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Efficacy of IEC Material on Knowledge and Practices of Dietary Management of Hypertension among Hypertensive Clients at Selected Community Setting

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Abstract

A condition in which the force of the blood against the artery walls is too high is described as hypertension. Usually, hypertension is defined as blood pressure above 140/90 and is considered severe if the pressure is 180/120 mmHg. The Dietary Approaches to Stop Hypertension (DASH) dietary pattern emphasizes fruits, vegetables, low-fat dairy products, and reduced sodium intake. A quantitative descriptive research approach was used after obtaining permission from the investigator. Sixty samples were selected using a purposive sampling technique. The samples who met the inclusion criteria at the community area were recruited. The investigator introduced and explained the purpose of the study to participants and obtained informed consent. The post-test scores of knowledge and practices were highly significant when compared to pretest scores using the paired t-test. Thus, the present study shows that the IEC material was effective in improving the knowledge and practices on dietary management of hypertension significantly among patients with hypertensive clients. Dietary Approaches to Stop Hypertension Diet research showed that it could lower blood pressure as well as the first-line blood pressure medication, even with a sodium intake of 3300 mg per day. Since then, numerous studies have shown that the Dietary Approaches to Stop Hypertension (DASH) diet reduces the risk of cancer, stroke, and heart disease, including heart failure, kidney stones, and other diseases. The DASH diet's ability to manage hypertension is profound.

Keywords: *Blood Pressure, DASH Diet, Elderly People, IEC Material.*

Introduction

In 1982, Stokes, Noren, and Shindell defined Health as: “a state characterized by anatomic, physiologic, and psychological integrity; an ability to perform personally valued family, work, and community roles; and an ability to deal with physical, biologic, psychological, and social stress.” Hypertension is the systematic elevation of systolic blood pressure to a level of 140 mm Hg or higher and diastolic blood pressure to a level of 90 mm Hg or higher [1]. A condition in which the force of the blood against the artery walls is too high is described as hypertension [2]. Usually, hypertension is defined as blood pressure above 140/90 and is considered severe if the pressure is 180/120 mmHg [3].

In 2017, the American College of Cardiology and the American Heart Association published new guidelines for hypertension management and defined high hypertension as blood pressure at or above 130/80 mmHg. Stage 2 hypertension is defined as blood pressure at or above 140/90 mmHg [4]. Only about 1 in 4 adults (24%) with hypertension have their condition under control. About half of adults (45%) with uncontrolled hypertension have a blood pressure of 140/90 mmHg or higher. This

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includes 37 million U.S. adults. About 34 million adults who are recommended to take medication may need it to be prescribed and to start taking it [5]. The DASH-Sodium trial specifically examined the impact of sodium intake in combination with the DASH diet on blood pressure. This trial included three groups: a control group on a typical American diet, a group on the DASH diet with higher sodium intake, and a group on the DASH diet with lower sodium intake [6]. The results revealed that the DASH diet alone led to a significant reduction in blood pressure. However, when combined with sodium reduction, the blood pressure reduction was even greater [7]. Participants following the DASH diet with low sodium intake experienced an average systolic blood pressure reduction of 7.1 mmHg in those without hypertension and 11.5 mmHg in those with hypertension. The seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure recommends that lifestyle modifications should be the initial treatment strategy for lowering blood pressure [8]. In addition to advocating weight reduction, the Dietary Approaches to Stop Hypertension (DASH) dietary pattern, which emphasizes fruits, vegetables, and low-fat dairy products as well as reduced sodium intake, both significantly lower blood pressure in persons with stage 1 hypertension and those with high normal blood pressure [9]. One of the greatest pleasures in life is food. This could be largely due to poor hygienic conditions and socio-economic conditions. In urban areas, due to lifestyle changes and sedentary activities, the population is more prone to diseases like diabetes mellitus, obesity, and hypertension. Poor food habits and excessive intake of fatty foods contribute to this [10]. The Dietary Approaches to Stop Hypertension diet also lowers blood pressure in those with isolated systolic hypertension. A key goal of dieting is reducing how much sodium you eat, since sodium can dramatically increase blood pressure in people who are sensitive to its effects. In addition to the standard Dietary Approaches to Stop Hypertension (DASH) diet, there is also a lower sodium version of the diet. [11]. The standard DASH diet recommends consuming up to 2.3 gm of sodium per day. The lower sodium DASH diet recommends consuming up to 1.5 gm of sodium per day. The DASH diet has been shown to reduce the risk of sudden cardiac death by approximately 13% decrease in 10-year CVD risk. Nearly 85% of the global mortality and disease burden from cardiovascular diseases is borne by low and middle-income countries. In India, approximately 53% of cardiovascular disease deaths are in people younger than 70 years of age. In China, the corresponding figure is 35% [12]. The majority of the estimated 32 million heart attacks and strokes that occur every year are caused by one or more cardiovascular risk factors, including inactivity [13]. In an analysis of worldwide data for the global burden of hypertension, 21% of Indian men and women were found to suffer from hypertension. Information on the prevalence of hypertension is available for urban and rural populations in many states in India, but the same is not available among tribal populations [14]. Therefore, the present study was undertaken to assess the prevalence of hypertension, and knowledge, treatment practices, and risk behaviours of tribal men and women aged ≥20 years in nine major states in India during 2008-2009 by the National Nutrition Monitoring [15].

Measurements

Blood pressure was measured with random-zero sphygmomanometers while participants were seated at three screening visits, twice during the run-in period, and weekly during the first 3 weeks of each of the three 30-day intervention periods.

Materials and Methods

A quantitative descriptive research approach with a descriptive research design was adopted to assess the effectiveness of IEC material on knowledge and practices of dietary management of hypertensive clients in a selected community area. A pre-experimental one-group pre-test post-test design was used. The demographic data was collected by a structured questionnaire, followed by a pretest conducted after obtaining formal permission from the community department. Study participants: A total of 60 hypertensive clients who met the inclusion criteria were recruited as study participants. The pretest was conducted using a structured questionnaire. The purpose of the study was explained in depth by the investigator to each of the study participants, and written informed consent was obtained from them. Sampling Techniques: A total of 60 hypertensive clients were recruited based on the inclusion criteria using simple random sampling techniques. A self-structured questionnaire method was used to gather demographic data.

Intervention Protocol

In this group, the researcher introduced herself explained the purpose of the study and confirmed the willingness of the elderly people to participate in the study by obtaining consent from them as per the inclusion criteria. The demographic data was collected by a structured questionnaire, followed by a pretest conducted. The researcher conducted the training session for 60 minutes, after which a post-test was conducted. The study's outcomes were assessed by directly questioning the participants and through the structured questionnaire method. Collected data were tabulated for comparative analysis.

Effects of DASH Diet on Demographic Variables

The total number of participants was 60, and the distribution of demographic variables of patients with hypertension was as follows: About the distribution of age groups of hypertensive patients, 30-40 years were 5 (16.7%), 41-50 years were 12 (40%), and 51-60 years were 13 (43.3%). Regarding the sex of patients, males were 16 (58.3%) and females were 14 (46.7%). Considering religion, 17 (56.7%) belonged to Hinduism, 8 (26.6%) to Christianity, and 5 (16.8%) to Islam. Considering the education of patients, 14 (46.8%) were illiterate, 8 (26.6%) had primary and higher secondary education, and 8 (26.6%) were graduates. Regarding occupation, 10 (33.3%) were unemployed, 14 (46.7%) were private/coolie workers, and 6 (20%) were government workers. Looking at the marital status of the patients, 25 (83.4%) were married and 5 (16.6%) were unmarried. Regarding family structure, 17 (56.7%) were living in nuclear families, and 13 (43.3%) were living in joint families. The place of residence of patients with hypertension was 30 (100%) rural and 0 (0%) urban. Considering the monthly income of patients, 10 (33.3%) had no income, 8 (26.6%) had between ₹5001-₹15,000, and 12 (40%) had above ₹15,000. About the dietary pattern of hypertensive patients, 8 (26.6%) were vegetarian and 22 (73.4%) were non-vegetarian.

Effects of DASH Diet on Change in IEC

The pretest knowledge and practices towards dietary management of blood pressure among the samples were assessed using the knowledge and practices questionnaire. Among 60 patients with hypertension, 14 (46.7%) had poor knowledge, 10 (33.3%) had an adequate level of knowledge, and 6 (20%) had good knowledge. The mean pretest knowledge score was 14.33 with a standard deviation of 4.59. In the post-test, 20 (66.7%) had an adequate level of knowledge, and 10 (33.3%) had good knowledge. The mean post-test knowledge score was 28.53 with a standard deviation of 6.79. The pretest practices of hypertensive patients showed 2 (6.7%) were not practising,

16 (53.3%) had poor practices, and 12 (40%) had adequate practices. The mean pretest practice score was 10.5 with a standard deviation of 4.1. In the post-test, 8 (26.6%) had adequate practice and 22 (73.4%) had good practice. The mean post-test practice score was 20.2 with a standard deviation of 5.5. The mean difference between pretest and post-test knowledge and practice scores was found to be highly significant with a p-value of 0.0001.

Table 1. Comparison of Pretest and Posttest Knowledge Scores and Practices

Practice	Mean Pretest	SD Pretest	Mean Posttest	SD Posttest	Mean Difference	% Change	Paired t-test	p-value
Knowledge Score	14.33	4.59	28.53	6.79	12.08	45%	16.209	0.0001
Practices Score	10.5	4.1	20.2	5.5	9.7	51.9%	14.735	0.0001

Discussion

The study was aimed at assessing the level of knowledge and practices regarding dietary management of hypertension and the effectiveness of IEC material. The pretest knowledge and practice scores were poor or adequate for most of the samples. However, after the intervention, the majority of the patients had an improved knowledge level and good practice. The findings of the study are supported by various research studies that emphasize the impact of dietary management and educational interventions in controlling hypertension.

Conclusion

The study shows that the IEC material was effective in improving knowledge and practices regarding the dietary management of hypertension. The Dietary Approaches to Stop Hypertension (DASH) diet is effective in managing hypertension and reducing cardiovascular risks. The intervention significantly improved patients' knowledge and practices, thus aiding in better hypertension management.

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