A REVIEW: EFFECT OF COUNSELING ADHERENCE AND BLOOD PRESSURE CONTROL IN HYPERTENSIVE PATIENTS

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ABSTRACT:

Background: *Globally, one of the high rates of mortality is due to hypertension. Hypertensive patients must be treated through lifelong interventions of counseling adherence in combination with their medication. It can reduce the risk of cardiovascular disease. Hypertension sufferers are one of the patients who must adapt to counseling techniques in their lifestyles.*

Objective: *To illustrate the effects of counseling adherence on hypertensive patients derived from the results of previous studies from 2010 to 2020.*

Materials and Methods: *Secondary data sources were obtained from the articles of national and international publications, with a predetermined theme. The literature consulted was obtained from PubMed and Google Scholar databases from 2010 to 2020.*

Results: *A total of 977 publications on counseling effect on blood pressure control in hypertensive patients has been identified. Out of 977 studies, a total of twenty articles were selected for the final analysis. From the twenty articles, four were from a cross-sectional study, five of those articles used the Randomized controlled trial method, ten of those used the quasi-experiment method, and one of those used the prospective method.*

Conclusion: *The results extracted from the above-mentioned literature consisting, of twenty articles on "the adherence to the counseling and blood pressure control in hypertensive patients, provided a better understanding of the phenomenon of compliance with the management, of hypertension. Counseling and social support provided a positive impact to prevent and minimize complications. As an outcome of the counseling and consultation increased the knowledge of the patient's hypertensive disorder, improved self-efficacy. The adherence to counseling and consultation therapy helps sustain the blood pressure of the patient within the normal range. Counseling interventions conclusively have a positive effect on hypertensive patients*

Keywords: Counseling, Adherence, Blood pressure, Hypertension

INTRODUCTION

Hypertension is a condition when blood vessels have persistently raved pressure and the average of two or more properly measured, seated blood pressure (BP) readings on each of two or more measurements [1]. Globally, one of the high rates of mortality relates to hypertension [2, 3]. According to the analysis of the global burden of hypertension, over 26% of the world's adult population had hypertension in 2000 [4]. In developing countries, hypertension is more likely to happen among ethnic minority groups of African descent rather than whites [5]. Their morbidity and mortality are increasing every year due to a change in lifestyle, which has become sedentary [4]. Counseling adherence can reduce the risk of cardiovascular disease [5]. Many factors can be associated with controlling blood pressure effectively that can decrease the risk of serious complications with the heart, brain, or kidney [6,7]. The low level of knowledge and low compliance can cause complications that can impact blood pressure, uncontrollable [8].

The prevalence number of hypertension continues to increase every year, it is estimated that in 2025, around 1.15 billion, or about 29% of the world's total population will suffer from hypertension [7]. The prevalence of hypertension among African Americans and white Americans is 45.2%; 29.1% perspectively [10]. The measurement of hypertension has gradually increased, as, it was found that in 2013 the incidences of hypertension have increased by 25.8% to 34.1% in 2018 [11]. Hypertensive patients must be treated appropriately through lifestyle counseling and interventions or with the combination of medication. Hypertension sufferers are one of the patients who must adapt to counseling [12]. Sometimes the physician does unnecessarily increase the dose or add additional antihypertensive medicines due to the nonadherence to antihypertensive therapy which can raise the blood pressure uncontrollably [6]. Adherence to this therapy can act as a deterrent to uncontrolled blood pressure [4]. However, some obstacles like polypharmacy of antihypertensive agents, adverse effects, low socioeconomic status, and low self-efficacy can influence adherence [6]. A good assessment and comprehension of these obstacles will require optimal interventions [5]. Therefore, this review article aims to illustrate and report the effect of counseling adherence and its impact on hypertensive patients through the results of previous studies.

METHODS

Literature Search Strategy

This review article is a comprehensive summary of several research studies that are determined based on a particular theme. The data used in this study is secondary data obtained not from direct observations, but from the result of researches conducted by previous researchers. Secondary data sources were obtained from research publications of national and international reputation with a predetermined theme. A literature search in this systematic review uses two databases PubMed, and Google Scholar from 2010 to 2020.

Search for articles using keywords, that are used to expand or

specify a search, making it easier to determine the article used. The search strategy is done with the keywords *counseling AND adherence*, *counseling AND blood pressure*, *counseling AND hypertension*. The search is carried out by identifying articles in sequence (title, abstract, and full text).

RESULT

A total of 977 publications were found with the effect of counseling on adherence and blood pressure control in hypertensive patients have been identified. From the initial 977 studies, a total of 20 studies were selected for the final analysis.

Related subjects have been published which can be seen in table 1.

Table 1. Article Extraction Result

No	Reference(s)	Type of Study	Type of intervention	Outcome
1	[13]	a randomized, controlled trial 1. Adherence: Adult Primary Care Questionnaire: CSQ 2. self-efficacy Questionnaire: HLAQ	Educational training	The blood pressure in the intervention group was controllable. The communication between doctor-patient and adherence to medication increase significantly rather than the control group
2	[14]	Cross-Sectional 1. Adherence: MMAS 2. Self-efficacy: MASES	Receive care for hypertension, Adherence assessment	54.9% of patients have poor adherence. After social support and counseling, the patients showed elevate self-efficacy so that patient compliance was better
3	[6]	randomized controlled trials 1. Adherence: questionnaire Morisky 2. self-efficacy questionnaire 3. social support questionnaire	Management hypertension and counseling of drug adherence by a pharmacist	At 9 months: The adherence in the intervention group is 94% meanwhile the group without intervention has less than 2% than the intervention group.
4	[15]	Cross-sectional deskriptif 1. MMAS questionnaire: to measure medication adherence 2. BIPQ: for beliefs about the severity of hypertension 3. BMQ: for confidence about treatment 4. MASES-R: for self-efficacy	Medication adherence, beliefs about hypertension severity, beliefs about medication, and self-efficacy	there is a relationship between belief and medication adherence, 68% of patients reported adherence with high self-efficacy and high medication confidence, uncontrolled blood pressure was low medication adherence.
5	[16]	Randomized controlled trial	health education	The group with intervention has a relevant effect on adherence to treatment.
6	[17]	True experimental	Home pharmacy care is counseling	Although home pharmacy care and conventional counseling have no difference significantly, blood pressure was decreased by counseling.
7	[18]	quasi-experimental	Home pharmacy care is education and counseling	Education and counseling can elevate knowledge and compliance, reduce blood pressure. That can increase the Patient's quality of life.
8	[19]	quasi-experimental	Counseling interventions, adherence assessment	there is a significant increase in hypertension treatment adherence when giving counseling.

9	[20]	Quasi-experiment Self-efficacy: MUSE Adherence: MMAS-8	Counseling interventions, leaflet, adherence assessment	in the counseling group and leaflets were equally effective in increasing self-efficacy (p = 0.557), medication adherence (p = 0.924), decreasing systolic blood pressure (p = 0.256) and diastolic (p = 1,000). there was no significant difference between the two groups.
10	[21]	Quasi Experiment with prospective	Counseling interventions, adherence assessment	There were 45 intervention groups (treatment) and 42 control groups (without counseling) in the intervention group where there was a decrease in blood pressure and increased adherence. there is a significant effect of p <0.05 on the intervention group with counseling compared to the control group.
11	[22]	Quasi-experiment	Counseling interventions, adherence assessment	Providing counseling by pharmacists in the intervention group increased patient adherence (p <0.05) significantly compared to the control group. The decrease in blood pressure of hypertensive patients in the intervention group was higher than the control group. however, this reduction in blood pressure did not achieve a significant reduction in blood pressure compared with the control group.
12	[23]	quasi-experiment	Counseling interventions, focusing on hypertension	there was an increase in the social media counseling group compared to the conventional counseling group with a significant p-value <0.05 because social media counseling is given information by pharmacists every time.
13	[24]	quasi-experiment	Counseling interventions, poster, adherence assessment	Counseling and poster have an impact on elevate adherence. But systolic and diastolic are reduced only by the poster. Both interventions have different MMAS-8 scores significantly.
14	[25]	quasi-experiment	counseling guidance about self-care, adherence assessment	the presence of a control group and a treatment group. There was a change in the attitude of controlling blood pressure and self-care for hypertension in the treatment group with counseling p = 0.000, compared to the control group there was no change in attitude towards blood pressure p = 0.317
15	[26]	quasi-experiment	Counseling interventions, adherence assessment	counseling by pharmacists can increase adherence by 28.3% to hypertensive patients in the treatment group with a significant effect of p = 0.000 and a decrease in systolic blood pressure compared to the control group.
16	[5]	Cluster randomized trial 1. Self-efficacy: MASES-R 2. Adherence: MMAS 3. Treatment beliefs: BMQ	Medication adherence, focusing hypertension	after six months: there was higher medication self-efficacy and reported an increase in treatment adherence than those who did not p = 0.031. older patients are more adherent to treatment than younger patients

17	[4[l]]	Cross-Sectional	Medication adherence, focusing on hypertension	more than half of the patients had uncontrolled blood pressure (53.4%) but there were 64.6% of patients have treatment adherence and 76.8% of the patients knew hypertension. Factors that are associated with this are gender, knowledge, distance, and comorbidity.
18	[27]	Randomised controlled trial	motivational interviewing counseling on hypertension care	6 months after given motivational interviewing counseling, can increase adherence and decrease systolic and diastolic blood pressure.
19	[28]	Cross-sectional	Education hypertension	Sociodemographic is associated with the self-protection of hypertension. 48.2% of patients noticed an increase in blood pressure and only 8.8% of blood pressure was controlled as a result of the patient's low awareness of controlling hypertension
20	[29]	Prospective Adherence: KAP & QOL	Patient counseling, patient information leaflets, adherence assessment, lifestyle modification, quality of life.	At the age of 51-60 years, blood pressure increases with a percentage of 29.85%, the majority of hypertensive patients have comorbidities (58.8%) compared to those without comorbid 41.1%, so that pharmacist counseling can improve knowledge, compliance, and quality. life of the patient.

DISCUSSION

Research articles collected from some countries such as Iran, America, Arabia, and Indonesia. In twenty articles, four articles from a cross-sectional study, five articles are selected which used a randomized controlled trial, ten of those use the quasi-experiment method, and one of those uses the prospective method. Based on the literature review it was found that in the population of hypertensive patients one group was without comorbidities and the other with comorbidities. Comorbidity, such as diabetes mellitus, chronic renal failure, dyslipidemia, heart failure. Comorbidities such as Diabetes Mellitus, chronic kidney disease, dyslipidemia, and chronic heart disease. The intervention pharmacist has done appropriate counseling along with appropriate medicines and developed the patient's knowledge.

The pharmacist must provide appropriate standard service [30]. Other pharmaceutical services must provide standard information medicine servicing, home pharmacy servicing, observe medicine therapy, and monitors the effect of the medicine. One of the goals of this review report is to emphasize the quality of pharmacy counseling services that aim to improve the life quality of the patients. Pharmacists Counseling is to motivate the patients and enhancing the understanding to take hypertension medicine well on time which is important. The target of this counseling is to motivate the patients to take hypertensive medicines and keep blood pressure in the normal range. Cause of that cooperation between medics and patients use needed. Pharmacist mediated patient counseling was effective in improving knowledge about the disease and drug administration[29]. Food uptake plays a vital role in maintaining blood pressure. Low fat and the quantity of salt followed by good sleeping are the significant factors in this respect [21].

The obeying degree of the patient eventually helps monitor the blood pressure in the normal range [26]. In line with research by [27], counseling patients can change unhealthy lifestyles. Offering counseling about self nursing of hypertension can change knowledge of the patient, attitude, treatment in control blood pressure [25].

Based on the literature, females dominate by 51,7% more in getting hypertension [21]. According to different age groups, 30 to 64 years old, display 35.6% of the disease. This research is in line with an experiment conducted by others [13, 18], the majority of respondents were women, whereas the males are at higher risk of hypertension than female. The average age for males is 30 years old. But females will get hypertension increasingly during menopause, hence the prevention of female patients is more important. Females have a higher risk of hypertension than males. It is attributed to the decrease of estrogen hormone resulting in blood pressure increase. In research [4], experts are of the view that the relationship between gender and medic obedience is related more to women and men due to their busy routines having lower medics obedience and forgetfulness about their medicine routines.

Andalusia, *et., al,* , found there is a statistically significant association between age, education, and socioeconomic status with the awareness of hypertension, counseling, and education that can increase patient's understanding which decreases blood pressure or hypertension in patients. Minimal information decreases the know-how about the disease and its follow-up while improved information influences the patients positively by minimizing hypertension. Educated patients have significantly better treatment rates, in contrast to

patients with low knowledge [13]. The knowledge in the social media counseling group is higher than the conventional counseling group, this is because the social media counseling groups are given information and frequent discussions bring the information which is well received by the respondents [23]. Adherence increased significantly after humanistic-based counseling was carried out [19]. There is a significant relationship between obesity and increased blood pressure. Interventions conducted by pharmacists can affect the blood pressure of hypertensive patients [20]. The counseling by pharmacists may be fallible sometimes as the administration of medication doses may or may not be been able to reduce blood pressure [22]. Based on research [20], factors that influence patient adherence include the complexity of their daily regimen, poor communication between the patient and the healthcare professionals, social support, and financial problems.

Social support and self-efficacy improve the well being of patients. In line with the research [14], the patient shows a high self-efficacy record. These research results are coincident with others [15]. Hypertension patients must obey a good medicinal regime of increased trust with medical support [6]. Self-efficacy and social support were the main determinants of adherence to lifestyle and medication recommendations at baseline. An increase in self-efficacy leads to improved medication adherence to hypertension [6].

CONCLUSION

Results of the literature displayed in table 1 show the hypertensive population with or without comorbidities, i, e., patients with comorbidities such as diabetes mellitus, chronic kidney disease, dyslipidemia, chronic heart ailments, and patients only with hypertension. The intervening counseling by medics has improved the lifestyle and knowledge of the disease, whereas patients who were not persistent with counseling didn't show much improvement in their disease and life style. Pharmacists who doing counseling to hypertensive patients provides a better understanding of the phenomenon of compliance with hypertensive patients undergoing disease management. Giving counseling and social support as an effort to prevent complications to the patients can increase the knowledge, self-efficacy, and adherence to counseling, so that blood pressure can be controlled in an optimum range. Counseling interventions have a positive effect on hypertensive patients.

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