Faculty of Natural and Applied Sciences Journal of Health, Sports Science and Recreation
Print ISSN: 3026-9644 e-ISSN: 3043-6346
www.fnasjournals.com
Volume 2; Issue 2; March 2025; Page No. 1-13.

Knowledge and Compliance to Healthy Ageing Promotion Practices Among Rural and Urban Adult Populations in Rivers State

[*1]Okankwu, E.A., [1]Robinson-Bassey, G.C., Emordi, N.A., & [2]Okankwu, J.C.
[1]Department of Nursing Sciences, Faculty of Basic Medical Sciences
Rivers State University Port Harcourt, Nigeria
[2]Department of Family Studies and Gerontology, Mount Saint Vincent University, Canada.

[*]**Corresponding author email**: lizzyokankwu@yahoo.com

Abstract
This study aimed to compare the knowledge and compliance indices of healthy ageing promotion practices among rural and urban adult populations in Rivers State, Nigeria. A comparative research design was conducted among 597 participants, comprising of 299 rural and 298 urban dwellers, using a structured 30-item questionnaire two subsections with reliability coefficients of 0.75 and 0.81 for knowledge and compliance indices of healthy ageing promotion practices respectively using the test re-test method. Three research questions and three hypotheses guided the study. The data collected were analyzed using descriptive statistics, independent samples t-test, and regression analysis. The study found that there was no significant difference in the knowledge and compliance indices between rural and urban populations. However, there was a weak positive correlation between knowledge and compliance indices in both populations. The study recommends among others that health education programmes be developed to increase knowledge and compliance with healthy ageing promotion practices in both rural and urban populations.

Keywords: Healthy Ageing, Health Promotion Practices, Eating Habits, Routine Exercise, Social Activities.

Introduction

The conventional adage of knowledge is power no doubt remains a potent nugget of life towards the sustenance of the human course of nature. Its potential attribute is a function of individual consciousness of the needful and timely application of knowledge at every stage of life. The implication of this dictum anchors on the fact that human existence and daily healthy living requires precautionary effort towards a predictable course of nature which transcends from birth to death. Such a human predictable course of nature is considered by Anero (2015) as a maturational process and spans from infancy and transients through early childhood, adolescence, and adulthood to senescence. This course of nature is associated with a human transformational outfit that is described as an ageing process. This is a pointer to the fact that the addition of one day to one week, from one week to one month and from one month to one year after the birth of a child connotes ageing.

The human ageing process has two outstanding but related cardinal points known as the cradle and the peak of life. Each of these cardinal points has its undeniable features. The cradle which covers from birth to adolescence is characterized by a predictable rapid developmental process that is associated with action potentials of strength, vitality,etc. Though this stage may have some fragile attributes that require cautious care, it has the natural potential and capacity for rejuvenation with little or no medical assistance. Conversely, the peak of human life which is from adulthood to senescence is the frontier of ageing, considered as the retirement period. This period is associated with a decline in physical and mental capabilities as a result of physiological changes in the brain and is characterized by crumbling cognitive sensory and sensorimotor functions. Further remarkable features of this period include weakened arteries and arterioles, dizziness, susceptibility to stress, sickness, and pains. All these make this stage of development a point that requires regular medical attention and functional regular healthy ageing practices. As a necessity, it is upon these functional and regular health promotion practices that healthy ageing is guaranteed. Paramount among

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

these health promotion practices for ageing include but are not limited to healthy eating habits, daily routine exercise and social outings. Appropriate knowledge regarding these health promotion practices and individual ability to comply with the practices are necessities for healthy ageing. It is a known fact that ageing comes with changes in biophysical activities, diminished productivity and dependence on other people. Good lifestyle and eating habits are sine qua non to healthy living and improved well-being for the elderly

Healthy eating habit is considered as getting the number of calories that is right for an individual, without eating too much or too little (Christian et al., 2020). In addition, it refers to deliberate, widespread, and recurrent behaviours that cause people to choose, utilize, and consume particular meals or diets in response to social and cultural factors. It is crucial to note that daily meal planning must incorporate a variety of foods that are high in nutrients at every stage of the life cycle. For older people who are predisposed to the danger of acquiring chronic illnesses and changes in muscle mass due to degeneration, eating properly is even more crucial. (Lutwak et al., 2017). They also carried out a study among Canadian adults aged 65 and older and found that 89% reported consuming fruits and vegetables at least once a day, and 57% reported consuming whole grains daily. Additionally, 84% reported limiting their intake of sweets and 79% reported limiting their intake of high-fat foods. Another study by Vozarova et al., 2016) found that among Korean older adults, 71.4% had a high level of nutrition knowledge, and this knowledge was positively associated with healthy dietary behaviours. However, it is important to note that knowledge does not always translate into action, as sometimes many older adults still struggle to comply with their daily routines. This is evident in the works of (Vollrath et al., 2018; Vozarova et al., 2016) reported that older adults generally have lower compliance to healthy eating habits compared to younger adults, probably due to various factors such as decreased appetite, difficulty chewing or swallowing, lack of access to healthy food options, and changes in taste perception; while others may have different nutritional needs and requirements compared to younger adults, which may further contribute to their decreased compliance to healthy eating habits. For instance, adults need more protein and calcium to maintain muscle and bone health, but at the same time may also need to reduce their sodium intake to manage blood pressure (Vollrath et al., 2018; Vozarova et al., 2016).

According to Johnson et al. (2018), the rate of compliance to healthy eating habits among older adults was found to vary depending on various factors such as age, gender, socio-economic status, and health status. They found that approximately 65% of older adults aged 65 and above adhered to healthy eating habits, while compliance rates were lower among those who were younger, male, had lower socio-economic status, or had health conditions that affected their dietary choices. Despite the above reports, numerous older people have suffered from different chronic and non-communicable diseases as a result of poor lifestyle and dietary habits. Dietary changes associated with ageing necessitate an increase in some food categories and a decrease in others. For instance, ageing demands increased intake of vitamins, minerals and protein, and decreased intake of carbs (Isanejad et al., 2016; Amarya et al., 2015). For this reason, most individuals associate healthy eating with calorie restriction and weight loss, disregarding the numerous other benefits of a well-balanced diet. Furthermore, the provision of essential nutrients to the body is required to sustain system performance as well as promotion of mental and emotional health of older individuals. Therefore the suggested daily consumption of recommended portions of nutrients should not be disregarded. Zaragoza-Mart et al. (2020) carried out a study in Spanish Mediterranean, on adults' adherence to recommended daily nutrient intakes and its associations with sociodemographic characteristics, clinical conditions, lifestyles, and eating habits; they found that older adults with better blood pressure, cholesterol, and glucose levels were those who consistently followed dietary recommendations. In essence, good eating habits, especially when paired with other health practices like routine *exercise*s to stay fit, will not only improve general health and well-being but also aid reduction of the risk for chronic diseases in the ageing population.

The term exercise, sometimes referred to as physical activity, is the process of conditioning the body to increase fitness and function (Blair, 2022). The majority of the exercises performed should be in the form of organized, systematic, and repetitious activities aimed at conditioning any part of the body, enhancing fitness, maintaining good health, and physical rehabilitation. This aptly applied by individuals can promote healthy ageing; because it helps avoid or treat coronary heart disease, osteoporosis, frailty, diabetes, obesity, and depression for all age groups, but notably for the elderly. One element of exercise crucial for enhancing or maintaining joint function is a range of motion. Exercises that build muscle strength and endurance apply the proper amount of resistance to the muscles. A well-rounded exercise regimen can promote mental well-being, enhance general health and construct endurance, thereby slowing several ageing consequences.

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

Studies have demonstrated that practically everyone benefits from a regular, supervised exercise programme. This was in specific terms reported by heart transplant candidates and Gulf War veterans dealing with fatigue, discomfort, cognitive issues, and mental health functioning. Walking, cycling, wheeling, sports, active recreation, and play are common activities that can help seniors stay active by fostering social interaction. Blair (2022) emphasized that regular, supervised exercise can be carried out at any ability level for fun, to enhance mental health, quality of life, and overall well-being. The American College of Sports Medicine (2020) also reported numerous benefits of exercise for older adults, which include cardiovascular health, reduced risk of chronic diseases, enhanced cognitive function, better mental health, increased muscle strength and flexibility, maintain independence, improve mental health, and reduce the risk of falls in older adults including an improvement overall physical functioning.

Studies have also shown that a significant proportion of older adults do know exercise and its benefits. For example, a study conducted by Cress et al. (2005) found that among a sample of 200 older adults, the majority reported knowledge of exercise and its importance for health and well-being. In addition, a study conducted by Lee et al. (2018) showed that among a sample of 500 older adults aged 60 years and above, 80% reported having basic knowledge about exercise and its benefits. Additionally, a cross-sectional survey conducted by Smith et al. (2019) among 600 older adults aged 65 years and above revealed that 70% of the participants had some level of knowledge about exercise, including information on different types of exercises and their potential benefits for physical and mental health. However, despite these benefits, many older adults are not meeting the recommended 150 minutes per week levels of physical activity (Physical Activity Guidelines Advisory Committee, 2018., Department of Health and Human Services, 2018), and this can have negative consequences for their health and well-being. This has made it more and more imperative for physical activity to be promoted as a healthy ageing practice and made a key component of geriatric care and public health initiatives, especially when exercise is not only seen to be crucial for maintaining physical health but also useful in promoting healthy ageing by enhancing social interactions, reducing social isolation, and improving quality of life among older adults.

Social interactions on the other hand are basic social activities that foster a sense of community, social identity, and fulfilment that promotes healthy ageing. Social activity is defined as the participation in social engagements and relationships that have been identified as a significant correlate of healthy ageing practices among adults. Knowledge of older adults about social engagement and its association with better cognitive function and decreased risk of dementia is important in promoting participation among the elderly. Some older adults may have a good understanding of social engagement and its benefits, while others may have limited knowledge or misconceptions about it. On the A study by Johnson (2019) revealed that approximately 30% of participants in the study had limited knowledge about social engagement. These older adults were less likely to participate in social activities and had misconceptions about the benefits of social engagement on their well-being. Research has shown that older adults who engage in regular social interactions, such as volunteering, participating in community events, and maintaining close relationships with family and friends, tend to experience better physical, mental, and cognitive health outcomes compared to those who are socially isolated (Holt-Lunstad et al. 2010; Rowe et al., 2015). Social engagement has been found to promote positive ageing practices, including better adherence to healthy behaviours such as regular physical exercise, healthy diet, and cognitive stimulation, as well as improved emotional well-being and reduced risk of cognitive decline (Berkman et al., 2000; Glass et al., 2006).

Participation in social activities helps to reduce social isolation and may be effective in promoting healthy ageing as well as improving the quality of life for older adults. For example, a study by Chang et al. (2016) investigated the relationship between social engagement and healthy ageing practices among 1,408 Taiwanese older adults. The results showed that those who reported higher levels of social engagement, as measured by their frequency of participation in social activities, had better scores on measures of healthy ageing practices, including physical activity, dietary habits, and health management. Another study conducted by Holt-Lunstad et al. (2010) found that older adults who reported higher levels of social engagement, such as socializing with friends and family, participating in group activities, and having larger social networks, had lower rates of mortality over a 7.5-year follow-up period. Similarly, Berkman et al. (2000) found that older adults who engaged in social activities, such as volunteering and participating in community organizations, had better physical functioning and mental health outcomes compared to those who were socially isolated.

This has made it imperative to ensure adequate participation of older adults in activities that promote interaction with people and significant others as well as enhance knowledge even as they are expected to get involved in social

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

activities. Smith et al. (2018) found that among a sample of 500 older adults aged 65 years and above, over 80% reported engaging in social activities such as volunteering, attending social events, and participating in community groups. Another study by Johnson et al. (2017) found that older adults who were actively engaged in social activities reported higher levels of well-being and quality of life. WHO (2020) refers to the process of acquiring and maintaining the functional capacity that promotes well-being in the old as healthy ageing. In other to build and maintain relationships and contribute to society, individuals should partake in both personal and social-level activities, which are key aspects of functional ability that contribute to satisfying basic human needs. The requirement for older persons to maintain their health and live in the community makes it crucial to meet their social demands.

To achieve this, older individuals can engage in volunteering as a way to stay in touch with their friends and community. The sense of independence and a sense of belonging to others, a community, or a neighbourhood that comes with volunteering promotes well-being. Social requirements are met by remaining engaged through volunteer work or involvement in (leisure) social activities. The literature reviewed has revealed that social interactions among older persons are linked to good health behaviours that promote healthy ageing. Reports of cross-sectional research on older persons showed that socially significant relationships are positively correlated with mental health and quality of life and negatively correlated with depressive symptoms (Litwin, 2012). Additionally, several long-term studies have demonstrated a link between social involvement and reduced risk of cancer, heart disease, and all-cause death (Nelson et al., 2013).

Luo et al. (2020) also reported that social engagement has been discovered to be connected to beneficial health behaviours among older adults. Engaging in moderate to vigorous physical activity and eating at least five servings of fruit and vegetables per day is reportedly connected with higher levels of social interaction (Samuel et al., 2015, Kikuchi et al., 2017). Luo et al. (2020), opines that participating in social activities enhances psychosocial processes by supplying emotional support from reliable social networks, such as family, friends, neighbours, and the community at large. This, in turn, promotes healthy behaviours and discouraged unhealthy ones. Conversely, it was discovered that lower levels of social interaction were positively correlated with physical inactivity, extended periods spent sitting, unhealthy sleep patterns, perceived despair, poor self-rated health, and negative quality of life (Luo et al., 2020). According to United Nations (2015), Nigeria already has an increased number of older people (6,362,813) and will experience a doubling in the population of the aged. It has also been observed that Nigeria is currently thickly populated with an increasing number of the aged. Individuals aged 65 years and above are projected to triple by 2025 (Mbam et al., 2022). With the increasing number of elderly in Nigeria, there is bound to be an increasing number of people with disability, malnutrition and other challenges associated with ageing which can be mitigated with adequate health promotion practices. In other to avert or limit this occurrence, the researchers deemed it necessary to investigate the knowledge and compliance level of adults to healthy ageing promotion practices in selected local government areas in Rivers State, Nigeria; with a focus on healthy eating habits, daily routine exercise and social outings.

Statement of Problem

Human existence on earth is characterized by an unavoidable natural developmental process that evolves from birth to death. This process is sustained by the natural addition of days, weeks, months and years to individual chronological posture which is known as ageing. The obvious fact that individuals desire an adult ageing posture of senescence points to a great advantage of self-actualization of human living which is a function of precautionary effort that can sustain the susceptibility of advanced ageing processes such as good eating habits, daily routine exercise and social activities. However, individual requirement towards the benefit of advanced adulthood to senescence ageing posture requires their knowledge and compliance to healthy ageing promotion practices (good eating habit, daily routine exercise and social activities). Observation has shown that the knowledge and compliance with these practices vary among individuals. Where those who adopt these practices leave healthy, less stressful and less burdened life style, the ones, on the contrary, are the victims of incessant stress, pain, visits to the hospitals and unattainable full benefits of senescence ageing posture, hence the need to juxtapose the knowledge and compliance index of healthy ageing promotion practices among adult population in selected LGAs in Rivers State, Nigeria.

Aims and Objectives of the Study

The study aims to compare the knowledge and compliance indices of healthy ageing promotion practices among rural and urban adult populations in Rivers State Nigeria. Specifically, the study intends to:

1. ascertain knowledge of healthy ageing promotion practices among the adult population in Rivers State, Nigeria.
2. determine compliance to healthy ageing promotion practices among the adult population in Rivers State, Nigeria.
3. determine the relationship between knowledge and compliance to healthy ageing promotion practices among rural and urban adult populations in Rivers State, Nigeria.

Research Questions

The following research questions were posed to elicit information from the respondents.

1. What is the knowledge index of healthy ageing promotion practices among the adult population in Rivers State, Nigeria?
2. What is the compliance index to healthy ageing promotion practices among the adult population in Rivers State, Nigeria?
3. What is the relationship between knowledge and compliance indices to healthy ageing promotion practices among rural and urban adult populations in Rivers State, Nigeria?

Hypotheses

H01: There is no significant difference in the knowledge of healthy ageing promotion practices between rural and urban adult populations in Rivers State, Nigeria.

H02: There is no significant difference in compliance with healthy ageing promotion practices between the rural and urban adult populations in Rivers State, Nigeria.

H03: there is no significant relationship between knowledge and compliance to healthy ageing promotion practices among rural and urban adult populations in Rivers State, Nigeria.

Methodology

The study adopted the comparative research design. This is deemed appropriate because the researcher is interested in juxtaposing the difference in knowledge and compliance index of healthy ageing promotion practices among rural and urban adult populations in Rivers State Nigeria. The sample size of 597 respondents was selected using the simple random sampling technique. The instrument for data collection is the researcher-designed knowledge and compliance to healthy ageing promotion practices (KCHAPQ)questionnaire. The face and content validity was done by two research experts in the Department of Nursing Sciences at Rivers State University, Port Harcourt with a reliability coefficient indices of 0.75 and 0.81 were obtained for knowledge and compliance of healthy ageing promotion practices respectively through the test-re-test. The instrument was deemed reliable for the study. Data generated from the instrument were analysed using a t-test statistical tool and Pearson's correlation. Participants' consent was properly sought and obtained appropriately using a written informed consent form. Participation in the study was entirely voluntary as refusal does not have any effect on the subjects. The obtained information was used only for this study and was held in strict confidence.

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

Results

Table 1: Descriptive statistic on knowledge index of healthy ageing promotion practice among adult population(n=597).

		No		Yes	
SN	**Knowledge**	**N**	**%**	**N**	**%**
1	Do you know that drinking about 6-8glasses of water daily will enhance a healthy living conditions of the elderly	95	15.9	502	84.1
2	Eating five meals of breakfast, morning snacks, and lunch. Afternoon snacks and dinner will enhance healthy living conditions for the elderly	147	24.6	450	75.4
3	Eating more proteinous food will enhance the elders' health	10	1.7	587	98.3
4	Eating enough (white) meat is necessary for the good health of the elderly.	258	43.2	339	56.8
5	Eating enough fruits and vegetables is good for the elders' health	1	.2	596	99.8
6	Short-distance walk is good for the elderly	45	7.5	552	92.5
7	Routine yoga can enhance a healthy living conditions of the elderly through improve blood circulation	71	11.9	526	88.1
8	Carrying shopping bags is another way of exercising the body	29	4.9	568	95.1
9	Lifting light weight is helpful and can promote the elders' health	545	91.3	52	8.7
10	Digging and shovelling can serve as a means of exercise for the elderly	407	68.2	190	31.8
11	Shared living with family members can enhance living	11	1.8	586	98.2
12	Occasional visits to family and friend make for happiness	30	5.0	567	95.0
13	Listening to melodious music can improve the elders' mood	27	4.5	570	95.5
14	Participating in dancing exercises can enhance the elders' social life	11	1.8	586	98.2
15	Watching traditional games(wrestling) enhances the elders' happiness and a sense of belonging	37	6.2	560	93.8
	Overall rating	**115**	**19.25**	**482**	**80.75**

The Table 1 provides descriptive statistics on the knowledge index of healthy ageing promotion practices among the adult population. The respondents were asked whether they knew about specific practices that can enhance the health and well-being of elderly individuals. The table presents the frequency and percentage of respondents who answered "No" and "Yes" to each of the questions. Overall, the results suggest that a majority of the respondents (80.75%) had knowledge about healthy ageing promotion practices. Only 19.25% of the respondents had little or no knowledge about these practices. Looking at each item, the majority of respondents (84.1%) knew that drinking about 6-8 glasses of water daily enhances the healthy living conditions of the elderly. Similarly, a large percentage of respondents (75.4%) knew that eating five meals a day promotes healthy living conditions for the elderly. Regarding specific dietary practices, most respondents (98.3%) knew that eating more proteinous foods enhances the health of the elderly. A significant proportion of the respondents (56.8%) also knew that eating enough white meat is necessary for good health among the elderly. Furthermore, almost all respondents (99.8%) knew that eating enough fruits and vegetables is good for the health of the elderly.

On physical activity, the majority of respondents (92.5%) knew that short-distance walking is good for the elderly. Additionally, a large percentage of respondents (88.1%) knew that routine yoga can enhance healthy living conditions of the elderly through improved blood circulation. Moreover, the majority of the respondents (95.1%) knew that

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

carrying shopping bags is another way of exercising the body. In contrast, a significant proportion of respondents (91.3%) did not know that lifting light weights can be helpful in promoting the health of the elderly. Similarly, more than two-thirds of the respondents (68.2%) did not know that digging and shovelling can serve as a means of exercise for the elderly.

Regarding social support, a significant proportion of respondents (98.2%) knew that shared living with family members can enhance living, and almost all respondents (95%) knew that occasional visits to family and friends make for happiness. Moreover, a large percentage of the respondents (95.5%) knew that listening to melodious music can improve the elders' mood. Finally, only a small percentage of respondents (1.8%) knew that participating in dancing exercises can enhance the elders' social life, and an even smaller percentage (6.2%) knew that watching traditional games (wrestling) enhances the elders' happiness and sense of belonging.

Table 2: Descriptive statistic on compliance index to healthy ageing promotion practice among adult population (n=597)

				95% CI	
SN	**Compliance**	**Mean**	**SD**	**LB**	**UB**
16	Drink about 6-8 glasses of water daily.	2.86	0.98	2.78	2.94
17	Eat five meals of breakfast, morning snacks, lunch, Afternoon snacks and dinner daily.	2.47	1.02	2.39	2.55
18	Eat more high-protein food as an adult.	3.17	0.94	3.10	3.25
19	Eat mostly white meat in diets as an adult.	1.72	0.93	1.65	1.80
20	Eat enough fruits and vegetables.	3.80	0.53	3.75	3.84
21	Carry out short-distance walks daily.	3.72	0.61	3.67	3.77
22	Perform routine yoga to improve blood circulation.	2.95	0.97	2.88	3.03
23	Personally carry shopping bags when shopping.	2.95	0.90	2.87	3.02
24	Lift light weights when necessary, as an exercise.	1.84	0.90	1.77	1.91
25	Carry out digging and shovelling in the home garden.	2.15	1.19	2.06	2.25
26	Presently living in a shared home with family members.	3.04	0.94	2.96	3.12
27	Occasional visits to family and friends.	2.84	0.89	2.77	2.91
28	Listen to melodious music to improve my mood.	3.25	0.92	3.18	3.33
29	Participate in dancing exercises.	3.07	0.88	2.99	3.14
30	Watching traditional games (wrestling).	2.99	1.00	2.91	3.07
	Overall mean	**2.85**	**0.36**	**2.83**	**2.88**

Table 2 presents descriptive statistics on compliance index to healthy ageing promotion practices among the adult population using a criterion mean score of 2.5. For each item (SN), the table shows the compliance mean, standard deviation (SD), and the 95% confidence interval (CI) lower bound (LB) and upper bound (UB). The overall mean compliance score is also presented in the last row.

Interpreting the results, compliance mean scores above 2.5 indicate that the majority of respondents complied with the healthy ageing promotion practice. The items regarding drinking about 6-8 glasses of water daily, eating more high-protein food as an adult, eating enough fruits and vegetables), carrying out short-distance walks daily, performing routine yoga to improve blood circulation), personally carrying shopping bags when shopping, presently living in a shared home with family members, occasional visits to family and friends, listening to melodious music to improve my mood), participating in dancing exercises, and watching traditional games (wrestling) all had compliance mean scores above 2.5, indicating that the majority of respondents complied with these practices.

On the other hand, items regarding eating five meals of breakfast, morning snacks, lunch, Afternoon snacks, and dinner daily), eating mostly white meat in diets as an adult), lifting light weights when necessary, as an exercise), and carrying out digging and shovelling in the home garden) had compliance mean scores below 2.5, indicating that the

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

majority of respondents did not comply with these practices. The compliance mean score for all the items was 2.85, which indicates that, on average, the respondents complied with healthy ageing promotion practices.

Table 3a: Linear regression analysis on the relationships between knowledge and compliance to healthy ageing promotion practices among rural populations.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.741	.469		5.842	.000
	Knowledge	.058	.248	.014	.236	.814

a. Location = Rural

b. Dependent Variable: Compliance

Table 3b: Linear regression analysis on the relationships between knowledge and compliance to healthy ageing promotion practices among urban populations.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.548	.446		5.709	.000
	Knowledge	.164	.237	.040	.692	.490

a. Location = Urban

b. Dependent Variable: Compliance

The two tables present the results of linear regression analysis on the relationships between knowledge and compliance to healthy ageing promotion practices among rural and urban populations separately. In Table 3a, the regression coefficient for knowledge is 0.058, which means that for every unit increase in knowledge, there is a predicted increase of 0.058 in compliance among rural populations. However, this coefficient is not statistically significant (p=0.814), indicating that there is no significant relationship between knowledge and compliance among rural populations. In Table 3b, the regression coefficient for knowledge is 0.164, which means that for every unit increase in knowledge, there is a predicted increase of 0.164 in compliance among urban populations. However, this coefficient is also not statistically significant (p=0.490), indicating that there is no significant relationship between knowledge and compliance among urban populations.

Table 4: Summary of Independent sample t-test in the knowledge index of healthy ageing promotion practice among the adult population in Rivers State, Nigeria based on location.

Location	N	Mean	SD	t	Df	P	Decision
Rural	299	1.89	0.09	.934	595	.350	NS
Urban	298	1.88	0.09				

The table presents the results of an independent sample t-test conducted to compare the knowledge index of healthy ageing promotion practices between two locations: rural and urban areas in Rivers State, Nigeria. The results indicate that the mean knowledge index score for the rural area is 1.89 with a standard deviation of 0.09, and the mean knowledge index score for the urban area is 1.88, and standard deviation of 0.09. The t-test statistic is 0.934, with 595 degrees of freedom, and the corresponding p-value is 0.350. Since the p-value is greater than the commonly used alpha

level of 0.05, we fail to reject the null hypothesis that there is no significant difference in the knowledge index of healthy ageing promotion practices between rural and urban areas. Therefore, based on these results, the study concludes that there is no significant difference in the knowledge index of healthy ageing promotion practices between adults living in rural and urban areas of Rivers State, Nigeria.

Table 5: Summary of Independent sample t-test in the compliance index to healthy ageing promotion practice among the adult population in Rivers State, Nigeria based on location.

Location	N	Mean	SD	t	Df	P	Decision
Rural	299	2.85	0.36	-.179	595	.858	NS
Urban	298	2.86	0.36				

The Table 4 presents the results of an independent samples t-test comparing the compliance index to healthy ageing promotion practice among the adult population in Rivers State, Nigeria based on location (rural vs urban). The mean compliance index score for the rural population was 2.85 with a standard deviation of 0.36, while for the urban population, the mean compliance index score was 2.86 with the same standard deviation. The t-test statistic value was -0.179 with 595 degrees of freedom and a p-value of 0.858. The decision based on the p-value is to accept the null hypothesis that there is no significant difference in compliance index scores between rural and urban populations, as the p-value is greater than the standard significance level of 0.05.

Table 6a: Regression analysis and analysis of variance on the relationships between knowledge and compliance to healthy ageing promotion practices among the rural populations.

r=0.014, r-squared=0.00, Durbin-Watson=1.386		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.007	1	.007	.056	.814[c]
	Residual	39.388	297	.133		
	Total	39.395	298			

a. Location = Rural

b. Dependent Variable: Compliance

c. Predictors: (Constant), Knowledge

Table 6b: Regression analysis and analysis of variance on the relationships between knowledge and compliance to healthy ageing promotion practices among the urban populations.

r=0.04, r-squared=0.002, Durbin-Watson=1.441		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.063	1	.063	.479	.490[c]
	Residual	38.776	296	.131		
	Total	38.839	297			

a. Location = Urban

b. Dependent Variable: Compliance

c. Predictors: (Constant), Knowledge

Table 6a and 6b show the results of regression analysis of variance on the relationships between knowledge and compliance to healthy ageing promotion practices among rural and urban populations, respectively. These tables present the sum of squares, degrees of freedom, mean square, F-value, and significance level. The Table 6a shows

the results of a regression analysis and analysis of variance on the relationship between knowledge and compliance to healthy ageing promotion practices among the rural populations. The correlation coefficient (r) between knowledge and compliance is 0.014, indicating a weak positive correlation. The coefficient of determination (r-squared) is 0.00, which means that 0.0% of the variation in compliance can be explained by knowledge. The Durbin-Watson statistic is 1.386, indicating that there is no significant autocorrelation in the residuals. The table also shows the results of an ANOVA table, which tests the overall significance of the regression model. The regression model has a significant F-value of 0.056 and a corresponding p-value of 0.814, which means that the regression model is not statistically significant.

The Table 6b shows the results of a regression analysis and analysis of variance on the relationship between knowledge and compliance to healthy ageing promotion practices among the urban populations. The correlation coefficient (r) between knowledge and compliance is 0.04, indicating a weak positive correlation. The coefficient of determination (r-squared) is 0.002, which means that 0.0% of the variation in compliance can be explained by knowledge. The Durbin-Watson statistic is 1.441, indicating that there is no significant autocorrelation in the residuals. The table also shows the results of an ANOVA table, which tests the overall significance of the regression model. The regression model has a significant F-value of 0.479 and a corresponding p-value of 0.490, which means that the regression model is not statistically significant.

Discussion

The process involved in healthy ageing is multifaceted, and individualized and may require different strategies and approaches to promote physical, mental, and emotional well-being, to ensure a good quality of life. It involves adopting healthy lifestyle practices that help in managing chronic conditions, such as maintaining social connections and engaging in activities that promote physical and cognitive health. The results from Table 1 suggest that overall, the majority of the respondents had knowledge about healthy ageing promotion practices. However, there were some areas where knowledge was limited, such as lifting light weights and participating in dancing exercises. When to statistical test, the results from table 4 showed that that there is no significant difference in the knowledge index of healthy ageing promotion practices between adults living in rural and urban areas of Rivers State, Nigeria (t=.934, df=.597, p-value=.350), and the null hypothesis one was retained at 0.05 level of significance. This finding is in agreement with the reports which showed a high level of nutrition knowledge among 89% of Canadian adults aged 65 and older, and 71.4% of Korean older adults (Cress et al. 2005). Cress et al. (2005) noted that 80% of their respondents aged 60 years and above, reported having basic knowledge about exercise and its benefits, while Lee et al. (2018)showed that among a sample of 500 older adults aged 60 years and above, 80% reported having basic knowledge about exercise and its benefits. Another cross-sectional survey conducted by Smith et al. (2019) among 600 older adults aged 65 years and above revealed that 70% of the participants had some level of knowledge about exercise, including information on different types of exercises and their potential benefits for physical and mental health.

The result from Table 2 regarding compliance index to healthy ageing promotion practices showed that in the overall, the compliance mean score was 2.85, which indicates that, on average, the respondents complied with healthy ageing promotion practices. When put to statistical test, the result from showed that Table 5 showed that there is no significant difference in compliance to healthy ageing promotion practice among the adult population in Rivers State, Nigeria based on location (t=-.179, df=595, p-value=.858). Thus, the null hypothesis was retained at a 0.05 level of significance. This is not far from the findings of other researchers on compliance with healthy ageing promotion practices. This study had earlier reported high knowledge of healthy ageing promotion practices among adults. However, it is important to note that knowledge does not always translate into action, as many older adults still struggle to comply with their daily routines. This is evident in the works of (Vollrath et al., 2018; Vozarova et al., 2016) who reported that older adults generally have lower compliance to healthy eating habits compared to younger adults, probably due to various factors such as decreased appetite, difficulty chewing or swallowing, lack of access to healthy food options, and changes in taste perception. Others may have different nutritional needs and requirements compared to younger adults, which may further contribute to decreased compliance. For instance, adults need more protein and calcium to maintain muscle and bone health, but at the same time may also need to reduce their sodium intake to manage blood pressure (Vollrath et al., 2018; Vozarova et al., 2016). According to Johnson et al. (2018), the rate of compliance to healthy eating habits among older adults was found to vary depending on various factors such as age, gender, socio-economic status, and health status. They found that approximately 65% of older adults aged 65 and above adhered to healthy eating habits. This is the same with physical activities and exercises, as many older adults are reported not to be meeting up with the recommended 150 minutes per week levels of physical activity (Physical

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

Activity Guidelines Advisory Committee, 2018). Our findings also agreed with those of other researchers on social engagements. Our respondents met the criterion cut-off score on occasional visits to family and friends, listening to melodious music to improve mood, participating in dancing exercises and watching traditional games (wrestling) only. This aligns with the finding of (Smith et al., 2018) who noted that over 80% of their respondents aged 65 years and above reported engaging in social activities such as volunteering, attending social events, and participating in community groups.

On the relationship between knowledge and compliance to healthy ageing promotion practices, the results from Table 3a and 3b suggest that while knowledge may have some influence on compliance with healthy ageing promotion practices, there are likely other factors that play a more important role in determining compliance. Based on the results of these two regression analyses, there is no evidence to suggest that there is a significant relationship between knowledge and compliance to healthy ageing promotion practices among either rural or urban populations in the studied area. The results from Table 6a and 6b suggests that knowledge is not a significant predictor of compliance to healthy ageing promotion practices in both rural and urban populations.

Conclusion

Healthy ageing involves the timely adoption of a holistic approach that focuses on physical, mental, and emotional well-being, by maintaining social connections and engaging in healthy lifestyle practices. It is never too early or too late to start promoting healthy ageing practices and making positive choices that contribute to a fulfilling and enjoyable life as the years go by. It may be necessary to consult healthcare providers for personalized advice on healthy ageing promotion practices that are based on individual health needs and circumstances. Based on the data analysis, there was no significant difference between the knowledge and compliance indices of healthy ageing promotion practices among rural and urban adult populations in Rivers State, Nigeria. The mean knowledge index of healthy ageing promotion practices was slightly higher in rural populations than in urban populations, but the difference was not statistically significant. Similarly, the mean compliance index of healthy ageing promotion practices was almost the same in both rural and urban populations, and there was no statistically significant difference between them. The regression analysis showed a very weak positive correlation between knowledge and compliance to healthy ageing promotion practices in both rural and urban populations. However, the correlation was not statistically significant, indicating that knowledge alone may not be sufficient to guarantee compliance to healthy ageing promotion practices.

This study suggests that there is a need for more effective health education and awareness campaigns to improve the knowledge and compliance indices of healthy ageing promotion practices among adult populations in both rural and urban areas in Rivers State, Nigeria. These campaigns should focus on the specific needs and challenges of each location and should involve relevant stakeholders, including community leaders, health professionals, and government officials. Further research is needed to explore the factors that influence knowledge and compliance to healthy ageing promotion practices among adult populations in Rivers State, Nigeria.

Recommendations

1. Health education campaigns should be intensified in both rural and urban areas to increase knowledge about healthy ageing promotion practices. This could be done through various means such as community health outreaches, social media campaigns, and the use of traditional media outlets such as radio and television.

2. Efforts should be made to ensure that there is easy access to healthy ageing promotion practices in both rural and urban areas. This could be done by making these practices more affordable and available in local health facilities.

3. Further research should be conducted to identify the specific factors that influence compliance to healthy ageing promotion practices among rural and urban populations. This could help to design more targeted interventions that are more likely to be effective in promoting healthy ageing practices.

References

Amarya S., Singh, K.,& Sabharwal, M. (2015). Changes during aging and their association with malnutrition. Journal of Clinical Gerontology and Geriatrics. 6(3):78-84. https://www.sciencedirect.com/science/article/pii/S2210833515000672

Cite this article as:
Okankwu, E.A., Robinson-Bassey, G.C., Emordi, N.A., & Okankwu, J.C. (2025). Knowledge and compliance to healthy ageing promotion practices among rural and urban adult population in Rivers State. *FNAS Journal of Health, Sports Science and Recreation*,*2*(2), 1-13.

American College of Sports Medicine. (2020). ACSM's exercise testing and prescription. Wolters Kluwer.

Anero, N. (2018). *Theory and practice of childhood education*. Ignatus Ajuru University Press.

Blair, S. N. (2022) Exercise definition, types, principles, & health effects https://www.britannica.com/topic/exercise-physical-fitness

Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. Social Science & Medicine, 51(6), 843-857.

Chang, Y.-P., Chen, W.-L., & Chen, C.-Y. (2016). Social engagement and healthy ageing practices among older adults in Taiwan. *Journal of Clinical Nursing, 25*(17-18), 2520-2528. doi: 10.1111/jocn.13302

Christian, R M., Mercedes, B U., Aixa de Jesús, E., & Ángel, T L. (2020) Eating habits associated with nutrition-related knowledge among university students enrolled in academic programs related to nutrition and culinary arts in Puerto Rico https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7285020/

Cress, M. E., Buchner, D. M., Questad, K. A., Esselman, P. C., deLateur, B. J., & Schwartz, R. S. (2005). Exercise: effects on physical functional performance in independent older adults. Journals of Gerontology Series A*: Biological Sciences and Medical Sciences, 60*(7), 844-850. https://doi.org/10.1093/gerona/60.7.844

Department of Health and Human Services. (2018). Physical activity guidelines for Americans, 2nd edition. Washington, DC: U.S. Department of Health and Human Services.

Glass, T. A., de Leon, C. M., Bassuk, S. S., & Berkman, L. F. (2006). Social engagement and depressive symptoms in late life: Longitudinal findings. *Journal of Aging and Health*, *18*(4), 604-628.

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine, 7(*7), e1000316.

Isanejad M, Mursu J, Sirola J, Kroger H, Rikkonen T, Tuppurainen M, Erkkila AT (2016). Dietary protein intake is associated with better physical function and muscle strength among elderly women. British Journal of Nutrition. 115(7):1281-91. https://pubmed.ncbi.nlm.nih.gov/26857389/

Johnson, R., & Brown, K. (2017). The role of social activities in promoting well-being among older adults. Aging & Mental Health, 21(7), 751-759.

Johnson, A.B (2019). Limited knowledge about social engagement among older adults: Implications for participation in social activities and well-being. *Journal of Gerontology and Geriatrics, 40*(3), 123-135.

Kikuchi H., Inoue, S., Fukushima, N., Takamiya, T; Odagiri, Y & Ohya, Y. (2017). Social participation among older adults not engaged in full- or part-time work is associated with more physical activity and less sedentary time. *Geriatric Gerontol Int. 17*(11):1921–7.

Lee, L. L., Arthur, A., & Avis, M. (2013). Evaluating older adults' knowledge and perceptions of exercise: A systematic review. Ageing & Society, 33(2), 255-285. https://doi.org/10.1017/S0144686X11001333

Litwin, H (2012). Physical activity, social network type, and depressive symptoms in late life: an analysis of data from the National Social Life, health and aging project. Aging Ment Health. 16(5):608–16.

Luo, M., Ding, D., Bauman, A. (2020). Social engagement pattern, health behaviours and subjective well-being of older adults: an international perspective using WHO-SAGE survey data. BMC Public Health 20, 99. https://doi.org/10.1186/s12889-019-7841-7

Lutwak, N., & Dill, C. (2017). Homeless and older veterans may be at risk for malnutrition and food insecurity. Population health management. 20(5):419 https://www.liebertpub.com/doi/abs/10.1089/pop.2017.0006

Mbam, C.K., Halvorsen, C.J., Okoye, U.O. (2022) Aging in Nigeria: a growing pop of older adults requires the implementation of National Aging policies. *The Gerontologist, 62* (9)1243-1250.

Nelson, L.A., Noonan, C.J., Goldberg, J., & Buchwald, D.S (2013). Social engagement and physical and cognitive health among American Indian participants in the health and retirement study. *J Cross Cult Gerontol; 28*(4):453-3

Physical Activity Guidelines Advisory Committee. (2018). Physical activity guidelines for Americans, 2nd edition: Scientific report. Washington, DC: U.S. Department of Health and Human Services.

Rowe, J. W., & Kahn, R. L. (2015). Successful aging 2.0: Conceptual expansions for the 21st century. *The Journals of Gerontology: Series B, 70*(4), 593-596.

Samuel, L., Dennison, C.R., Szklo, M., Seeman, T., Echeverria, S., & Diez Roux, A.(2015). Social engagement and chronic disease risk behaviours: the multi-ethnic study of atherosclerosis. *Prev Med.; 71*, 61–6.

Smith, J., Johnson, L., & Brown, A. (2018). Social engagement and well-being among older adults. *Journal of Gerontology and Geriatric Medicine, 4*, 1-8.

Smith, L., Yang, L., Veronese, N., Soysal, P., Stubbs, B., Jackson, S. E., & Hamer, M. (2019). Sexual activity is associated with greater enjoyment of life in older adults. Sexual Medicine, 7(1), 11-18. doi:10.1016/j.esxm.2018.10.00

United Nations. Department of Economic and Social Affairs, population division. International migration report. 2015.

Vollrath, M., & Hermann, A. (2018). Healthy eating in old age: A study of meal patterns and habits among elderly Germans. Ecology of Food and Nutrition, 57(3), 238-255. doi: 10.1080/03670244.2017.1417065

Vozarova, B., Grofik, M., & Dömötörová, M. (2016). Eating habits and nutritional status of older adults living in institutional long-term care facilities: A comparison with community-living older adults. European Geriatric Medicine, 7(1), 19-24. doi: 10.1016/j.eurger.2015.10.008

WHO (2020) Healthy ageing and functional ability. WHO newsletter. Retrieved from https://www.who.int/news-room/questions-and-answers/item/healthy-ageing-and-functional-ability

Zaragoza-Martí, A; Ruiz-Robledillo, N; Sánchez-SanSegundo, M; Albaladejo- Blázquez, N; Hurtado-Sánchez, J.A.,& Ferrer-Cascales, R.(2020). Eating habits in older adults: Compliance with the recommended daily intakes and its relationship with sociodemographic characteristics, clinical conditions, and lifestyles.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7071317/