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Evaluating Outcome of Health-Literacy Intervention On Self-Management Among People Living with Hypertension in Kwara State

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Abstract:

Hypertension is a global menace contributing to significant morbidity and mortality. Inadequate health literacy is associated with poor hypertension control. This study aims to evaluate the outcome of a nurse-led intervention on health literacy (HL) among people living with hypertension (PLWH) in Kwara State. The study adopted a Quasi-experimental non-equivalent intervention and control group pretest-posttest design of four phases of data collection from the control and intervention groups. The setting was the University of Ilorin Teaching Hospital (UITH) and General Hospital Ilorin (GHI), and the study population is hypertensive patients attending the selected hospitals. One hundred participants were purposively selected (50 each to intervention and control groups). Data was obtained from the participants with standardized questionnaires; European Health Literacy Survey 16-item Questionnaire. Descriptive data was analyzed using frequency, percentage, mean, and standard deviation. While inferential data was analyzed using a t-test and correlation coefficient. The results showed that the mean age of participants in control and intervention is 57.1±13.0 and 54.9±10.9, respectively; the majority were female, 68%, and 70%, respectively. 42% and 76% were diagnosed with hypertension > 6 months – 5 years. At pre-intervention, 62% and 22% of the CG and IG adequate HL, 58% and

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54% at 6 weeks post-intervention, 56% and 78% at 3 months post-intervention, and 64% and 82% respectively at 6 months post-intervention. Conclusively, the HL of the IG improved from pre-intervention to post-intervention.

Keywords: Self-management, Health literacy, Intervention, Hypertension,

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Introduction

Hypertension (HTN), also known as high or raised blood pressure, is diagnosed when the systolic blood pressure (SBP) values are 130 mmHg or higher and/or diastolic blood pressure (DBP) is over 80 mmHg (Iqbal & Jamal, 2024). This definition, in accordance with the American College of Cardiology and American Heart Association, is widely recognized but has not been adopted in several epidemiological studies in Nigeria. Consequently, this study adhered to the definition established by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC), which defines hypertension as having an SBP of 140 mmHg or higher, a DBP of 90 mmHg or higher, being on antihypertensive medication, or having been diagnosed as hypertensive by a physician (Adeloye et al., 2021). This corresponds to stage 2 HTN in the 2017 ACC/AHA classification.

Globally, approximately 1.28 billion adults aged 30 to 79 are affected by hypertension, with around two-thirds residing in low- and middle-income countries (World Health Organization (WHO), 2023). Hypertension is the leading cause of death worldwide, serving as a core risk factor for cardiovascular disease (CVD), and chronic kidney disease (Zheng et al., 2023; Alexander et al., 2022). In 2021, HTN was responsible for over 691,095 deaths in the U.S., and 116 million American adults were reported to have hypertension (CDC, 2024). The World Health Organization estimates that the prevalence of hypertension is highest in the African region, with 46% of adults aged 25 and above being hypertensive (Ferdinand, 2020). In West Africa, the prevalence ranges from 12% among the physically active to 68% among the sedentary (Bappah et al., 2022). In Nigeria, the prevalence of hypertension ranges from 12% to 36.8%, with undiagnosed hypertension at 27.8% (Bappah et al., 2022). Regional variations in Nigeria include a prevalence of 38.1% nationwide, with the highest rates found in the South-East (52.8%) and South-South (44.6%) (Odili et al., 2020).

Adequate control of hypertension requires health literacy, knowledge of risk factors, and self-management practices. Self-management is a conscious effort to improve physical, mental, and emotional well-being (Scott, 2024). Effective self-management has been associated with improved clinical outcomes and is seen as a cost-effective approach to managing hypertension (Khajeh et al., 2019). These activities include medication adherence, adopting a healthy diet, engaging in physical activity, avoiding substance abuse, and regularly monitoring blood pressure (Bozorgi et al., 2021). Despite the demonstrated importance of health literacy, there is limited research on this topic in Nigeria, particularly in relation to hypertension. This study therefore aims to evaluate the outcome of health literacy interventions among people living with hypertension (PLWH) in Kwara State, Nigeria.

The broad objective of the study is to evaluate the outcome of health literacy interventions among people living with hypertension (PLWH) in Kwara state.

The specific objectives are to:

1. adapt and implement the HL educational intervention package for PLWH in the intervention group;
2. determine the HL level among the intervention and control groups at pre and post-intervention;

Literature Review

Health literacy (HL) encompasses the ability to access, understand, appraise, and use health-related information for better health outcomes (Mohd Isa et al., 2021; WHO, 2023; Shikha et al., 2023). Patients with adequate HL can understand medical instructions, communicate with healthcare providers, and manage their medications effectively (Du et al., 2018). Health literacy related to hypertension includes the ability of patients to comprehend information on hypertension management and healthcare services (Zhang et al., 2021). Individuals who have adequate health literacy are capable of understanding written information about education (functional abilities), engaging productively with healthcare providers (interactive abilities), making well-informed health choices (critical abilities), and correctly calculating medication doses (numeracy abilities).

Health literacy strategies can inform and influence large numbers of people on ways to improve their health. It aims to change people's attitudes, knowledge, and behavior, which include increasing risk perception, reinforcing positive behaviors, influencing social norms, increasing the availability of support and needed services, and authorizing people to modify or promote their wellbeing situations. Hypertensive individuals with an adequate level of health literacy are more effective in regulating and treating their disease (Darvishpour et al., 2016). Rahmawati et al. (2021) asserted that not everyone is capable of processing health information effectively, which, according to Shi et al. (2017) has led to the deaths of over 17.9 million people worldwide. Health literacy acts as a valuable asset, empowering individuals to have greater control over their health and the diverse factors that impact it, including personal, social, and environmental determinants (Visscher et al., 2018).

Proficient health literacy is essential because, as outlined by the United States CDC, poor health literacy skills increase an individual's risk of the following: Not receiving treatment or receiving treatment too late; Making errors in medication administration or other hazardous blunders; Suffering from treatment outcomes that are inferior to those with higher levels of health literacy; Needing more extensive treatment and additional services compared to individuals with proficient health literacy (Centers for Disease Control and Prevention (CDC), 2021).

Levels of HL among hypertensive patients are known to be inadequate (Kilic & Dag (2020). Poor medication adherence is closely linked with lower levels of health literacy (Guo et al., 2023a). In a review of international studies, a limited number of studies were found that investigated the association between medication adherence and HL in hypertensive patients (An & Park, 2016; Lee et al., 2017). Individuals with advanced education and numerical proficiency may encounter challenges with health literacy when they lack familiarity with medical terminology or understanding of physiological processes; when they need to interpret statistics and assess risks and benefits related to their health and safety; when they receive a diagnosis of a serious illness and experience fear and confusion; when managing complex self-care routines for health conditions; and when voting on community health issues based on unfamiliar technical information (Centers for Disease Control and Prevention, 2021).

Therefore, individuals require accessible information that they can comprehend and utilize to make optimal health decisions. Numerous techniques are available for nurses to

communicate efficiently and address the health literacy requirements of patients. These methods encompass employing the teach-back approach, speaking deliberately, reinforcing essential information through repetition, and fostering an environment where patients feel encouraged to inquire (Wittenberg et al., 2018). The teach-back method includes approving understanding by encouraging clients to articulate in their personal arguments what they must understand or do concerning their wellbeing (Agency for Healthcare Research and Quality (AHRQ), 2020). Low health literacy is prevalent throughout Nigeria, particularly concerning medication adherence (Oladeji et al., 2020).Nutbeam (2009) as cited in Visscher et al. (2018) and (Nwafor-Orizu, (2022) delineate the following three dimensions of health literacy: health promotion, health education, and health communication—are carefully related with the notion of HL (Nwafor-Orizu, 2022). Health literacy emanates from and operates mainly within these three concepts as illustrated in Figure below.

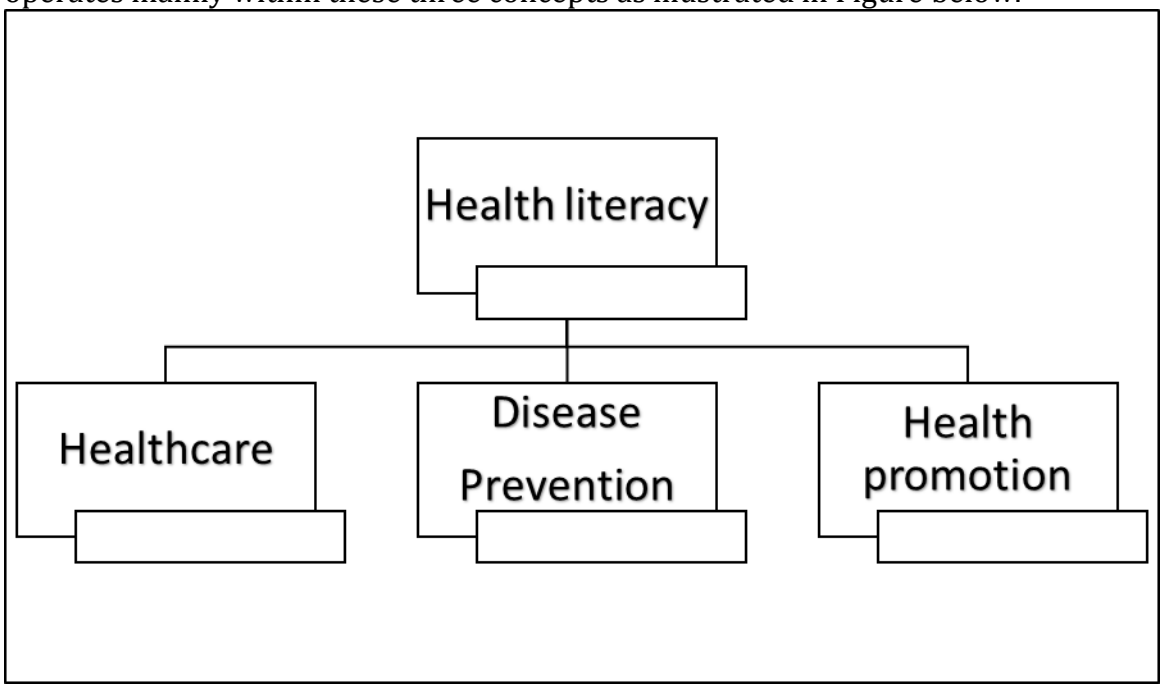


Figure 1: Concepts of health literacy (Sørensen et al., 2012)

Research Method

Quasi-experimental nonequivalent intervention and control group pretest-posttest design was used to evaluate the health literacy intervention outcome among people living with hypertension in selected government hospitals in Kwara State. The intervention and control groups had a pre-test to obtain baseline data, and then the intervention group was exposed to health literacy intervention on hypertension. Re-assessment and evaluation of the two groups was done at 6 weeks, 3 months, and 6 months, and the results was compared. This design is appropriate for this study because the researcher can assess changes over time within each group and compare the magnitude of change between groups. This helps in determining the effectiveness of the educational intervention by establishing baseline measures and detecting any changes attributable to the intervention.

The research settings were University of Ilorin Teaching Hospital and Kwara State Teaching Hospital which the two teaching hospitals in Kwara State. The study population includes all hypertensive patients aged ≥18 years attending cardiology and the General Outpatient clinics at the selected public hospitals during this study. Patients who meet the inclusion criteria will be the study population. On average, a monthly population size of 468 subjects was obtained for the experimental group at General Hospital, Ilorin, Kwara State, and 437 subjects from the control group at the University of Ilorin Teaching Hospital, Ilorin. Irrespective of the unequal population size, a pooled sum of 905 patients was obtained in all as the population size for this study. However, the researcher expects to have an 80% (0.842) chance of detecting an effect of health literacy intervention that has positively affected at least 50% of hypertension patients who participated in the study. Hence, the sample size for the comparison group by (Charan & Biswas, 2013) was used to determine the correct sample size applicable for comparative studies while incorporating the effect size and power calculation in the formula. The effect size is the risk of detecting the effect of Health Literacy Intervention on the study participants at the end of the intervention program. In order words, how significant an effect is Health Literacy Intervention on self-management among people living with hypertension?
The sample size was calculated using the sample size for the comparison group by (Charan & Biswas, 2013), because it is a formula for calculating case-control comparative studies. The formula is given thus:

$$n = \frac{2 \times (Z_{\alpha} + Z_{\beta})^2 \times P(1-P)}{(P_0 - P_1)^2}$$

Where,

n = sample size for each group

Z_{α} = 95% confidence level

Z_{β} = Power of study at 80%

P = Prevalence of self-management. 0.30: this comes from a previous study reporting the prevalence of self-care among people living with hypertension (Hussen et al., 2020)

P_1 = Expected proportion of hypertensive patients who will be participating in this study from the intervention group to have improved their self-care management after the intervention.

$$n = \frac{2 \times (1.96 + 0.84)^2 \times 0.3(1-0.3)}{(0.57 - 0.3)^2}$$

$$n = \frac{2 \times (2.8)^2 \times 0.21}{0.0729}$$

$$n = \frac{3.2928}{0.0729}$$

$$N = 45.16 \pm 45$$

10% non-response

$$= \frac{45}{0.9} = 50$$

The sample size is 45.0; to accommodate a 10% attrition or non-response rate, 5 is added to 45.0. Therefore, 45.0 + 5 = 50. This study recruited a total of 50 people living with

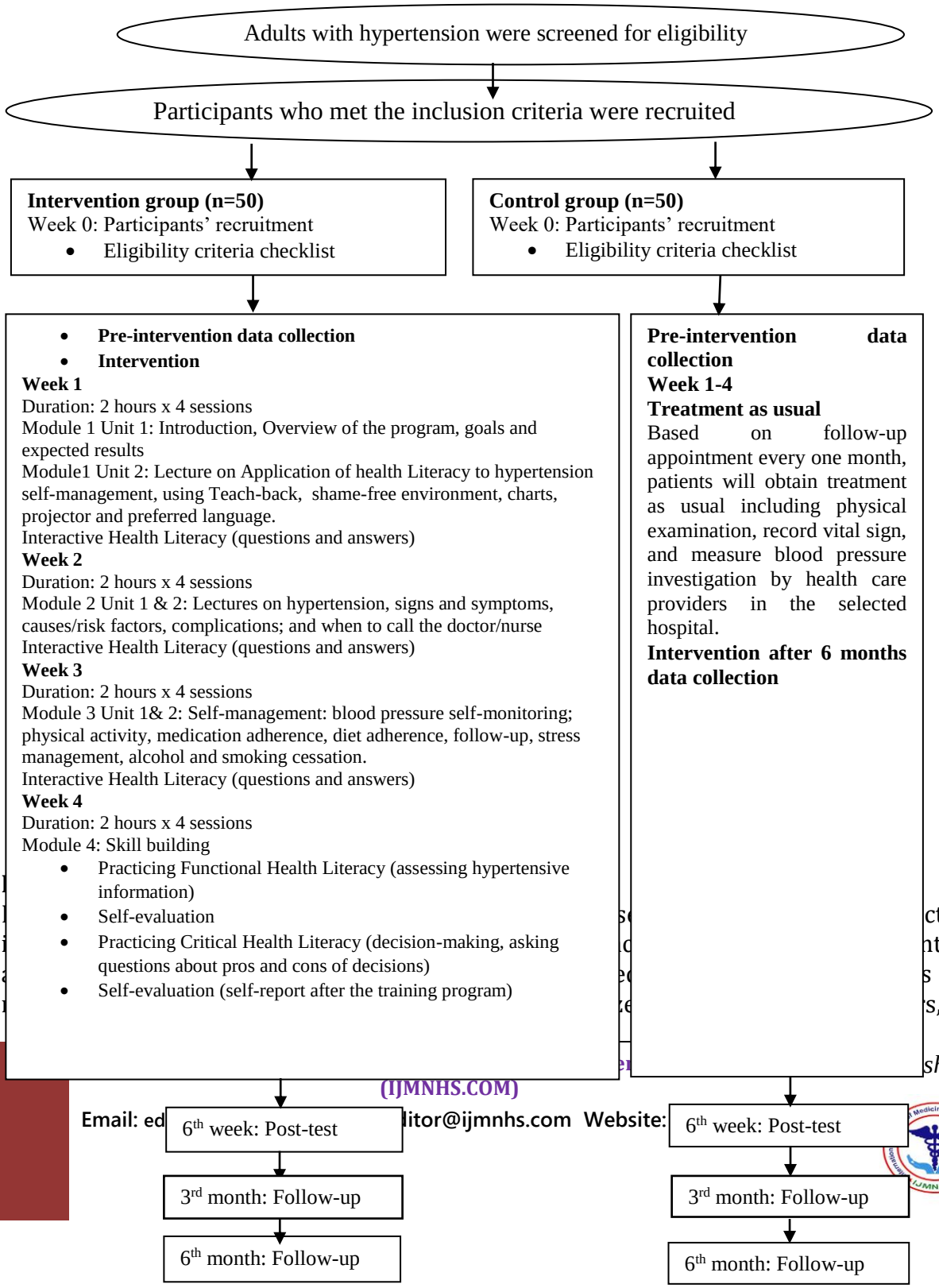
hypertension to the Control Group and 50 to the Intervention Group, making a total of 100 people living with hypertension who are taking treatment in the selected teaching hospitals in Kwara State.

A consecutive sampling technique was used to select the two teaching hospitals in Kwara State for the study. The technique was chosen because the hospitals are the two teaching hospitals in Kwara State, they are referral centers for health facilities in Kwara State, and they both have standard cardiology and general out-patient/family clinics and skilled personnel. A simple random sampling technique was employed to determine which cluster out of the selected hospitals would serve as an intervention and a control group. Hence, patients recruited at the General Hospital Ilorin (GHI) served as the intervention group while the patients recruited at the University of Ilorin Teaching Hospital served as the control group. The purposive sampling technique was used to choose people living with hypertension who meet the inclusion criteria in both hospitals until the required sample size was achieved for the study.

Inclusion criteria: People ≥18 years old who have been diagnosed with hypertension for over six months, and are currently attending the selected hospitals, using mobile phones, undergoing antihypertensive drug therapy, and willing to participate in the study.

Exclusion criteria: Pregnant patients, patients who have cognitive impairment, and who are severely ill were excluded from the study since they cannot provide valid information; those with comorbidity as well as patients yet to be commenced on antihypertensive medications, and patients who are not willing to participate were also not included in the study.

The instrument used include: the European health literacy survey 16 items questionnaire (HLS-EU-Q16); Educational intervention package (Self-developed); and Lecture Projector set. Preliminary visits were made to the clinics, family physicians and consultant cardiologists, heads of departments, unit heads, and medical records unit. The visits enabled the principal researcher to inform the hospital staff as well as the prospective participants of the study and to gain their consent and approval. After this, the head of departments (HOD) and unit manager introduced the researcher to the hypertensive patients. The clinic attendance lists were used to select the patients. Personal interaction was done with each of the patients selected and those that met the eligibility criteria were enrolled. The participants were made to know that all their information would be kept confidential and anyone who wished to decline could do so at any point in time during the study. Oral and printed permission was gained from the study subjects. The intervention group training was done through lectures and group interaction with the aid of a projector and pamphlets. The lecture lasted for four weeks, on Wednesdays with varied hours, and was delivered in English with a break and refreshment to prevent monotony. One-thousand-naira transport fare was given to each participant on each occasion.



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literacy, and self-management activities. T-tests were utilized to assess the mean scores, while correlation analysis was conducted to examine the relationships between health literacy and self-management practices at a significance level of 0.05. Additionally, an independent t-test was employed to ascertain if there were statistically significant differences in the mean variances between the intervention and control groups., post-intervention.

Results

Socio-demographic characteristics of participants

Table 1 shows the socio-demographic characteristics of participants in both the control and intervention groups are depicted. The average age of participants in the control and intervention groups was 57.1±13.0 and 54.9±10.9 years, respectively. Over half of the individuals in both groups, control (60%) and intervention (52%), were aged 55 years or older. A majority of participants in both the control (68%) and intervention (70%) groups were female. Additionally, approximately 58% of the control group and 62% of the intervention group identified as practicing Islam. Moreover, around one-third of participants in both the control (36%) and intervention (32%) groups had attained a tertiary level of education.

Table 1: Frequency distribution of the socio-demographics characteristics of participants N=100

Variables	Control (%) n=50	Intervention (%) n=50
Age (years)		
<44	7 (14.0)	7 (14)
45-54	13 (26.0)	17 (34)
≥55	30 (60)	26 (52)
Mean±SD	57.1±13.0	54.9±10.9
Gender		
Male	16 (32)	15 (30)
Female	34 (68)	35 (70)
Religion		
Christianity	21 (42)	19 (38)
Islam	29 (58)	31 (62)
Ethnicity		
Yoruba	43 (86)	48 (96)
Igbo	2 (4)	1 (2)
Hausa/Fulani	3 (6)	1 (2)
Others	2 (4)	0 (0)
Marital Status		
Single	5 (10)	23 (46)
Married	32 (64)	22 (44)
Widowed	10 (20)	3 (6)
Divorced	3 (6)	2 (4)

Level of Education		
None	8 (16)	13 (26)
Primary	9 (18)	10 (20)
Secondary	15 (30)	11 (22)
Tertiary	18 (36)	16 (32)
Occupation		
Unemployed	5 (10)	4 (8)
Farming	2 (4)	4 (8)
Self-employed	26 (52)	22 (44)
Private service	3 (6)	8 (16)
Public service	14 (28)	12 (24)

Table 2 shows the clinical and health history of participants at pre-intervention. Over half of the control (56%) group were first diagnosed after sickness, while those in the intervention group (64%) were during the routine checkup. Many of the participants in the control (42%) and intervention (76%) groups were diagnosed between 6 months to 5 years. Majority of the control (94%) and intervention (90%) were presently taking hypertension drugs, had a personal blood pressure monitor (control (62%) and intervention (92%)) and had access to a blood pressure monitor (control (86%) and intervention (54%)). Most of the control (74%) and intervention (82%) groups were able to control their BP. About 62% and 50% of the participants in the control and intervention groups were able to maintain a record of their BP measurements.

Table 2: Frequency distribution of the clinical characteristics of participants N = 100

Variables	Control (%) n=50	Intervention (%) n=50
First diagnosed		
During routine checkup	22 (44)	32 (64)
After complaint of sickness	28 (56)	18 (36)
Years of diagnosis		
6month-5years	21 (42)	38 (76)
6-10 years	12 (24)	8 (16)
11-15 years	7 (14)	2 (4)
16-20 years	6 (12)	0 (0)
>20 years	4 (8)	2 (4)
Presently on hypertension drugs		
Yes	47 (94)	45 (90)
No	3 (6)	5 (10)
Have a personal blood pressure monitor		
Yes	31 (62)	46 (92)

No	19 (38)	4 (8)
Have access to blood pressure monitor		
Yes	43 (86)	27 (54)
No	7 (14)	23 (46)
BP status		
Controlled	37 (74)	41 (82)
Uncontrolled	13 (26)	9 (18)
Maintain a record of your BP measurement		
Yes	31 (62)	25 (50)
No	19 (38)	25 (50)

Figure 3 shows participants health literacy level among the control and intervention group at pre-intervention. About 62% of the respondent in the control group had a sufficient health literacy compared to 22% from the intervention group.

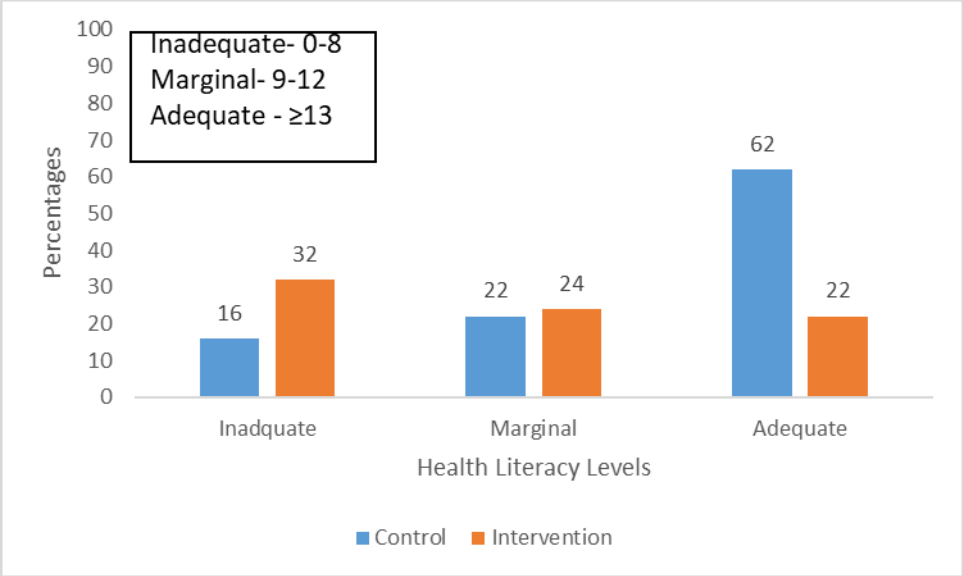

Figure 2 Participants' health literacy levels at pre-intervention

Figure 4 shows participants' health literacy levels among the control and intervention groups at 6 weeks post-intervention. About 58% of the respondents in the control group had sufficient health literacy compared to 54% from the intervention group.

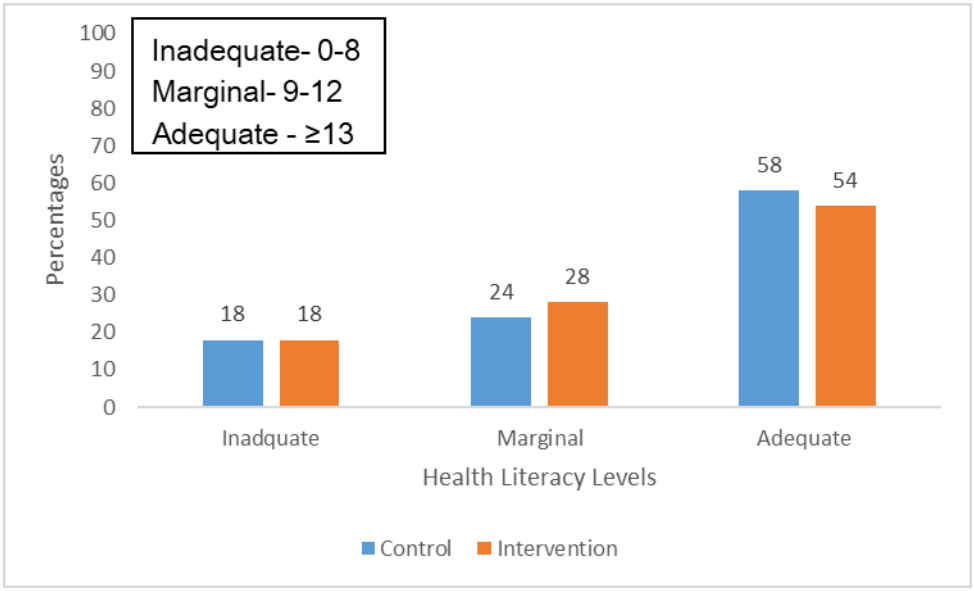

Figure 4: Participants' health literacy levels at 6 weeks post-intervention

Figure 5 shows participants' health literacy levels among the control and intervention groups at 3 months post-intervention. About 56% of the respondents in the control group had sufficient health literacy compared to 78% from the intervention group.

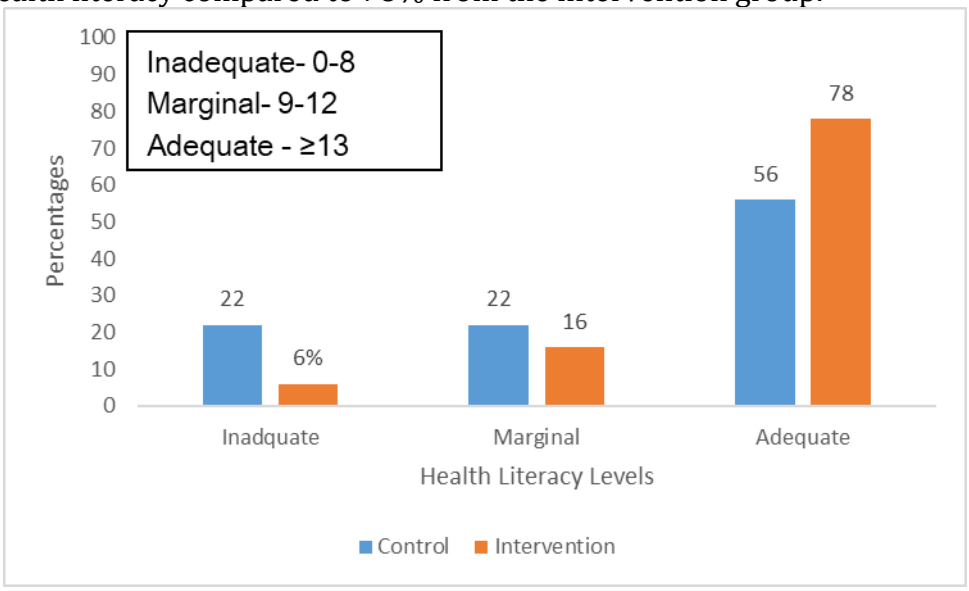

Figure 5: Participants' health literacy levels at 3 months post-intervention

Figure 6 shows participants' health literacy levels among the control and intervention groups at 6 months post-intervention. About 64% of the respondents in the control group had sufficient health literacy compared to 82% from the intervention group.

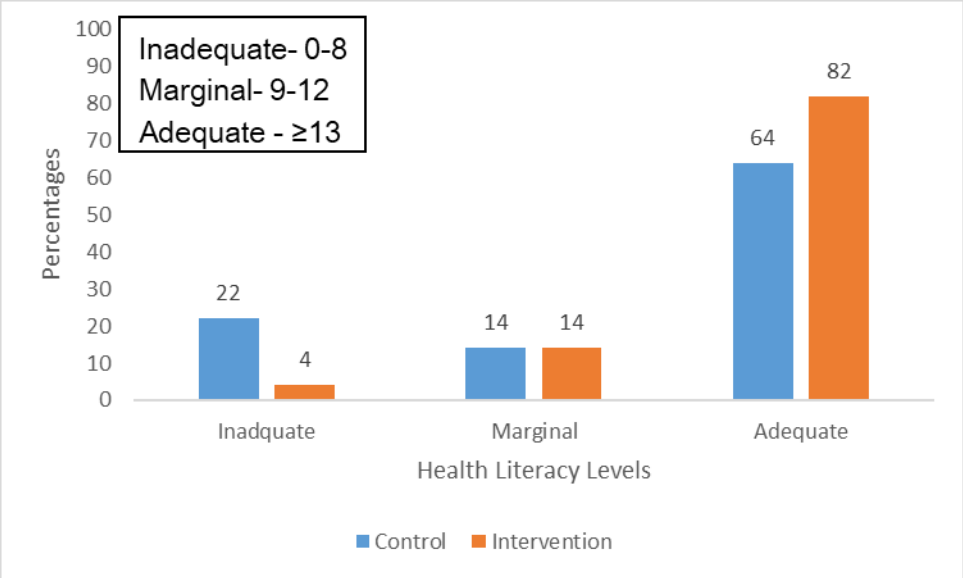

Figure 6: Participants' health literacy levels at 6 months post-intervention

Table 3 shows the difference between the health literacy among the control and intervention groups at pre-intervention. There is no statistically significant difference between the participants' health literacy among the control (12.5±4.0) and intervention group (11.2±4.0), t (98) = 1.65, p= 0.102. In a t-test, a p-value less than 0.05 shows that the outcome is statistically important. The p=0.102 is greater than p=0.05, therefore the null hypothesis was not rejected.

Table 3: Difference between the health literacy among the control and intervention groups at pre-intervention

Variables	Mean±SD	df	t	sig
		98	1.65	0.102
Control	12.5±4.0			
Intervention	11.2±4.0			

Table 4: Difference between the health literacy among the control and intervention groups at 6 weeks post-intervention

Variables	Mean±SD	df	t	Sig
		98	0.16	0.874
Control	12.1±4.1			
Intervention	12.0±3.5			

Table 5 shows the difference between the health literacy among the control and intervention groups at 3 months post-intervention. There is a statistically significant difference between

the participants' health literacy among the control (11.9±4.2) and intervention group (14.0±2.7), t (98) = -2.98, p= 0.004. H_0 was rejected.

Table 5: The difference between the health literacy among the control and intervention groups at 3 months post-intervention

Variables	Mean±SD	Df	t	Sig
		98	-2.98	0.004*
Control	11.9±4.2			
Intervention	14.0±2.7			

Table 6 shows the difference between the health literacy among the control and intervention groups at 6 months post-intervention. There is a statistically significant difference between the participants' health literacy among the control (8.4±5.1) and intervention group (14.0±3.1), t (98) = -6.63, p= 0.001. H_0 was therefore rejected.

Table 6: Difference between the level of health literacy among the control and intervention groups at 6 months post-intervention

Variables	Mean±SD	Df	t	sig
		98	-6.63	0.001*
Control	8.4±5.1			
Intervention	14.0±3.1			

Discussion of Findings

The findings show that the majority of the participants both in the control and intervention groups were 55 years and above, probably because the onset of hypertension is common in that age range. This is supported by the study of Dai et al., (2022) that the highest proportion of the population with hypertension is between 50 and 59 years (39.78%), also the mean age of the respondents in Melaku et al. (2022a) was 58.7 ± 9.75 years. The majority in both groups are female, this is in line with a study by Okubadejo et al. (2019) on the Prevalence of hypertension and blood pressure profile amongst urban-dwelling adults in Nigeria: a comparative analysis based on recent guideline recommendations, also Gaffari-fam et al. (2020b) and in contrast with Neufcourt et al. (2020) and Melaku et al. (2022a) which reported that hypertension prevalence was higher in men than in women. The majority of the participants are Muslims, this may be because Kwara State is a predominantly Muslim state. The majority are also Yoruba indigenes.

The findings revealed that, about 62% of the respondents in the control group had an adequate health literacy compared to 22% from the intervention group, at pre-intervention. However, at 6 months post-intervention, about 64% of the respondents in the control group had sufficient health literacy compared to 82% from the intervention group. This is in tandem

with the result of a study by Itasanmi et al. (2022), the weighted average of the health literacy of intra-city commercial drivers is 3.43, and 55.2% of the respondents have adequate health literacy while 44.8% of them have inadequate health literacy. It is however in contrast with the evidence from a pilot study by Gan et al. (2022), which revealed that the HBP-HL score of the intervention group was 32.09 ± 4.89 points, and that of the control group was 27.80 ± 4.78 points. Also, in contrast with a study by Wang et al. (2022) which reported that 93 patients (23.2%) lacked HBP-HL, 308 patients (76.8%) had a medium level of HBP-HL, and none of them had sufficient HBP-HL.

These findings suggest that the intervention program was effective in improving health literacy levels among participants over time. Further analysis could provide insights into the specific components of the intervention that contributed to these improvements. This finding is in tandem with the result obtained by (Guo et al., 2023b), which suggested that a lower level of health literacy is strongly associated with poor medication adherence. This is similar to the result of the current investigation that found the control group experienced little to no improvement over 6 months. Also, the findings of Riegel et al. (2017) also confirmed that hypertensive patients' health literacy improved significantly based on orientation by health workers.

With reference to the table in appendix xi, findings at the pre-intervention stage revealed that the control group displayed higher levels of perceived ease in accessing health-related information compared to the intervention group. For instance, 27 out of the 50 participants in the control group found it "Easy" to find information about the symptoms of their illness, while only 23 out of the 50 participants in the intervention group found it easy. Similarly, understanding doctor's instructions was rated as "Easy" by 36 of the control group but only 32 of the intervention group. In terms of finding professional help when ill, 32 of the control group found it "Easy," compared to 29 of the intervention group. But, in using the information to decide their illness, 38 of the participants in the intervention found it easy, with 36 in the control group. This trend continues across various categories, suggesting that the control group generally perceived health literacy tasks as easier compared to the intervention group. However, the intervention group showed higher percentages in certain aspects. For example, understanding information about recommended health screening was rated easy by 29 of the intervention group as against 27 of the control group. Similarly, judging which everyday habits affect your health was rated as "Very easy" by 13 of the intervention group, compared to 6 of the control group.

At post-intervention, the health literacy levels among control and intervention groups at different time points post-intervention, namely 6 weeks, 3 months, and 6 months. The percentages indicate the distribution of responses from participants, categorized into four levels ranging from "Very difficult" to "Very easy." At 6 weeks post-intervention, both the control and intervention groups showed improvements in health literacy compared to pre-intervention. In the control group, 23 participants found it "Easy" to find information about symptoms of their illness, and only 19 participants in the intervention group. At 3 months post-intervention, the control group maintained the same proportion of 23, while, the intervention group recorded an increase to 21 participants. However, the intervention group displayed more noticeable improvements, particularly in understanding doctor instructions

and judging when a second opinion is needed. By 6 months post-intervention, the intervention group displayed further improvements in health literacy. For instance, the proportion of participants who find it easy to find information that concerns their illness increased to 32. Twenty and thirty of the participants in the control and intervention groups respectively could judge which everyday habits affect their health. About 23 in the control and 29 in the intervention group find it easy to find information about activities that are good for their mental health and well-being. Overall, the intervention group consistently showed higher levels of perceived ease in health literacy tasks compared to the control group across all time points. These findings suggest that while the control group may have initially perceived health literacy tasks as easier, the intervention group may have experienced improvements in certain areas after the intervention. The differences in perceptions between the groups could be attributed to the intervention program, which likely provided additional information and skills to the intervention group, leading to a more nuanced understanding of health literacy tasks.

Conclusion

This study concluded that health literacy intervention is an essential factor in the levels of HL among people living with hypertension. A significant difference was noticed in the level of health literacy of the intervention group at 6 months post-intervention, while the control group had an insignificant difference at 6 months post-intervention. Furthermore, the study concluded that health literacy intervention contributed to self-awareness among the patients in terms of managing hypertension. This underscores the importance of developing an educational intervention package, which can be utilized across all hypertensive individuals. Empowering patients with adequate HL information and skills to manage their condition effectively, is likely to foster a sense of control and confidence. This sense of control can lead to better adherence to treatment plans and lifestyle changes, ultimately improving health outcomes and quality of life.

Recommendations

Health literacy intervention programs have proven to be an indispensable tool that can be employed to support hypertensive patients in Kwara State. The following are the recommendations based on the insights obtained from the study at different intervention phases. The following recommendations emanated from the study:

1. Health facilities need to include health literacy programs as part of the care administration for hypertensive patients for proper awareness.
2. Healthcare professionals attending to hypertensive patients requires adequate training to enable effective health literacy intervention programs.
3. Hypertensive patients should be monitored, making it necessary that they understand the information being passed across to them regarding their current health status.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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