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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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ENHANCEMENT OF KNOWLEDGE ABOUT DASH DIET AMONG HYPERTENSIVE PATIENTS: DIETARY EDUCATIONAL INTERVENTION

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Abstract.

Background: Hypertension is a major global health issue, particularly in low- and middle-income countries. Lifestyle modification, especially dietary intervention like the DASH (Dietary Approaches to Stop Hypertension) diet, plays a vital role in blood pressure control. **Aim:** This study aimed to evaluate the effectiveness of health education on the knowledge level of hypertensive patients regarding the DASH diet in Mosul city, Iraq. **Methods:** A quasi-experimental one-group pre- and post-test design was conducted among 50 hypertensive patients attending outpatient clinics in hospitals of Mosul city from September 2024 to January 2025. Data were collected using a special questionnaire before and after dietary education. **Results:** The majority of participants (88.0%) were aged 45 years or older. There were 9 (18%) males and 41 (82.0%) females. Pre-intervention results showed that (88.0%) had poor knowledge about the DASH diet. After the intervention, 66.0% achieved good knowledge scores, with a statistically significant improvement in Mean±SD of knowledge scores from 30.5 ± 13.77 to 71.5 ± 14.25 and significant p value ($p < 0.001$). **Conclusion:** This dietary educational intervention significantly improved participants' knowledge regarding the DASH diet. Health education programs should be integrated into routine care to promote lifestyle modification and support self-management among hypertensive patients.

Key words. Hypertension, DASH diet, health education, lifestyle modification, knowledge improvement.

Introduction.

The most common chronic illness and hidden killer all over the world is hypertension. A diastole BP measurement of 90 mm Hg or more and systole BP of 140 mm Hg or more on two or extra precise measurements on different occasions is regarded as hypertension. Despite its occurrence in all ages, but more likely affects adults and old populations [1]. In 2023, World Health Organization (WHO) announced that this chronic disease is one of major illness that led for early adulthood deaths globally, and 1.4 billion individuals between 30 – 79 years of age were shown to have this disease which account for 33% of the population in this age range. In addition, two-thirds of those having the disease were living in low- and middle-income countries. Among those having the disease, (44%) of them were unaware that they had the condition. About (44%) were diagnosed and on drug therapy, half of them 320 million appeared having good control on their condition while other half 310 million shown to have poor control despite receiving medical treatment [2]. (WHO report 2025)

According to this recent report, the prevalence of hypertension is raised by >20% in some countries in the Middle East and Africa [3]. In the Middle East, the overall rates of pre-hypertension and hypertension were 28.60% and 24.36%, respectively. Adults under 49 years of age had a 17.13% prevalence of hypertension, while those aged 60 years or older had a 61.24% prevalence ($P<0.001$). Both males and females exhibited a similar increasing trend [4]. This change, is reflected by an increased risk of atherosclerotic diseases and cardiovascular disease [5]. Approximately forty percent of Iraqis over the age of 25 have HTN and higher prevalence of HTN were among women. As WHO reported this disease is the 3rd main cause of deaths in Iraq and accounts for 9.3% of all deaths [6].

All chronic non communicable diseases including elevated BP appeared to be directly related to lifestyle choices and metabolic health of individuals, these factors allow the chance to be change by health care workers to help patients to efficiently controlling these factors, reduces risk of elevated BP and prevent adverse outcomes. The most important factors are unhealthy diet, physical inactivity, tobacco smoking, alcohol drinking, stress, and obesity [7]. Adopting a healthy eating regimen by JNC (Joint of National Committee) III, such as the Dietary Approaches to Stop Hypertension (DASH) diet, is a documented strategy for managing elevated blood pressure, according to the 8th Joint National Committee review of guidelines for managing of elevated blood pressure [8].

The dietary Approach to Stop Hypertension (DASH) was originally developed by the National Heart, Lung, and Blood Institute (NHLBI) in US and applied during the 1990s by several experimental studies to specify the benefit of this approach on controlling hypertension status of patients. This dietary pattern characterized by being rich in potassium, magnesium, and calcium and low in sodium, saturated fat, and total fat, this pattern has been seen to consistently decrease each of systole blood pressure (SBP) and diastole blood pressure (DBP) [9,10].

The impact of individual nutrients on blood pressure has been the subject of numerous research projects, including randomized controlled trials. For instance, a recent meta-analysis showed that lowering salt (sodium chloride) consumption to a mean of 4.4 g/d (1716 mg sodium/d) reduced blood pressure by 2/1 mm Hg in normotensive participants and 5/3 mm Hg in hypertensive participants. likewise, without the administration of antihypertensive drugs, a major meta-analysis of 29 randomized clinical trials revealed that higher potassium consumption of ≥20 mmol/d (≥780 mg/d) resulted in a decrease in SBP and DBP of 4.9 mm Hg and 2.7 mm Hg, respectively [11,12].

Numerous studies have shown that the DASH diet reduces the risk of many diseases, including some kinds of cancer, stroke,

heart disease, heart failure, kidney stones, and diabetes. It has been proven to be an effective way to lose weight and become healthier at the same time [13]. DASH is a flexible and balanced eating plan that requires no special foods and instead provides daily and weekly nutritional goals. This plan recommends; eating vegetables, fruits, and whole grains. Fat-free or low-fat dairy products, fish, poultry, beans, nuts, and vegetable oils. Limiting foods that are high in saturated fat, such as fatty meats, full-fat dairy products, and tropical oils such as coconut, palm kernel, and palm oils. Limiting sugar and sweets [14].

Besides its beneficial effect on blood pressure, DASH is designed to be a well-balanced diet for the all population. DASH is recommended by the United States Department of Agriculture (USDA) as an ideal eating plan for all American (USDA, 2010) [3]. Dietary approach to stops hypertension DASH decreases the SBP by 6 mm Hg and DBP by 3 mmHg in patients with pre-hypertension (Systolic 120-139 mm Hg, diastolic 80-89 mm Hg). Hypertensive people (Systolic ≥140mm Hg, diastolic ≥90mm Hg) reduced by 11 and 6mm Hg, correspondingly. No significant alteration in body weight was observed due to these blood pressure alterations (U.S. Department of Health and Human Services., 2006). DASH also decreased 10-year risk of heart attack and LDL cholesterol [15].

Primary care providers are in a crucial position to offer advice and perform preventive care to implement changes in their practice by offering their patients non-pharmacological treatment options that address hypertension [16]. The lecture method is widely used in education to disseminate information and is suitable for a diverse audience, regardless of their educational background [17]. Primary prevention, early diagnosis and controlling blood pressure are recommended since early adulthood. For controlling modifiable risk factors and reducing disease burden through assessing the levels of knowledge attitude and practice (KAP) regarding HTN in hypertensive patients plays a significant role and it improves awareness and perception. Good knowledge of HTN is associated with higher rates of BP control, decreasing morbidity and mortality as well as medication adherence [18]. Our study aims to assess the effectiveness of health education on knowledge of participants with hypertension regarding DASH diet.

Materials and Methods.

Quasi experimental study design (one-group pre-and post-test) was adopted in which data were collected from outpatient's clinics of 2 major hospitals in Mosul city, center of Nineveh governorate, Al-Salam teaching hospital and Mosul general hospital. This study was approved scientifically and ethically by the scientific committee of College of Medicine, University of Mosul and Nineveh Directorate of Health.

The sample size was calculated depending on power analysis for a one-group pretest–post-test design using a paired t-test [19]. Assuming a medium effect size = 0.50, a two-tailed significance level of 0.05, and 80% power. The lowest sample size was 34 participants with adding those for potential drop out, the sample size was increased to 50 participants. So, a consecutive sample of 50 patients with hypertension whom aged ≥ 30 years and agreed to participate in this study both verbally and formally (written informed agreement) attending above hospitals at time of data collection were included. While patients with major problems like complicated cardiac problems or psychiatric problems or disabilities were excluded.

Data were collected from September 2024 till January 2025, using a special questionnaire form, which was developed depending on review of articles [18,20]. Then reviewed by research professions in public health and clinical supervisors in which their agreement were calculated (content validity ratio+ 0.9). this form was pretested on a pilot sample of 10 hypertensive patients and then re tested after 1 week (reliability index was 90%). The final questionnaire contains 2 sections; socio-demographic section and knowledge section that contain 14 questions related to diet and hypertension. Each response was assigned as a score of 1 for every correct answer, summed and computed out of 100%. Knowledge scores were divided into good scorer who scored more than 60% of marks, average from (50-60) % of marks and poor scorer who scored less than 50% of marks.

The patients whom included in this study were interviewed and data collected by the researcher using the developed questionnaire form. Then in the next 3 days sessions were scheduled for dietary health education to improve their knowledge, each session was conducted on 3-4 patients and last 30 – 40 min, the informations were given in form of lectures, videos and leaflet given to them about DASH diet. In addition, a diet of 7 days was given to them then a second meet were arranged after 10 days for post assessment using the same questionnaire.

Data analysis and Descriptive statistics were calculate using Statistical Package for the Social Science (SPSS) version 16.0. A p value less than 0,.05 were regarded significant in this analysis.

Results.

The age of participants was mostly ≥ 45 years, (88%). There were 9 (18%) males and 41 (82%) females. The number of respondents who were illiterate was 11 (22%) and those who had primary and secondary education was 39 (78%). The number of respondents who were non skilled 37 (74%), skilled 11 (22%) and retired 2 (4%). In terms of duration of hypertension, 25 (50%) persons were less than 5 year, 12 (24%) persons were between 5 to 10 years and 13 (26%) more than 10 years. 41(82%) of persons with positive family history of hypertension (Table 1).

Out of total participants pre-test, only 1 (2%) had good knowledge, 5 (10%) had average knowledge and 44 (88%) had poor knowledge, while status of total participants post-test was, only 1 (2%) had poor knowledge, 16 (32%) had average knowledge and 33 (66%) had good knowledge with very significant p value of (<0.001) (Table 2).

This table shows that in pre-test mean knowledge score was 30.5 with standard deviation of 13.77, in post-test mean was 71.5 with SD 14.25 and 'p' value was <0.001, hence it is very significant between pre-test and post-test score of study group (Table 3).

Table 1. *Sociodemographic characteristics of hypertensive patients.*

Variable		Pre (n=50)	
		No.	(%)
Age in year	< 45	6	12.0
	≥ 45	44	88.0
Gender	Male	9	18.0
	Female	41	82.0
Educational level	Illiterate	11	22.0
	Primary & Secondary education	39	78.0
Occupation	Non skilled	37	74.0
	Skilled	11	22.0
	Retired	2	4.0
Duration of hypertension	< 5 years	25	50.0
	5 – 10 years	12	24.0
	> 10 years	13	26.0
Family history of hypertension	Yes	41	82.0
	No	9	18.0

Table 2. *Frequency and percentage distribution of score on knowledge regarding DASH diet.*

Score	Score range of knowledge	Pre		Post		P value*
		No.	%	No.	%	
< 50	Poor	44	88.0	1	2.0	<0.001
50-60	Average	5	10.0	16	32.0	
> 60	Good	1	2.0	33	66.0	
Total		50	100.0	50	100.0	
* Z test of proportions						

Table 3. *Mean and SD distribution of score on knowledge regarding DASH Diet pre and posttest.*

	Knowledge score		P value*
	Mean	SD	
Pre test	30.5	13.77	<0.001
Post test	71.5	14.25	
* Paired t test.			

Discussion.

Hypertension is one of the most common occurring chronic health conditions and a major cause of cardiac morbidity and deaths. Management of hypertension by lifestyle accommodation can lower the expense of health services by lowering the need for pharmacological and advanced cardiovascular treatments. The study was done to check the effects of health education about DASH diet on the level of knowledge of patients of hypertension.

This study shows that the age of participants was mostly (88%) ≥ 45 years. There were 9 (18%) males and 41 (82%) females. The number of respondents who were illiterate was 11 (22%) and those who had primary and secondary education was 39 (78%). The number of respondents who were non skilled 37 (74%), skilled 11 (22%) and retired 2 (4%). In terms of duration of hypertension, 25 (50%) persons were less than 5 year, 12 (24%) persons were between 5 to 10 years and 13 (26%) more than 10 years. 41(82%) persons with positive family history of hypertension.

Our study shows that among of total participants pre-test, only 1 (2%) had good knowledge, 5 (10%) had average knowledge and 44 (88%) had poor knowledge, while status of total participants post-test was, only 1 (2%) had poor knowledge, 16 (32%) had average knowledge and 33 (66%) had good knowledge with very significant p value of (<0.001). Suneesh P.M (2019) study showed that pre-test level of knowledge among selected 30 samples of hypertensive patients, reported 29 (97%) Inadequate knowledge, 1 (3%) Moderate knowledge and there was nil reported on adequate knowledge, while post-test status shows that the level of knowledge among selected 30 samples of hypertensive patients, reported 21 (70%) adequate knowledge, 9 (30%) Moderate knowledge and there was nil reported on inadequate knowledge with highly significant p value of (p<0.001) level [21]. Bistara et al (2023) showed that before the intervention was given, the majority of the 56 respondents were 31 respondents (55.4%) had a pre-test in the poor category and zero in good category, while showed that of the 56 respondents, most of them, namely 41 respondents (73.2%) have a post-test in the good category and zero in poor category [22]. Chavda et Menaria (2019) showed that, in pre-test 100% of the respondents had inadequate knowledge, 00.00 % of the respondents had moderate knowledge and none of the respondents had adequate knowledge and in post-test 100.00% of the respondents had adequate knowledge and 00.00% of the respondents had moderate adequate knowledge and 00.00% of the respondents had an inadequate knowledge regarding Dash Diet [23].

Our study shows that in pre-test mean knowledge score was 30.5 with standard deviation of 13.77, in post-test mean was 71.5 with SD 14.25 and 'p' value was <0.001, hence it is very significant between pre-test and post-test score of study group. Vinoba et Ambuja (2012) showed that the data with regarding to the knowledge between the pretest and post-test mean knowledge scores i.e., 16.77 with SD 1.43 and 20.37 with SD 1.74. The calculated 't' reference value is 8.67 and the 't' table value is 2.0227 at 39 df at 0.05% level of significance. Thus, there is statistically significant difference between pre-test and post-test knowledge score [24]. Thomas et al (2021) done a study and it was evident from the results that the overall mean post-test score (26.88) was significantly higher than the mean pre-test knowledge (16.10). The calculated t value was 19.952. The differences between the pre-test and post-test mean knowledge score in aspect of guidelines t = 15.572 was found to be highly significant at p<0.001 level [1]. Abdul-hussain and Baker (2020) Showed the effectiveness of the instruction program on the Patients‟ knowledge about hypertension and DASH regimen, that there was a highly significant difference between the pre and post-test means (1.789) and (2.344) respectively of instruction program on patients' knowledge with p-value (0.001) [25]. Despite the present study show positive change in patient knowledge but still there is no evidence of changes in behavior or effect on blood pressure, that need long term follow up. Also, one of important limitations of this study were absence of randomization and control group in addition to limited sample size. But the present study can serve as a template for more nutritional comprehensive education on a larger population.

Conclusion.

The present work illustrated an enhancement in patients'

knowledge after being given dietary education about the DASH diet. This dietary approach should be encouraged to be delivered as a routine care by all health care workers in all facilities of health system for better control of hypertension.

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