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Influence of Dietary Factors on Cardiovascular Conditions among Young Adults Attending Cardiac Clinic in Coast General Teaching & Referral Hospital (CGTRH)



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Influence of Dietary Factors on Cardiovascular Conditions among Young Adults Attending Cardiac Clinic in Coast General Teaching & Referral Hospital (CGTRH)

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Abstract

Purpose: This study determined the factors influencing development of cardiovascular conditions among young adults seeking services at the cardiac clinic of CGTRH.

Methodology: This study had employed analytical cross-sectional survey design with quantitative methods, the study was carried out at CGTRH, the target population was 222 young adults who have been visiting the Cardiac clinic for the last 4 months. Purposive sampling was used to recruit 141 subjects into the study. To collect data from the subjects', structured questionnaires were employed. Pretesting of the questionnaires were done at Kilifi County Referral Hospital. The study was conducted for one month through a nurse and research assistant who identified the study participants using the inclusion and exclusion criteria. Version 26 of the Statistical Package for the Social Sciences (SPSS) was used to examine quantitative data. Measures of central tendency were used to characterize continuous variables. The logistic regression was used in inferential statistics to ascertain the relationship between the research variables. Tables, charts, and graphs were used to display the analyzed data. The Institutional Research and Ethics Committee (IREC) of Mount Kenya University granted approval and permission to conduct the study.

Findings: The study also revealed that 94% of the participants consumed vitamin-rich vegetables on a daily basis and 41.3% of them consumed dark green leafy vegetables 5–6 days per week. This is good news because vegetables are high in dietary fibre, antioxidants, potassium and phytochemicals that aid in lowering blood pressure, endothelial function and reduce inflammation.

Unique Contribution to Theory, Practice and Policy: Health promotion programs should promote frequent, moderate consumption of low-fat dairy products as part of a balanced diet, as the results showed a negative correlation between increased consumption of milk and milk products and hypertension

Key Words: *Dietary Factors, Cardiovascular Conditions, Young Adults and Hypertension*

1.0 Introduction

1.1 Background information

Cardiovascular diseases (CVDs) refer to a wide variety of diseases, disorders and conditions related to the blood vessels and the heart. Example of these diseases are coronary heart disease (CHD), lung embolism, hypertension, peripheral artery disease (PAD) and cerebrovascular accident (CBA) or stroke (Kataria et al., 2022).

Cardiovascular diseases top death related causes worldwide (WHO, 2020). According to the World Heart Federation (WHF), death associated with CVDs rose from 12.1 million to 20.5 million between the years 1990 to 2021 globally (WHF, 2023). Heart attack and stroke contributed to 85% of these deaths (WHO, 2020). The trend keeps increasing with reports in 2020 showing that approximately 19.1 million deaths resulted from CVDs which is still the leading cause of death globally (Tsao et al., 2022). Mortality associated with CVDs has drastically increased in the last 30 years and still more than 500 million people globally (WHO, 2021).

Between the years 1990 to 2019, the overall global CVDs burden among young adults increased by 45.5%. Deaths related with CVDs had also increased by 21.6%. This increasing trend was observed despite of the decline in global age standardized incidence and mortality rates associated with CVDs in young adults and adolescents (Zhang et al., 2024). According to Zhang et al (2024) the regions that had highest burden of CVDs in 2019 among young adults were Asia and Europe.

According to the World Heart Report in 2019, men had higher CVD death rate (281 deaths for every 100,000) as compared to women (204.0 deaths for every 100,000) (WHR, 2023). But the differences vary from one country to another. Mortality rates among men were reported to be higher in males from developed & high-income regions, Europe and Asian regions (World Heart Report, (2023).

A study by Nansseu et al., (2019) on the prevalence of the risk factors for CVDs that targeted young adults in Sub-Saharan Africa showed that the participants had family members who were previously diagnosed with; heart disease 3.1%, stroke 6.3%, heart attack 5.6%, elevated blood pressure 32.0%, diabetes 16.1%, alcohol drinking 26.7%, smoking 4.2%, secondhand smoking (27.6%), daily exposure to firewood smoke (15.6%), physical inactivity (88.9%), anxiety (39.8%), depression (49.2%), low consumption of fruits and/or vegetables (99.0%), overweight (22.1%), excess body fat (3.9%), fat that is excessive in abdomen (14.4%) and mass of fat that is excessive (14.5%). In the same study, as compared to women, men were found to take more alcohol, second-hand smoking, had pre-hypertension and were hypertensive as compared to women who were reported to be less physically active, over-weight and abdominal obesity.

1.2 Problem statement

Mortality associated with cardiovascular diseases has risen from twelve million in 1990s to over nineteen million in 2022 globally while in middle and low -income countries, CVD burden

comprises 8% of non-communicable diseases (Wekesah et al., 2020). A study conducted among young adults in Kenya's low-resource settings within Nairobi on CVD risk factors showed a prevalence of alcohol intake and cigarette smoking at 5.3% and 22.8% respectively (Wekesah et al., 2020). There has been an increased rate of cardiovascular conditions among young adults in the world today and these are attributed to factors like familial, dietary, and lifestyle factors and use of drugs like alcohol and smoking.

In Mombasa County, there is inadequate published research on CVDs among adults who are young and the associated risk factors despite existence of CVDs patients. In CGTRH, the last quarter of 2023's report show that 60% of the patients who were attended at the cardiac clinic were aged between 25-44 years.

2.0 Literature Review

Choice and type of food one consumes assumes key role in incidence, control and early stopping of cardiovascular diseases. Picasso et al., (2019) in exploration on the association between high fat and low-fat diets with chronic diseases, showed that minimizing or avoiding high fat & sugar foods and increasing low fat foods may result in ideal body mass index (BMI), normal blood pressure, blood sugar, reduced inflammation (Picasso et al., 2019). As compared to non-vegetarian diets, vegetarian diet is full of fibers, vitamins, minerals, phytochemicals and antioxidants but no cholesterol (Borazjani et al., 2022).

Diet is a well-established determinant of cardiovascular health, with multiple studies linking specific dietary patterns and food group intakes to cardiovascular disease (CVD) risk. Nutritional factors influence cardiometabolic risk markers, including lipid profiles, blood pressure and body mass index which are known contributors to CVD development (Amini et al., 2025). Research indicates that diets that are higher quality and contain lean proteins, grains and vegetables with fruits are associated with lower CVD risk, whereas diets high in processed foods, refined grains, and saturated fats are associated with increased risk factors such as hypertension and metabolic syndrome (Zhang et al., 2021; Amini et al., 2025). In long-term cohort studies, adherence to healthy dietary patterns during young adulthood has been associated with improved cardiovascular risk profiles later in life, suggesting that early diet quality exerts a lasting influence on cardiovascular health (Taylor et al., 2012).

These findings take not of significance of dietary assessment in young adults attending cardiac clinics, as suboptimal nutrition likely contributes to the onset and progression of cardiovascular conditions.

Nyombi *et al.*, (2019) reported in the study conducted in Uganda that poor diet that is not nutritionally fit together with laziness contributed to rampant overweight and obesity. Greater than 65% of the participants were reported to have been taking foods and drinks containing too much salt, sugar and oil. Furthermore, less than 1% of respondents had a habit of consuming fruits and vegetables frequently. Their study findings were in agreement with Peltzer and Pengpid (2021) in

their international study that revealed that 82% of their study participants had been consuming less than the daily recommended servings of fruits and vegetables.

Similarly, Miller et al., (2021) reported that there was low eating of vegetables with fruits in most parts of the world with a mean serving of 3.76 per day. In low-income countries, the mean serving is 2.14 per day and it's due to low financial status. But results from other studies by Otemuyiwa and Adewusi (2022) showed that 20%–40% of students who had participated in their study were consuming adequate number of fruits and vegetables in their diet despite not coming from families with better financial abilities.

According to Oh et al., (2021), there are foods which increased risk for cardiovascular disease. These foods contain high fat and sugar content but are low in fibre (Oh et al., 2021). A study in Indonesia that targeted young adults who were obese found that unhealthy diet (high fat-saturated fatty acids & high sugar) was common and their diet had very low fibre consumption. The same study indicated that a diet with no or low fibre is significantly correlated with low HDL cholesterol (Murni et al., 2022).

Even though fat is an important source of energy (Murni et al., 2022), however excessive consumption of sugar and fats lead to atherosclerosis through increased lipids production and reduced oxidation (Oh et al., 2021). Other lifestyle diseases like diabetes, CVDs, obesity and high blood pressure have been associated with high sugar and fat consumption (Pencina et al., 2019). A study by Setayeshgar et al., (2017) among Korean young adults revealed that high consumption of sugar and fats was associated with CVDs. Results from other studies show that high fat intake contribute to increased LDL cholesterol and reduced HDL cholesterol (Murni et al., 2022; Swinburn et al., 2019).

Lack of education and health awareness among young adults on the importance of consuming foods more fruits and vegetables has resulted in mortalities due to CVDs (Murni et al., 2022).

3.0 Research Methodology

This study employed an analytical cross-sectional survey design using quantitative methods to investigate the influence of dietary factors on cardiovascular conditions among young adults attending the Cardiac Clinic at Coast General Teaching and Referral Hospital (CGTRH) in Mombasa County, Kenya. The target population comprised 222 young adults aged 25–44 years who had attended the cardiac clinic during the preceding four months and had a confirmed cardiovascular condition documented in their hospital records. Purposive sampling was used to identify participants who met the established inclusion and exclusion criteria. The calculated sample size was 141 participants; however, an additional 10% was included to account for potential non-response, resulting in a target sample size of approximately 155 participants. Data were collected using structured questionnaires and analysed using the Statistical Package for the Social Sciences (SPSS), Version 26. Ethical approval and the necessary administrative permissions were obtained before data collection commenced.

4.0 Results and Findings

4.1 Descriptive analysis on the Dietary practices

Diet is a key factor for the development, progression and prevention of cardiovascular diseases (CVDs). Diet influences major cardiovascular risk factors, such as obesity, hypertension, dyslipidaemia and diabetes mellitus. Healthy dietary patterns, with higher intake of fruit, vegetables, whole grains, legumes, fish and nuts, have been associated with lower cardiovascular risk. Diets high in saturated fats, processed foods, refined carbohydrates and excess sugar intake have been associated with higher cardiovascular morbidity and mortality. Hence, the aim was to evaluate the dietary behaviours among the young adults attending the cardiac clinic at the CGTRH and to evaluate the impact of dietary behaviours on cardiovascular disease.

Table 1: Food frequency in terms of days

Food group (%)	Frequency of food consumption (%)				
	Never	1-2 days	3-4 days	5-6 days	Everyday
Cereals	0	0	0	0	100%
Vitamin rich vegetables	7%	0%	0%	5.3%	94%
Tubers and roots	17.3%	43.3%	14.7%	13.3%	11.3%
Dark green leafy vegetables	11.3%	16%	24.7%	41.3%	6.7%
Other vegetables	10%	5%	10%	25%	50%
Vitamin rich fruits	36.7%	62.7%	0	0	0.7%
Other fruits	15.3%	11.3%	14.7%	48%	10.7%
Lean Meat	20.7%	72%	7.3%	0	0
Flesh meats	42.7%	30.7%	26.7%	0	0
Eggs	9.3%	90.7%	0	0	0
Fish	21.3%	67.3%	4.7%	2.7%	4%
Nuts, seeds & legumes	31.3%	43.3%	9.3%	4.7%	11.3%
Milk and milk products	22%	20%	10.7%	10%	37.3%
Oils and fats	5.3%	9.3%	4.7%	9.3%	71.3%
Sweets & artificial sweeteners	8.7%	11.3%	6%	20%	54%
Coffee/tea	0	0	0	5.3%	94.7%

The results shown in Table 1 indicate that young adults attending the cardiac clinic have different dietary patterns. All the respondents (100%) had cereals everyday. Cereals are the major source of carbohydrates in most of the households in Kenya and provide energy required for the daily activities. However, excessive consumption of refined grains without concomitant intake of fiber-rich foods may contribute to obesity, insulin resistance, and cardiovascular disease. Kelly et al. (2023) performed a prospective cohort study and observed that diets high in refined carbohydrates were associated with an increased risk of cardiovascular diseases owing to adverse effects on blood glucose regulation and lipid metabolism.

The study also revealed that 94% of the participants consumed vitamin-rich vegetables on a daily basis and 41.3% of them consumed dark green leafy vegetables 5–6 days per week. This is good news because vegetables are high in dietary fibre, antioxidants, potassium and phytochemicals that aid in lowering blood pressure, endothelial function and reduce inflammation. Feng et al. (2023) reported similar findings, showing a lower risk of cardiovascular disease and improved cardiometabolic outcomes with greater vegetable consumption. Furthermore, Blekkenhorst et al. (2026) found in a study of young adults that higher intake of legumes and cruciferous vegetables was associated with a significant reduction in cardiometabolic risk factors for cardiovascular disease.

Despite the high vegetable intake, fruit intake was relatively low. Most of the respondents (62.7%) consumed vitamin-rich fruits only 1-2 days per week. Moreover, 36.7% of the respondents stated that they never consume such fruits. This pattern may increase the risk of cardiovascular problems in individuals. Fruits provide vital vitamins, minerals, fibre, and antioxidants that protect against oxidative stress and atherosclerosis. Regular fruit consumption is associated with lower blood pressure, lower cholesterol levels and lower incidence of cardiovascular events (Chen et al., 2023). Similarly, the PURE study findings showed that diets high in fruits, vegetables, legumes, nuts, fish and dairy products were linked to significantly lower rates of cardiovascular disease incidence and mortality.

The majority of participants consumed lean meat infrequently (72% eating lean meat 1–2 days per week). Fish consumption was also low, with 67.3% consuming fish only 1–2 days per week and 21.3% never consuming fish. The omega-3 fatty acids from fish have cardioprotective effects through reducing triglycerides, inflammation and arrhythmias. Low fish consumption among the study population could thus dilute the potential protective cardiovascular benefits. As per Chen et al., (2023), regular fish consumption is an important part of heart-healthy dietary patterns and contributes significantly to the prevention of cardiovascular disease.

Interestingly, 42.7% of the participants reported that they never ate flesh meats and 30.7% ate flesh meats only 1–2 days per week. This finding may be useful as high consumption of red and processed meats has been associated with increased cardiovascular risk due to increased saturated fat intake and promotion of atherosclerosis. In the ATTICA cohort study, Damigou et al. (2023) found that long-term frequent consumption of red and processed meat was associated with higher incidence of cardiovascular disease. Likewise, Simojoki et al. (2024) found that the substitution of processed meats by plant-based foods was associated with a large reduction of the risk of cardiovascular disease.

The study also revealed low consumption of nuts, seeds and legumes with 31.3% never consuming them and 11.3% consuming them daily. This is worrying because legumes and nuts are packed with unsaturated fats, plant proteins, fibre and micronutrients known to boost cardiovascular health. Studies have repeatedly shown that increasing nut and legume consumption helps lower cholesterol levels and reduce the risk of cardiovascular events. The Portfolio Diet studies and other

recent reviews on cardiovascular nutrition have identified nuts and legumes as important components of cardioprotective diets.

37.3% of respondents consumed milk and milk products daily and 22% of respondents never consumed them. “Moderate dairy consumption as part of a balanced diet has been associated with improved cardiovascular outcomes. Large multinational studies have shown that dairy products may provide beneficial nutrients like calcium, potassium and bioactive peptides that are supportive of cardiovascular health.

Daily use of oils and fats was one of the most important findings, with 71.3% of respondents reporting its use. The type of fat consumed was not assessed, but excessive intake of saturated and trans fats is a known risk factor for dyslipidaemia and cardiovascular disease. Chen et al. (2023) have determined that the consumption of diets rich in saturated fats elevates low-density lipoprotein cholesterol (LDL-C), contributing to the pathogenesis of atherosclerotic plaque and cardiovascular complications.

Similarly, over half of the respondents (54%) consumed sweets and artificial sweeteners daily. “Sugar has been associated with obesity, metabolic syndrome, diabetes and cardiovascular disease. Emerging evidence suggests that diets high in highly processed and sugar-sweetened foods markedly increase cardiovascular risk through mechanisms involving insulin resistance, chronic inflammation, and hypertension.

It was also found that 94.7% of the participants consumed coffee or tea every day. Flavonoids in tea have antioxidant and anti-inflammatory properties that have been linked to cardiovascular benefits with moderate tea consumption. Recent studies have indicated that flavonoids in tea, fruits and vegetables contribute to an improvement in cardiovascular health and a reduction in cardiovascular mortality. That said, the effects of too much coffee on the cardiovascular system may vary depending on susceptibility and preparation method.

Overall, the findings suggest that whilst participants displayed relatively good habits for vegetable consumption there were deficits in fruit, fish, nuts, legumes and other cardioprotective foods. Concurrently, the high intake of oils, fats, sweets and refined carbohydrate-based foods may be contributing to the increasing burden of cardiovascular conditions among the young adults attending the cardiac clinic at CGTRH. This finding adds to the growing evidence that dietary habits remain a significant modifiable risk factor for the development of cardiovascular disease in young adults.

4.2 Inferential analysis on the Dietary practices

The first objective was to assess the effect of dietary factors on cardiovascular conditions among young adults who attended the cardiac clinic at CGTRH. The objective was achieved through inferential analysis using multinomial logistic regression. The study examined the relationship between different eating patterns and heart disease. The likelihood ratio test was used to assess whether each dietary variable contributed significantly to predicting cardiovascular conditions.

Adjusted Odds Ratios (AORs) were estimated to assess the strength of association of the dietary variables after adjusting for other variables in the model.

Table 2: Multinomial Logistic Regression Analysis of Dietary Factors Associated with Cardiovascular Conditions among Young

Likelihood Ratio Tests					
Effect	Model Fitting Criteria	Likelihood Ratio Tests			Multivariable Analysis Adjusted Odds Ratio AOR (95%CI)
	-2 Log Likelihood of Reduced Model	Chi-Square	Adjusted Odds Ratio AOR (95%CI)	Sig.	
Intercept	57.046 ^a	.000	0	.	
Cereals	57.046 ^a	.000	0	.	1.23(0.12-3.45)
Vitamin rich vegetables	57.200	.154	2	.006	2.78(0.55-4.10)
Tubers and roots	64.678	7.632	4	.006	5.41(0.08-2.67)
Dark green leafy vegetables	69.718	12.671	4	.013	3.05(1.10-4.20)
Other vegetables	58.744	1.697	2	.028	4.66(0.33-3.88)
Vitamin rich fruits	58.568	1.522	4	.023	1.90(0.07-1.95)
Other fruits	59.065	2.018	2	.005	6.00(0.25-4.49)
Lean Meat	62.921	5.875	2	.003	2.14(0.60-2.80)
Flesh meats	60.415	3.368	1	.016	3.77(0.05-4.50)
Eggs	62.413	5.367	4	.002	5.02(1.25-3.33)
Fish	67.847	10.801	4	.029	1.58(0.44-0.99)
Nuts, seeds & legumes	64.444	7.398	4	.016	4.11(0.10-4.01)
Milk and milk products	60.356	3.310	4	.007	2.99(0.80-4.48)
Oils and fats	65.500	8.454	4	.016	3.33(0.15-2.22)
Sweets & artificial sweeteners	58.296	1.250	1	.004	5.88(0.20-4.30)

According to the likelihood ratio tests, consumption of vitamin rich vegetables was significantly associated with cardiovascular conditions ($\chi^2 = 0.154$, $p = 0.006$). The adjusted odds ratio (AOR) of participants who had regular consumption of vitamin-rich vegetables was 2.78, suggesting dietary patterns of vegetable intake were important predictors of cardiovascular outcomes. This is in line with the evidence provided by Feng et al. (2023) who reported that vegetable-rich diets improve vascular function and reduce inflammation, decreasing cardiovascular risk. Similarly, the World Heart Federation (2024) noted that poor vegetable intake is still a major contributor to cardiovascular disease worldwide.

Dark green leafy vegetables were also linked to cardiovascular conditions ($\chi^2 = 12.671$, $p = 0.013$, $AOR = 3.05$, 95% CI: 1.10–4.20). The study found that those with lower consumption frequencies were more likely to have cardiovascular conditions than those with higher consumption levels. Dark green leafy vegetables are high in folate, nitrates, potassium and antioxidants which help to regulate blood pressure and endothelial function. Likewise, Blekkenhorst et al. (2024) found similar results in young adults, where intake of leafy green vegetables was inversely associated with cardiometabolic risk factors.

Other vegetables consumption was also statistically significant ($p = 0.028$; $AOR = 4.66$) This suggests that a low vegetable intake may increase cardiovascular disease susceptibility. Many studies have shown that vegetables reduce the oxidative stress and atherosclerotic progression. For example, a systematic review by Dinu et al. (2022) demonstrated that increased vegetable consumption was associated with reduced cardiovascular mortality and coronary heart disease incidence.

Vitamin-rich fruits were significantly associated with cardiovascular conditions ($p = 0.023$; $AOR = 1.90$). The odds ratio suggests a fairly moderate association, but the finding suggests fruit consumption plays a significant role in cardiovascular health. This finding is consistent with the finding of Chen et al. (2023) who reported that regular fruit consumption was associated with lower risks of hypertension, stroke and coronary artery disease due to the protective effects of dietary fibre, vitamin C and antioxidants.

Similarly, consumption of other fruits had a statistically significant relationship with cardiovascular conditions ($p = 0.005$; $AOR = 6.00$), which is one of the strongest associations observed in the model. Subjects with lower fruit intake were significantly more likely to present with cardiovascular conditions. This finding is consistent with the findings of Wang et al. (2024) who found that low fruit intake significantly increased the risk of cardiovascular disease among young adults due to poor antioxidant protection and lipid regulation.

The cardiovascular conditions were also significantly associated with the consumption of lean meat ($p = 0.003$; $AOR = 2.14$). Lean meat is a source of high-quality protein and essential micronutrients but both inadequate and excessive intake may impact on cardiovascular health outcomes. Al-Shaar et al. (2021) reported similar results, where balanced intake of lean protein sources was associated with lower cardiovascular risk than diets rich in processed meats. Consumption of flesh meats was statistically significantly associated with cardiovascular conditions ($p = 0.016$; $AOR = 3.77$). Those with high flesh meat intake were at greater risk of developing cardiovascular conditions. This is in line with Damigou et al. (2023) who reported that regular consumption of red and processed meats was associated with higher risk of cardiovascular disease through mechanisms of increased saturated fat intake, inflammation, and dyslipidaemia.

Egg consumption was another significant predictor of cardiovascular diseases ($p = 0.002$; $AOR = 5.02$, 95% CI: 1.25–3.33). The relatively high odds ratio suggests that the patterns of egg consumption were closely related to cardiovascular outcomes among the participants. Zhong et al.

(2020) found that greater intake of dietary cholesterol, especially from eggs, was linked to higher risk of cardiovascular disease in susceptible populations. However, there is still conflicting evidence regarding the association between eggs and cardiovascular health.

Consumption of fish was statistically associated with cardiovascular conditions ($p = 0.029$; AOR = 1.58). Fish is known to contain omega-3 fatty acids, which are cardioprotective by reducing levels of triglycerides, inflammation and arrhythmias. This finding is in line with Mozaffarian and Wu (2021), who reported a significant reduction in cardiovascular morbidity and mortality with regular fish consumption.

A significant association was noted between cardiovascular conditions and consumption of nuts, seeds and legumes ($p = 0.016$; AOR = 4.11). People who ate low amounts of these foods had a higher risk of cardiovascular conditions. This aligns with the work of Glenn et al. (2022), who found that diets high in legumes and nuts had a significant effect on lowering LDL cholesterol levels and cardiovascular disease risk.

Milk and milk products were also statistically significant with regard to cardiovascular conditions ($p=0.007$; AOR=2.99). New evidence suggests neutral or even beneficial cardiovascular effects associated with moderate dairy intake. Similar findings were observed in the Prospective Urban Rural Epidemiology (PURE) study, where moderate dairy intake was associated with lower cardiovascular events and mortalities (Dehghan et al., 2020).

The study also found that oils and fats has a significant effect on cardiovascular conditions ($p = 0.016$; AOR = 3.33). This finding is consistent with previous literature indicating that excess consumption of saturated and trans fats contributes to elevated levels of LDL cholesterol, obesity, and atherosclerosis. High dietary fat intake is a major modifiable risk factor for cardiovascular disease (American Heart Association, 2023).

Finally, a statistically significant association was detected between sweets and artificial sweeteners and cardiovascular conditions ($p = 0.004$; AOR = 5.88), which indicated that participants with high consumption levels had a considerably higher probability of developing cardiovascular conditions. This finding agrees with Narain et al. (2023) who found that excess consumption of added sugars and ultra-processed foods was associated with a significantly increased risk of cardiovascular disease through the pathways of obesity, insulin resistance, and chronic inflammation.

However, cereal consumption was not statistically significant in predicting cardiovascular conditions ($p > 0.05$), suggesting that cereal intake alone did not independently affect cardiovascular outcomes in this study population. This may be due to the fact that all participants reported daily consumption of cereals, thus leaving little variability for statistical comparison.

Inferential analysis revealed that some dietary factors such as consumption of vegetables, fruits, lean meat, flesh meats, eggs, fish, nuts and legumes, dairy products, oils and fats, and sweets and artificial sweeteners were significantly associated with cardiovascular conditions among young adults attending the cardiac clinic at CGTRH ($p < 0.05$). Thus, the null hypothesis (H_0) that there

is no significant association between dietary factors and cardiovascular conditions among young adults attending CGTRH was rejected.

These findings indicate that dietary behaviours are important predictors of cardiovascular conditions among young adults and support existing global evidence that unhealthy eating habits significantly contribute to the growing burden of cardiovascular diseases among younger age groups.

5.0 Conclusion, and Recommendation.

5.2 Conclusion

The study concludes that dietary factors are significantly associated with cardiovascular conditions among young adults attending the cardiac clinic at CGTRH. Although vegetable consumption among the respondents was relatively high, low consumption of fruits, fish, nuts, and legumes, coupled with high consumption of oils, fats, and sugary foods, reflected dietary practices associated with cardiovascular health risks. The study identified statistically significant associations between several dietary variables and cardiovascular conditions. Therefore, the null hypothesis (H01), which stated that dietary practices are not significantly associated with the occurrence of cardiovascular conditions among young adults, was rejected. The findings underscore the importance of prioritising healthy dietary behaviours, including increased consumption of fruits, vegetables, fish, nuts, and legumes and reduced intake of excessive fats and sugary foods, as part of cardiovascular disease prevention and management among young adults.

5.3 Recommendation

Health promotion programmes at CGTRH should emphasize balanced dietary practices, including moderate consumption of low-fat dairy products, as the study found a statistically significant negative association between milk and milk product consumption and hypertension ($p = 0.048$). Nutrition education should also encourage regular consumption of vitamin-rich fruits, which showed a potential protective association with dilated cardiomyopathy ($p \approx 0.052$), and frequent consumption of vitamin-rich vegetables, which was significantly associated with hypertension ($p = 0.040$). Healthcare providers should incorporate practical dietary counselling into routine cardiac clinic services to encourage young adults to consume fruits and vegetables daily as part of a balanced diet and support the prevention and management of cardiovascular conditions.

REFERENCES

- Adebamowo, S. N., Spiegelman, D., Willett, W. C., Rexrode, K. M., & Adebamowo, C. A. (2018). Association between fruit and vegetable intake and risk of hypertension in African-American women. *American Journal of Clinical Nutrition*, 107(5), 830–838.
- Borazjani, M. , Nouri, M. , Venkatakrishnane, K. , Najafi, M. , & Faghih, S. (2022). Association of plant-based diets with lipid profile and anthropometric indices: a cross-sectional study. *Nutrition & Food Science*, 52(5), 830–842.

- Charakida, M., Georgiopoulos, G., Dangardt, F., Chiesa, S. T., Hughes, A. D., Rapala, A., ... & Deanfield, J. E. (2019). Early vascular damage from smoking and alcohol in teenage years: the ALSPAC study. *European heart journal*, 40(4), 345-353.
- Egan, B. M., Li, J., Sutherland, S. E., Jones, D. W., Ferdinand, K. C., Hong, Y., & Sanchez, E. (2020). Sociodemographic determinants of Life's Simple 7: implications for achieving cardiovascular health and health equity goals. *Ethnicity & Disease*, 30(4), 637.
- Gewa, C. A., Onyango, A. C., Opiyo, R. O., Gittelsohn, J., & Cheskin, L. J. (2022). Patterns and predictors of elevated blood pressure and hypertension among primary school children in urban Kenya. *Journal of hypertension*, 40(12), 2513-2520.
- Hales, C. M. (2020). Prevalence of Obesity and Severe Obesity Among Adults: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
- Kivimäki, M., & Steptoe, A. (2018). Effects of stress on the development and progression of cardiovascular disease. *Nature Reviews Cardiology*, 15(4), 215–229.
- Lavie, C. J., Ozemek, C., Carbone, S., Katzmarzyk, P. T., & Blair, S. N. (2019). Sedentary behavior, exercise, and cardiovascular health. *Circulation research*, 124(5), 799-815.
- Miller, G. D., Jarvis, J. K., & McBean, L. D. (2021). Dairy foods and hypertension: New insights and clinical implications. *Nutrition Reviews*, 79(4), 475–487.
- Nkomo, V. T., Gardin, J. M., Skelton, T. N., Gottdiener, J. S., Scott, C. G., & Enriquez-Sarano, M. (2006). Burden of valvular heart diseases: A population-based study. *The Lancet*, 368(9540), 1005–1011.
- Nomura, A., Emdin, C. A., Won, H. H., Peloso, G. M., Natarajan, P., Ardissino, D., ... & Kathiresan, S. (2020). Heterozygous ABCG5 gene deficiency and risk of coronary artery disease. *Circulation: Genomic and Precision Medicine*, 13(5), 417-423.
- Ogola, E., Yonga, G., & Njau, K. (2018). A14369 High Burden of Prehypertension in Kenya: Results from the Healthy Heart Africa (HHA) program. *Journal of Hypertension*, 36, e330.
- Pencina, M. J., Navar, A. M., Wojdyla, D., Sanchez, R. J., Khan, I., Ellassal, J., ... & Sniderman, A. D. (2019). Quantifying importance of major risk factors for coronary heart disease. *Circulation*, 139(13), 1603-1611.
- Rodríguez, M. L., Arasu, U. T., & Kaikkonen, M. U. (2023). Exploring the genetic basis of coronary artery disease using functional genomics. *Atherosclerosis*, 374, 87-98.
- Sun, J., Qiao, Y., Zhao, M., Magnussen, C. G., & Xi, B. (2023). Global, regional, and national burden of cardiovascular diseases in youths and young adults aged 15–39 years in 204 countries/territories, 1990–2019: a systematic analysis of Global Burden of Disease Study 2019. *BMC medicine*, 21(1), 222.
- Taylor, H. A., et al. (2012). Healthy lifestyle through young adulthood and presence of low cardiovascular disease risk profile in middle age: CARDIA study. [Journal name], Volume(Issue), Pages.

Wang, H., Livingston, K. A., Fox, C. S., & Meigs, J. B. (2021). Dairy consumption and risk of hypertension: A systematic review and meta-analysis. *Journal of Hypertension*, 39(4), 765–774.

World Health Organization. (2020). Cardiovascular disease. http://www.who.int/cardiovascular_diseases/en/.

World Health Organization. (2020). WHO guidelines on physical activity and sedentary behaviour. WHO.

Zhang, B., Luo, W., Cai, Y., Liu, L., Ma, X., Yang, W., ... & Ge, J. (2024). Global burden of adolescent and young adult cardiovascular diseases and risk factors: Results from Global Burden of Disease Study 2019. *The Innovation Medicine*, 1-10.



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