein is the most important because it contains all the essential amino acids which are the building blocks of protein. For this reason one must eat animal proteins foods to get the essential amino acids for the protein to perform its function in the body. On the other hand, vegetable protein contains amino acids that can be produced in the body and these amino acids are termed as non-essential amino acids (Adigbo 2011).

Man eats to live and not live to eat (Clerk & Herbert 1996). There is also a saying that you are what you eat (Casereni et al, 2004). For this reason, preferences and selection of food that one eats should be of critical concern to ensure good health and normal functioning of the body. Diet influences the health and well being of an individual. No practice can influence the health of an individual as much as relating to nourishment (Shill, 1985).

Protein is a nutrient that performs a very important function in the body. Notwithstanding the important role protein plays in the body, there can be some health hazards associated with the high intake of animal protein especially meat. If people must eat animal protein, then they must be educated to choose the right kind of animal foods and to know the kind they should consumed regularly for healthy living as diet related disease such as obesity, hypertension, cancer, diabetes and heart diseases which are preventable are increasingly killing people in communities, countries and the world as a whole.

There is no such thing as unhealthy food but there are unfortunately unhealthy eating habit and monotony in the choice of food which may lead to ill-health and premature deaths (Foskette et al, 2004). Unhealthy eating habits imply that, the individual eats certain food products in excess. An observation in Jaman district indicates that most settlers practice unhealthy eating habits.

Jaman district is located in Brong Ahafo Region of Ghana. It is a forest area so the main occupation is farming. The farmers in the course of the farming activities, usually hunt for games and use as a source of protein. Again, there are no major rivers that provide fish for the district. For this reason meat has been the major source of animal protein for a long time. Consumption of meat has become food customs within the families and communities in the Jaman districts.

According to Pamplona-Roger, (2007), one study reported an increase in the risk of a type of cancer known as Non- Hodgkin's lymphoma with a high intake of animal protein and red meat. The higher a person's intake of protein rich food such as meat, milk and egg, the more he is prone to heart disease and cancer. There are evidently no benefits to be gained by consuming a diet that derives more of its energy from protein. Pamplona-Rogers (2007) further pointed out that excess protein in the diet affects liver and kidney function.

According to Whitney et al, (2001) the term obesity is referred to excess body fat that accumulate when people take in more food energy than they spend. The health risks of obesity are so many that it has been declared a disease. In the United States obesity is second only to tobacco use as the most significant cause of preventable death.

Health risks that threaten adults as a result of obesity are diabetes, hypertension, high blood lipids, cardiovascular diseases, sleep apnoea (abnormal ceasing of breathing during sleep), osteoarthritis, abdominal hernias, some cancers, varicose vein gout and gall bladder disease. Again, respiratory problems including syndrome, a breathing blockage linked with sudden death, liver malfunction, complications in pregnancy and surgery, flat feet and high rate of accident. Whitney et al (2001). Table 1 presents the diet related diseases cases at St Mary's Hospital in Drobo in Jaman district of Brong Ahafo.

Table 1: Reported Cases of Diet Related Diseases at St. Mary's Hospital, Drobo

Diseases	Year	Figure
Hypertension	2007	3,334
	2008	2,685
Diabetes	2007	2,669
	2008	3,227

From Table 1 it is obvious that the diet related diseases in Jaman district is on the increased. In 2007 and 2008, 3,334 and 2,685 people reported hypertension cases at the hospital respectively. Even though the number of cases dropped from 3,334 in 2007 to 2,685 in 2008, the reduction is not statistically significant. Again, in 2007 and 2008 2,669 and 3227 people respectively reported diabetes cases at the St Mary's Hospital in Jaman district. There was an increase in diabetes cases from 2669 in 2007 to 3227 in 2008 and this poses a serious threat to people in the community.

Food customs of one's ancestors and grandparents have influenced on the type of food families serve (Adigbo 2011). For this reason most people of Jaman district prefer meat to fish. Nutritionists are concerned about the effect of high intake of meat and its fats on the body since diet related diseases are increasing in alarming rate. The study therefore aimed at assessing the preferences of animal protein among the settlers of Jaman districts of Brong Ahafo.

The study sought to find out the references of animal protein among the people of the Jaman district. Specifically the study aimed at finding out:

1. The animal food preference of families in Jaman District.
2. Factors that influence people choice of animal protein.
3. People knowledge in animal protein.
4. The health implications of animal food.

Research Questions

1. What is the animal food preference of the families in Jaman North and south district?
2. What are the factors that influence the choice of animal protein in the people of Jaman district?
3. Do the people of Jaman district have sufficient knowledge of animal protein?
4. What health related problems are associated with animal foods?

METHODOLOGY

The study was based on set comprising of five categories of people in the Jaman District. Population in this context covers mothers, teachers, the aged, nurses and farmers. The target group were mostly illiterates with few educated people. People in the Jaman District are mostly peasant farmers who plant crops like tomatoes, okro, yam and cassava for consumption. Some of the farmers also hunt for games which they either sell or eat in their houses.

Mothers were included in the study because it is the mothers who are charged with the responsibility of feeding the family and for that matter they plan menu and decide on which protein to use as the main meal for the dishes in the menu. Additionally nurses were chosen because they have knowledge about health implications of high consumption of meat. Teachers were also chosen as part of population because they help impart knowledge to people so they can meaningfully contribute to the study. The sample was made up of thirty (30) teacher, thirty (30) mother, thirty (30) farmers, thirty (30) nurses and thirty (30) aged people making one hundred and fifty (150) people.

Stratified and random sampling procedures were used for the study. Under stratified sampling the study was divided in three strata in each district so Jaman North and South District were divided into three groups each. All the names under each of the three groups were written, folded and place in separated boxes. In all there were six boxes representing six groups of towns and villages, three for each district. The papers were randomly picked from each box. The names of the towns on the papers which were picked from the boxes were used to represent the sample. This technique was used because the area was too large and the characteristics of the population were almost the same.

Questionnaire and interview were the main instruments used to collect data for the study. The questionnaires were used because with the use of the questionnaire many people could be covered while the respondent could also answer freely without any personal contact.

The interview was mainly for the illiterate respondents. It was used for the farmers, the aged and mothers who level of literacy was such that they could not respond to questionnaire items. The interview was then used to translate the questions into the local dialect (twi).

RESULTS AND DISCUSSION

Preference of Animal Protein

Table 2 shows the preference of animal protein of respondent. The respondents were asked to make a choice between meat and fish and out of one hundred and fifty (150) respondents, one

hundred and twenty six (126) chose meat representing 84% while the remaining twenty four (24) chose fish representing 16% of the respondents.

Table 2: Preference of Animal Protein of the Respondents.

Responses	Frequency	Percentage
Meat	126	84%
Fish	24	16%
TOTAL	150	100%

Table 2 results revealed clearly that, most of the respondents prefer meat to fish. This is because Jaman District is a forest zone and meat (game) is one of the available foods. Bennion (1995) opined that geography of an area and variations in climate influence two types of foods. Historically, this has had a profound influence on the availability of particular foods and in turn on the eating patterns of people in the area. Respondents were asked to indicate how many times they consume meat within a certain time period. Fourteen (14) representing 9.3% reported that they consume meat 6 - 7 times in a week, another one-third (33%) also reported that they consume meat 5 - 6 times in a week, seventy (70) representing 46.7% also indicated that they take meat 7- 8 times in a week and sixteen (16) respondents representing 10.6% consume meat 1- 4 times a week.

Table 3: Frequency of Meat Consumption in the Diet

Responses	Frequency	Percentage
6-7 times	14	9.3%
5-6 times	50	33.3%
7-8 times	70	46.7%
1-4 times	16	10.7%
None	-	-
TOTAL	150	100%

The result revealed that the consumption of meat is high in the diet of respondents. According to Pamplona-roger (2007), consuming meat even three times in a week is a threat to health. The author concluded that meat and cancer are best of friends. With regards to how many times fish is consumed within a period of one week, Sixty five (65) respondents representing 43.3% indicated that they consume fish 1 - 2 times a week. However, eighty five (85) representing 56.6% indicated that they do not consume fish at all in their diet.

Table 4: Frequency of Fish Consumption in a Diet

Responses	Frequency	Percentage
1-2 times	65	43.3%
5-6 times	-	-
6-7 times	-	-
7-8 times	-	-
None	85	56.7%
TOTAL	150	100%

The results from Table 4 reveal that, more than half of the respondents do not consume fish at all in their diet. This indicates that the consumption of fish is very low in the district and this is indeed serious as far as eating for healthy living is concerned. According to American Health Association, consuming fish regularly with low fat-diet help to prevent disease. Omega-3 found in fish is also good for prevention of heart diseases Mehas, (1994). This makes fish “a must eat food” and omega-3 in fish is “a must have nutrient” in a diet. Respondents were asked to indicate the groups of persons who consume meat more often in their meal and out of one hundred and fifty (150) respondents, seventy five (75) indicated the aged, sixty five (65) respondents indicated fathers whiles the remaining ten (10) indicated mothers.

Table 5: Group of Persons who Consume Meat More Often in Diet

Responses	Frequency	Percentage
The aged	75	50%
Fathers	65	43.3%
Mothers	10	6.7%
Adolescent	-	-
Children	-	-
TOTAL	150	100%

According to Adigbo (2011), as age increases activities reduce and therefore the need for calorie is also reduced. The results obtained indicated that the aged and fathers enjoy the meat used in meal preparation. This is attitude of the aged and fathers deprive children and adolescent the protein they need for development of their body. According to Whitney et al excessive intake of meat and its fat cannot be easily separated from heart diseases.

Adigbo (2011) further stated children should be given enough protein foods because of their rapid growth.

Factors Influencing Food Choices

Table 6: Superstitions Affect Health

Responses	Frequency	Percentage
Strongly agree	30	20%
Agree	30	20%
Neutral	-	-
Strongly disagree	48	32%
Disagree	42	28%
TOTAL	150	100%

With regards to factors that influence the food choices, respondents were asked to indicate the extent to which they agree with the statement that superstition associated with food have health effects. Table 6 presents the results of respondents. From Table 6, thirty (30) respondents strongly agreed with the statement representing 20%. Another thirty (30) respondents also agree with the statement representing 20%, while forty eight (48) respondents strongly disagreed with the statement representing 32%. The remaining forty two (42) representing 28% disagreed and no respondents remained neutral. The results obtained reveal that a total of 60% of the respondents were ignorant about how superstitions association with food can affect health. Superstition do not have any scientific prove but they are so strong that people adhere to it endangering their health.

Respondents' views were solicited on the statements that, food customs are passed on to the generation and sixty (60) strongly agree with the statement representing 40%, fifty (50) respondents also agree to the statement representing 33.33%, thirty (30) strongly disagree with the statement representing 20% and the other ten (10) respondents representing 6.7% also disagree with the statement.

Table 7: Food Customs are passed on to the Society

Responses	Frequency	Percentage
Strongly agree	60	40%
Agree	50	33.3%
Neutral	-	-
Strongly disagree	30	20
Disagree	10	6.7
TOTAL	150	100

The result obtained shows that, majority 73.3% of the respondents were in agreement with Peril (1977) who describes culture as everything passed on to the society except its biology.

For example 66% of the respondents agreed with the statement. The above tabulated result revealed that, a food custom which is a component of culture is passed on to new generation as explained in the literature review according to (Adow et al, 1997).

Respondents knowledge about the two major animal protein used in meal preparation was solicited and out the one hundred and fifty (150) respondent, sixty three (63) responded ‘Yes’ to the question representing 42%. Whiles the remaining eighty seven (87) representing 58% responded ‘No’ to the question totalling one hundred fifty (150) respondents which is 100%. The results shows that, majority (87%) of the respondent do not have knowledge about the two major animals food that is meat and fish used in meal preparation.

Table 8: Knowledge of Two Major Animal Proteins

Responses	Frequency	Percentage
YES	63	42%
NO	87	58%
TOTAL	150	100%

The Methods of Obtaining Game

Table 9 presents the responses obtained about the harmful effects of the methods of obtaining games, twenty (20) respondents strongly agreed with the statement representing 13.3%, forty (40) respondents also agree with the statement representing 26.6% and ten (10) respondent representing 6.6% remaining neutral. However, twenty (20) respondents disagreed with the statement representing 40% of the population.

The results revealed that a greater number of the respondents lack knowledge about the harmful effects of the methods of obtaining game. For example a total of 60% were ignorant about dangers of the methods of obtaining game. This lack of knowledge make consumers unaware about how dangerous the high consumption of game can be when inappropriate method like the use of a local concoction called “apotropom” and the injection of saccharine into the animals for it look fresh even if it has development maggot as explained in the literature review are used to obtained game.

Table 9: The Methods of Obtaining Game

Responses	Frequency	Percentage
Strongly agreed	20	13.3%
Agree	40	26.7%
Neutral	10	6.7%
Strongly disagree	20	13.3%
Disagree	60	40%
TOTAL	150	100%

The fat in meat is an indication of quality

With regards to the quality of meat, thirty (30) strongly agreed with the statement representing (20%), thirty (30) also agree with the statement representing (20%), sixty (60) representing (40%) also strongly disagreed with the statement and the remaining thirty (30) respondents representing (20%) disagreed with the statement.

Table 10: The fat in Meat is an Indication of Quality

Responses	Frequency	Percentage
Strongly agreed	30	20%
Agree	30	20%
Neutral	-	-
Strongly disagree	60	40%
Disagree	30	20%
TOTAL	150	100%

Majority of the respondents 60% did not grade the quality of meat according to the amount of fat it contains. During the administration of the questionnaire, some respondents described how meat with fat is juicy, tasty, and moist has a good flavour. According to Pamplona – Roger, (2007) meat and its, fat are extremely deficient in vitamins and anti oxidation such as vitamins A, B, C, E and K which neutralized the negative effects of cholesterol by keeping it from oxidation and being deposited in the arteries.

Diet Related Diseases

Respondents were asked to indicate if they are suffering from any diet related diseases and out of one hundred and fifty respondent thirty eight (38) indicated hypertension representing 26.3%, twenty (20) respondents indicated obesity representing 13.3%, ten (10) respondents representing 6.6% indicated heart diseases. Sixteen (16) respondents indicated diabetes representing 10.6%. Ten (10) respondent indicated cancer which is (6.6%). The remaining fifty four (54) respondents representing 36% did not answer the question at all.

Table 11: Diet Related Diseases

Responses	Frequency	Percentage
Hypertension	40	26.7%
Obesity	20	13.6%
Heart disease	10	6.6%
Diabetes	16	10.6%
Cancer	10	6.6%
No response	54	36%
TOTAL	150	100%

Although almost one-third (1/3) (36%) of the respondents did not answer the questions at all, the results revealed that, majority (64%) of respondents are suffering from one diet related disease or another. According to the health statistician at St. Mary's hospital Drobo, diet related disease like hypertension and diabetes are rated among the ten top diseases that are often reported at the hospital. According to Bennion 1995 USDA recommend a diet low in fat, saturated fat and cholesterol.

KEY FINDINGS

The result of the study revealed that, majority of the respondents consume more meat than fish in their diet. It was noticed that majority of the people in the Jaman District do not eat fish at all especially the aged. According to the survey, most of the aged eat soup called "Nkwan Kumaa" meaning small soup. This soup is prepared with only meat especially game for the aged who do not consume fish. The reason for this special soup is that, they do not want to taste or smell fish in their soup as a result they preferred that their soup be prepared separately and in small saucepan.

Again the protein foods in meals are enjoyed by the adults, especially the fathers who are the bread winners, leaving the children, infants and adolescents who need it for their fast growth. This is so because wives want to gain favour from their husbands. Again, the result of the study shows that the choice of animal protein foods by people in the Jaman District were mainly influenced by factors such as culture and family customs, geographical location and food availability.

Furthermore, the people of Jaman district do not have adequate knowledge about animal protein and its rippling effect on health. High consumption of meat is seen as a prestige and healthy eating rather than a threat to health. Finally, the study revealed that, health related diseases associated with high meat consumption are increasing in the district. According to the health statistician at St. Mary's hospital, health related diseases such as stroke, hypertension and diabetes are among the ten top diseases that are normally reported at the hospital.

Major Implications Of The Findings Of The Study

The preference of meat to fish by the people of Jaman District makes them consume meat in high proportion which is associated with a lot of health problems. The aged who take only meat put their health at risk since at their age; they do not need much protein. Apart from that, they do not need to take into their bodies more fatty foods because they are inactive and taking in more meat means, more fat will be deposited into their bodies which normally lead to obesity which is associated with hypertension, stroke and heart diseases.

Children have stunted growth and kwashiorkor as a result of parents, adults and fathers who enjoy the protein part of their meals denying children, infants and adolescent the nourishment they need for their fast development.

Knowledge about food we eat is very essential for good selection to meet the required nutrients needed by individuals in the family. Lack of knowledge about food makes people eat whatever they have appetite for putting their health in danger. This is because some foods like fat and meat need to be eaten in moderation because fat in meat contains calories in a

concentrated form which if not burnt causes health hazards. Bennion states that humans are biological beings and require food to sustain live. It is also important to have knowledge about the food to consume.

CONCLUSION

The research study aimed at assessing the preferences of animal protein among Ghanaians (Jaman District). During the study it was identified that the people of Jaman districts have strong appetite for meat rather than fish. This is due to factors like geographical location of the districts, available food and culture. Eating for healthy living does not much concern them. They are not selective but eat what their appetite dictates for them. They do not have-in-depth knowledge about animal protein so the choice they make and the rate at which they consume that food pose health threat to the people in the districts. This confirms the opinion of Caserani et al (2004) who said you are what you eat.

The health of individual cannot be under estimated. It is the responsibility of the government of every nation to see to the health of its citizens. Some of the ways by which the government ensures the health of its people is through sanitation, food security and food safety. When the government has done its part, it is now the turn of the individual to also play their part by being selective and use certain foods such as meat and fat in moderation and consume food that has less health risk such as fish on regular basis for good health.

Finally, looking at the factors enumerated above, there is the need to formulate preventive measures. The sources of these preventive measures rest on good choice, that is, the use of meat in moderation and the introduction of fish into meals. This will help to drastically reduces diet related disease associated with meat like hardening of the heart, diabetes, stroke, cancer and hypertension if not totally eliminated.

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