



Assessment of Personal Cleanliness Practices among ... Tsado, L. M., Et. al. (2026)

Assessment of Personal Cleanliness Practices among Older Adults in Northern Nigeria

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Abstract

This study assessed personal cleanliness practices among older adults in Northern Nigeria. The descriptive survey research design was adopted. The population comprised 5,575,179 aged persons in Northern Nigeria's nineteen states and the Federal Capital Territory. A sample of 1,353 respondents was selected using a multi-stage sampling procedure involving stratified, simple random, proportionate, and systematic sampling techniques. A researcher-developed and validated questionnaire, the Assessment of Personal Cleanliness Practices among the Aged Population in Northern Nigeria Questionnaire (APCPAPNNQ), was used for data collection, with a reliability coefficient of 0.879 established through a pilot study. Descriptive statistics of frequency and percentages were used to describe the demographic characteristics of respondents, while mean and standard deviation were used to answer the research question. The one-sample t-test was used to test the stated hypothesis at a 0.05 level of significance. The result revealed that personal cleanliness practices among older adults in Northern Nigeria are significant ($t = 45.29$; $p = 0.000$), with an aggregate mean score of 3.26 exceeding the criterion mean of 2.50. The study concluded that older adults in Northern Nigeria generally practise good personal cleanliness, although specific gaps exist in oral hygiene frequency, respiratory hygiene etiquette, and certain toilet-related practices. The study recommends sustained hygiene education programmes targeted at older adults to reinforce and improve on the existing good practices.

Keywords: Personal Cleanliness, Health Practices, Older Adults, Ageing, Northern Nigeria

Introduction

Personal cleanliness refers to the set of hygiene-related behaviours and practices that individuals engage in to maintain bodily and environmental sanitation, including handwashing, bathing, oral care, clothing hygiene, and waste disposal. Among older adults, personal cleanliness constitutes a fundamental health practice that directly influences susceptibility to infections, skin conditions, self-esteem, social acceptance, and overall quality of life (Fakoya et al., 2018). As ageing brings physiological changes such as reduced mobility, declining vision, and chronic conditions like arthritis, the maintenance of adequate personal hygiene becomes increasingly challenging, making it a critical area of public health concern for the growing elderly population worldwide. Globally, health-related self-care practices among older adults, of which personal cleanliness forms a core



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component, vary considerably across regions and socioeconomic contexts. In developed countries, older adults generally demonstrate better self-care and hygiene-related practices, supported by robust healthcare systems and health promotion initiatives, with approximately 65-70% of elderly individuals regularly engaging in recommended preventive health measures (Kessler & Bowen, 2023). In contrast, low- and middle-income countries face more severe challenges, with only 25-30% of older adults having consistent access to essential health resources needed to sustain good hygiene and self-care practices (Johnson, Williams & Anderson, 2024). The COVID-19 pandemic further disrupted these practices, with nearly 78% of older adults in developing countries reporting disruptions to their regular health and hygiene routines during the pandemic period (World Health Organisation [WHO], 2023). In Africa, personal cleanliness practices among the aged are deeply shaped by cultural norms, economic constraints, and limited access to water, sanitation, and hygiene infrastructure. Only about 22% of older adults in sub-Saharan Africa have access to comprehensive healthcare services that support preventive self-care, with pronounced rural-urban disparities (African Union [AU], 2023). Economic hardship also significantly constrains hygiene practices, as pension coverage reaches only about 15% of older adults continent-wide (International Labour Organisation [ILO], 2023), leaving many elderly Africans unable to afford basic hygiene products such as soap, toothpaste, and clean clothing. Family support systems, on which many older Africans depend for such basic provisions, are themselves strained by urbanisation and changing family structures, even though a recent five-country study found that 68% of older adults rely primarily on family members for healthcare and material support (Mburu & Ntaganira, 2023).

In Nigeria, poor access to essential healthcare services compounds the challenges associated with maintaining personal cleanliness among the aged. National data indicated that only 32% of elderly Nigerians have access to essential healthcare services, with a wide urban-rural disparity of 48% versus 21% (Nigeria Demographic and Health Survey [NDHS], 2023). Health insurance coverage stands at less than 5% among older Nigerians (National Health Insurance Authority [NHIA], 2024), so out-of-pocket expenditure remains the dominant mode of financing health and hygiene needs. With projections showing that approximately 6.3% of Nigeria's population, about 15 million people, will be aged 60 years and above by 2030 (National Population Commission [NPC], 2023), the burden of ensuring adequate personal hygiene for a rapidly growing elderly population is set to increase substantially. Personal cleanliness among Nigerian older adults specifically encompasses regular bathing, oral care, handwashing, and the maintenance of clean clothing and living environments. However, Samson (2018) documented significant challenges in maintaining adequate personal cleanliness among the aged in Kaura Local Government Area of Kaduna State, where approximately 42.3% obtained drinking water from potentially contaminated sources such as mono-pumps, and only 21.3% treated water before consumption. The ability of older adults to maintain personal cleanliness is often constrained by physical limitations associated with ageing, including reduced mobility and chronic conditions that make basic hygiene activities difficult. Research by Uzobo and Dawodu (2015) similarly revealed that aged individuals in rural areas experience poorer hygiene conditions than their urban counterparts, largely due to inadequate access to clean water and sanitation facilities. Socioeconomic constraints further limit many elderly Nigerians' ability to afford basic hygiene products, even though maintaining good hygiene has been linked to improved self-esteem, social acceptance, and mental well-being among the aged (Fakoya et al., 2018). Previous empirical studies have examined related dimensions of self-care and hygiene among older populations. Omotara, Yahya, Wudiri, Amodu, Bimba and Unyime (2015), in a cross-sectional study of 1,600 rural elderly in Northern Nigeria, found that 92.1% did not smoke and 93.5% did not



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consume alcohol, reflecting a broader pattern of health-conscious personal behaviour among this population. Assi and Ukommi (2018), using a descriptive survey of 384 elderly respondents in Akwa Ibom State, found a significant positive relationship between health practices, including nutrition-related self-care, and longevity. Similarly, Irwan, Kato, Kitaoka, Kido, Taniguchi and Shogenji (2016), in a study of 140 older adults in urban Indonesia, reported that despite some dietary inconsistencies, 88.6% of respondents consistently maintained positive dietary and hygiene-related self-care practices, lending international support to the pattern observed among Nigerian elderly populations. Despite this pattern of general health consciousness, older adults in Northern Nigeria specifically face compounding challenges in sustaining comprehensive personal cleanliness. The region's largely rural population (approximately 65%), heavy reliance on subsistence agriculture, and comparatively low access to healthcare facilities within 5 kilometres of residence (28%, against a national average of 35%) (Federal Ministry of Health [FMOH], 2024) create a context in which basic hygiene needs may be poorly served. Observations across the region further suggest that while religious norms, particularly Islamic prescriptions around ritual cleanliness (Taharah), may reinforce certain hygiene behaviours, poverty, limited access to clean water, and low awareness of age-specific hygiene needs continue to constrain full adherence to recommended personal cleanliness practices, particularly in the domains of oral hygiene frequency, respiratory hygiene etiquette, and safe toilet-related practices. Despite the growing body of literature on health practices among the aged in Nigeria, most existing studies have concentrated on general healthcare utilisation, disease outcomes, or overall well-being, with comparatively little empirical attention paid specifically to personal cleanliness as a distinct health practice among older adults in Northern Nigeria. It is against this backdrop that this study sought to assess personal cleanliness practices among older adults in Northern Nigeria.

Research Methodology

The descriptive survey research design was employed for this study, as it enabled the researcher to obtain the opinions of a representative sample of the target population on their personal cleanliness practices, and to infer the perceptions of the entire population (Aggarwal & Ranganathan, 2019). The population of the study comprised all aged persons in the nineteen states of Northern Nigeria and the Federal Capital Territory, Abuja, totaling 5,575,179 persons, spread across the North Central, North East, and North West geopolitical zones. A sample size of 1,353 respondents was determined as adequate to represent the population, based on a 99% confidence level with a margin of error of 0.035 (Research Advisor, 2006). A multi-stage sampling procedure was used to select the sample. In Stage I, stratified sampling was used to divide Northern Nigeria into its three existing geopolitical zones. In Stage II, simple random sampling by balloting without replacement was used to select two states from each zone, yielding Kwara and Niger (North Central), Bauchi and Gombe (North East), and Kaduna and Kano (North West). In Stage III, stratified sampling was used to divide each selected state into its existing senatorial zones. In Stage IV, simple random sampling was used to select one local government area (LGA) from each senatorial zone, yielding eighteen LGAs in total. In Stage V, proportionate sampling was used to determine the number of respondents drawn from each LGA, based on the LGA's aged population relative to the total sample population of 301,235 across the sampled LGAs. In Stage VI, systematic random sampling with a fixed interval of every third household was used to select respondent households within each LGA, beginning from a fixed reference point (the LGA Secretariat Office), with only one aged respondent selected per eligible household. Data were collected using a section of a researcher-developed instrument titled "Assessment of Personal Cleanliness Practices among the Aged Population in Northern Nigeria Questionnaire (APCPAPNNQ)" For this study, Section A (seven items on demographic characteristics:



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gender, age, level of education, ethnicity, religious affiliation, occupation, and family support) and Section B (20 items on personal cleanliness practices) of the instrument were used. A four-point modified Likert scale of Always (4), Often (3), Sometimes (2), and Never (1) was used, with a criterion mean of 2.50 used to determine positive or negative practice. The face and content validity of the instrument was established by five experts from the Department of Human Kinetics and Health Education and the Department of Nursing Science, Ahmadu Bello University, Zaria. A pilot study was conducted among fifty aged persons in Lokoja LGA of Kogi State, an area outside the main study sample but sharing comparable characteristics with the target population. Cronbach's Alpha analysis of the pilot data produced an overall reliability coefficient of 0.879, indicating high internal consistency (Kerlinger, 2016). Data collection was carried out over six weeks, with one week allocated per state, using twelve trained research assistants (two per state). Questionnaires were administered to respondents in their households using the systematic sampling procedure described above, and completed copies were retrieved immediately to prevent loss. Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 26.0. Descriptive statistics of frequency and percentage were used to analyse demographic data; mean and standard deviation were used to answer the research question, and a one-sample t-test was used to test the null hypothesis at the 0.05 level of significance.

Presentation of Results

Table 1: Demographic Characteristics of the Respondents (n = 1,353)

Variables	Options	Frequency	Percentage (%)
Gender	Female	779	57.6
	Male	574	42.4
Age Range (Years)	60 – 69	597	44.1
	70 – 79	409	30.2
	80 and above	347	25.6
	None	473	35.0
Level of Education	Primary	386	28.5
	Secondary	178	13.2
	Tertiary	316	23.4
	Yoruba	194	14.3
Ethnicity	Igbo	69	5.1
	Hausa	673	49.7
	Nupe	187	13.8
	Others	230	17.0
Religion	Christianity	526	38.9
	Islam	827	61.1
Occupation	Unemployed	209	15.4
	Self-employed	348	25.7
	Civil Servant	109	8.1
	Farmer	439	32.4
	Retiree	248	18.3
Family Support	Living alone	372	27.5
	Living with others	981	72.5

Table 1 shows that the majority of respondents were female (57.6%), aged 60–69 years (44.1%), and had no formal education (35.0%). The Hausa ethnic group constituted the largest proportion (49.7%), Islam was the predominant religion (61.1%), farming was the most common occupation (32.4%), and most respondents lived with others (72.5%) rather than alone.



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Research Question: What are personal cleanliness practices among older adults in Northern Nigeria?

Table 2: Mean Scores of Responses on Personal Cleanliness Practices among Older Adults in Northern Nigeria

S/N	Personal Cleanliness Item	Mean	Std. Dev.
1	Before eating, I wash my hands with: Soap and water	3.43	0.72
	Water only	3.81	0.73
2	I brush my teeth: Once	3.75	0.70
	at least twice daily	2.45	0.78
	after meals	2.47	0.73
	with a toothbrush and toothpaste	3.64	0.72
3	I take my bath: daily	3.89	0.68
	two days interval	2.13	0.78
4	I wash my clothes: At least once a week	3.76	0.74
	Separately when heavily soiled	3.12	0.81
	With soap/detergent	3.74	0.72
5	I change my underwear: Daily	3.85	0.73
	After sweating	3.03	0.70
	Before going to bed	3.13	0.78
6	I trim my fingernails: at least once a week	3.42	0.73
	keeping nails short and clean	3.47	0.72
	with clean trimming tools	2.51	0.68
7	I cover my mouth and nose when sneezing/coughing: with hand	3.82	0.78
	with a tissue or handkerchief	2.51	0.74
	into my elbow/sleeve	2.57	0.81
	turning away from others	2.89	0.72
8	I keep my environment clean.	3.76	0.73
9	I wash fruits and vegetables before eating them.	3.53	0.70
10	I dispose of household waste: Basket	2.58	0.78
	Dustbin	2.98	0.73
	Dumpsite	2.53	0.75
	A corner in the house	2.43	0.77
11	I clean my toilet/bathroom.	3.57	0.71
12	I wash my hands after using the toilet: With water only	3.63	0.76
	With soap	3.42	0.74
	Towel	2.41	0.72
13	I wear clean clothes daily.	3.45	0.79
14	I clean my ears regularly.	3.22	0.76
15	I clean my hair or head covering.	3.12	0.74
16	I use clean water for: Drinking	3.78	0.73
	Cooking	3.76	0.75
17	After meal, I: rinse my mouth	3.57	0.77
	brush or floss	3.49	0.71
18	I wash my hands after touching dirty objects: with water	3.69	0.76
	with water and soap	3.53	0.74
	hand sanitiser	2.57	0.72
19	I do not share: Towel	3.53	0.79
	Razor	3.51	0.76
	Sponge	3.49	0.74
20	I wash my bedding.	3.71	0.73
	Aggregate	3.26	



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(Decision Mean = 2.50)

The aggregate mean score of 3.26 indicated that respondents demonstrated a relatively high level of engagement in personal cleanliness practices. The strongest practices were daily bathing (3.89), changing underwear daily (3.85), covering the mouth with the hand when sneezing (3.82), using clean water for drinking (3.78), and keeping the environment clean (3.76). The weakest practices included bathing at two-day intervals (2.13), using a towel after handwashing (2.41), disposing of waste in a corner of the house (2.43), brushing teeth at least twice daily (2.45), and brushing after meals (2.47), all falling close to or below the decision mean of 2.50, indicating that these recommended practices were less commonly adopted.

Hypothesis: Personal cleanliness practices among older adults in Northern Nigeria are not significant.

Table 3: One-Sample t-test Analysis of Personal Cleanliness Practices among Older Adults in Northern Nigeria

Variable	N	Mean	Std. Dev.	df	t-value	p-value	Decision
Personal Cleanliness Practices	1353	3.26	0.78	1352	45.29	0.000	Rejected
Test Mean	1353	2.50	0.00				

Calculated $p < 0.05$, calculated t-value > 1.972 at df 1352

The result of the one-sample t-test in Table 3 revealed that personal cleanliness practices among older adults in Northern Nigeria are significant, since the calculated p-value of 0.000 was lower than the 0.05 level of significance and the calculated t-value of 45.29 was greater than the critical t-value of 1.972 at 1,352 degrees of freedom. The null hypothesis was therefore rejected, indicating that older adults in Northern Nigeria practise personal cleanliness.

Discussion of Findings

The findings revealed that personal cleanliness practices among older adults in Northern Nigeria were significantly high ($t = 45.29$, $p = 0.000$), with a mean score of 3.26 exceeding the test mean of 2.50. This indicates that respondents regularly engaged in recommended hygiene behaviours, including handwashing, oral hygiene, bathing, and clean clothing maintenance. This finding aligns with Omotara et al. (2015), who found that 92.1% of rural elderly in Northern Nigeria did not smoke and 93.5% did not consume alcohol, reflecting a population that embraces health-promoting personal behaviours; cultural norms and religious values rooted in Islam, which prescribe ritual cleanliness (Taharah), may reinforce regular hygiene practices in this population. The finding is also corroborated by Assi and Ukommi (2018), who found a significant positive relationship between health practices, including nutrition and food intake, and longevity among 384 elderly respondents in Akwa Ibom State, supporting the broader conclusion that older Nigerians demonstrate meaningful engagement with personal health maintenance across diverse geographic settings. Similarly, Irwan et al. (2016), studying 140 older adults in urban Indonesia, reported that despite inconsistent limitation of sugar and salt intake, 88.6% consistently maintained varied dietary and hygiene-related self-care, validating the current finding's international relevance. Nonetheless, specific areas of weakness were identified. Oral hygiene practices were notably inconsistent, with brushing at least twice daily (mean = 2.45) and brushing after meals (mean = 2.47) recording low scores, suggesting most respondents brushed only once daily. Respiratory hygiene etiquette was similarly underdeveloped, as more hygienic alternatives to covering coughs and sneezes with the bare hand, such as tissues or the elbow, were far less practiced. The use of clean nail-trimming tools and hand sanitiser after touching dirty objects was also underutilized. Waste disposal in a corner of the house,



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while below the decision mean (an encouraging sign that it was not widely embraced), and low use of a towel after handwashing, alongside a preference for daily over interval bathing, point to specific gaps warranting targeted health education. Based on the convergence of Nigerian and international evidence, alongside the identified gaps, personal cleanliness practices among older adults in Northern Nigeria are significantly high overall and constitute a vital dimension of their health behaviour, although oral hygiene frequency, respiratory hygiene etiquette, and a few toilet-related practices remain areas requiring deliberate improvement.

Conclusion

The study concludes that older adults in Northern Nigeria exercise personal cleanliness practices, reflecting existing awareness of and commitment to hygiene-related health behaviour. However, specific gaps in oral hygiene frequency, respiratory hygiene etiquette, and certain toilet- and bathing-related practices persist. Sustaining and strengthening these already good practices requires continuous hygiene education programmes.

Recommendation

It is therefore recommended that

1. older adults be encouraged to maintain consistent personal cleanliness practices, including regular bathing, handwashing, oral hygiene, clean clothing, and proper grooming, as these are essential for preventing infections and promoting healthy ageing.
2. Community and primary healthcare-based hygiene education campaigns should specifically target the identified weak areas, including twice-daily toothbrushing, safer respiratory hygiene etiquette, and hand sanitiser use, to further improve the overall hygiene status of the elderly population.

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DOI: <https://doi.org/10.64348/zije.2026598>

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