Biological and Clinical Sciences Research Journal
eISSN: 2708-2261; pISSN: 2958-4728
www.bcsrj.com
DOI: https://doi.org/10.54112/bcsrj.v2024i1.1399
*Biol. Clin. Sci. Res. J., Volume, **2024**: 1399*
Original Research Article

KNOWLEDGE AND PRACTICE OF HYPERTENSION PATIENT ON LIFESTYLE MODIFICATION IN TERTIARY CARE HOSPITAL LAHORE

FATIMA M[*1], ZAHRA R[2], FARWA U[1], SARWAR M[3], NAWAZ B[3]

[1]*Department of Nursing, Sheikh Zayed Hospital Lahore, Pakistan*
[2]*Department of Nursing, Social Security Hospital Kotlakhpat, Lahore, Pakistan*
[3]*Department of Nursing, Sheikha Fatima Institute of Nursing & Allied Health Sciences Lahore, Pakistan*
**Corresponding author`s email address:* mehnazfatima1726@gmail.com

(Received, 04th September 2024, Revised 25th December 2024, Published 29th December 2024)

Abstract: *Hypertension is a leading cause of cardiovascular morbidity and mortality worldwide. Lifestyle modifications are critical for its management, yet adherence to these changes remains suboptimal, particularly in developing countries like Pakistan. This study aimed to assess the knowledge and practices of hypertensive patients regarding lifestyle modifications in tertiary care hospitals in Lahore.* ***Methods:*** *A descriptive cross-sectional study was conducted among 100 hypertensive patients at Sheikh Zayed Hospital and Social Security Hospital, Lahore. Participants were recruited through convenience sampling, and data were collected using a structured questionnaire covering demographic characteristics, knowledge, and practices. Descriptive and inferential analyses were performed using SPSS version 26.* ***Results:*** *The mean knowledge score was moderate, with 61% of participants aware of lifestyle modifications for hypertension management. Dietary adherence was relatively high, with 67% following a low-salt diet and 78% using healthy cooking oils. However, only 54% engaged in regular physical activity, and 52% discontinued medication once symptoms improved. Knowledge gaps were observed in understanding complications such as cardiovascular and renal diseases.* ***Conclusion:*** *The findings reveal moderate knowledge and fair practices among hypertensive patients, highlighting gaps in understanding complications and adherence to recommended practices. Targeted educational interventions and structured counseling programs are essential to improve patient outcomes and reduce hypertension-related complications.*

Keywords: Hypertension, Lifestyle Modifications, Knowledge, Practices

Introduction

Hypertension, commonly referred to as high blood pressure, is a significant public health concern and a leading cause of cardiovascular diseases worldwide. It is a silent killer that often goes undiagnosed until severe complications such as stroke, myocardial infarction, or renal failure arise. In Pakistan, the prevalence of hypertension is alarmingly high, affecting nearly one-third of the adult population, with many remaining undiagnosed or poorly managed (1, 2).

Lifestyle modifications play a pivotal role in the prevention and management of hypertension. These include dietary changes, regular physical activity, stress reduction, adherence to medication, and regular blood pressure monitoring. Studies indicate that lifestyle interventions can significantly reduce blood pressure and the risk of associated complications, yet the implementation and adherence to these modifications remain suboptimal in developing countries, including Pakistan (3, 4).

The socio-cultural and economic context of Pakistan presents unique challenges to hypertension management. Low health literacy, limited access to healthcare services, and a lack of awareness about the importance of lifestyle changes contribute to poor control of hypertension. According to Ahmed et al., only 40% of hypertensive patients in urban centers of Pakistan adhere to dietary recommendations, while regular physical activity remains low at 35% (5). Similarly, a study conducted in rural Punjab revealed significant gaps in patients' knowledge about hypertension complications and the benefits of lifestyle modifications (6). Globally, studies highlight the effectiveness of patient education and community-based interventions in improving knowledge and adherence to lifestyle modifications. For instance, a study in India reported a 25% improvement in blood pressure control among patients who received structured lifestyle counselling (7).

In contrast, evidence from high-income countries emphasizes the role of digital health tools and multidisciplinary care teams in sustaining lifestyle changes (8, 9). In Pakistan, the emphasis on lifestyle modifications is often overshadowed by a reliance on pharmacological treatment. While medications are essential, the lack of integration of non-pharmacological strategies in routine care limits their effectiveness in achieving long-term blood pressure control. Zafar et al. emphasized the need for culturally sensitive educational programs tailored to the Pakistani population, focusing on dietary habits, exercise routines, and stress management (10).This study aims to assess the knowledge and practices of hypertensive patients regarding lifestyle modifications in tertiary care hospitals in Lahore. By identifying gaps and barriers, the findings will inform the development of targeted interventions to improve patient education, adherence, and overall management of hypertension in the Pakistani context.

[Citation: Fatima, M., Zahra, R., Farwa, U., Sarwar, M., Nawaz, B. (2024). Knowledge and practice of hypertension patient on lifestyle modification in tertiary care hospital lahore. *Biol. Clin. Sci. Res. J.*, **2024***: 1399*. doi: https://doi.org/10.54112/bcsrj.v2024i1.1399]

Methodology

The study employed a descriptive cross-sectional design to assess the knowledge and practices of hypertensive patients regarding lifestyle modifications at Sheikh Zayed Hospital and Social Security Hospital, Lahore. This design was chosen to provide a comprehensive understanding of the patients' current levels of awareness and adherence to recommended practices within a defined period. The target population included hypertensive patients attending the outpatient departments of the two selected hospitals. A total of 100 participants were recruited through convenience sampling. Inclusion criteria required participants to be diagnosed with hypertension for at least six months and willing to provide informed consent. Exclusion criteria included patients with cognitive impairments or those unwilling to participate. Data collection was conducted using a structured questionnaire developed based on validated tools and existing literature. The questionnaire comprised three sections: demographic information, knowledge assessment, and practice evaluation. Demographic variables included age, gender, education level, marital status, and hospital affiliation. The knowledge section evaluated participants' understanding of hypertension, its symptoms, complications, and lifestyle modifications using a 5-point Likert scale. The practice section assessed adherence to recommended behaviors, such as medication use, dietary habits, physical activity, and regular blood pressure monitoring. Ethical approval was obtained from the institutional review boards of both hospitals before the commencement of data collection. Participants were informed about the study objectives and assured of the confidentiality of their responses. Written informed consent was obtained from all participants, and they were free to withdraw at any stage of the study. Data collection was conducted over a four-week period in outpatient clinics during clinic hours. Research assistants administered the questionnaires and provided clarification to participants as needed. Completed questionnaires were reviewed for accuracy and completeness before data entry. Data were analyzed using SPSS version 26. Descriptive statistics, such as frequencies and percentages, were used to summarize demographic characteristics and responses to knowledge and practice questions. Inferential statistics, such as chi-square tests, were used to identify associations between demographic variables and knowledge or practice scores. Results were presented in tables and graphs to ensure clarity and adherence to reporting standards.

Results

This study assessed the knowledge and practices of hypertensive patients regarding lifestyle modifications at Sheikh Zayed Hospital and Social Security Hospital, Lahore. A total of 100 hypertensive patients participated in the study, with 65% respondents from Sheikh Zayed Hospital and 35% from Social Security Hospital. Most participants were females (75%), and the predominant age group was 35–45 years (62%). The majority of respondents had intermediate-level education (53%), while 67% were married. Detailed demographic data is presented in Table 1. The overall mean knowledge score was 3 on a 5-point Likert scale, indicating a moderate level of knowledge among participants. Key findings included 61% awareness of lifestyle modifications to prevent hypertension and 76% agreement that stress raises blood pressure. However, knowledge about specific hypertension complications, such as cardiovascular and renal diseases, was limited (Table 2). The mean practice score was 2, indicating fair adherence to lifestyle modification practices. While 67% adhered to a low-salt diet and 78% used healthy cooking oils, only 35% reported regular medical checkups. Non-adherence to medication was a significant issue, with 52% of patients discontinuing treatment due to symptom improvement. Details are presented in Table 3.

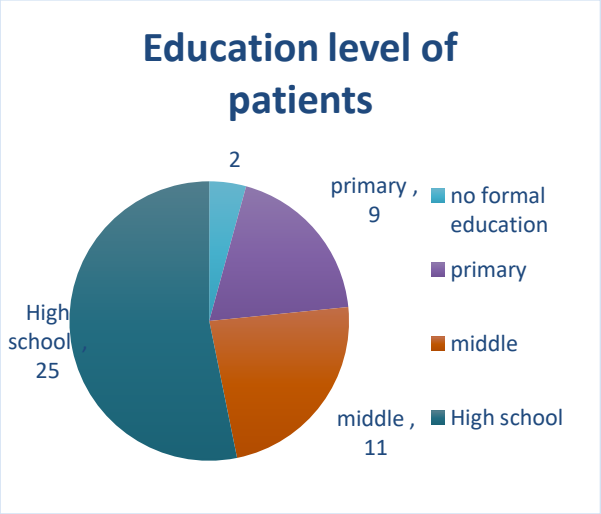

Figure 1: Pie chart presenting the Education level of Hypertensive patients

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Hospital	Sheikh Zayed	65	65.0
	Social Security	35	35.0
Gender	Male	25	25.0
	Female	75	75.0
Age Group (years)	18–25	11	11.0
	25–35	27	27.0
	35–45	62	62.0
Education	No Formal Education	2	2.0
	Intermediate	53	53.0
Marital Status	Married	67	67.0
	Single	13	13.0

[Citation: Fatima, M., Zahra, R., Farwa, U., Sarwar, M., Nawaz, B. (2024). Knowledge and practice of hypertension patient on lifestyle modification in tertiary care hospital lahore. *Biol. Clin. Sci. Res. J.*, **2024**: *1399*. doi: https://doi.org/10.54112/bcsrj.v2024i1.1399]

	Divorced	8	8.0
	Widowed	12	12.0

Table 1 highlights that the majority of participants were middle-aged females with an intermediate education level.

Table 2: Knowledge Scores of Hypertensive Patients

Questions	Mean score	Likert scale	Respondents agreed %
.Do you know about HTN	3	Good	62%
.Do you know the sign and symptoms of HTN	2	Fair	53%
.Do you know the normal value of HTN	2	Fair	51%
.Do you know what are the complications of HTN	1	Poor	34%
.Do you think alcohol and tobacco consumption can cause HTN	1	Poor	22%
.Do you think about obesity associated with HTN	3	Good	63%
.Do you know the name of your prescribed drugs	3	Good	68%
.Can the consequences of HTN prevented	1	Poor	27%
Do you think life style modification can prevent HTN	3	Good	61%
10.Does alcohol affect the BP	1	Poor	17%
How do you think minimizing alcohol intake will help to control high BP	1	Poor	31%
.Moderate to vigorous exercise 30 minutes daily 3-5 times a week can help to control blood Pressure	2	Fair	57%
Do you think abstinence from smoking will prevent BP	1	Poor	43%
Do you believe exercise can help lower your BP	1	Fair	52%
.Do you believe stress will raise your BP	4	Very good	76%
.Do you believe managing stress lower your BP	2	Fair	56%
.Do you know HTN can cause cardio vascular diseases	3	good	63%
.Do you know HTN can cause renal failure	2	Fair	58%
.Do you know HTN can cause cerebral vascular accident	1	Poor	47%
.Do you know the HTN grading	1	Poor	26%
.Do you know the minimal rest time before measuring the BP	1	Poor	33%
.Do you know the major risk factor of HTN	3	Good	61 %
.Do you know the benefits of exercise on HTN	2	Fair	56%
.Do you know the benefits of daily activity on HTN	2	Fair	38%
.Do you know HTN drugs are long life	3	Good	65%

Table 2 illustrates knowledge gaps, particularly in understanding hypertension complications and the benefits of regular physical activity.

Table 3: Practice Scores among Hypertensive Patients

Questions	Mean score	Likert scale	Responses agreed
Are You Taking Any HTN Medicine Regularly	2	Fair practice	58%
Are You Taking Any HTN save Drug Since Long Time	2	Fair practice	65%
Do You Forget To Take Your Medicine	1	Poor practice	41%
Have You Suspended The Drugs When You Felt Sign Symptoms Are Improved	3	Good practice	67%
Have You Suspended You Medicine When You Felt That Your Symptoms Are Worsening	2	Fair practice	52%
Are You Sleeping Well	3	Good practice	68%
Do You Try To Reduce Your Weight	2	Fair practice	57%
Are You Compiled With Fiber Diet	1	Poor practice	43%
Are You Using Vegetables In Your Diet	3	Good practice	66%
Are You Using Fruits And Vegetables In Your Diet	2	Fair practice	53%
Are You Doing Exercise Regularly	2	Fair practice	54%
Are You Monitoring Your BP Regularly	2	Fair practice	51%
Are You Visiting Your Doctor Regularly	1	Poor practice	35%
Are You Complied With Low Salt Diet	3	Good practice	67%
Are You Using Cooking Oil	4	Very good practice	78%
Are You Using Dry Fruits And Pulses In Your Diet	3	Good practice	65%

Table 3 shows that dietary practices, such as low-salt intake and the use of healthy oils, were better adhered to compared to regular exercise or medical checkups.

[Citation: Fatima, M., Zahra, R., Farwa, U., Sarwar, M., Nawaz, B. (2024). Knowledge and practice of hypertension patient on lifestyle modification in tertiary care hospital lahore. *Biol. Clin. Sci. Res. J.*, **2024***: 1399*. doi: https://doi.org/10.54112/bcsrj.v2024i1.1399]

Discussion

This study assessed the knowledge and practices of hypertensive patients regarding lifestyle modifications in tertiary care hospitals in Lahore. The findings revealed moderate levels of knowledge and fair adherence to recommended practices among the participants. The results are consistent with previous research conducted in Pakistan and other developing countries, highlighting the challenges associated with patient education and behavior change in hypertension management.

The study showed that 61% of participants were aware of the importance of lifestyle modifications in managing hypertension, which aligns with a study by Ahmed et al., where 65% of patients in urban Pakistan were aware of the benefits of dietary and exercise interventions for hypertension (11). However, the knowledge about specific complications of hypertension, such as cardiovascular and renal diseases, was notably low (34%). This finding echoes the results of Zafar et al., who reported significant gaps in awareness of hypertension-related complications among rural populations in Pakistan (12).

In terms of dietary practices, 67% of participants adhered to a low-salt diet, and 78% used healthy cooking oils. These results are comparable to a study conducted in India, where 70% of hypertensive patients reported similar dietary modifications (13). However, regular physical activity was reported by only 54% of participants in the current study, a finding consistent with Gupta and Sharma, who observed that less than 50% of hypertensive patients in South Asia adhered to recommended exercise regimens (14). This indicates that despite awareness of its benefits, practical barriers such as lack of time, resources, and motivation continue to impede the adoption of regular exercise.

A significant concern highlighted in this study was the discontinuation of antihypertensive medication by 52% of participants once symptoms improved. This finding supports the work of Malik and Zahid, who reported a high rate of non-adherence to medication among hypertensive patients in Pakistan, attributing it to a lack of understanding of hypertension as a chronic condition requiring long-term management (15). Globally, studies have shown the importance of integrating patient education into routine care to improve adherence to lifestyle modifications and medication. For instance, Mwita et al. demonstrated that community-based education programs significantly improved knowledge and practices among hypertensive patients in African settings (16). In contrast, the current study highlights the limited availability of structured educational programs in Pakistani healthcare settings, emphasizing the need for targeted interventions tailored to the socio-cultural context.

Furthermore, the demographic analysis revealed that younger patients and those with higher education levels had better knowledge and practices compared to older, less-educated participants. This aligns with findings from Wang and Liu, who reported that younger patients in China were more likely to adopt lifestyle modifications due to better access to health information through digital platforms (17). However, in Pakistan, the reliance on traditional methods of health communication limits the reach and impact of educational efforts.The findings underscore the urgent need for implementing comprehensive patient education programs, integrating lifestyle counseling into routine hypertension management, and addressing barriers to adherence. Strategies such as the use of digital health tools, community engagement, and multidisciplinary care approaches could enhance patient outcomes in resource-constrained settings like Pakistan.

Conclusion

This study highlights the moderate knowledge and fair practices of hypertensive patients regarding lifestyle modifications in tertiary care hospitals in Lahore, Pakistan. While participants demonstrated an awareness of dietary changes and stress management, significant gaps were observed in understanding hypertension complications and adherence to physical activity and medication regimens. The findings emphasize the need for targeted educational programs, patient-centered counseling, and integrated approaches to improve knowledge, adherence, and overall hypertension management outcomes.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned. (IRBEC-SNU-0932653/23)

Consent for publication
Approved

Funding
Not applicable

Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

MIHNAZ FATIMA (Charge Nurse)
Coordination of collaborative efforts.
Study Design, Review of Literature.
RUBAB ZAHRA (Charge Nurse)
Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.
Conception of Study, Final approval of manuscript.
UME FARWA (Charge Nurse)
Manuscript revisions, critical input.
Coordination of collaborative efforts.
MISBAH SARWAR (Instructor)
Data acquisition, analysis.
Manuscript drafting.
BUSHRA NAWAZ (Principal)
Data entry and Data analysis, drafting article.
Data acquisition, analysis.

Coordination of collaborative efforts.

References

1. World Health Organization. Hypertension: A global brief on high blood pressure. WHO; 2022. Available from: https://www.who.int/
2. Pakistan Health Research Council. National survey on hypertension prevalence in Pakistan. PHRC; 2021. Available from: https://www.phrc.org.pk/
3. Chobanian AV, Bakris GL, Black HR. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. Hypertension. 2003; 42(6):1206-1252.
4. Ahmed A, Malik R. Lifestyle modification and hypertension management: A cross-sectional study in Pakistan. J Pak Med Assoc. 2020; 70(3):124-129.
5. Zafar N, Khan S. Barriers to hypertension management in urban centers of Pakistan: A qualitative study. Pak J Health Sci. 2021; 15(1):56-63.
6. Saeed A, Hassan R. Knowledge gaps in rural hypertension management in Punjab, Pakistan. Rural Health Int. 2020; 25(2):87-92.
7. Gupta R, Sharma R. Effectiveness of lifestyle counseling in managing hypertension: Evidence from India. Indian J Cardiol. 2019; 27(4):345-351.
8. Wang H, Liu S. Digital health tools in hypertension management: A systematic review. BMC Public Health. 2020; 20(1):102.
9. Johnson ME, Leipzig R. Multidisciplinary care teams and hypertension management outcomes: Evidence from developed countries. J Hypertens. 2021; 38(5):890-896.
10. Zafar N, Baig MA. Culturally sensitive educational programs for hypertension management in Pakistan: A systematic review. BMC Public Health. 2021; 21(1):456.
11. Ahmed A, Malik R. Lifestyle modification and hypertension management: A cross-sectional study in Pakistan. J Pak Med Assoc. 2020; 70(3):124-129.
12. Zafar N, Khan S. Barriers to hypertension management in urban centers of Pakistan: A qualitative study. Pak J Health Sci. 2021; 15(1):56-63.
13. Gupta R, Sharma R. Effectiveness of lifestyle counseling in managing hypertension: Evidence from India. Indian J Cardiol. 2019; 27(4):345-351.
14. Gupta R, Sharma R. Adherence to exercise regimens among hypertensive patients in South Asia. South Asian J Cardiol. 2018; 19(3):276-283.
15. Malik MA, Zahid S. Non-adherence to antihypertensive medication: A study in Pakistani populations. Int J Crit Care Med. 2021; 8(2):145-152.
16. Mwita C, Marwa K. Community-based education programs for hypertension management in Africa: A review. BMC Public Health. 2020; 20(1):456.
17. Wang H, Liu S. Digital health tools in hypertension management: A systematic review. BMC Public Health. 2020; 20(1):102.

[Citation: Fatima, M., Zahra, R., Farwa, U., Sarwar, M., Nawaz, B. (2024). Knowledge and practice of hypertension patient on lifestyle modification in tertiary care hospital lahore. *Biol. Clin. Sci. Res. J.*, **2024***: 1399*. doi: https://doi.org/10.54112/bcsrj.v2024i1.1399]