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Effectiveness Of E-Kalpin-Based Home Management (Hhm) On Improving The Quality Of Life Of Hypertension Patients

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ABSTRACT

Introduction: Preventing and managing hypertension is a complex challenge for healthcare professionals. One approach to address this issue is to empower individuals to take charge of their health through self-care. Self-management involves individuals acquiring the skills to care for themselves effectively to maintain and improve their health and overall well-being. This study aims to evaluate the effectiveness of Home-based Hypertension Management (HHM) in enhancing the quality of life for individuals living with hypertension.

Methods: This analytical observational research adopted a cross-sectional design, involving 46 randomly selected participants, and was conducted within the jurisdiction of the Aurduri Community Health Center in Jambi. Data analysis for this study utilized the Spearman rank correlation method.

Results: The findings regarding Hypertension Home Management (HHM) for individuals with hypertension indicated that a significant proportion of respondents (45.7%) achieved very high self-management scores, while the majority reported good quality of life (67.4%). The analysis revealed a correlation coefficient of 0.386 (low) signifying a relationship between self-management and the quality of life among hypertension patients within the Aurduri Health Center's jurisdiction.

Conclusion: This study concludes that there is indeed a connection between self-management and the quality of life among individuals suffering from hypertension in the Aurduri Health Center's service area.

Keywords: Educational media, Hypertension, Quality of Life, Patient

Introduction

Hypertension, a non-communicable health condition, has emerged as a significant issue in Indonesia's healthcare sector. Its high prevalence rate across diverse age groups presents a formidable challenge to the Indonesian healthcare landscape [1]. The considerable number of adults affected by hypertension in Indonesia continues to rise, driven by evolving lifestyles and other associated risk factors [2].

The Indonesian government remains steadfast in its commitment to enhancing awareness, education, and the delivery of healthcare services related to hypertension. These endeavors encompass educational campaigns, routine health check-ups, promotion of healthy living practices, and ensuring equitable access to appropriate treatment [3].

Implementing intervention programs for hypertension prevention and control poses a multifaceted challenge for healthcare professionals [4,5]. One promising approach involves empowering individuals to self-manage their hypertension. This approach can bolster their confidence in managing a chronic illness (self-efficacy) and effectively living with the condition. Self-management entails an individual's proficiency in self-care to preserve,

enhance, and sustain their health and well-being. A person's capacity to engage in specific behaviors is a fundamental component of programs designed to enhance self-management skills in chronic illness [6,7].

The connection between self-management and the quality of life for individuals grappling with hypertension is profound. Self-management pertains to an individual's personal ability to oversee and assume responsibility for their health condition [5,8]. In the context of hypertension, self-management encompasses the individual's endeavors to regulate blood pressure, adopt a healthy lifestyle, and manage other associated risk factors. This is how self-management can significantly influence the quality of life of hypertension sufferers [9,10]. Proficiency in self-management among those with hypertension can yield positive outcomes, including symptom alleviation, risk reduction for complications, and heightened feelings of control and overall well-being [11,12].

In 2022, we embarked on the design of E-Kalpin, an educational medium integrating visual elements. This innovative tool has been crafted with the primary objective of predicting hemodynamic changes in individuals grappling with hypertension, with the overarching goal of enhancing patients' capacity to self-manage their condition effectively. E-Kalpin is intended to serve as a valuable aid for individuals dealing with hypertension, empowering them to better manage and regulate their condition. Looking forward to 2023, we are dedicated to further enhancing the E-Kalpin program with the intent of elevating the quality of life for individuals affected by hypertension.

From the data presented, it is evident that hypertension boasts the highest incidence rate among various heart diseases. The global education initiatives recommended by the World Health Organization encompass multiple facets, including dietary choices, physical activity, reduction in tobacco and alcohol consumption, and stress management. Nevertheless, the challenge in controlling hypertension often hinges on the patient's motivation and self-assurance in effectively managing their health condition. E-Kalpin, a visual-based educational tool, has been meticulously developed to bolster patients' self-management endeavors within the comfort of their homes, offering comprehensive education on hypertension management.

Through the use of digital technology, e-KALPIN provides a more practical and economical method for at-home hypertension self-management and health monitoring. In addition to increasing access to more individualized and long-lasting hypertension treatment, this may lessen patients' reliance on hospital or clinic visits. This technology-based strategy has important implications for the healthcare industry since it can increase patient adherence to medication and lifestyle modifications, lower long-term problems associated with hypertension, and improve patients' overall quality of life. If this concept is shown to be successful, it may be adopted more broadly, which would alleviate the strain on healthcare systems and increase the effectiveness of chronic illness care.

This study is designed to evaluate the effectiveness of E-Kalpin-based Hypertension Home Management (HHM) in enhancing the quality of life for individuals grappling with hypertension.

METHODS

Study design

This analytical observational study employed a cross-sectional design.

Participant

Involving 46 outpatient individuals registered at the Aurduri Community Health Center. The study was conducted in September 2023, and participants were selected randomly based on specific inclusion criteria: age > 20 years, prior diagnosis of hypertension as indicated in their medical records, receiving medical treatment at the Aurduri Community Health Center, absence of hearing impairments, and the ability to read and write.

It is crucial to remember, nevertheless, that the Aurduri Community Health Center has trouble reaching everyone because it is situated in a region with poor access to healthcare. Accessing the offered healthcare services continues to be a challenge for many local residents. Participants in health programs, particularly those with a diagnosis of hypertension, may be impacted by factors such inadequate mobility, lengthy distances, and a lack of public knowledge on the significance of routine health check-ups. In addition, the Aurduri Community Health Center works hard to offer the best medical care possible, but occasionally the service delivery process is slowed down by inadequate facilities and a lack of qualified medical staff.

Data collecting and variables

In this study, the independent variable is Hypertension Home Management (HHM) E-Kalpin, representing a self-care management approach for hypertension patients within the Aurduri Health Center Work Area. Conversely, the dependent variable is the quality of life (QoL) among hypertension patients within the Aurduri Community Health Center's service region. To assess research parameters, the researchers utilized the E-Kalpin questionnaire, adapted from the Hypertension Self-Management Behavior Questionnaire (HSMBQ) initially developed by Lin et al. in their 2008 research. Nargis Akhter further refined the Hypertension Self-Management Behavior Instrument Questionnaire, with its validity and reliability verified in 2010 [13]. For inquiries related to the quality of life of hypertension patients, the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire was employed, encompassing four domains: physical, psychological, social, and environmental aspects, as stipulated by the World Health Organization in 2010 [14].

Data analysis

Frequency distributions, which show the percentage for each variable according to its category, are used to exhibit the research findings. It is simpler to comprehend the participant characteristics, including age distribution, hypertension status, and other parameters, thanks to these frequency distributions, which offer an overview of the data dispersion and trends.

The Spearman Rank test is the statistical method used in inferential analysis to ascertain the connection between variables. Because it can assess the association between two ordinal or non-normally distributed variables, the Spearman Rank test was selected. Without assuming that the data would be distributed normally, the researcher can use this test to assess the direction and strength of the link between two variables.

SPSS version 16.00 software, which enables accurate and efficient data processing, was used for data analysis. This study assumed statistical significance at $p < 0.05$, which means that a link between variables is deemed statistically significant if the p-value is less than 0.05. This suggests that there is little probability that the results were the product of chance and that the observed correlation between the variables is reliable for a larger population.

RESULTS

Demographic data on hypertension sufferers at the Aurduri Health Center is presented in table 1.

Table 1. Demographic Data of Hypertension Sufferers at Aurduri Community Health Center

Characteristics	n	%
Gender		
Male	17	37,0
Female	29	63,0
Age		
45-54 (early elderly)	12	26,1
55 – 65 (late elderly)	29	63,0
>65 (Seniors)	5	10,9

Table 1 shows that the majority of respondents were women (63.0%) and the age group studied was mostly 55-65 years old (63.0%).

Table 2. Frequency Distribution of Self-Management of Hypertension Sufferers at Aurduri Community Health Center

Variables	n	%
Self-management		
Moderate	7	15,2
Good	18	39,1
Very Good	21	45,7
Quality of Life (QoL)		
Moderate	6	13.0
Good	31	67,4
Very Good	9	19,6

Table 2 reveals that the majority of the 21 respondents (45.7%) achieved very high scores in self-management. According to the findings from the 2023 research conducted by our team in the Aurduri Community Health Center Work Area, it is evident that most of the respondents, specifically 31 individuals (67.4%), reported good quality of life scores.

Table 3. Spearman Rank Test Results for Self-Management Variables and Quality of Life for Hypertension Sufferers at the Aurduri Community Health Center

Variables	Spearman Rank test		
Self-Management Quality of Life	46	0,386	0,008

Table 3 displays a coefficient value of 0.386, classifying it as indicating a low level of relationship. This positive correlation coefficient signifies a significant and positive relationship, implying that as self-management increases, so does the quality of life for individuals with hypertension. Conversely, a decrease in self-management is associated with a decrease in quality of life. The outcomes of hypothesis testing through Spearman analysis on self-management and quality of life variables reveal a p-value of 0.008, signifying a connection between self-management variables and the quality of life among hypertension patients in the Aurduri Health Center Work Area.

DISCUSSION

Self-management pertains to an individual's capacity to engage in self-care practices for the purpose of preserving life, enhancing well-being, and tending to personal health [4,15]. This encompasses personal endeavors to manage symptoms, carry out physical and psychological treatments, and adapt one's lifestyle in response to the prevailing disease conditions, all with the goal of sustaining life, health, and overall well-being [5,8–10,16]. The primary focus of self-management is to empower individuals to continually oversee their health conditions, particularly those dealing with chronic illnesses [17]. According to the results of research conducted by our team using a questionnaire in the Aurduri Community Health Center Work Area in 2023, the majority of respondents, comprising 21 individuals (45.7%), exhibited exceptionally high self-management scores.

Effective self-management for hypertension patients involves a comprehensive and disciplined approach to controlling their high blood pressure. This approach encompasses various facets of health maintenance and blood pressure regulation. Effective self-management for hypertension patients amalgamates medical intervention with a health-conscious lifestyle. It is crucial for patients to collaborate with healthcare professionals and embrace lifestyle modifications conducive to heart health [18].

Quality of life encompasses an individual's overall evaluation of their satisfaction, well-being, and happiness across various aspects of life. This is a highly subjective concept, encompassing diverse dimensions that influence an individual's feelings and holistic life assessment. Quality of life extends beyond physical and material considerations,

encompassing psychological, social, emotional, and spiritual components. In line with the findings of research carried out by our team in the Aurduri Community Health Center Work Area in 2023, it was established that the majority of respondents, specifically 31 individuals (67.4%), reported favorable quality of life scores.

Enhancing the quality of life for elderly hypertension patients necessitates improvements in public health education efforts. These endeavors are designed to enhance hypertension awareness, promote the adoption of healthy lifestyles, including regular physical activity and routine health check-ups, and enhance the management of comorbid conditions that may be present [19].

Quality of life is inherently subjective, signifying that every individual possesses a personal perspective and evaluation of what confers meaning and contentment to their existence. An all-encompassing approach to quantifying quality of life entails a holistic assessment of the aforementioned dimensions [20–22]. In the realms of health and social research, numerous appraisal tools and scales are employed to objectively gauge quality of life, yet they still consider the highly significant subjective facet [7].

The nexus between an individual's quality of life and self-management is remarkably intimate. The capacity to efficaciously govern time, energy, emotions, and other resources towards accomplishing objectives and enhancing well-being epitomizes the essence of self-management. In the context of individuals grappling with hypertension or high blood pressure, self-management assumes a pivotal role in elevating their quality of life [23]. The findings of this study elucidate a meaningful and affirmative relationship (unidirectional) between self-management and quality of life. This implies that heightened levels of self-management correspond to enhanced quality of life among individuals within the Aurduri Health Center Work Area, and conversely, lower levels of self-management align with reduced quality of life.

Adept self-management can yield favorable repercussions on the quality of life for individuals contending with hypertension, encompassing blood pressure regulation, mitigation of emotional impacts, and amelioration of overall well-being [24]. An evident and consequential relationship exists between self-management and the quality of life of hypertension sufferers. Patients are encouraged to nurture and augment their knowledge by seeking additional resources on self-care and routinely participating in various self-care activities tailored for hypertension management to ameliorate their quality of life [3,23].

LIMITATION OF STUDY

The limitation of this research is that the number of samples is still limited and the location of the research is only 1 location so it is very homogeneous.

CONCLUSIONS

The research outcomes pertaining to self-management among hypertension sufferers reveal that the preponderance of respondents attained exceedingly commendable self-management scores, with a majority of hypertension sufferers enjoying good quality of life. Consequently, a demonstrable correlation is discernible between self-management and the quality of life among hypertension sufferers in the Aurduri Health Center Working Area.

ETHICAL CONSIDERATIONS

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Conflict of Interest Statement

The author declared no conflict of interest.

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