Effect of Self-care Guidelines on Quality of Life among Patients with Hypertension

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Abstract

Background: Hypertension is a chronic disease and affects the quality of life of patients leading to serious complications if uncontrolled. So those patients need to comply with self-care dimensions to improve their quality of life. **The aim of this study** was to evaluate the effect of self-care guidelines on quality of life among patients with hypertension. **Design:** A quasi experimental design. **Setting**: the study was conducted at medicine outpatient clinics in Ain Shams University Hospital. **Study subjects:** A purposive sample of adult patients (No=76). **Data collection tools:** Structured Interview Questionnaire for patients with hypertension, self-care practices questionnaire, and quality of life tool. **Results:** Regarding to the overall quality of life domains, 40.8% of the studied patients had poor physical, social, psychological, and functional wellbeing pre implementation of self-care guidelines which declined to 17.1% post implementation of self-care guidelines with statistical significant difference (P ≤ 0.05). **Conclusion:** The implementation of self-care guidelines for patients with hypertension has a statistically significant positive effect on their quality of life (physical, psychological, social, functional wellbeing). **Recommendation:** This study recommends the importance of initiation of educational programs to increase patients` awareness about self-care practices and manage their disease positively.

Keywords: Hypertension, Self-care guidelines, Quality of life.

Introduction

Hypertension (HTN) is a most common disease affecting approximately one billion people worldwide, two-thirds of them in low-income countries**.** Uncontrolled high blood pressure can lead to serious complications as heart failure, kidney failure, blindness, blood vessel rupture, and cognitive impairment **(Owen et al., 2020).**

Hypertension complications are estimated to cause about 9.4 million deaths each year, representing 17% of all deaths worldwide. The main cause of uncontrolled of high blood pressure is the inability to engage in effective self-care practices and change life style **(Hinkle et al., 2021)**.

Hypertension complications can be potentiated through several influencing factors, such as lack of awareness about treatment regimens, and life style modification **(Harding et al., 2020)**.

Self-care guidelines play an important role in the management and prevention of hypertension complications. Self-care guidelines include adherence to medication, intake of a low-fat diet, daily exercise, smoking cessation, weight loss, self-monitoring of blood pressure, regular health checkups, and reducing stress **(Osborn et al., 2020).**

Adequate knowledge and effective practices of self-care guidelines have a strong effect on health issues of patients with hypertension **(Sommers, 2019).**

Self-care in patients with high blood pressure has been announced as a key step in reducing hypertension pandemic, and it is considered an important component of personal care to improve quality of life **(Irwan et al., 2020)**.

Improving quality of life means that patients with hypertension have physical, psychological, social wellbeing and able to cope with disease without any complications **(Borg et al., 2019).**

The patients, caregivers, nurse and other health care providers should take care of hypertension self-care measures for a better quality of life maintenance and a safe life for patients with hypertension **(Nugroho et al., 2020).**

Significance of the study:

In developing countries, more than three fourth of the burden of hypertension is attributable to a lack of knowledge and inadequate practice of self-care measures **(Donnelly-Moreno & Moseley, 2021)**. Therefore, the study aimed to assess the self-care practices and self-care guidelines on quality of life of adult hypertensive patients.

Adhering to self-care guidelines in hypertension is essential for patient management to achieve desired treatment goals, improving quality of life, preventing complications, and reducing health care costs **(Shrestha1 et al., 2021).**

Aim of the study

The present study was conducted to evaluate the Effect of Self- care Guidelines on Quality of Life among Patients with Hypertension through the following:

1.Assess knowledge level of patients with hypertension.

2.Assess self-care practices level of patients with hypertension.

3.Assess quality of life of patients with hypertension.

4.Developing and implementing self-care guidelines on patients with hypertension.

5.Evaluate effect of self-care guidelines on quality of life of patients with hypertension.

Research Hypothesis:

This study was hypothesized that the implementation of self-care guidelines for patients with hypertension will affect their quality of life (physical, psychological, social, functional wellbeing) positively.

Subjects And Methods

1- Technical design:

(A) Research design:

Aquasi experimental design is an empirical intervention study used to estimate the causal impact of an intervention on target population without random assignment **(Middleton, 2019)** was followed to achieve the aims of this study.

(B) Setting:

This study was conducted at Medicine Outpatient Clinic in Ain Shams University Hospital.

(C) Subject:

A purposive sample of 76 adult patients with secondary hypertension from whom admitted in the previous mentioned setting at the time of data collection were recruited in this study.

Inclusion Criteria:

▪ Adult patients aged between (35 - ≥ 55) diagnosed with secondary hypertension.

▪ Patients with hypertension disease who don't receive any self-care guidelines or educational instructions and agree to participate in the study.

Sample size calculation

The sample size was calculated based on retrospective statistical data, the number of patients with hypertension that admitted to the outpatient clinic Medicine Unit affiliated to Ain Shams University Hospital (2019-2020) was 1110. A purposive sample will be (76) patients according to the power analysis equation as follows:

Type I error (α) = 0.05

Type II error (β) = 0.1

Sample size based on power analysis = 0.90 (1-B) 90%.

(D)-Tools of data Collection:

The tools used in this study were:

1- **Structured Interview Questionnaire for the patients with hypertension**

It was designed by the researchers and written in simple Arabic language. It was filled by the researchers and it included three parts as follows:

❖ **Part 1: Socio-demographic Data of the patients with hypertension.**

This part included 9 variables (closed ended questions, MCQ). It was concerned with assessment of socio-demographic characteristics of hypertensive patients under study such as patients` age, gender, occupation, marital status, level of education, income and cost of treatment

❖ **Part 2: Medical Health Profile of the patients with hypertension.**

It was developed based on the related literature **(Potter et al., 2019); Hinkle & Cheever, 2020).** It was included 8 true and false questions. It was concerned with hypertensive patients' history which include present history (time of complaint, signs and symptoms, lab investigations, medication) and past history (family history, surgical history, and medication not related disease)

❖ **Part 3: patients' Knowledge regarding HTN disease and its management:**

It was developed based on the related literature **(LeMone et al., 2019; Ignatavicius et al., 2020; Lewis et al., 2020).** This part was included 19 MCQ questions. It divided into two sections as the following:

• **Section I:** Assess patients` knowledge regarding HTN disease (pre and post test format) (as definition, risk factor, diagnosis, signs and symptoms, complication) (5 questions), and patients` knowledge regarding treatment (pre and post test format) (medication used, precautions, complications) (4questions).

• **Section II:** Assess patients` knowledge regarding the methods of controlling high blood pressure (pre and post test format) (as nutrition, smoking, exercise, stress and anxiety) (10questions)

Scoring system:

The total score of knowledge was 19 grades. Each correct answer was given one grade and the incorrect answer was given zero.
It was considered as follows:
• ≥60% satisfactory level of knowledge when the total grades were ≥ 12 grades.
• <60% unsatisfactory level of knowledge when the total grades were < 12 grades.

❖ **Part 4**: **Self-care practices questionnaire:**
It was developed based on the related literature **(Tapp et al., 2019; IRMA, 2019; Frantz et al 2020; Peterson & Bredow, 2020; Potter et al., 2020). It was assessed HTN** patients` self-care practices related to management of HTN disease (pre and post test format) (as nutrition, treatment, smocking stress and anxiety) (26 true & false questions).

Scoring system:
The total score of self-care practices was 26 grades. Each correct answer was given one grade and the incorrect answer was given zero.

It was considered as follows
• ≥60% adequate level of self-care practices when the total grades were ≥ 18 grades.

• <60% inadequate level of self-care practices when the total grades were < 18 grades.

2-The quality of life tool: Is a scale developed based on the related literature **IRMA, 2019; Javanmardi et al., 2019;**

Wilkinson et al., 2019; Potter et al., 2020). It included 33 items to assess the physical (13 items), psychological (7 items), social life (8 items) and functional wellbeing (5 items) (pre and post test format).

Scoring system:

The quality of life scale included 33 items ranged from 1 grade (rarely) = good, 2 grade (sometimes) = average, and 3 grade (always) = poor.

The scores of the items in each subgroup were summed up and the total scores **were** divided by the number of items in each subgroup, giving a mean score for the subgroup, also, the total mean for the quality of life scale was calculated.

- Poor quality of life scale= 0-<50%
- Average quality of life scale =50% -< 75%
- Good quality of life scale= 75% and more

2-Operational Design:

A. The preparatory Phase:

This phase was carried out through the following steps:

1- Reviewing of related literature, and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop data collection tools.

2- Outlining all areas to be included in the self-care guidelines through extensive review of the literature and other available resources (**Sommers, 2019; Shreshal et al., 2021**).

3-Designing the self-care guidelines, preparation of its content and developing the educational booklet as the following:

- Definition, components, and physiology of heart and blood vessels.

- Definitions, risk factors, signs& symptoms, diagnosis, types, and medical treatments of hypertension disease.
- Medication, its side effects, and follow up.
- Self-care of HTN disease regarding (nutrition, treatment, follow up, smoking, exercise, stress and anxiety)

4- Obtaining experts' opinion to ensure self-care guidelines contents validity.

B. Validity and Reliability

Testing validity of the proposed tools by inspecting the items to determine whether the tools measure what supposed to measure **Middleton, (2019).** The stage developed by a jury of 7 experts from different academic categories (professors and assistant professors) of the medical –surgical nursing at the faculty of nursing, Ain Shams University. The expertise reviewed the tools for clarity, relevance, comprehensiveness, simplicity and minor modification was done.

Testing reliability of the proposed tools was done statistically by Cronbach alpha test. Reliability is defined as the overall consistency of a measure. A measure is said to have a high reliability if it produces similar results under consistent conditions (**Middleton, 2019).**

- Cronbach alpha for knowledge was 0.840.
- Cronbach alpha for self-care practice was 0.850.
- Cronbach alpha for quality of life scale was 0.876.

C. Pilot Study:

Before performing the actual study, a pilot study carried out for 8 patients with HTN (10%) in the medicine unit Out-Patient Clinic in Ain Shams University hospital to test clarity, applicability of tools used in this study. Some modifications were done based on pilot study. The patients who included in the pilot study were excluded from the main study group.

D. Field Work:

The study was started and finished through the following phases.

Assessment and planning phase:

▪ The researchers met the patients with HTN at the Medicine Unit Out-Patient Clinic of Ain Shams University Hospital.

▪ The patients who had the inclusion criteria were selected.

▪ The researchers obtained the patients' oral consent for participating in this study after explaining the aim of the study.

▪ Filling in the previous mentioned tools was done by the researchers before implementation of the self-care guidelines.

▪ These tools were completed within an average time 50 minutes.

▪ All information collected through data collection tools were interpreted for identifying individualized teaching needs.

▪ The researchers set up teaching plan covering all objectives (equipping, acquiring, and demonstrating knowledge, skills about disease, treatment, methods of controlling, and self –care guidelines).

▪ The resources and facilities for applying self-care guidelines were allocated (printed material, power point presentation, videos and location of session that best serve the learners).

▪ The appointment for starting teaching sessions was determined and scheduled with the patients (Monday, Wednesday weekly).

Implementation phase:

• The teaching sessions were conducted in a classroom in Medicine unit (Out-Patient Clinic). The Classroom was conditioned, quite, had adequate lighting, well ventilated and furnished, and had adequate spacing for the place for implementing self-care guidelines**.**

• Each session of self-management guidelines had taken one hour/ day for 2 days (Monday, Wednesday) per week. These sessions were conducted for small group; each group number didn't exceed 10 patients.

• At the beginning of the each session, an orientation of the importance of self-care guidelines was explained to the patients to motivate them to follow these guidelines.

• Each session started by greeting the patients, assessing patients' motivation for learning, present the objectives, showing, and explaining the topic by using simple language to suit the educational level of the patients. Getting feedback about what was explaining and given through the session and facilitate for asking any questions about the topic. Number of sessions based on patients' needs was 6 theoretical sessions and 3 practical sessions.

• The researchers emphasized the importance of adherence to each step of self-care guidelines regarding hypertension disease through building a supportive environment. The researcher encouraged patients to express him/ her readiness for changing the behavior.

• Implementation of self-care guidelines regarding HTN disease lasted over a period of 4 months for all patients.

• The collection of data and application of self-care guidelines lasted over a period of seven months; starting at February 2021 and ending in August 2021.

Evaluation phase:

• The evaluation phase emphasized on determining the effect of self-care guidelines among patients with HTN through filling in the tools concerned with knowledge, self-care practices, and quality of life again after implementation of the self-management guidelines. Comparing the collected data pre/ post (three months) application of self-management guidelines.

3- Administrative Design:

An official letter was issued from the faculty of nursing-Ain Shams University to the medical and nursing director of medicine unit (Out-Patient Clinic)   , explaining the purpose of the study and requesting the permission for data collection from the study patients.

Ethical Considerations:

The ethical research considerations in this study included the following:

• The research approval was obtained from the faculty ethical committee before starting the study.

• The researchers clarified the objectives and aim of the study to patients included in the study before starting.

• The researchers assured maintaining anonymity and confidentiality of subjects' data of the patients included in the study

• Patients were informed that they were allowed to choose to participate or not in the study and they had the right to withdraw from the study at any time.

Statistical Design:

All data were collected, tabulated and subjected to statistical analysis. Statistical analysis is performed by SPSS in general (version 17), also Microsoft Office Excel is used for data handling and graphical presentation. Quantitative variables are described by the Mean, Standard Deviation (SD), while qualitative categorical variables are described by proportions and percentages. Chi-squared test and R test of independence are used for categorical variables. Test of significance was used and regarding significance of the result, the observed differences and associations were considered as follows:

Non-significant (NS)	$P > 0.05$
Significant (S)	$P \leq 0.05$
Highly significant (HS)	$P \leq 0.01$

Results

Table (1). Shows that the mean age of the studied patients was (46.57 ± 5.89) and 78.9% of studied patients were males and working, 96.1% were married and 50.0% had basic education.

Figure (1). Shows that, 26.3% of the studied patients had satisfactory level of total knowledge pre implementation of self-care guidelines which improved to 65.8% post implementation of self-care guidelines with highly significant differences at $P \leq 0.001$.

Table (2), reveals that patients had satisfactory level of knowledge (21.1%, & 44.7% respectively), which improved to (65.8%, & 78.9%) post implementation of self-care guidelines with a highly significant difference at ($P \leq 0.01$).

Regarding patient`s knowledge about methods of controlling hypertension disease (nutrition, smoking, exercise, stress and anxiety) pre implementation of self-care guidelines **table (3),** showed that 21.1% of patients had satisfactory level of knowledge which improved to 53.9% post implementation of self-care guidelines with a highly significant difference at ($P \leq 0.01$).

Figure (2). Shows that, 26.3% of the studied patients had adequate level of total self-care practices pre implementation of self-care guidelines which improved to 57.9% post implementation of self-care guidelines.

Table (4). Shows that there was highly statistically significant relation between patients` total level of knowledge and their total level of self-care practices at ($P \leq 0.01$) post implementation of self-care guidelines.

Table (5). Shows that 40.8% of the studied patients had poor physical, social, psychological, and functional wellbeing which declined to 17.1% post implementation of self-care guidelines with a significant difference at ($P \leq 0.05$).

Table (6). Shows that there is statistically significant positive correlation between total self-care and quality of life pre and post the implementation of self-care guidelines when p-value was ≤ 0.05.

Table (1): Number and percentage distribution of socio-demographic characteristics of the study patients (n=76)

Socio-demographic characteristics	N=76	%
Age		
35 < 45	8	10.5
45< 55	56	73.7
55 and more	12	15.8
Mean±SD	46.57±5.89	
Gender		
Male	60	78.9
Female	16	21.1
Occupation		
Work	60	78.9
doesn`t work	16	21.1
Marital status		
Married	73	96.1
Widowed / Divorced	3	3.9
Educational level		
Don`t read and write	6	7.9
Reads & writes	15	19.7
Basic	38	50.0
Bachelor	17	22.4

Figure (1): Percentage distribution of the studied patients according to total level of knowledge pre and post implementation of self-care guidelines
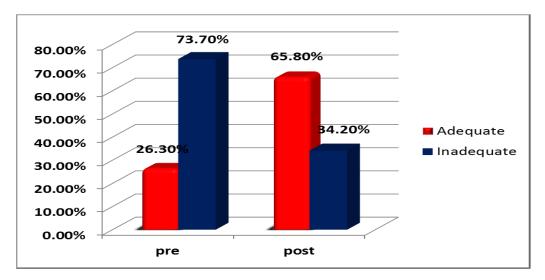
Table (2): Number & Percentage distribution of the studied patients according to level of knowledge regarding hypertension disease, treatment, pre and post implementation of self-care guidelines. (N =76).

	Pre				Post				Chi-square	
	Satisfactory		Unsatisfactory		Satisfactory		Unsatisfactory			
	N	%	N	%	N	%	N	%	X^2	P-value
Assessment of patients' knowledge about hypertension disease										
Hypertension is	11	14.5	65	85.5	32	42.1	44	57.9	14.302	0.001**
Signs and symptoms	24	31.6	52	68.4	32	42.1	44	57.9	1.810	0.179
The risk factors	16	21.1	60	78.9	76	100.0	0	0.0	99.130	0.001**
Test to confirm the diagnosis	3	3.9	73	96.1	24	31.6	52	68.4	19.861	0.001**
complications	17	22.4	59	77.6	76	100.0	0	0.0	96.430	0.001**
Total	**16**	**21.1**	**60**	**78.9**	**50**	**65.8**	**26**	**34.2**	**30.957**	**0.001****
Assessment of patient's knowledge about medication										
Medication of disease is	21	27.6	55	72.4	68	89.5	8	10.5	59.884	0.001**
The type of medication used	6	7.9	70	92.1	24	31.6	52	68.4	28.500	0.001**
Complications of medication	21	27.6	55	72.4	67	88.2	9	11.8	57.108	0.001**
Ways to avoid complications of medication	64	84.2	12	15.8	76	100.0	0	0.0	13.029	0.001**
Total	**34**	**44.7**	**48**	**63.2**	**60**	**78.9**	**16**	**21.1**	**22.997**	**0.001****

*P<0.001 highly significant

Table (3): Number & Percentage distribution of the studied patients according to level of knowledge regarding methods of controlling hypertension disease pre and post self-care guidelines implementation. (N =76).

	Pre				Post				Chi-square	
	Satisfactory		Unsatisfactory		Satisfactory		Unsatisfactory			
	N	%	N	%	N	%	N	%	X^2	P-value
Patient knowledge about methods of controlling hypertension disease										
Nutrition										
Relation between food intake and hypertension	6	7.9	70	92.1	34	44.7	42	55.3	26.600	0.001**
Nutrients lead to hypertension	6	7.9	70	92.1	57	75.0	19	25.0	70.510	0.001**
Important nutrients for a balanced meal	4	5.26	72	94.74	24	31.6	52	68.4	17.512	0.001**
Smoking										
Reasons lead to smoke	13	17.1	63	82.9	41	53.9	35	46.1	22.519	0.001**
Complications of smoking	27	35.5	49	64.5	67	88.2	9	11.8	44.607	0.001**
Exercise										
Benefits of exercise regarding hypertension	3	3.94	73	96.06	24	31.6	52	68.4	19.861	0.001**
How much moderate exercise patient need	16	21.1	60	78.9	58	76.3	18	23.7	46.453	0.001**
Stress and anxiety										
Stress and anxiety lead to hypertension	25	32.9	51	67.1	40	52.6	36	47.4	6.048	0.014*
Appropriate ways to get rid stress and anxiety	21	27.6	55	72.4	36	47.4	40	52.6	6.316	0.012*
Total	**16**	**21.1**	**60**	**78.9**	**41**	**53.9**	**35**	**46.1**	**17.544**	**0.001****

Figure (2): Percentage distribution of the studied patients according to total self-care practice pre and post implementation of self-care guidelines
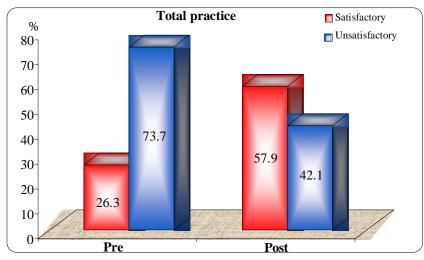

Table (4): Relation between patients` level of knowledge, and their self-care practices post implementation of self-care guidelines (n=76).

Total practice	Total knowledge						Chi-square	
	Satisfactory		Unsatisfactory		Total		X^2	P-value
	N	%	N	%	N	%		
Satisfactory	42	95.5	2	4.5	44	100.0		
Unsatisfactory	8	25.0	24	75.0	32	100.0	40.859	0.001**
Total	**50**	**65.8**	**26**	**34.2**	**76**	**100.0**		

**P<0.001 highly significant

Table (5): Total patients' quality of life domains pre and post implementation of self-care guidelines (n=76).

Quality of life Scale	Pre			Post			Chi-square	
	Good	Average	Poor	Good	Average	Poor	X^2	P-value
	%	%	%	%	%	%		
Physical wellbeing	0.0	9.2	90.8	19.7	51.3	28.9	61.536	0.001**
Social wellbeing	59.2	30.3	10.5	78.9	21.1	0.0	62.120	0.001**
Emotional wellbeing	0.0	64.5	35.5	56.6	27.6	15.8	39.895	0.001**
Functional wellbeing	5.3	18.4	76.3	25.0	39.5	35.5	19.598	0.001**
Total	**21.1**	**38.2**	**40.8**	**53.9**	**28.9**	**17.1**	**6.222**	**0.045***

*P<0.05 significant **P≤ 0.001 highly significant

Table (6): Correlation between self-care and quality of life of studied patients pre and post the implementation of self-care guidelines.

	Self-care			
	Pre		Post	
	r	P-value	r	P-value
Quality of life	0.31	0.02*	0.48	<0.01**

Non significant P >0.05 *p <0.05 significant **P<0.001 highly significant

Discussion

Hypertension is one of the most common cardiovascular diseases in developed and developing countries. Hypertension threatens not only the physical health of patients, but also their mental and social health. Therefore, measuring the quality of life is important for those patients **(Owen et al., 2020).**

Self-care is multidimensional practices relates to hypertension management. The major areas of self-care for HBP care and management include medication taking and a number of lifestyle factors such as non-smoking, weight management, low-sodium and low-fat diet, physical activity, moderation in alcohol consumption, self-monitoring of BP, regular doctor visits, and stress reduction **(Osborn et al., 2020).**

Quality of life is identified as one of the main indicators of cardiovascular health. Evidence shows that the quality of life in patients with hypertension is poor, so it is necessary to find appropriate interventions to improve their health status and treatment outcome **(Borg et al., 2019).**

Regarding the studied patients` socio-demographic characteristics**,** the results of the present study revealed that the mean age of the studied patients was 46.57±5.89, this finding is inconsistent with the study about **"Self-care Practice among Adult Hypertensive Patients at Ambulatory Clinic of Tertiary Teaching hospital in Ethiopia: A Cross-sectional Study"** by **Melaku et al., (2020)**, who founded that the mean age of the studied patients was 58.7±9.75

While more than three quarters of the studied patients were males. This might be due to increase incidence of HTN disease among males than female especially before menopausal beriod. This finding is inconsistent with the study about **"Levels and Predictors of Self-Care among Patients with Hypertension in Pakistan"** by **Gowani et al., (2021)** who showed that approximately two thirds of the studied patients were female.

Related to occupation, more than three quarters of the studied patients were working, and regarding to marital status, the majority of them were married. These findings are in agreement with the study about **"Effect of Evidence Based Lifestyle Guidelines on Self-Efficacy among Hypertension Patients"** by **Elwesif et al., (2021).** As more than one half of the studied patients were working and the majority of them were married

As regard to educational level, one half of the studied patients had basic education, and this result contradicted with the research conducted about **"Self-care in Patients with Hypertension in Indonesia"** by **Eldawati et al., (2020)** who stated that approximately half of the studied patients had finished secondary school

Concerning patients` level of total knowledge regarding HTN disease, the current study revealed that less than one fourth of the studied patients had satisfactory knowledge about the disease. While about two thirds of them had satisfactory level of knowledge post implementation self -care guidelines with highly statistically significant difference at (P≤ 0.001). This might attribute to effectiveness of self-care guidelines on enhancing knowledge and empower patients to better manage their disease and related problems.

This finding is supported by the study conducted on **"Effect of Evidence Based Lifestyle Guidelines on Self-Efficacy among Hypertension Patients"** by **Elwesif et al., (2021)** who stated that the most of studied patients had unsatisfactory level of knowledge about hypertension before implementation of evidence-based guidelines and it was improved after implementation of guidelines.

Concerning patients` level of total knowledge regarding treatment. The current study showed that less than half of the studied patients had satisfactory level of total knowledge about treatment. While more than three quarters of them had satisfactory level of total knowledge about treatment with highly statistically significant difference at (P≤0.001) post implementation self -care guidelines. This

is assuring that the importance of patients` active participation in self -care guidelines in seeking acquiring knowledge about HTN treatment.

This finding is inconsistent with the study about **"The Impact of Patient Knowledge on Hypertension Treatment Adherence and Efficacy: A single-Centre Study in Poland"** by **Hoffmann et al., (2021)** who founded that more than half of the subjects had good knowledge about their treatment

On the other hand the study conducted in India about **"Hypertension Knowledge and Treatment Initiation, Adherence, and Discontinuation among Adult in Chennai: Across –Sectional Study"** by **Sudharsanan et al., (2021)** stated that there were large gaps in consistency of BP medication use which were strongly associated with knowledge about BP medication.

In relation to patients` level of knowledge regarding methods of controlling hypertension disease. The current study revealed that less than one quarter of the studied patients had satisfactory level of knowledge regarding methods of controlling hypertension disease which improved to more than half with a highly statistically significant difference at (P≤ 0.001) post implementation self -care guidelines. This finding highlight the importance of self-care guidelines in enhancing patients` knowledge regarding methods of controlling hypertension

In this finding **Amoah et al., (2020)** found that more than half of the studied patients had not achieved blood pressure control lacked knowledge of causes or complications of hypertensions, in article entitled **"The Role of Lifestyle Factors in Controlling Blood Pressure among Hypertensive Patients in Two Health Facilities in Urban Ghana: A Cros Sectional Study".**

The current study revealed that more than one quarter of the studied patients had adequate level of self –care practices related to nutrition, treatment, smoking, exercise, stress & anxiety which improved to more than one half

with a highly statistically significant difference at (P≤ 0.001) post implementation self -care guidelines. This might be due to the importance of self-care guidelines application in improving patients` self-care practices.

This finding is supported by the study about **"Self-care Practice among Adult Hypertensive Patients at Ambulatory Clinic of Tertiary Teaching Hospital in Ethiopia: A cross –Sectional Study"** by **Melaku et al., (2020)** that found that more than half of the studied patients had poor self-care practices toward hypertension

Moreover the study about **"Lifestyle Modification and Its Effect on The Control of Hypertension" Elgendy et al., (2020)** who found that the mean total score of overall of fantastic lifestyle pretreatment of study group was 29.56± 3.89, while post treatment was 35.39±3.92, with significant increased total score of overall of fantastic life style in study group post treatment compared with that pretreatment (P≤0.001)

Concerning relations between patients` level of knowledge, and their self-care practices. The current study showed that there was highly statistically significant relation between patients` total level of knowledge and their total level of self-care practices related to dealing with HTN disease at (P≤ 0.001) post implementation of self-care guidelines. This might attribute that those patients who obtained further information on their disease conditions lead to assume responsibility for their own health and participation in self-care.

This finding is in the line with the study conducted in **"Addis Ababa about Knowledge, Attitude and Self-Care Practice towards Control of Hypertension among Hypertensive Patients on Follow-Up at St. Paul`s Hospital"** by **Bacha & Abera, (2019)** stated that there is an inadequate knowledge about hypertension, as well attitude and self-care practice towards control of hypertension among studied hypertensive patients that is generally poor.

In another study about **"Knowledge, Attitudes, Practices and Blood Pressure Control at South African Primary Health Care Centre"** by **Hoque et al., (2020)** found that approximately one half of the studied patients had poor knowledge, while more than half of the studied patients had good attitude and were practicing positively regarding the control of hypertension.

Regarding the overall quality of life dimensions, the current study showed that 40.8% of the studied patients had poor physical, social, psychological, and functional wellbeing which improved to 17.1% post implementation of self-care guidelines with a significant difference at (P≤0.05). This improvement may be due to positive effect of self-care guidelines. This result goes in the same line with **Khademian et al., (2020)** who studied **"The Effect of Self Care Education Based on Orem's Nursing Theory on Quality of Life and Self-Efficacy in Patients with Hypertension"** and mentioned that the educational intervention has improvement on the quality of life for the studied patients

Regarding total self-care (knowledge & practice) and quality of life, the current study shows that there is a highly statistically significant positive correlation between the studied patients post implementation of self-care guidelines. This result goes in the same line with **Irwan et al., (2020),** who studied **"Self-Care Management for Hypertension in Southeast Asia"** and mentioned that there is a positive correlation between the self-care knowledge, population needs and their quality of life in their study.

Conclusion

Based on findings of the present study, it can be concluded that:

The implementation of self-care guidelines for patients` with hyper-tension has a statistically significant positive effect on their quality of life (physical, psychological, social, functional wellbeing) which supports the stated hypothesis.

Recommendations

Based on the results of the current research, the following suggestions for future research and practice are proposed:

1.The importance of initiation of educational programs to increase patients` awareness about self-care practices and manage their disease positively.

2.Enhancement patients with hypertension to engage in optimal self-care training programs to get healthy life style and prevent adverse health effects of disease.

3.The health care provider should apply accurate and continuous assessment for associated factors that limit or prevent self- care practices implementation.

4.Further studies about the effect of the self -care guidelines on the patients` self-efficacy and modification life style.

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