International Journal of Innovative Healthcare Research 12(1):25-31, Jan.-Mar., 2024
© SEAHI PUBLICATIONS, 2024 www.seahipaj.org ISSN: 2354-2950

Perception Of Medical Practitioners And Nutritionist On The Consumption Of Processed Residue Of Legumes On The Reduction Of Cardiovascular Disease Among Aged Persons In Bayelsa State

Berezi Perekebina Kimia[1] & Gbeghebo, Ayibadinipre Jennis[2]

[1,2]Department of Biology
Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria
pkberezi@yahoo.com/+2348033819720
gbegheboayibadinipre@gmail.com/+2348063933294

ABSTRACT
The study examined the perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons. One research questions and hypothesis was used in the study. The survey research design was used in this study. The entire population consists of sixty five (65) medical practitioners and nutritionist in Bayelsa State. As a result of the small population size, the entire population was used as sample for the study. The study developed an instrument titled "Perception of Medical Practitioners and Nutritionist on the Consumption of processed Residue of Legumes on the Reduction of Cardiovascular Disease (PMPNCRLRCD). The instrument is a four point rating scale consisting of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The response options were weighed as 4, 3, 2 and 1. The data obtained from the study was analyzed using simple mean, standard deviation, charts and z-test. Findings obtained from the study showed that items 1, 2, 3 and 4 all accepted that the consumption of processed beans, soya bean, peanuts and peas residue is good for aged persons with Cardiovascular disease. The findings obtained from table 2 showed that Z-calculated value of 0.497 is less than z-critical value of 1.667 at 0.05 level of significance. This implies that the null hypothesis was accepted. This implies that there is no significant difference between the Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons. Based on the findings obtained from the study, it was recommended that aged persons should feed on processed residue of legumes on the reduction of cardiovascular disease among aged persons.
Keywords: Medical Practitioners, Nutritionist, Legumes, Cardiovascular, Disease, Aged Persons

INTRODUCTION

Aged persons are usually faced with some health challenges due to body weakness over time. In most cases if not properly handled, may lead to death. One of the most common diseases experienced by age persons is the cardiovascular disease. This disease is a heart disease that reduces the optimal functionality of the heart. Cardiovascular Diseases (CVD) is a new disease discovered ailment, at least in the epidemic proportions that we see today, and its status as the current leading cause of death is also new. The human

race is "designed" to lead a physically active life. The activeness should be maintained over a long period of time even at old age.

The human being should be able to carry out sporting activities in spite of age. While humans are not as good at sprinting as many other mammals, we are one of only four groups of mammals who are superb endurance runners. The in ability to utilize our God given strength is problematic and traceable to some diseases experienced in sickness.

It is not surprising that CVD has become our society's leading cause of death. Risk factors for CVD nationwide data suggest that the primary risk factors for CVD are high cholesterol, smoking, diabetes, and high blood pressure. Secondary risk factors include low levels of physical activity and obesity (Ackermann, 2012). Among these risk factors, high cholesterol is the primary predictive factor for CVD. Longitudinal studies show a link between diets high in saturated fat and cholesterol and risk of CVD. Experiments among lab animals showed that rats fed diets high in saturated fat and cholesterol were more likely to have high blood cholesterol than rats fed diets low in saturated fat and cholesterol.

Creating and sustaining effective behavior changes and preventing CVD are also related to environmental factors, including climate, land use, population density, and culture. A geographic analysis of obesity rates and these environmental factors showed an association between spatial patterns of all these factors, indicating that they may produce environments that foster obesity (Bramble & Lieberman, 2004). These associations might be due to interactions between the ecology of a region (climate, natural environment), the built environment (food supply, land use), and social factors (population density, culture). For example, rural counties might not necessarily be correlated with high obesity rates, but a rural county with low education and high unemployment is much more likely to show high obesity rates compared to a "recreation" rural county that also has higher education and lower poverty rates. paying attention to these social and land use factors that contribute to people's interactions with the landscape can help promote or limit healthy lifestyle choices.9 food supply is also relevant (Daviglus, 2012). Whereas climates in northeastern cities may not promote ready access to fruits and vegetables year-round, a high population density and extensive network of infrastructure allows for accessible grocery stores to stock healthy fruits and vegetables, whatever the weather. Alternatively, even in counties that are dominated by farming and have a more conducive climate, a lack of roads or population density can lead to food deserts, which lead to limited access to perishable foods like fruits and vegetables (Ford, 2007). Addressing these infrastructure issues to promote health may be best supported by regional efforts between states.

Lots of studies of nutritional epidemiology conducted to assess the diet-heart hypothesis have utilized s end-point intermediate biomarkers of cardiovascular risk (reductions in blood pressure, changes in lipids, inflammatory molecules or other biomarkers) as a proxy for the risk of ischemic heart disease or stroke. This approach could be flawed for several reasons (Hu and Willett, 2002). In first place, the existence of multiple pathways leading from diet to heart disease speaks against the simplistic approach of giving a high value to changes in any single biomarker. Second, the induction period can be variable for the different pathways in which diverse biomarkers are involved and this fact severely limits the possibility of assessing at any time point any multiple combinations of biomarkers. Third, probably there are other pathways that are still less well known and can account for a substantial proportion of clinical events. Therefore, the most sensible approach to investigate the diet-heart hypothesis is the use of hard clinical events as the end-point.

In nutritional epidemiology, food pattern analysis is a methodological approach which captures different combinations of food intake and better reflects the complexity of the diet and its relationships with disease risk. Food pattern analysis has mostly replaced the traditional single-nutrient analysis in relation to chronic diseases, because that traditional approach has been challenged by several conceptual and methodological limitations. When an outcome is likely to be caused by a single nutrient, an exclusive focus on that nutrient may be the optimal approach; however, CVD has been associated with many dietary factors and the food pattern approach may be the most useful option because it goes beyond nutrients or foods and examines the effects of the overall diet. The focus on isolated nutrients or single foods makes it difficult to take into account any interaction between them. Many foods are consumed together and there can be a wide range of potential interactions between different nutrients and foods.

Food patterns adequately capture between-food synergies. In this context, for the assessment of the association between dietary factors and CVD, to shift the focus to overall dietary patterns is more useful than the reductionist and overly optimistic approach of attributing all the effect to a single nutrient or food. It is very unlikely that the intake of a single nutrient or food could exert a sufficiently strong effect as to substantially change the incidence rates of CVD.

Nuts are a good source of unsaturated fatty acids, fiber, minerals (potassium, calcium and magnesium), vitamins (folate and tocopherols) and other bioactive compounds, such as phytosterols and polyphenols. In large prospective cohort studies, the consumption of tree nuts has been reported to be associated with lower CHD incidence (Mente, de Koning, Shannon and Anand, 2009)). Overall, cardiovascular benefits of modest nut consumption (>= 2 servings/wk versus never or almost never consumption) are supported by both effects on risk factors in short-term trials and by the magnitude and consistency of reduced CVD risk observed in prospective cohort studies. An important recent pooled analysis of primary data from 25 nut consumption trials including in total 583 participants, showed impressive benefits of nut consumption on blood lipids, with reductions in total blood cholesterol concentrations of 10.9 mg/dL (5.1% change) and in low-density lipoprotein cholesterol concentration (LDL-C) of 10.2 mg/dL (7.4% change). Reductions in triglyceride levels by 20.6 mg/dL (10.2%) were obtained only in subjects with blood triglyceride levels of at least 150 mg/dL but not in those with lower levels (Sabate, Oda and Ros, 2010)). Beyond these short term trials and beyond observational studies, the large PREDIMED primary prevention randomized trial with 7,447 participants reported a 30% relative reduction in major cardiovascular events (stroke, myocardial infarction or cardiovascular death) versus a control diet after a 4.8-year intervention with Mediterranean diet supplemented with mixed nuts (mainly walnuts, but also almonds and hazel nuts) totaling a consumption of 30 g/d of mixed nuts. This finding, consistent with previous observational studies and small randomized trials on intermediate outcomes, provides a first line evidence to support the benefits of mixed nuts in cardiovascular prevention. Epidemiological evidence for cardiovascular benefits from legumes (eg, peas, beans, lentils, and chickpeas) is weaker than for nuts, although they may also provide beneficial effects taking into account the overall package of micronutrients, phytochemicals and fiber provided by them. In a meta-analysis of RCTs, consumption of soy-containing foods showed an apparent beneficial effect lowering diastolic and systolic blood pressure even though the effects did not achieve statistical significance. Isolated soy protein or is of lavones (phytoestrogens) seem to have smaller effects, producing only modest reductions in LDL cholesterol and diastolic blood pressure (Sacks, et al, 2006). More investigation of the effects of legumes on cardiovascular disease with well conducted prospective cohorts and RCTs is required.

Purpose of the Study

The study examined the perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons. Specifically, the study sought to:

1. Examined the perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons.

Research Questions

The research question was adopted and used for the study:

1. What is the perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons?

Hypothesis

The null hypothesis was tested at 0.05 level of significance.

There is no significant difference between the Perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons

Scope of Study

The study is limited to perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons.

LITERATURE REVIEW

Legumes and Cardiovascular Disease

Cardiovascular disease is a heart disease caused by excessive consumption of red meat. It usually affects aged persons. Cardiovascular diseases (CVD) represent the main causes of death globally, accounting for nearly one-third of all deaths worldwide (Wong, 2014). This has become a major global issue and therefore calls for concern by health institutions in the world. The average life expectancy of those affected with this disease as reduced drastically. Moreover, as life expectancy has improved in both developed and developing countries, the number of healthy years lost due to disability has been increasing consistently. The Within this scenario, primary prevention of CVD-related morbidity and mortality represents a major priority for public health strategies to reduce the burden of such conditions. Lifestyle factors have been considered main targets to prevent CVD, because they are modifiable behaviors that could highly affect both the risk and the prognosis of the disease. A number of healthy dietary patterns have demonstrated beneficial effects in decreasing the burden of CVD-related risk factors and CVD incidence and mortality (Sofi, et al, 2014). Scientific literature suggests that a diet rich in antioxidants (such as vitamins and polyphenols), fibre, n-3 fatty acids, MUFA and PUFA may decrease the risk of the aforementioned conditions. Among the potential mechanisms of protection, the antioxidant and anti-inflammatory action of these compounds may mediate their effects.

Legumes are widely consumed today in the world. From a nutritional point of view, legumes are a source of some of these nutrients and bioactive compounds as well as an excellent source of fibre and vegetable proteins (Guine, et al, 2016). Despite not being associated with decreased risk of CVD themselves, vegetable proteins may be a valuable alternative to animal proteins, which on the contrary are associated with saturated fats and possible adverse outcomes. Meta-analyses of studies on legume consumption and cardiovascular health demonstrated no association with stroke or diabetes. Legumes considered as part of a Mediterranean dietary pattern have been associated with a decreased risk of CVD risk and mortality in studies evaluating Mediterranean diet as main exposure (Grosso, et al, 2015), but a comprehensive evaluation of their independent role on such outcomes is lacking. The aim of the present study was to systematically review and perform a meta-analysis of prospective cohort studies exploring the association between dietary legume consumption and CVD risk, including CHD and stroke.

Without proper health medication system, patient with cardiovascular may die. Cardiovascular disease (CVD) is the leading cause of death worldwide, accounting for nearly one-third of all deaths globally (Townsend, et al, 2016). This constitutes 17% of overall national health expenditures in the US. To reduce the burden, the prevention of CVD morbidity and mortality has been increasingly prioritized in public health. It is well accepted that healthy diet has beneficial effects on decreasing the burden of CVD incidence and mortality. Legumes include peas, beans, lentils, and peanuts and are a rich source of phytosterol sand dietary fiber. Many epidemiologic studies have assessed the relationship between legume intake and all-cause mortality and CVD mortality and most found a positive association. But the magnitude soft he association varied between studies. With accumulating evidence, we conducted a meta-analysis to assess the association between legume intake and risk of CVD mortality and all-cause mortality.

METHODS

The survey research design was used in this study. The entire population consists of sixty five (65) medical practitioners and nutritionist in Bayelsa State. As a result of the small population size, the entire population was used as sample for the study. The study developed an instrument titled “Perception of Medical Practitioners and Nutritionist on the Consumption of processed Residue of Legumes on the Reduction of Cardiovascular Disease (PMPNCRLRCD). The instrument is a four point rating scale consisting of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The response options were weighed as 4, 3, 2 and 1. The data obtained from the study was analyzed using simple mean, standard deviation, charts and z-test.

PRESENTATION AND ANALYSIS OF DATA

Research Question one

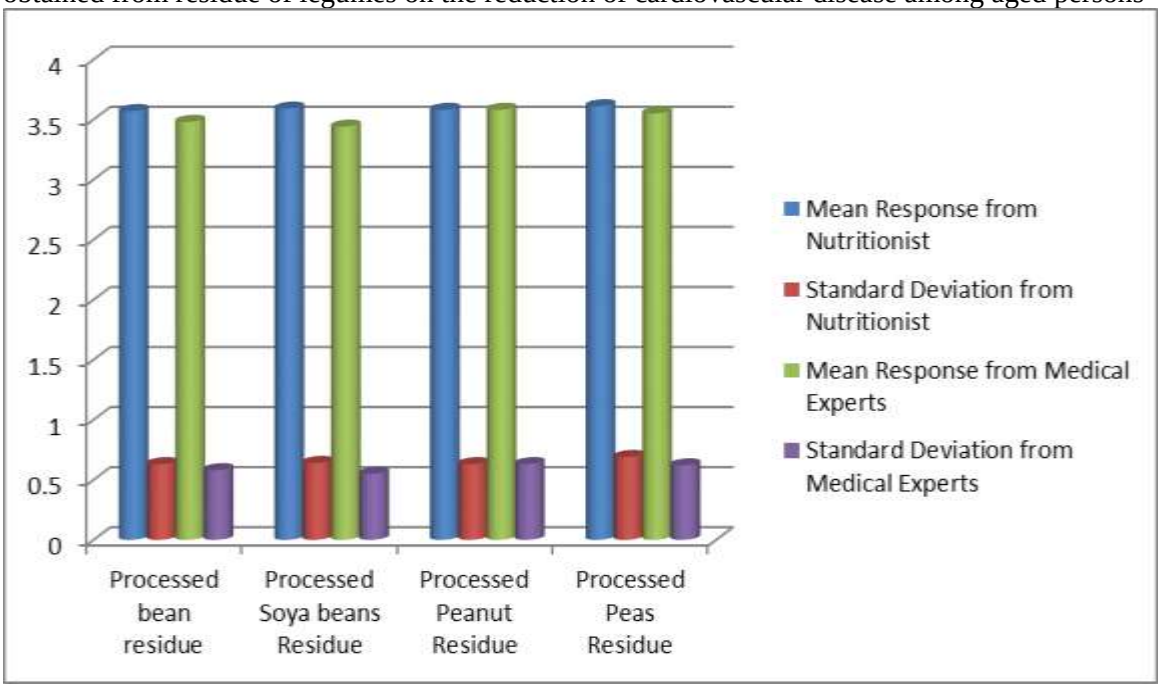
What is the perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons?

Table 1: Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons

S/N	ITEMS	Response from Nutritionist Expert			Responses from Medical Experts		
		Mean	SD	Remark	Mean	SD	Remark
1	Consumption of processed beans residue is good for aged persons with Cardiovascular disease	3.57	0.63	Accept	3.48	0.58	Accept
2	Consumption of processed Soya bean residue is good for aged persons with Cardiovascular disease	3.59	0.64	Accept	3.44	0.55	Accept
3	Consumption of processed Peanuts residue is good for aged persons with Cardiovascular disease	3.58	0.63	Accept	3.58	0.63	Accept
4	Consumption of processed Peas residue is good for aged persons with Cardiovascular disease	3.61	0.69	Accept	3.55	0.62	Accept
	Grand Mean	**3.59**	**0.65**		**3.51**	**0.60**	

Findings obtained from research question one, table 1 showed that items 1, 2, 3 and 4 all accepted that the consumption of processed beans, soya bean, peanuts and peas residue is good for aged persons with Cardiovascular disease. This is so as the average response from nutritionist and medical experts were above average.

Figure 1: Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons



Data obtained from figure 1 showed that Nutritionist response on item 1, 2, 3 and 4 had a mean and standard deviation value of 3.57; 0.63, 3.59;0.64, 3.58;0.63 and 3.61;0.69 respectively. Similarly, Medical experts had a mean and standard deviation value of 3.48; 0.58, 3.44; 0.55, 3.58; 0.63 and 3.55; 0.62 respectively.

Hypothesis

There is no significant difference between the Perception of medical practitioners and nutritionist on the consumption of processed residue of legumes on the reduction of cardiovascular disease among aged persons

Table 2: Z-test analysis of difference between the Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons

S/N	Items	N	Mean	SD	df	Z-cal	Z-tab	Decision
1	Nutritionist Experts	25	3.59	0.65	63	0.497	1.667	Not Significant
2	Medical practitioners	40	3.51	0.60				

The findings obtained from table 2 showed that Z-calculated value of 0.497 is less than z-critical value of 1.667 at 0.05 level of significance. This implies that the null hypothesis was accepted. This implies that there is no significant difference between the Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons.

DISCUSSION OF FINDINGS

Based on the findings of the study, it was revealed that the consumption of processed beans, soya bean, peanuts and peas residue is good for aged persons with cardiovascular disease. This is so as the average response from nutritionist and medical experts were above average. This is in line with the view of Maphosa and Jideani (2017) that states that the consumption of legumes, reduce the risk of aged persons having cardiovascular disease.

Further findings show that there is no significant difference between the Perception of medical practitioners and nutritionist on the consumption of processed meat obtained from residue of legumes on the reduction of cardiovascular disease among aged persons. This is in resonance with reports of experts both in the medical and nutritional field which emphasized that legumes are good source for control of persons with cardiovascular disease (Guine, Ferreira, Correia et al, 2016)

CONCLUSION

In all, the study showed that the consumption of legumes reduce the risk of aged persons been attacked with cardiovascular disease. Also both medical and nutrition experts as recommended the consumption of legumes to reduce the risk of cardiovascular disease among aged persons.

RECOMMENDATIONS

Based on the findings obtained from the study, it was recommended that aged persons should feed on processed residue of legumes on the reduction of cardiovascular disease among aged persons. Also seminars should be organized in the hospitals and work places to educate aged persons on the role of processed legumes in the control of cardiovascular disease.

REFERENCES

Ackermann, R. T., (2012). Research to inform policy in Diabetes prevention: a Work in progress. *American Journal of Preventative Medicine*, 43 (2), 225-227.

Bramble, D. M., & Lieberman, D. E. (2004). Endurance running and the Evolution of Homo. *Nature*, 432, 345-51.

Daviglus, M. l., Talavera, G. A., Aviles-santa, M. l., Allison, M., Cai, J., Criqui, M.H…Stamler, J. (2012). Prevalence of major cardiovascular risk factors and cardiovascular Diseases among

hispanic/latino individuals of Diverse Backgrounds in the United States. *American Medical Association,* 308 (17), 1775-1783.

Ford, E. S., Ajani, U. A., Croft, J. B., Critchley, J. A., Labarthe, D. R., Kottke, T. E., Giles, W. H., & Capewell, S. (2007). Explaining the Decrease in U.S. Deaths from coronary Disease, 1980–2000. *New England Journal of Medicine,* 356, 2388-2398.

Grosso, G., Marventano, S., Yang, J et al. (2015) A Comprehensive Meta-analysis on Evidence of Mediterranean diet and Cardiovascular Disease: are Individual components equal? *Crit Rev Food Sci Nutr* (Epublication ahead of print version).

Guine RP, Ferreira M, Correia P et al. (2016) Knowledge about Dietary Fibre: a fibre studyFramework. *Int J Food Sci Nutr* 67, 707–714.

Hu, F.B and Willett, W.C. (2002) Optimal diets for prevention of coronary heart disease. *JAMA* 2002; 288:2569-78.

Mente, A, de Koning, L, Shannon, H.S, and Anand, S.S. (2009) A Systematic Review of the Evidence Supporting a Causal Link between Dietary Factors and Coronary Heart Disease. *Arch Intern Med* 2009; 169: 659-69.

Sabate J, Oda K, Ros E. (2010) Nut consumption and blood lipid levels: A pooled analysis of 25 Intervention Trials. *Arch Intern Med*. 2010; 170:821–7.

Sacks, F., M, Lichtenstein, A., Van Horn, L., Harris W, Kris-Etherton, P. and Winston, M. (2006) Soy protein, isoflavones, and cardiovascular health: *An American Heart Association Science Advisory for professionals from the Nutrition committee. Circulation* 2006; 113:1034-44.

Sofi F, Macchi C, Abbate R et al. (2014) Mediterranean Diet and Health Status: an updated Meta-Analysis and a Proposal for a Literature-Based Adherence score. *Public Health Nutr* 17, 2769–2782

Townsend, N., Wilson, L., Bhatnagar, P., Wickramasinghe, K., Rayner, M. and Nichols, M. (2016) "Cardiovascular disease in Europe: Epidemiological update 2016,"*European Heart Journal, vol. 37, no.42,pp.3232–3245,2016.*

Wong, N. D. (2014) Epidemiological studies of CHD and the evolution of preventive cardiology. *Nat Rev Cardiol* 11, 276–289.