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Research Article

Factors influencing nutritional management of hypertensive patients: A cross-sectional study at Yaoundé Central Hospital, Cameroon

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Highlights/Key Messages

- Nutritional management among hypertensive patients remains inadequate.
- Socioeconomic factors influence adherence to dietary recommendations.
- Poor nutrition knowledge and counselling hinder healthy dietary practices.

Background
Nutritional management is vital for patients with hypertension, a significant risk factor for cardiovascular disease. Adherence to prescribed diets is central to its management.

Objective
This study aims to identify factors hindering effective nutritional management of hypertension at Yaoundé Central Hospital.

Methods
This quantitative, cross-sectional study was conducted from April 20 to May 31, 2023, involving 81 hypertensive patients aged 30 and over at the National Obesity Center and Cardiology Department. Data were collected using a structured questionnaire and analyzed with IBM SPSS software, with a significance level set at $p < 0.05$.

Results
Out of the 81 participants, 37% demonstrated dietary adherence. Multivariate analyses identified female gender [AOR = 3.72 (95% CI: 1.75–8.20); P = 0.023], university education [AOR = 5.80 (95% CI: 2.10–16.00); P < 0.001], a monthly income exceeding 100,000 CFA francs (~US$170) [AOR = 9.80 (95% CI: 3.10–30.50); P < 0.001], regular blood pressure monitoring [AOR = 5.60 (95% CI: 2.40–13.00); P < 0.001], and engaging in physical activity [AOR = 1.90 (95% CI: 1.17–3.70); P = 0.041] as independent factors associated with dietary adherence.

Conclusion
The study underscores the challenges hypertensive patients face in dietary adherence, highlighting the need for targeted interventions to improve patient follow-up and enhance education, awareness, and access to healthy food. These insights will inform nutritional management strategies in Cameroon, aiming to reduce the prevalence of hypertension and improve patients' quality of life.

Keywords: hypertension; nutritional management; adherence; influencing factors; yaoundé; cameroon.

Introduction

Hypertension is one of the most important modifiable risk factors for cardiovascular diseases and remains a major public health challenge worldwide. It is a leading cause of premature mortality and is associated with severe complications, including stroke, coronary heart disease, heart failure, and chronic kidney disease (World Health Organization, 2023; NCD Risk Factor Collaboration, 2021). Despite advances in prevention and treatment, the global burden of hypertension continues to increase, particularly in low- and middle-income countries, where awareness, treatment, and control rates remain suboptimal.

Dietary habits play a crucial role in the prevention and management of hypertension. Excessive consumption of sodium-rich processed foods, saturated fats, and energy-dense diets, combined with inadequate intake of fruits and vegetables, has contributed substantially to the growing prevalence of hypertension and other non-communicable diseases (GBD 2021 Risk Factors Collaborators, 2024). Evidence has consistently shown that adherence to dietary recommendations, including reduced salt intake and increased consumption of fruits and vegetables, can significantly improve blood pressure control and reduce cardiovascular risk among hypertensive patients (Theodoridis et al., 2023; World Health Organization, 2023).

The burden of hypertension is particularly high in sub-Saharan Africa, where rapid urbanization, nutritional transition, and lifestyle changes have accelerated the prevalence of cardiovascular risk factors. Recent global estimates indicate that hypertension affects more than one billion people worldwide, with the highest increases observed in low- and middle-income regions (World Health Organization, 2023; NCD Risk Factor Collaboration, 2021). In Cameroon, hypertension has become a major public health concern, with recent studies reporting that nearly one-third of adults are affected by the condition (Dzudie et al., 2020). In response, national and international health authorities have implemented various strategies aimed at promoting healthy lifestyles, improving disease awareness, and strengthening the management of chronic non-communicable diseases (World Health Organization, 2023).

Although dietary adherence is recognized as a cornerstone of hypertension management, maintaining recommended dietary practices remains challenging for many patients. Previous studies have identified several determinants of dietary adherence, including socio-demographic characteristics, educational level, economic status, lifestyle behaviors, and disease-related knowledge (Kario et al., 2024; Mouenbori Sawi et al., 2025). However, evidence regarding factors influencing dietary adherence among hypertensive patients in Cameroon remains limited. Furthermore, little is known about how socio-economic, behavioral, and disease-management factors affect adherence among patients receiving specialized care in referral hospitals.

Therefore, this study aimed to identify factors associated with dietary adherence among hypertensive patients attending the National Obesity Center and the Cardiology Department of Yaoundé Central Hospital, Cameroon.

Methods

Setting and Study Period

The present study was conducted over a period from April 20 to May 31, 2023, at the National Obesity Center and the Cardiology Department of the Yaoundé Central Hospital. It is situated in the Mfoundi Division, Yaoundé II (Messa) District, in the Central Region of Cameroon. It is a reference center for the management of several chronic diseases, particularly hypertension. The hospital provides specialized consultations and care for patients with hypertension, including multidisciplinary management with a strong emphasis on nutritional approaches.

Study Design and Sample Population

The study was quantitative, cross-sectional, descriptive, and analytical. It included all male and female hypertensive patients aged at least 30 years, whether outpatients or inpatients, who attended the National Obesity Center or the Cardiology Department of the Yaoundé Central Hospital during the study period. Patients who did not consent to participate in the study, non-hypertensive individuals, and pregnant or breastfeeding women were not included. All hypertensive patients who met the inclusion criteria and provided verbal or written informed consent were enrolled in the study. Patients with incomplete questionnaires were excluded from the analysis.

The minimum sample size was calculated according to Yamane's formula: $n = N / 1 + N \times e^2$, where n is the sample size, and the margin of error (0.05 for 5%), N the size of the total population of hypertensives followed up (N=102), giving a sample size of 81 participants. The sampling technique was based on the hypertensive patients seen during the collection periods. All eligible patients seen during those periods were included.

Data Collection Techniques and Tools

Data were collected through a cross-sectional survey using a structured questionnaire divided into sections covering socio-demographic characteristics, clinical and anthropometric data, socio-economic status, dietary habits, and disease management. The questionnaire was pre-tested on 10 hypertensive patients who were not included in the final study sample. This pre-test was conducted to assess the clarity, comprehensibility, and duration of the interview, and feedback obtained was used to refine and improve the instrument. Data collection was carried out through individual face-to-face interviews, supplemented by a review of medical records and patient follow-up cards.

Definition and Operationalization of Variables

The dependent variable in this study was dietary adherence among hypertensive patients, treated as a binary categorical variable. Participants were classified as "adherents" if they reported following the prescribed dietary recommendations and had not missed their diet two or more times during the week preceding the survey. Participants were classified as "non-adherent" if they reported missing their recommended diet two or more times during the same period. Dietary adherence was assessed using self-reported information collected during the interview.

Data Collection Procedure

Patients were recruited in the consultation and

hospitalization units of the National Obesity Centre and the Cardiology Department of Yaoundé Central Hospital. Once in contact with the patients, the investigator introduced himself and clearly explained the study's objectives and activities, referring to an information leaflet. He also answered patients' questions. When patients agreed to take part in the study, they were given an informed consent form to sign. This was followed by a face-to-face questionnaire. A final check of the completed questionnaire was made before thanking each participant for their cooperation.

Data Processing and Analysis

The collected data were entered, exported, cleaned, and coded in Microsoft Excel 2021, and then analysed using RStudio version 4.2.1. Descriptive statistics (univariate analysis), including percentages, frequencies, tables, and charts, were used to describe the collected data. The association between the dependent variable and the independent variables was assessed using binary logistic regression. All variables with a p-value < 0.05 in the bivariate analysis were included in the multivariate analysis. The various indicators were estimated with a significance threshold of $\alpha = 0.05$ and a 95% confidence interval; associations were considered statistically significant when the p-value was < 0.05.

Ethics Approval and Consent to Participate

The study was conducted in accordance with the ethical principles applicable to research involving human subjects. Ethical approval was obtained from the Institutional Ethics Committee for Human Health Research of the University of Yaoundé I (CIERSH/UYI) under reference number: [No. 014/UYI/CIERSH/2023]. Administrative authorisation for the study was also obtained from Yaounde Central Hospital under reference [N0 2023/289/AR/MINSANTE/SG/DHCY/UAF] prior to the start of data collection. Informed consent was obtained from all participants, and confidentiality and anonymity were strictly maintained throughout data collection, processing, and analysis.

Results

This study initially involved 91 hypertensive patients who were invited to participate. Of these, 81 agreed to take part, yielding a response rate of 89%. Those declining were concerned about the confidentiality of their personal information, lacked time, or mentioned fatigue related to their health condition.

Table 1 presents the socio-demographic characteristics of the participants. Females were more represented, accounting for 62% of the sample, compared to 38% for males. Most respondents were married (59%), and the largest age group was 61–70 years (32.09%). The majority of participants had a secondary level of education (54%), while retirees constituted the most represented occupational category (24.69%). Regarding religion, the vast majority of participants identified as Christians (93%).

Table 1. Distribution of participants' socio-demographic characteristics

Variables	Effective n (81)	Parentage (%)
Gender		
Female	50	62
Male	31	38
Age (yr)		
30 to 40	3	3
41 to 50	14	17
51 to 60	22	26
61 to 70	26	32
71 to 80	11	14
81 to 90	5	6
Marital status		
Single	12	15
Married	48	59
Divorced	1	1
Widow/widower	20	24
Education level		
No schooling	4	5
Primary	19	23
Secondary	44	54
Superior/University	14	17
Profession		
Housekeeper	17	21
Civil servant	10	12
Unemployed	3	4
Worker	7	9
Retailer	13	16.
Other	11	14
Retired	20	25
Religion		
Muslim	3	4
Christian	75	93
Animist	3	4

We found that 63% of participants had failed to adhere to their diet on two or more occasions during the week prior to their interview, whilst 37.04% did adhere to it.

Bivariate analysis of sociodemographic factors associated with dietary adherence

Table 2 presents the results of the bivariate analyses concerning sociodemographic determinants associated with dietary adherence. The results show that being female [OR = 3.85 (95% CI: 1.35–10.97), P = 0.012] and having attended university education [OR = 9.60 (95% CI: 1.84–50.00), P < 0.007] were significantly associated with dietary adherence.

Bivariate analysis of socio-economic factors associated with adherence to the diet

The results show that having a monthly income between 50,000 and 100,000 CFA francs [OR = 7.27 (95% CI: 2.80–18.80), P < 0.001] and an income above 100,000 CFA francs [OR = 26.25 (95% CI: 8.20–84.00), P < 0.001] were significantly associated with dietary adherence.

Bivariate analysis of patients' dietary attitudes associated with adherence to the diet

Table 4 presents the results of the bivariate analyses concerning dietary attitudes associated with dietary adherence. Alcohol consumption 2–3 times per week [OR = 0.17 (95% CI: 0.03–0.82), P = 0.03] was significantly associated with dietary adherence.

Table: 2. Bivariate analysis of socio-demographic factors associated with dietary adherence

Variables	Dietary adherence		OR [95% CI]	P-value
	Yes (n = 30)	No (n = 51)		
Age (years)				
30–40 (ref)	3 (10.0)	4 (7.8)	1	–
41–50	4 (13.3)	10 (19.6)	0.53 [0.08–3.35]	0.50
51–60	6 (20.0)	12 (23.5)	0.67 [0.12–3.70]	0.65
61–70	11 (36.7)	15 (29.4)	0.98 [0.20–4.90]	0.98
71–80	4 (13.3)	7 (13.7)	0.76 [0.11–5.33]	0.79
81–90	2 (6.7)	3 (5.9)	0.89 [0.08–9.76]	0.92
Gender				
Male (ref)	6 (20.0)	25 (49.0)	1	–
Female	24 (80.0)	26 (51.0)	3.85 [1.35–10.97]	0.012*
Marital status				
Single (ref)	4 (13.3)	8 (15.7)	1	–
Married	16 (53.3)	30 (58.8)	1.07 [0.28–4.05]	0.92
Divorced	1 (3.3)	2 (3.9)	1.00 [0.07–14.90]	1.00
Widowed	9 (30.0)	11 (21.6)	1.64 [0.37–7.23]	0.52
Educational level				
Primary (ref)	3 (10.0)	16 (31.4)	1	–
Secondary	16 (53.3)	28 (54.9)	3.05 [0.76–12.22]	0.11
University	9 (30.0)	5 (9.8)	9.60 [1.84–50.00]	0.007**
No formal education	2 (6.7)	2 (3.9)	5.33 [0.57–49.90]	0.15
Religion				
Christian (ref)	28 (93.3)	47 (92.2)	1	–
Muslim	1 (3.3)	2 (3.9)	0.84 [0.07–9.89]	0.89
Animist	1 (3.3)	2 (3.9)	0.84 [0.07–9.89]	0.89
Occupation				
Retired (ref)	10 (33.3)	10 (19.6)	1	–
Housewife	5 (16.7)	12 (23.5)	0.42 [0.11–1.66]	0.22
Civil servant	4 (13.3)	4 (7.8)	1.00 [0.20–4.90]	1.00
Unemployed	1 (3.3)	2 (3.9)	0.50 [0.04–6.22]	0.60
Worker	2 (6.7)	5 (9.8)	0.40 [0.07–2.42]	0.32
Trader	5 (16.7)	8 (15.7)	0.63 [0.17–2.34]	0.49
Others	3 (10.0)	10 (19.6)	0.30 [0.07–1.38]	0.12

OR: Odds Ratio; CI: Confidence Interval; p-value: Significance Level; P <0.05" *'

Table: 3. Bivariate analysis of socio-economic factors associated with dietary adherence

Variables	Dietary adherence		OR [95% CI]	P-value
	Yes (n=30)	No (n=51)		
Family size				
0–5 (ref)	14 (46.7)	26 (51.0)	1	—
6–10	7 (23.3)	20 (39.2)	0.65 [0.22–1.95]	0.44
11–14	9 (30.0)	5 (9.8)	3.33 [0.94–11.95]	0.06
Housing occupancy status				
Owners (ref)	14 (46.7)	26 (51.0)	1	—
Tenant	7 (23.3)	20 (39.2)	0.65 [0.22–1.95]	0.44
Free accommodation	9 (30.0)	5 (9.8)	3.34 [0.94–11.91]	0.06
Monthly income (FCFA)*				
<50,000 (Low) (ref)	2 (6.7)	21 (41.2)	1	—
50,000–100,000 (Medium)	18 (60.0)	26 (51.0)	7.27 [1.52–34.86]	0.013
>100,000 (High)	10 (33.3)	4 (7.8)	26.25 [3.64–189.43]	0.001
Source of food supply				
Market (ref)	25 (83.3)	40 (78.4)	1	—
Self-produced	1 (3.3)	2 (3.9)	0.80 [0.07–9.49]	0.86
Donations	1 (3.3)	1 (2.0)	1.60 [0.09–27.12]	0.75
Self-produced/Market	3 (10.0)	8 (15.7)	0.60 [0.14–2.56]	0.49

OR: Odds Ratio; CI: Confidence Interval. *In May 2923, ~600 CFA = US$1

Table 4. Bivariate analysis of dietary attitudes among patients associated with dietary adherence

Variables	Dietary adherence		OR [95% CI]	p-value
	Yes (n=30)	No (n=51)		
Frequency of consumption of staple foods				
4–5/week (ref)	20 (66.7)	32 (62.7)	1	–
2–3/week	8 (26.7)	18 (35.3)	0.71 [0.25–2.02]	0.52
<1/week	2 (6.7)	1 (2.0)	3.20 [0.27–38.52]	0.35
Fruit consumption frequency				
Once/week (ref)	16 (53.3)	19 (37.3)	1	–
Every day	1 (3.3)	1 (2.0)	1.19 [0.07–20.18]	0.90
2–3/week	10 (33.3)	19 (37.3)	0.63 [0.23–1.72]	0.37
4–5/week	3 (10.0)	12 (23.5)	0.30 [0.07–1.21]	0.09
Frequency of vegetable consumption				

Variables	Dietary adherence		OR [95% CI]	p-value
	Yes (n=30)	No (n=51)		
2–3/week (ref)	18 (60.0)	34 (66.7)	1	–
4–5/week	10 (33.3)	14 (27.5)	1.35 [0.50–3.64]	0.55
Once/week	2 (6.7)	3 (5.9)	1.26 [0.19–8.54]	0.81
Frequency of consumption of cold cuts				
Never (ref)	17 (56.7)	31 (60.8)	1	–
2–3/week	12 (40.0)	19 (37.3)	1.15 [0.44–3.00]	0.77
Every day	1 (3.3)	1 (2.0)	1.82 [0.11–30.63]	0.66
Alcohol consumption frequency				
Never (ref)	18 (60.0)	20 (39.2)	1	–
<1/week	9 (30.0)	13 (25.5)	0.77 [0.27–2.24]	0.64
2–3/week	2 (6.7)	13 (25.5)	0.17 [0.03–0.82]	0.03*
4–5/week	1 (3.3)	5 (9.8)	0.22 [0.02–2.07]	0.19
Tobacco consumption				
Never (ref)	27 (90.0)	47 (92.2)	1	–
>5 sticks	2 (6.7)	3 (5.9)	1.16 [0.18–7.58]	0.88
>1 pack	1 (3.3)	1 (2.0)	1.74 [0.10–30.14]	0.71
Cooking responsibility				
Wife (ref)	9 (30.0)	15 (29.4)	1	–
Daughter	8 (26.7)	18 (35.3)	0.74 [0.24–2.28]	0.60
Self	10 (33.3)	14 (27.5)	1.19 [0.39–3.63]	0.76
Other	3 (10.0)	4 (7.8)	1.25 [0.23–6.80]	0.79
Adding salt				
No (ref)	28 (93.3)	47 (92.2)	1	–
Yes	2 (6.7)	4 (7.8)	0.84 [0.14–5.04]	0.85
Behavior during a visit				
Observe diet (ref)	12 (40.0)	15 (29.4)	1	–
Eat everything	18 (60.0)	36 (70.6)	0.63 [0.24–1.64]	0.34

OR: Odds Ratio; CI: Confidence Interval; p-value: Significance Level; P <0.05" *'

Bivariate analysis of knowledge and disease management factors associated with dietary adherence

Table 5 presents the results of the bivariate analyses concerning knowledge and disease management factors associated with dietary adherence. The results reveal that knowing the normal blood pressure range [OR = 3.67 (95% CI: 1.40–9.63), P = 0.008], regularly monitoring blood pressure [OR = 8.20 (95% CI: 2.88–23.31), P < 0.001], knowledge of the consequences of excessive tobacco and alcohol consumption [OR = 6.40 (95% CI: 1.74–23.57), P = 0.005], and engaging in physical activity [OR = 2.86 (95% CI: 1.08–7.56), P = 0.03] were significantly associated with dietary adherence.

Table 5. Bivariate analysis of knowledge and disease management factors associated with dietary adherence

Variables	Dietary adherence		OR [95% CI]	P-value
	Yes (n=30)	No (n=51)		
Comorbidity				
No (ref)	16 (53.3)	33 (64.7)	1	–
Diabetic	12 (40.0)	11 (21.6)	2.25 [0.82–6.17]	0.11
Renal insufficiency	1 (3.3)	5 (9.8)	0.41 [0.04–3.82]	0.44
Dyslipidemia	1 (3.3)	2 (3.9)	1.03 [0.09–12.26]	0.98
Patients' view on disease				
Lifelong illness (ref)	19 (63.3)	27 (52.9)	1	–
Curable	9 (30.0)	21 (41.2)	0.61 [0.23–1.64]	0.33
Don't know	2 (6.7)	3 (5.9)	0.95 [0.15–6.13]	0.96
Duration of disease				
0–1 year (ref)	10 (33.3)	9 (17.6)	1	–
2–3 years	2 (6.7)	10 (19.6)	0.18 [0.03–1.13]	0.07
4–5 years	1 (3.3)	2 (3.9)	0.45 [0.04–5.43]	0.53
>5 years	17 (56.7)	30 (58.8)	0.51 [0.17–1.58]	0.24
Knowledge of BP values				
Yes	18 (60.0)	15 (29.4)	3.67 [1.40–9.63]	0.008*
No (ref)	12 (40.0)	36 (70.6)	1	–
Knowledge of the consequences of excessive tobacco and alcohol consumption				
Yes	28 (93.3)	35 (68.6)	6.40 [1.74–23.57]	0.005*
No (ref)	2 (6.7)	16 (31.4)	1	–
Interest in practicing physical activity for health				
Yes	20 (66.7)	31 (60.8)	1.29 [0.50–3.32]	0.60
No (ref)	10 (33.3)	20 (39.2)	1	–
Regular BP follow-up				
Yes	20 (66.7)	10 (19.6)	8.20 [2.88–23.31]	<0.001***
No (ref)	10 (33.3)	41 (80.4)	1	–
Physical activity				
Yes	20 (66.7)	21 (41.2)	2.86 [1.08–7.56]	**0.03***
No (ref)	10 (33.3)	30 (58.8)	1	–

OR: Odds Ratio; CI: Confidence Interval; p-value: Significance Level; p< 0.001 "***; P <0.05"

Multivariate analysis of factors associated with dietary adherence among hypertensive patients

Table 6 presents the results of the multivariate analyses performed on the previously identified significant variables to control for confounding factors and identify independent predictors of dietary adherence among hypertensive patients attending outpatient clinics or admitted to Yaoundé Central Hospital. The results showed that being female [AOR = 3.72 (95% CI: 1.75–8.20), P = 0.023], having a university education [AOR = 5.80 (95% CI: 2.10–16.00), P < 0.001], and having a monthly income of more than 100,000 CFA francs [AOR = 9.80 (95% CI: 3.10–30.50), P < 0.001] were significantly associated with dietary adherence. Furthermore, regular blood pressure monitoring [AOR = 5.60 (95% CI: 2.40–13.00), P < 0.001] and engaging in physical activity [AOR = 1.90 (95% CI: 1.17–3.70), P = 0.041] were also independently associated with dietary adherence.

Table 6. Multivariate analysis of factors associated with dietary adherence among hypertensive patients

Variable	AOR [95% CI]	P-value
Gender		
Male (ref)	1	–
Female	3.72 [1.75–8.20]	0.023*
Education level		
Primary (ref)	1	–
Secondary	1.09 [0.26–4.18]	0.90
University	5.80 [2.10–16.00]	<0.001***
No formal education	0.85 [0.30–2.40]	0.76
Monthly income (FCFA)		
<50,000 (ref)	1	–
50,000–100,000	3.50 [0.81–9.20]	0.09
>100,000	9.80 [3.10–30.50]	<0.001***
Alcohol frequency consumption		
Never (ref)	1	–
<1/week	0.90 [0.40–2.30]	0.62
2–3/week	0.25 [0.03–2.10]	0.20
4–5/week	1.60 [0.70–3.90]	0.19
Knowledge of BP values		
No (ref)	1	–
Yes	2.40 [0.82–7.70]	0.11
Regular BP follow-up		
No (ref)	1	–
Yes	5.60 [2.40–13.00]	<0.001***
Physical activity practice		
No (ref)	1	–
Yes	1.90 [1.05–3.70]	0.041*

AOR: Adjusted Odds Ratio; CI: Confidence Interval
*In May 2923, ~600 CFA = US$1

Discussion

In this study conducted at Yaoundé Central Hospital, the prevalence of dietary adherence among hypertensive patients was 37.04%, compared with 62.96% who were non-adherent. This low level of adherence highlights a major challenge in the nutritional management of hypertension, particularly in sub-Saharan African settings where socio-economic and structural constraints often limit the sustainable adoption of dietary recommendations.

These findings are consistent with those reported in several studies conducted in similar settings. In Ethiopia, Abera et al. (2024) observed an adherence rate of 28.3%, confirming a high proportion of non-adherent hypertensive patients. Similarly, Gedefa et al. (2024), in a study published in BMJ Nutrition, Prevention & Health, reported a DASH diet adherence rate of approximately 37%, comparable to that observed in the present study. This convergence reinforces the external validity of our results and suggests that difficulties in adhering to nutritional recommendations constitute a recurring problem in resource-limited settings.

Furthermore, a meta-analysis conducted in Ethiopia by Abate et al. (2022) estimated overall adherence to health behaviours, including dietary recommendations, at 50.86%, whilst highlighting significant heterogeneity between studies. This variability could be explained by differences in socioeconomic status, access to healthcare services, the quality of therapeutic education, and cultural norms and dietary practices specific to each context.

Analysis of associated factors showed that dietary adherence varied significantly by gender, with women demonstrating better adherence than men. This finding is consistent with Ambaw et al. (2012), who showed that women with hypertension are more likely to adopt health-promoting behaviours.

Educational attainment was also significantly associated with adherence. This finding is consistent with those of Shim et al. (2020) and Khan et al. (2014), suggesting that patients with a higher level of education have better health literacy and are better able to understand and apply nutritional recommendations.

A high monthly income (over 100,000 CFA francs; ~$170) was also significantly associated with better adherence to the diet. This finding is consistent with that of Francisco et al. (2020), who reported a positive association between income level and adherence to dietary recommendations among patients with hypertension. Similarly, Seligman et al. (2010) showed that low income is a factor in non-adherence, particularly due to economic constraints that limit access to a healthy diet.

Furthermore, several health behaviours were associated with adherence to the diet. Self-monitoring of blood pressure was significantly associated with better adherence. This finding is consistent with findings reported by Hosseininasab et al. (2014) and Ambaw et al. (2012), which show a positive association between self-monitoring of blood pressure and adherence to treatment recommendations, particularly dietary ones (Mbou et al., 2025).

Finally, engaging in physical activity was significantly associated with adherence to a healthy diet. This association is consistent with the findings of Hayes et al. (2022) and Hirsch et al. (2023), which show that regular physical activity improves blood pressure control and promotes the adoption of other healthy behaviours, including a balanced diet.

Strengths and Limitations of the Study

This study provides valuable evidence regarding factors influencing dietary adherence among hypertensive patients attending a major referral hospital in Cameroon. It contributes to the limited body of evidence on dietary adherence in the Cameroonian context and highlights

important sociodemographic, socioeconomic, behavioral, and disease-management factors associated with adherence to dietary recommendations.

However, several limitations should be considered when interpreting the findings. First, the cross-sectional design precludes establishing causal relationships between the identified factors and dietary adherence and only allows the identification of associations. Second, the relatively small sample size (n = 81) may have limited the study's statistical power, reduced the precision of estimated associations, and increased the likelihood of unstable estimates in the multivariable analysis. Third, dietary adherence was assessed using self-reported information, making the findings susceptible to recall and social desirability biases, which may have led to under- or overreporting of adherence behaviors. In addition, because the study was conducted in a single hospital, the findings may not be generalizable to the broader hypertensive population in Cameroon due to socioeconomic differences and variations in access to healthcare services. Finally, certain potential confounding factors, including cultural beliefs, community support, and the availability and affordability of recommended foods, were not sufficiently explored and may have influenced dietary adherence. Moreover, the operational definition of dietary adherence, based on self-reported compliance during the week preceding the survey, may not fully capture the complexity and long-term nature of dietary behaviors among hypertensive patients.

Recommendations and Future Research

Future studies should employ larger, multicenter samples and longitudinal designs to better understand determinants of dietary adherence among hypertensive patients. Further research should also use validated adherence assessment tools and explore the effectiveness of educational and behavioral interventions aimed at improving adherence. Policymakers should prioritize the integration of nutrition education and lifestyle counseling into hypertension management programs to support better cardiovascular health outcomes.

Conclusions

This study highlighted the many factors influencing the nutritional management of hypertensive patients at Yaoundé Central Hospital. Despite the Ministry of Public Health's efforts to promote appropriate interventions, it is concerning that 63.96% of participants did not adhere to their diets during the week preceding the survey. The results indicate that factors such as level of education, income, and dietary attitudes play a crucial role in adherence to dietary recommendations. Awareness of the importance of a balanced diet and access to healthy foods is key to improving hypertension management. In short, to enhance the effectiveness of management strategies, it is imperative to integrate nutrition education programs tailored to patients' needs and to consider socioeconomic factors that may hinder adherence to dietary recommendations. This will not only help reduce the prevalence of hypertension in Cameroon, but also improve the quality of life of the patients concerned.

Author Contributions

JRMT and GMT contributed to the conceptualisation of the study, development of the methodology, scientific interpretation of the findings, and writing of the original draft of the manuscript. GRPD and PCMS contributed to the supervision of the study, project administration, formal analysis, validation, and critical review and editing of the manuscript. KCFT, VCKN, and ONV contributed to data collection, data curation, data validation, and review of the manuscript. TMNN and SGS contributed to the methodology, scientific support, and resources. All authors read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Declaration of Generative AI and AI-Assisted Technologies in Scientific Writing

The authors declare that no generative artificial intelligence tools were used in the preparation of this manuscript.

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Data Availability Statement

Data generated and analyzed during this study are available on request from the authors. We encourage transparency and are willing to share data to support future research. Data will be provided subject to requests respecting the ethical and confidentiality conditions established during the study.

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Conflict of Interest

The authors declare that they have no personal or financial interests to disclose in connection with this research. None of the authors has any financial or personal relationships with other individuals or organizations that could inappropriately influence or bias their work.

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