



## Knowledge and dietary management in menopause transition among health practitioners in Kaduna State

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### Abstract

Menopause marks the permanent cessation of menstruation and represents a major physiological transition in women, typically occurring between 45 and 55 years. It is characterized by fluctuating levels of estrogen and progesterone, which influence metabolism, lipid profile, bone health, body composition, and cardiovascular risk. The objective of this research is to determine the Knowledge, and Dietary Management in Menopause Transition among Health Practitioners in Kaduna State. The study adopted a cross-sectional descriptive research design. The study was conducted in Kaduna South Local Government Area of Kaduna State, Nigeria. The data were exported from the e-questionnaire platform and analyzed using SPSS version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize demographic characteristics, knowledge. The findings reveal relatively high awareness of general menopause symptoms, with 72.5% of practitioners reporting basic knowledge of menopausal transition. The explanations provided by respondents demonstrate emerging awareness of concepts such as antioxidant protection, hormonal balance, and the impact of diet on weight control. These views correspond with recent studies linking healthy dietary habits to reduced vasomotor symptoms, improved sleep, and enhanced metabolic health during menopause.

**Keywords:** Menopause transition, dietary management, health practitioners, Kaduna State

### Introduction

Menopause marks the permanent cessation of menstruation and represents a major physiological transition in women, typically occurring between 45 and 55 years. It is characterized by fluctuating levels of estrogen and progesterone, which influence metabolism, lipid profile, bone health, body composition, and cardiovascular risk. These hormonal changes often predispose women to symptoms such as hot flashes, sleep disturbances, weight gain, mood instability, and long-term complications like osteoporosis and metabolic syndrome. Recent evidence shows that nutrition plays a significant role in mitigating these symptoms and improving overall quality of life during the menopausal transition (Erdélyi *et al.*, 2024).

Healthcare practitioners such as physicians, nurses, dietitians, and community health workers are the primary providers of menopause-related information and counseling. Their knowledge, attitudes, and practices significantly influence women's health-seeking behaviors and dietary choices. Studies indicate that women prefer health practitioners as their main source of menopause information and are more likely to adopt healthier diets when guided by trained professionals (Tariq *et al.*, 2023; Davies *et al.*, 2024). However, global reports show notable disparities in practitioners' understanding of menopause nutrition, leading to inconsistent counseling practices (AISwayied, Frost & Hamilton, 2024).

In Nigeria, and particularly Kaduna State, very limited empirical data exist on the knowledge, attitudes, and practices of health professionals regarding nutrition in menopausal transition. This gap affects the quality of dietary counseling women receive during clinical visits, potentially contributing to poor management of menopausal symptoms and increased risk of chronic disease. Assessing the

competence of health practitioners in this field is therefore essential for improving care delivery and promoting healthier outcomes among midlife women.

### Methodology

#### Research Design

The study adopted a cross-sectional descriptive research design, suitable for assessing knowledge, attitudes, and practices of health practitioners at a single point in time. This design allows the collection of quantitative data without manipulating variables and provides a snapshot of current KAP levels regarding menopause nutrition (Erdélyi *et al.*, 2024).

#### Study Area

The study was conducted in Kaduna South Local Government Area (LGA) of Kaduna State, Nigeria, a region with a high concentration of primary, secondary, and tertiary health facilities. Kaduna South LGA hosts a diverse population of health practitioners, including doctors, nurses, midwives, dietitians, nutritionists, and community health workers. The area was selected due to its accessibility, variety of professional cadres, and its representation of both urban and semi-urban healthcare settings, making it ideal for a KAP assessment (Davies *et al.*, 2024).

#### Study Population

The target population included all health practitioners working in government and private health facilities within Kaduna South LGA, actively involved in women's health services and patient counseling. Inclusion criteria were practitioners who had worked for at least six months in the facility and were available during data collection. Practitioners who declined participation or were on leave

during the study were excluded. This population was chosen because they play a key role in delivering nutrition information and counseling to midlife women experiencing menopause (Tariq *et al.*, 2023)<sup>[4]</sup>.

### Sample Size Determination

The sample size was calculated using Yamane's formula (1967), which considers the total estimated population of health practitioners in the LGA and the desired level of precision. This method ensured adequate representation of various professional cadres while maintaining statistical reliability (AlSwayied *et al.*, 2024).

### Sampling Technique

A multistage sampling technique was employed. First, health facilities were stratified into primary, secondary, and tertiary levels. Facilities were then selected randomly from each stratum. Within selected facilities, respondents were proportionately sampled across professional cadres. Final participant selection was done using convenience sampling, based on availability and willingness to participate, ensuring practical and efficient data collection (Erdélyi *et al.*, 2024).

### Research Instrument

A structured questionnaire served as the primary data collection tool. The instrument was developed after a comprehensive review of current literature (2020–2025) on menopause, nutrition, and health practitioners' KAP. The questionnaire comprised four sections: Section A captured demographic characteristics; Section B assessed knowledge of menopause nutrition; Section C explored attitudes toward dietary management; and Section D assessed practice patterns, including counseling frequency and use of evidence-based guidelines (Davies *et al.*, 2024).

To ensure clarity and content validity, the questionnaire was reviewed by experts in nutrition, reproductive health, and survey research. Recommendations were incorporated to refine language, remove ambiguity, and align items with the study objectives.

### Data Collection Procedure

Data for the main study were collected using an electronic questionnaire (e-questionnaire) disseminated via WhatsApp, email, and online survey tools. The e-questionnaire approach ensured wider reach, reduced physical contact, and allowed participants to respond at their convenience. Respondents received an introductory message explaining the study objectives, voluntary participation, confidentiality, and informed consent. The use of digital platforms also facilitated automatic data capture, reducing data entry errors and enhancing data management (Davies *et al.*, 2024).

### Ethical Considerations

Ethical approval was obtained from an accredited Health Research Ethics Committee in Kaduna State. Permission was also granted by the management of selected health facilities. Participation was voluntary, and all respondents provided informed consent before accessing the e-questionnaire. Confidentiality and anonymity were strictly maintained; personal identifiers were not collected, and data

were securely stored. Participants were free to withdraw at any point without consequence (AlSwayied *et al.*, 2024).

### Data Analysis

Data were exported from the e-questionnaire platform and analyzed using SPSS version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize demographic characteristics, knowledge, attitudes, and practices. Inferential statistics, including chi-square tests and logistic regression, were applied to explore associations between demographic variables and KAP outcomes. Findings were presented in narrative, tabular, and graphical forms for clarity and ease of interpretation (Erdélyi *et al.*, 2024; Davies *et al.*, 2024).

### Conclusion

The distribution across areas of specialization indicates that practitioners from different cadres—including nurses, midwives, doctors, and allied health workers—participated in the study. However, specialization was significantly associated with menopause-related knowledge ( $X^2 = 16.70$ ,  $p = 0.005$ ), demonstrating that certain professionals, possibly those in reproductive health and nutrition fields, may possess more relevant knowledge than those in unrelated specialties. This association is consistent with findings from Ogunyemi *et al.* (2021)<sup>[10]</sup>, who observed that clinicians with training in women's health or nutrition were more knowledgeable about menopause and its dietary management.

### Basic Knowledge of Menopause among Health Practitioners in Kaduna South Local Government

The findings reveal relatively high awareness of general menopause symptoms, with 72.5% of practitioners reporting basic knowledge of menopausal transition (Table 4.9). However, deeper assessment of disease-specific knowledge exposes considerable gaps. A sizeable proportion of practitioners (44.1%) do not know that menopause increases cardiovascular disease risk, while only 42.3% recognize the risk. This is concerning because contemporary literature emphasizes that postmenopausal women experience heightened cardiovascular vulnerability due to estrogen depletion, increased LDL cholesterol, endothelial dysfunction, and higher blood pressure levels (Harvard Women's Health Review, 2022; Li *et al.*, 2022)<sup>[3]</sup>. The lack of awareness among practitioners suggests a missed opportunity for early risk detection and preventive counseling.

Similarly, more than half of the practitioners do not know that menopause increases the risk of osteoporosis (50.7%) and breast cancer (53.4%). These findings reflect substantial knowledge gaps in two of the most critical health concerns for postmenopausal women. Contemporary research indicates that reduced estrogen accelerates bone resorption and increases breast tissue susceptibility to malignancies (Irwin *et al.*, 2023)<sup>[4]</sup>. The low knowledge levels observed in this study align with previous Nigerian and African studies documenting limited provider awareness of menopause-related chronic disease risks (Adebayo & Salihu, 2022; Akintola *et al.*, 2023)<sup>[1, 2]</sup>.

**Table 4.9:** Knowledge of Menopause Transition Among Health Practitioner in Kaduna South Local Government

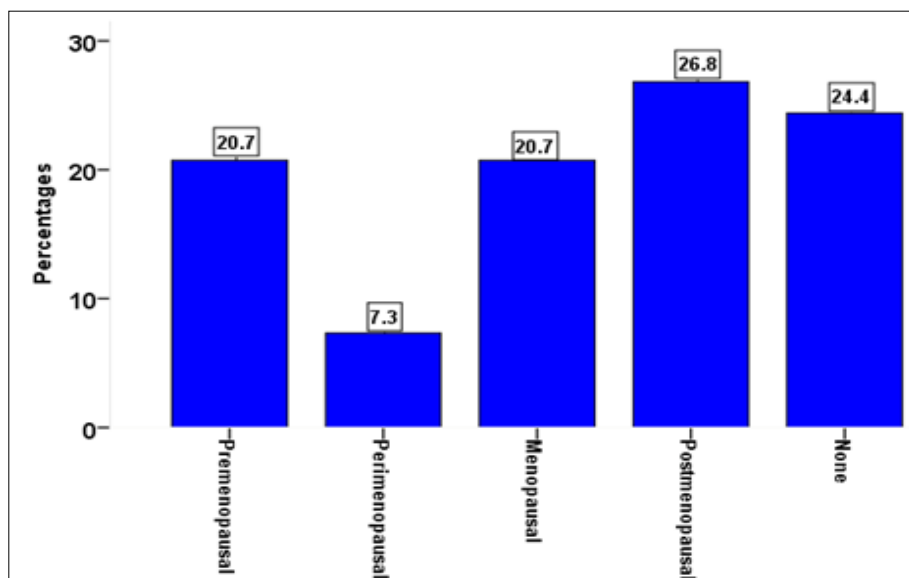
Knowledge of menopause among respondent.	Yes, I know		Not very sure		No, I do not	
	F	%	F	%	F	%
Knowledge of menopause symptoms	473	72.5%	137	21.0%	42	6.4%
Do menopause increases risk of CVD?	276	42.3%	88	13.5%	218	44.1%
Do you know that menopause increases risk of osteoporosis	250	38.4%	74	11.3%	330	50.7%
Do you know that menopause increases risk of breast cancer	206	31.6%	98	15.0%	348	53.4%

**Most Common Stage of Menopausal Women that Attends Your Hospital**

The figure on the most common stage of menopause encountered by practitioners (Figure 4.9) indicates that postmenopausal women represent the highest proportion (26.8%) of those seen in clinical settings. This is consistent with global trends showing that women typically seek medical intervention more frequently during post - menopause when symptoms become more bothersome or when complications arise (NAMS, 2022). However, 24.4% of practitioners report never having encountered a menopausal woman, which raises concerns regarding

service delivery and referral practices in local healthcare facilities.

Regarding the perceived age of menopause onset, Figure 4.10 shows disparities in practitioners’ understanding, with many identifying 53–58 years as the common age bracket, while an unexpected 35.4% believed menopause occurs between 35–40 years, and another 35.4% did not know the age bracket at all. This inconsistency reflects significant educational gaps because menopause before 40 is considered premature ovarian insufficiency, a pathological condition (WHO, 2023). Such findings signal an urgent need for structured menopause education in healthcare facilities.



**Fig 4.9:** Most Common Stage of Menopausal Women that Attends Your Hospital, (N=82)

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