

Measure Outcomes of Patients' Instructions about Modifiable Risk Factors for Hypertensive Patients on Their Attitude and Lipid Profile

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Abstract Background: Hypertension is affecting 40.8% of females 38.7% of males in Egypt, and the total is affecting 39.7% of the population. High prevalence of hypertension connected to a wide range of severe medical disorders. Aim: to measure the outcomes of patients' instructions effects about modifiable risk factors for hypertensive patients on their attitude, and lipid profile. Subjects and Methods: A quasi-experimental design with one group pre, post, and follow-up was utilized to achieve the aim of the study. Sample: a convenience sample including 100 adult patients enrolled in this study. Setting: a study was conducted in cardiac and internal medicine outpatient clinics at Zagazig University Hospital and Beni-suef University hospital. Tools: The researchers prepared an interview form including three sections: I- Questionnaire to Patient Interview Questionnaire Sheet include Part 1: Assess patients' demographic characteristics Part 2: Assess Patient 's family, past and recent medical history, assess the associated chronic disease, medications, allergies and previous source of health knowledge. Part 3: Patient's Physical Assessment and Laboratory Investigation Sheet. II- The lifestyle attitude assessment. Results: the present study showed that more than half of the study sample have 50+years, female, have work, secondary school, their blood pressure, lipid profile, blood glucose reading decreased at the follow-up with highly statistically significant, marked changes of lifestyle with highly statistically significant difference among study phases in all items except in exercise. Also in knowledge, levels, and medical examination, there is Correlation between lipid profile and level of practice, Correlation between lab investigation and level of knowledge. Conclusions: study concluded that personalized, tailored nursing instructions could be adjusted blood pressure through improving hypertensive patients' attitude and normalize lipid profile. Therefore, the confident effect of the program is lifelong. Recommendations: study recommended nursing instructions should apply in various outpatients' cardiac clinics and medical service centers and training of nurses to provide this service. The informative booklet ought to be conveyed to all patients.

Keywords: patients' instructions, modifiable risk factors, hypertension, attitude, lipid profile

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1. Introduction

Hypertension is chief public health care in each developing and developed countries. Approximately one billion people worldwide affected by hypertension. Additionally, it is from important diseases in Egypt with a rate of 26.3% among the adult population. It is increasing with aging; about 50% of Egyptians old have hypertension [1]. As mentioned by [2] 29% of adult population in the worlds suffer from hypertension by the year 2025, management and prevention of this disease have become a

priority of public health caregivers. It also referred to as high blood pressure, in which the arteries have persistent high blood pressure. These results of a condition where the heart has to work harder than normal to flow blood through the vessels, there was insufficient information about the epidemiology of hypertension until now, protocols of treatment and its consequences in Egypt. Lately, there has been a significant change in the health system in Egypt, including research development. Patients with risk factors are Manage by merge a comprehensive set of pharmacological and nonpharmacological treatment and intensify BP intervention so ensure manage modifiable risk factors as high sodium, low potassium,

alcohol, smoking, diabetes mellitus, high Cholesterol, overweight/obesity, Physical Inactivity, and Unhealthy Diet. Also, disease Relatively Fixed Risk Factors as Psychosocial Stress, Premature Birth, Low Birth Weight, Chronic Kidney Disease, Family History, Increased Age, Low Socioeconomic Status, Male Sex, Obstructive Sleep Apnea [3]. The updated guideline for hypertension also provides new treatment recommendations, which include lifestyle changes as well as BP-lowering medications, [4] to treat the hypertensive patient, follow up patient each month to detect compliance and responding to prescribed treatment until BP is under control [5]. Hypertension is recognized as one of the significant risk factors in developing coronary atherosclerosis; it frequently found with other risk factors, especially dyslipidemia, which may act increase in the pathogenesis of atherosclerosis disease [6]. Therefore, making the Full fasting lipid profile screening is essential. It is a group of blood tests that are performed after fasting 14 hours and used to guide primary health care (PHC) providers in deciding how a person at risk should be treated. Lipid profile includes total cholesterol, HDL-cholesterol, LDL cholesterol and triglycerides. The report may also include HDL/cholesterol ratio or a risk score based on lipid profile results, age, sex and other risk factors [2]. Also, BMI as a measure of body weight was classified according to the WHO as underweight, normal, overweight and obese. Overweight and obesity are risk factors for many diseases as blood pressure [7]. The nurses play an essential role in preventing hypertension crises and complications. They create awareness and instruct patients. Hence, its significant reduction [8]. Nursing care must include adequately assess the level of a patient needs of self-care so that the nurse can utilize the nursing system that best fits the patient's ability to perform self-care [9].

In addition to the patient's role in self-care, the nurse also can be effective in taking care of them after discharge [10]. The control of hypertension through health promotion and lifestyle modification presents a significant challenge for a large sector of the population that is well fitting to nursing care [11]. This can be accomplished through implementing Nursing guideline that is a designated program provided to recently diagnosed hypertensive patients to improve their knowledge, self-care practice and clinical outcomes. Ali (2013) added that, nursing guidelines constitute the following items: dietary modification, weight reduction strategies, increase exercise, stress management strategies, promotion the adherence to management plan, and educate patients self/home blood pressure monitoring. that lead to improvement in the hypertension patients Clinical outcomes as systolic and diastolic blood pressure, triglycerides, cholesterol, RBS, FBS, PPS, creatinine, SGPT, SGOT, as well as patients clinical manifestation of hypertension as headache, fatigue, anxiety, numbness, face and eye redness, and edema of lower extremities [12]. So hypertensive patients require instruction, medications to lower their blood pressure to safe levels [13]. Nowadays nurses more responsible for patients instruction to own health care. The patient required compressive health status and interested in stabilizing and prevent or decrease complications from chronic diseases [14].

1.1. The Significance of the Study

Uncontrolled blood pressure is one of the most common diseases in high prevalence at Egypt; nurses are more likely to observe and provide available health information and strategies, as for encouraging self-care behavior to adults patients diagnosed with hypertension. High blood pressure is a risk for coronary heart disease and stroke. It's complications also renal impairment, visual impairment, and retinal hemorrhage [7].

1.2. The Aim of the Study

The objective of this study was to measure the outcomes of patient' instructions about modifiable risk factors for hypertensive patients on their attitude, and lipid profile.

1.3. Research Hypothesis

1. Hypertensive patients' knowledge will be improved post implementation of nursing instructions.
2. Hypertensive patients' lifestyle attitude will be improved post implementation of nursing instructions.
3. Patients' lipid profile will be significantly differenced within normal value post implementation of nursing instructions.

2. Materials and Methods

2.1. Research Design & Setting

A quasi-experimental design with one group pre, post, and follow-up was utilized to achieve the aim of this study.

2.2. Setting

The study was conducted in cardiac and medical outpatient clinics at Zagazig University Hospital and Beni-suef university Hospital.

2.3. Subjects and Sample

A convenience sample of 100 adult patients was included in the study, selected according to the following inclusion criteria: adult male and female patients experiencing hypertension, Conscious hypertensive patients with prescribed antihypertensive medication with an abnormality in lipid profile, perform regular follow up and agree to participate in the study.

2.4. Tools of Data Collection

Three tools used in this study prepared in the Arabic language.

The first tool: it includes three parts.

1st part; Assess patients' demographic characteristics: Patients' age, sex, educational level, occupation, marital status, income, health insurance.

2nd part Assess Patient's family, past and recent medical history, assess the associated chronic disease,

medications, allergies and previous source of health knowledge..... Etc.

3th part; Patient's Physical Assessment and Laboratory Investigation Sheet to record systolic and diastolic blood pressure using a standard method of measurement [15]. It also included lipid profile as blood triglycerides, cholesterol, LDL and HDL. Also, random and fasting blood sugar. Also, Patients' body mass indexes (BMI) were estimated pre guidelines intervention. $BMI = \text{weight (Kg)} / \text{height (m)}^2$. Patients were considered underweight if $BMI < 18.5$; normal weight if $BMI 18.5 - 24.9$; overweight if $BMI 25 - 29.9$ and obese if $BMI > 30$. It adopted from (Gupta et al. 2007) [16].

The second tool: Assess Lifestyle attitude included 25 questions on six borders, which include nutritional habits, physical activities, and patients' compliance with medications, smoking habits, emotional status, and personal hygiene. The responses to all items of this section were on a 3-point Likert scale: usually, occasionally or never, score two, one, and zero, respectively. summed and the total divided by the number of the items, giving a mean score for items scores of each part and category.

The Third tool: Patients' Knowledge assessment sheet regarding hypertension to assess patients' knowledge about hypertension based on recent literature and filled in by the researchers. It consisted of 20 questions covered the items: a. information about hypertension (definition, signs & symptoms and complications); b. Risk factors and management of hypertension; c. Self-care practice (medication, diet, physical activities, weight reduction, smoking cessation and follow up); d. Complications and preventive measures. The questions were in the form of true & false, and yes, no, and not known.

2.5. Content Validity of the Tools

The researchers prepared an interview form including four tools adapted in the Arabic Language. A group of five experts in Medical-Surgical Nursing revised these tools. Cronbach's Alpha equal 0.802 used to calculate the reliability in the collected data through the study tools and the result.

2.6. Pilot Study

The pilot study was conducted on ten hypertensive patients to test the clarity, practicality, and applicability of the tools. Based on the result of the pilot study, modifications and exclusions of some details were done and then the final forms were developed. The sample of the pilot study was omitted from the study sample.

2.7. Managerial Design and Ethical Respect

Official permission was obtained from the Director of the Hospitals of the mentioned setting after explaining the aim and objectives of the study. Besides, the aim of the study was revealed to the participants to gain their co-operation. Verbal consent was obtained from each patient who agreed to participate in the survey, after clarifying the procedures of the study. Participants were informed about ethical issues of research that include their right to refuse participation and withdraw at any time without giving any

reason, or any consequences. Confidentiality of data was ensured and used for research purposes and their benefits. The research tools were not causing any harm or pain for participant.

2.8. Operational Design for the Study

This study was conducted through the following four phases: assessment, planning, implementation, and evaluation.

First phase: Assessment

This phase directed to prepare the study tools after reviewing related literature. An exploratory visit was done to outpatient clinics to estimate the rate of admission and suitable time for collecting the data, receive data from HTN patients included in the study by recognizing the patients' knowledge, practice their lifestyle and compliance toward hypertension therapeutic regimen before nursing instructions implementation.

Second phase: Planning (preparatory)

Based on the assessment phase and patients' learning needs, the program content and media (in the form of the program booklet, posters, and visual materials) were prepared. The intercession was designed built on a review of related literature and tailored to the patients' needs identified in the pre-test [17]. The first part of the patient instructions focused on improving patient's knowledge regarding hypertension modifiable risk factors. It involved the following items as illustrated in the patient's handout: identifying of hypertension, its causes, signs and symptoms, and effects on the body system. Treatment and preventive measures. Diet and exercise part covered (hypertensive diet, compliance with physical activities as time, duration of walking, and mange of stress included relaxation technique, along with assertiveness, and management of time. Also the kinds of hypertension treatment, stress on regular physician follow-up, pressure on the signs and symptoms that need rapid consultation. Lastly, general lifestyle practice. A helpful handout prepared by the researchers to be given to participants.

Third phase: Implementation

The nursing instructions sessions were fulfilled according to the five stages of counseling process that uses the acronym DASIE technique whose components are: (1) Develop the relationship, identify and clarify problem(s); (2) Assess problem(s) and redefine in skills terms; (3) State working goals and plan interventions; (4) 'Intervene to develop self-helping skills; and (5) End and consolidate self-helping skills [25].

Every patient was interviewed individually by the researcher at our Patient Clinic to fill in the sheet. Each session lasted from 40-45 minutes. Counseling was given by the use of booklet, posters, and visual materials, and real objects as a sphygmomanometer, stethoscope, and check for measuring glucose level. Each patient counseled for three to four sessions using face to face teaching methods to achieve the proposed goal and allow patient to ask, discussion and reach a high level of understanding. Each session divided into two parts the first one focused on Theoretical knowledge and the second part take for discussion, asking and answering any question). The researcher used pictures, lectures, brochure, and power point presentations. About practical sessions, it was

around 2 to 3 sessions based on patients' understanding focused on lifestyle habits modifications and the technique of measuring blood pressure.

Data collection and program application started in May 2018 and ended in December 2018. Data were collected two days/week from 8.00 a.m. to 1.00 p.m. according to the outpatient clinic visiting hours and the presence of the patients.

The fourth phase: Evaluation

The evaluation phase was stressed on measuring the outcome of nursing instructions about modifiable risk factors on patients knowledge, practice (lifestyle) and lipid profile through three measures taken 1, 3 and six months after the program implementation.

2.9. Statistical Analysis

The collected data were organized, tabulated and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables while for numerical values the mean and standard deviations were calculated. Chi-square test was used to detect the statistical differences between variables. When the chi-square test was not suitable due to the presence of observations with a small number, the Monte Carlo exact test was used. ANOVA test was used to compare more than two means of parametric data. The correlation between study variables was calculated using Pearson's correlation coefficient. The level of significance was adopted at $p < 0.05$.

3. Results

Table 1 showed that more than half of the study sample have 50+years, female (52%) without health insurance. Figure 1 represented the distribution of studied sample according to their educational level; it pointed to and have work, the majority of them 34% have secondary schools and have work, the majority of them 34% have secondary schools. Figure 2 showed that the majority of studied sample 66% have a family history of a disease and their

disease duration ranged from 5 to 10 years and have other associated disease (70) especially DM (41%). Table 2 illustrated that the mean systolic blood pressure reading decreased from 169 at the pre-intervention to 131.2 at the follow-up phase. Also, mean diastolic blood pressure, lipid profile, random blood sugar, and fasting blood glucose results changed from the pre-intervention to the follow-up phase with a highly statistically significant P value ($\leq .001$). Table 3 displayed there are marked changes of lifestyle behavior (Diet, exercise, medication, smoking, and psychological) from poor practice in pre-intervention to good practice in follow-up phase with highly statistically significant difference among study phases in all items except in the exercise. Table 4 illustrated that: statistically significant difference in body mass index in three phases of the study Table 5 showed that statistically significant difference among study phases in knowledge, levels

Table 6 showed the impact of the program highly statistically significant difference among study phases inpatient regarding their medical examination. Table 7 Correlation between lipid profile and level of practice after negative instruction correlation in Table 8 Correlation between lab investigation and the level of knowledge.

Table 1. Frequency and percentage distribution of the studied sample as regards their sociodemographic characteristic (n=100)

Item	N	%
Age		
49.6±9.1		
30-39	14	14
40-49	34	34
50+	52	46
Sex		
Male	48	48
Female	52	52
Occupation		
Have work	62	62
Not working	38	38
Health Insurance		
yes	28	28
No	72	72

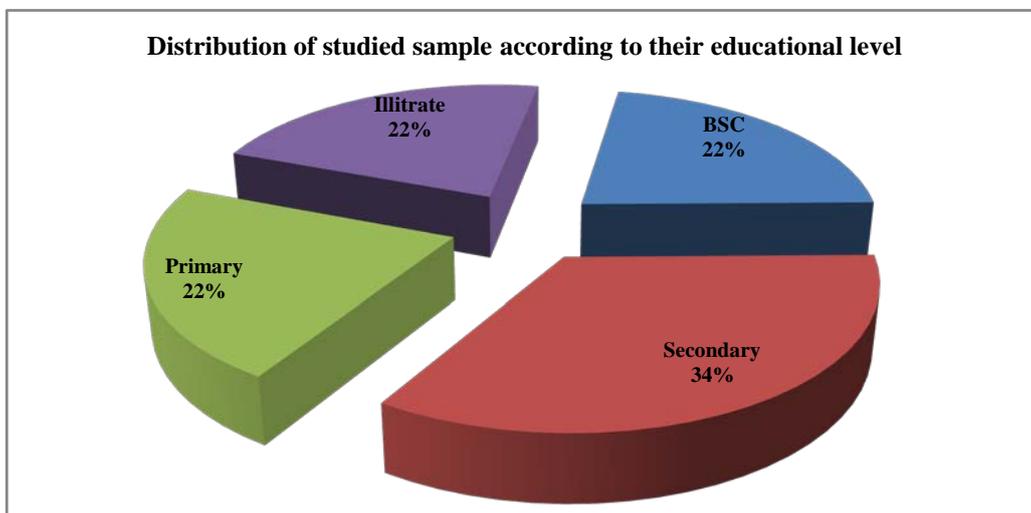


Figure 1. Distribution of studied sample according to their educational level

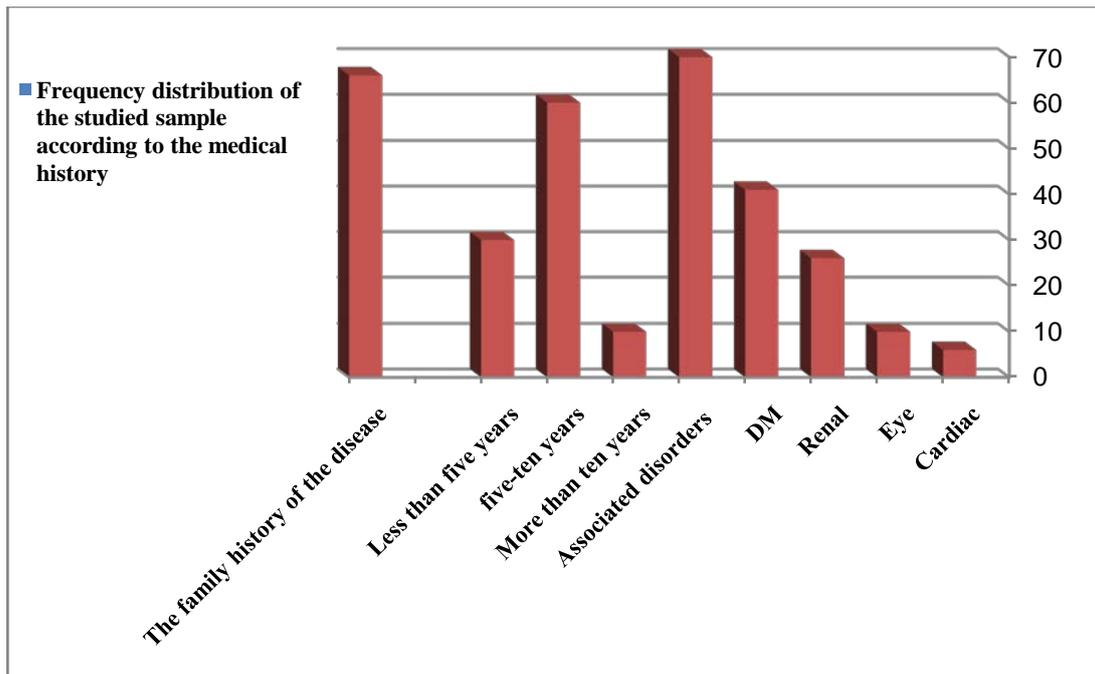


Figure 2. Distribution of the studied sample according to the medical history

Table 2. Mean score of the studied patient regarding their physical assessment and examination

ITEMS	Pre		Post		Follow up		F	P
	Mean	SD	Mean	SD	Mean	SD		
Systolic	169	17.3	138.9	9.5	131.2	4.5	234.2	.000
Diastolic	106	6.8	87.7	7.7	86.1	3.3	127.6	.000
Triglyceride	183.5	35.6	154.2	22.3	149.5	13.6	45.3	.000
Cholesterol	236.2	27.4	194.4	22.1	191	18.8	100.7	.000
HDL	47	6.7	59.7	8.2	52.9	7.6	96.7	.000
LDL	126.6	22.3	100.7	10.7	95.8	6.4	90.1	.000
R BS	207.3	31.1	175.9	25.3	174.5	21.6	40.4	.000
Fasting	126.5	13.8	113.8	13.8	111.7	11.7	34.5	.000

Table 3. Impact of the program on the lifestyle attitude Comparison Pre-post and pre-follow-up

Items		Pre		post		Follow up		X2	P
		N	%			N	%		
Diet	Good	6	6	75	75	83	83	144.6	.00001
	Poor	94	94	25	25	17	17		
Exercise	Good	5	5	55	55	66	66	89.7	.0000
	Poor	95	95	45	45	34	34		
Medication	Good	37	37	65	65	81	81	41.6	.00001
	Poor	63	63	35	35	19	19		
Smoking	Good	23	23	66	66	81	81	106.3	.00001
	Poor	77	77	34	34	19	19		
Psycho	Good	6	6	45	45	73	73	93.3	.00001
	Poor	94	94	55	55	27	27		
Total	Good	12	12	78	78	84	84	131.1	.00001
	Poor	88	88	22	22	16	16		

*significant at P≤0.05.

Table 4. Impact of the program on the mean score of the studied patient regarding their body mass index

ITEMS	Pre		Post		Follow up		X2	P
	N	%	N	%	N	%		
Underweight	8	8	6	6	6	6	19.8	.002
Normal weight	23	23	37	37	44	44		
Overweight	28	28	35	35	33	33		
Obese	41	41	22	22	17	17		

Table 5. Impact of the program on patient knowledge

Factor		Pre		post		Follow up		X2	P
		N	%	N	%	N	%		
Level of knowledge	Satisfactory	17	17	77	77	75	75	84.3	.00001
	Unsatisfactory	83	83	23	23	25	25		

Table 6. Impact of the program on the mean score of the studied patient regarding their medical examination

	Pre		Post		Follow up		F	P
	Mean	SD	Mean	SD	Mean	SD		
Systolic	169	17.3	138.9	9.5	131.2	4.5	234.2	.000
Diastolic	106	6.8	87.7	7.7	86.1	3.3	127.6	.000
Triglyceride	183.5	35.6	154.2	22.3	149.5	13.6	45.3	.000
Cholesterol	236.2	27.4	194.4	22.1	191	18.8	100.7	.000
HDL	47	6.7	59.7	8.2	52.9	7.6	96.7	.000
LDL	126.6	22.3	100.7	10.7	95.8	6.4	90.1	.000
Random blood sugar	207.3	31.1	175.9	25.3	174.5	21.6	40.4	.000
Fasting	126.5	13.8	113.8	13.8	111.7	11.7	34.5	.000

Table 7. Correlation between lipid profile and lifestyle practice

Items	lifestyle practice	
	R	P
Triglyceride	-.244	.01
Cholesterol	.204	.04
HDL	.231	.02
LDL	-.487	.000
Random blood sugar	-.02	.84
Fasting	-.07	.44

Table 8. Correlation between lab investigation and the level of knowledge

Items	Knowledge	
	R	P
Triglyceride	-.102	.3
Cholesterol	.258	.009
HDL	.101	.317
LDL	-.289	.004
Random blood sugar	.178	.07
Fasting	.056	.5

4. Discussion

Hypertension is an essential health challenge and is a major risk factor for many other diseases. From barriers for efficient care of hypertension; lack of knowledge it is the dangers of uncontrolled hypertension [18]. The findings of the present study revealed that more than half of the studied patient ages were 50 years old with a mean (standard deviation) was 49.6±9.1. This may be due to the long duration of the disease. This result is following the results of the study conducted by Zhu et al. (2014), most participants were in the age group of 69 years female [19]. Also, he reported that the mean age of his studied subjects was 39 years (range 20–55 years). Also, William (2015) said that the period of his studied subjects ranged from 19 to 74 years (mean 55.6 years) [20]. Also, this is following Majority (71.4%) were in the 51-70 years age group as reported by (Ebrahim et al. 2017)The findings of their study revealed that the subject's age was ranged between forty to less than fifty years old [21].

As regard to gender, the results of the present study showed that, female patients represent more than half of

the study sample, this may be in cause of change in female hormone in this age, this finding was in agreement with Kisokanth (2016) there were more females than males in this study population [22]. Similar findings have been reported 7 (41.0%) males and 250 (59.0%) females [23]. Also, Riaz, (2014) reported that the majority of studied patients were female [24]. Concerning the educational level of the studied sample, the result of the current study showed that the majority of patients had a secondary school, this is the cause of the most of sample was old age and not complaint with a healthy style. Similar data were reported by Mahajan et al (2016) [25]. Concerning patients` occupation, the study finding showed that the majority of the studied patient had work; this may be the patients affected by stressful situations. This finding in disagreeing with Galal (2012) who reported that more than one-half of his studied patients were not working. These may be related to gender or complications occurred. Half of them were governmental employees [26].

As regarding patient training program for caring for hypertension, the result of the study conducted that all patient had training program most of them receive training from nurses. This may be from the ongoing attended program by staff during clinic hours this result agrees with Gnanaselvelvan et al., (2016) who reported that more than half of the participants received information about hypertension from their clinics which provides an opportunity to influence patient knowledge, awareness, and attitude towards hypertension control [27]. In contrast, Mahmut et al. (2016) reported that regard to medical history of hypertension, the present study revealed that three quarters of studied patients were having a positive family history of hypertension, and more than half of them having first degree relativity [28], this finding is in agreement with Moustafa (2011) who reported that the majority of his studied subjects having positive family history of hypertension among first and second degree [29], and Attia (2012) disagreed with current study who reported that less than half of studied subjects said positive family history [30].

The effect program on the physical assessment and measurement the current study revealed that the highly statistically significant in all examination between pre and post implement program as Bp measurement, triglyceride,

cholesterol, HDL, LDL, RBCS, FBS, and body mass index. This may be due to the improvement of their knowledge following the instruction regarding lifestyle management. This accordance with Ebrahim et al. (2017) their study portrayed a highly statistically significant difference between pre-intervention and post-intervention regarding SBP, DBP, and weight [31]. These results were consistent with Shaw et al., (2014) who reported that both systolic and DBP improved after the intervention (3.68 mmHg for SBP, 1.56 mmHg for DBP) [32]. Moreover, Irmak et al. (2010) noted a significant decrease in the mean systolic and DBP also post-intervention. In the same line [33], Hong (2010) and Rigsby (2011) reported improvement of the blood pressure among patients who modified an unhealthy lifestyle [34,35].

The optimal level of Lifestyle is essential for all patients. Require for medical therapy interpreted as failure management of lifestyle, as an adjunct to it [36]. The result of the present study showed a highly statistically significant difference except in exercise may be due to most patient are females and old age so not complaint with exercise this result supported with [21] their conclusion of the study showed that a highly statistically significant difference in all risk factors of hypertension and dyslipidemia after the nursing intervention than before. About one-third of the studied subjects had depression after the nursing intervention compared to more than two-thirds before the nursing intervention. This could mean that the program content was attractive to the patients and. Also, This result was also in agreement with Frisoli et al. (2011) who reported that lifestyle changes might postpone hypertension in non-hypertensive patients and diminish blood pressure in hypertensive patients which leads to reducing the frequency and doses of antihypertensive drugs [37].

The symptoms of depression and lifestyle also improved among participants after the implementation of the nursing intervention. A similar result was supported by Duraimani et al. [2015] who observed reduced sodium and protein consumption among all subjects and a large number of the health education group reduced intake of calories, carbohydrates, and fats and the depression reduced [38].

Also, this finding following Moustafa (2011), Attia (2012), and Galal (2012) all of them reported that there was a significant improvement in the reported dietary management among the studied subjects after implementing the self-care programs [25,29,30].

However, Melin et al. (2014) reported that nearly one either quarters of his study subjects were depressed, smokers or physically inactive, or had combinations of these variables [39].

Regarding the studied patients level of knowledge the current study revealed that 83% of studied patients had unsatisfactory level of knowledge pre implementing instructions, and only 17% had satisfactory level off, and they improved after instructions; this finding was in agreement with [18] who reported that the majority of the subjects had inadequate knowledge before the program. While; half of them had moderate knowledge after the program with a statistically significant difference. Besides, this finding in agreement with Moustafa (2011) who reported that there was a highly significant improvement

in studied subjects' knowledge after implementing instructions [29].

As regarding correlation between lipid profile and level of knowledge and practice the study revealed that positive correlation in cholesterol and HDL only and negative correlation in other items this study with (Alemu et al. 2018) reported that There was a positive association between BMI and the lipid profiles [40]. Besides, WC had a significant positive association with the serum levels of TC and weak association with TG, LDL-C, and HDL-C levels. Correlation analysis also showed that there was a positive association between WHR and TG, TC, and LDL-C levels and an inverse relation with HDL. TC level, among lipid profiles, showed the closest relationship with WC and WHR ratio. As regression analysis of the study showed, WC and WHR can better predict lipid abnormalities in hypertensive patients.

The plethora of studies such as a study conducted in Europe (2016) stated that Hypertensive patients, SBP had a statistically significant correlation with serum LDL-C and TG levels which tended to rise as the duration of hypertension advances [41].

5. Conclusion

The present study outcomes concluded that personalized, tailored nursing instructions could be adjusted blood pressure through improving hypertensive patients' attitude and normalize lipid profile. Also, The study findings lead to accepting the research hypotheses that implementation of nursing instructions lead to improving the patients' attitude and their lipid profile. Therefore, the confident effect of the program is lifelong.

6. Recommendations

In light of the results of the study recommend, nursing instructions should apply in various outpatients' cardiac clinics and medical service centers and training of nurses to provide this service. The informative booklet ought to be conveyed to all patients.

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