

Assessment of the Health Care Seeking Behaviour of Diabetic and Hypertensive Patients among Adult Population in Bhopal District

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ABSTRACT

Background: Due to individual and contextual factors including socioeconomic position and place of residence, this has created inequities in health outcomes and unequal access to healthcare. Tendency to seek out health care is influenced by socio-economic conditions, age, gender, financial means, their own perceived health status and illness, type of illness, as well as the available health services and access to them. The main objective is to assess the socio-demographic characteristics and healthcare-seeking behaviour of diabetic and hypertensive patients.

Methods: A cross-sectional study was conducted in 300 diabetic and hypertensive adult populations of Bhopal by multi-stage random sampling for 12 months. A semi-structured questionnaire containing a socio-demographic profile and healthcare-seeking behaviour was used.

Results: A total of 99(33%) belonged to 41-50 years followed by 51-60 years. The mean age was 46.55±2.17 years. 265(85.3%) were married. About 1/3rd belongs to the lower middle class. 34% found convenience as a reason for choosing the health facility. Half of the participants used to pay their treatment costs by themselves, having a frequency of health check-ups of more than a year. 34.7% were having their treatment from a private clinic followed by 85(28.3%) at the Medical College hospital. Binary logistic regression shows health care seeking was significantly associated with age, gender, SES and duration of diseases.

Conclusion: Establishing nursing homes for the elderly, creating income for the elderly, and improving healthcare counselling services for elderly through communication via social media improves the overall healthcare-seeking behaviour of the community.

Key-words: Diabetes, Health care-seeking behaviour, Hypertension, NCDs

INTRODUCTION

The global non-communicable disease (NCD) crisis may not be resolved if healthcare services in low- and middle-income countries (LMICs) are not made available to everyone. Individual and contextual factors, such as socioeconomic status and place of residence, have led to disparities in health outcomes and unequal access to healthcare [1].

Despite once being more prevalent in high-income countries, the burden of NCDs has shifted globally, with 77% of NCD deaths now happening in LMICs.^[2] The treatment of individuals with NCDs can prevent many of these deaths, which are preventable^[3].

"Any activity taken up by the individual, who recognizes themselves to have a health concern or to be ill to find a suitable remedy" is the definition of "healthcare-seeking behavior." Any action made by people who believe they have a health issue or are ill to find a suitable solution is referred to as health-seeking behavior. Successful management of NCDs is preceded by health-seeking behaviors (e.g. Starting care at the correct time, with the right practitioner, and maintaining regularity of care-seeking)^[3].

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Numerous factors, such as socioeconomic circumstances, age, gender, financial resources, one's own perceived health and disease, the type of illness, and the availability and accessibility of health services, all have an impact on a person's propensity to seek medical attention.^[4]

Behavior related to the disease involves seeking medical attention. Behavior describes the actions people perform in reaction to the sensations they are experiencing. Usually, it involves deliberating on the importance and gravity of these symptoms, seeking advice, choosing a course of action, such as self-medication, or contacting medical experts ^[5]. It may also include monitoring symptoms over time, adopting preventive measures, or making lifestyle adjustments to manage health conditions effectively.

MATERIALS AND METHODS

Settings and sample- An observational cross-sectional study was conducted in selected 8 Urban wards and 8 rural village panchayats, 4 from Berasia village panchayat and 4 from Phanda village panchayat Bhopal district.^[6] Over one year (January 2023- December 2023), the study was conducted among diabetic and hypertensive adults having elevated blood pressure systolic ≥ 140 and/or diastolic ≥ 90 mm of Hg and/or elevated blood sugar > 140 mg/dl and those above 18 years of age were included. Population below 18 years of age, critically ill and mentally disabled were excluded from the study. NFHS-5 MP shows elevated blood pressure systolic ≥ 140 and/or diastolic ≥ 90 mm of Hg in Bhopal is 13.6%.^[7]

Using the formula $n = z^2 pq/d^2$, the sample size came to be 282 which is rounded to 300.

Sampling- Multi-stage random sampling.

Stage 1: By Simple random sampling, out of 85 urban wards of Bhopal 8 wards and from 2 blocks (i.e. Berasia and Phanda) 4 rural village panchayats from each block were randomly selected.

Stage 2: By Simple random sampling, ASHAs (Accredited Social Health Activists) of respective wards/villages were contacted and list of diabetic and hypertensive patients was obtained and their houses were identified.

Stage 3: By Simple random sampling, we selected 19 Diabetic and Hypertensive patients randomly from each ward and village panchayat and hence a total of 300 patients were interviewed. This sampling approach aimed to capture a representative sample considering the results should be generalizable to the population in Bhopal.

Study tools- The subjects were interviewed using a semi-structured, pretested, and validated questionnaire containing information on socio-demographic variables such as age, education, occupation, number of family members, religion and housing. Modified Kuppaswamy's socio-economic scale 2023, scores were used^[8]. The questionnaire contains Clinico-social and economic variables like treatment attitude and utilization of health care services.

Statistical Analysis- Data were entered using Microsoft Excel 2021 and analysed using Epi Info version 7.2.6.0 ^[9]. Descriptive analyses were performed means and standard deviations were calculated for quantitative data, and frequency and proportions were calculated for qualitative data. Inferential statistics like Binary logistic regression were applied to determine the independent statistically significant relationship between the healthcare-seeking behaviour of the study participants and their determinants.

Ethical approval- The study received approval from the Institutional Ethics Committee, Gandhi Medical College Bhopal having an IEC protocol no: (75/IEC/2022).

RESULTS

99(33%) belonged to 41-50 years followed by 51-60 years. The mean age was 46.55 ± 2.17 years. 187(62.3%) were males. Half of the participants were Muslims by religion. About 182(60.6%) belong to nuclear family. One-fifth were graduates. 85(28.3%) were skilled workers, 101(33.7%) were unemployed. 265(85.3%) were married. Nearly $2/3^{\text{rd}}$ of the families have 1-5 members. 140(46.6%) belong to the 21914-45588 income group. About $1/3^{\text{rd}}$ belongs to the lower middle class. 190(63.3%) participants were living in semi-pucca houses (Table 1).

Table 1: Gender-wise distribution of the Socio-demographic profile of the study participants (n=300)

| Variables | Male (n=187) n(%) | Female (n=113) n(%) | Total (n=300) N(%) |
|--------------------------------|----------------------|------------------------|-----------------------|
| Age groups (years) | | | |
| 18–30 | 11 (5.8) | 4 (3.5) | 15(5) |
| 31–40 | 32(17.1) | 16 (14.1) | 48(16) |
| 41-50 | 62(33.1) | 37(32.7) | 99(33) |
| 51-60 | 52(27.8) | 26(23) | 78(26) |
| ≥61 | 30(16) | 30(26.5) | 60(20) |
| Residence | | | |
| Urban | 92(49.2) | 66(58.4) | 158(52.7) |
| Rural | 95(50.8) | 47(41.6) | 142(47.3) |
| Educational status | | | |
| Primary school | 23(12.3) | 20(17.7) | 43(14.3) |
| Middle school | 36(19.5) | 10(8.8) | 46(15.3) |
| High school | 32(17.1) | 22(19.4) | 54(18) |
| Intermediate/diploma | 27(14.4) | 6(5.3) | 33(11) |
| Graduate | 46(24.6) | 14(12.4) | 60(20) |
| Post-graduate | 12(6.4) | 9(8) | 21(7) |
| Illiterate | 10(5.3) | 32(28.3) | 42(14) |
| Religion | | | |
| Hindu | 93(49.7) | 39(34.5) | 132(44) |
| Muslim | 83(44.4) | 71(62.8) | 154(51.3) |
| Jain | 9(4.8) | 1(0.8) | 10(3.3) |
| Christian | 2(1.07) | 2(1.7) | 4(1.3) |
| Marital status | | | |
| Married | 162(86.6) | 100(88.5) | 262(87.3) |
| Unmarried | 21(11.2) | 4(3.5) | 25(8.3) |
| Widowed | 4(2.14) | 7(6.2) | 11(3.7) |
| Divorced | 0 | 2(1.7) | 2(0.7) |
| Occupation | | | |
| Professional | 17(9.1) | 3(2.7) | 20(6.7) |
| Technician | 29(15.5) | 4(3.5) | 33(11) |
| Skilled worker | 67(35.8) | 15(13.2) | 82(27.3) |
| Clerk | 39(20.8) | 7(6.2) | 46(15.3) |
| Craft and related trade worker | 6(3.2) | 2(1.7) | 8(2.7) |
| Elementary occupation | 5(2.7) | 2(1.7) | 7(2.3) |
| Unemployed | 22(11.7) | 79(69.9) | 101(33.7) |

Fig. 1 illustrates the reasons for using health facilities, represented through a pie chart. The chart categorizes respondents' choices into five factors: proximity to their home (22%), convenience (34%), shorter waiting times (3%), insurance coverage (18%), and the availability of

excellent expertise (23%). The largest proportion of respondents (34%) preferred health facilities due to convenience, while the smallest percentage (3%) cited shorter waiting times as their primary reason.

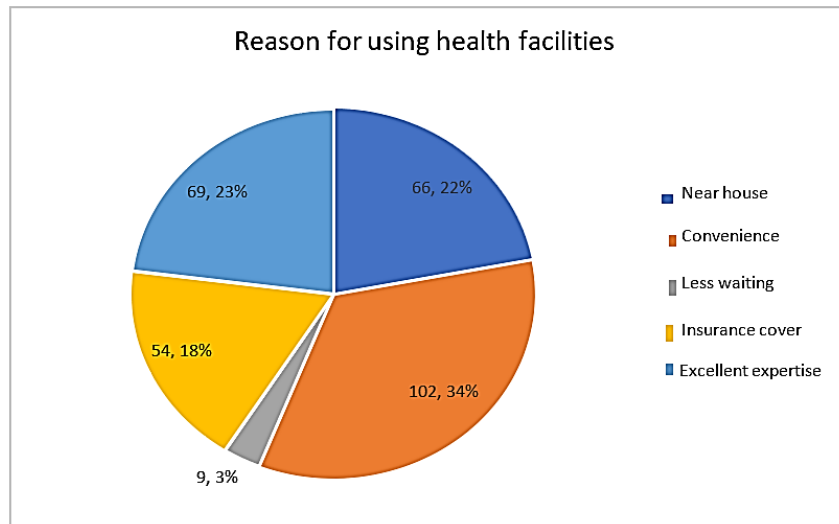


Fig. 1: shows the reason for using health facilities

Half of the participants used to pay their payments by themselves and had a frequency of health check-ups for more than a year. 104(34.7%) participants were having

their treatment from private clinic followed by 85(28.3%) at the MC hospital. 73(24.3%) have self-medicated in the past 3 months. (Table 2).

Table 2: Distribution of study participants according to their way of practising health care

| Practising health care services | Frequency (n=300) | Percentage (%) |
|---|-------------------|----------------|
| Preferred facility | | |
| MC Hospital | 85 | 28.3 |
| DH | 44 | 14.7 |
| PHC | 60 | 20 |
| Private clinic | 104 | 34.7 |
| Patient's own Home (not going anywhere) | 7 | 2.3 |
| Basis of Medicines taken in Past 3 months | | |
| Physician's advice | 291 | 97 |
| Past experiences with similar illnesses | 8 | 2.7 |
| Advice from relatives/friends | 1 | 0.3 |
| Self-medicated in past 3 months(n=73) | | |
| Once | 5 | 1.7 |
| Twice | 30 | 41.1 |
| Thrice | 20 | 27.4 |
| >3 | 18 | 24.7 |
| Seeking health information | | |
| Often | 84 | 28 |
| Sometimes | 155 | 51.7 |
| Never | 61 | 20.3 |
| Attended health care programmes | | |
| Often | 26 | 8.7 |
| Sometimes | 100 | 33.3 |
| Never | 174 | 58 |

*MC Hospital- Medical College Hospital, DH- District Hospital, PHC- Primary Health Centre

Health care-seeking behaviour was significantly associated with age (0.04), gender (0.00), education, distance of health facility (0.02), duration of illness and presence of diabetes and hypertension. $p < 0.05$ was considered statistically significant (Table 3).

Table 3: Relationship between health-seeking behaviour and variables among the study subjects currently taking treatment (n=293)

| Independent variables | Regression coefficient | p-value |
|---------------------------------------|------------------------|---------|
| Socio-demographic variables | | |
| Age | 0.864 | 0.041 |
| Gender | 2.478 | 0.000 |
| Education | 1.268 | 0.010 |
| Socio-economic class | 0.423 | 0.321 |
| Clinico-social variables | | |
| Duration of DM & HTN | 2.386 | 0.000 |
| DM & HTN | 0.944 | 0.022 |
| Economic variables | | |
| Availing of health insurance | 0.814 | 0.138 |
| Distance of preferred health facility | 2.418 | 0.025 |

*DM-Diabetes Mellitus, HTN-Hypertension, DM&HTN- Patients having both diabetes and hypertension. p -value < 0.05 is statistically significant

DISCUSSION

In the present study, nearly 99(33%) belong to 41-50 years. In a similar study conducted in Puducherry by Sivanantham *et al.* [10] among 2415 subjects, nearly 1205 (49.9%) belonged to the age group of 18–44 years. 101(33.7%) belongs to lower middle class, 86(28.7%) belongs to upper lower class and 76(25.35) were upper middle class. In a similar study among 1375 participants by Kinra *et al.* [11] 147(11%) were of low socio-economic status, 358 (26%) were of middle socio-economic status and 870(63%) were of high socioeconomic status. 102(34%) participants found that convenience was a reason for choosing the health facility. Half of the participants used to pay their payments by themselves and had a frequency of health check-ups for more than a year. 104(34.7%) participants were having their

treatment from private clinic followed by 85(28.3%) at the MC hospital. 73(24.3%) have self-medicated in the past 3 months.

A similar study was conducted by Netterström-Wedin *et al.* [12] in India to assess the treatment-seeking behavior of 13501 diabetic patients. Among these 4878(36.1%) have health insurance and 5590(41.4%) received treatment from a private facility. Another study was conducted in Vietnam by Duy *et al.* [13] among 370 elderly subjects in which 258(69.8%) participants exhibited healthcare-seeking behavior. Nearly 224 have utilized medical facilities. 149(66.5%) went to PHCs. 156(69.6%) have health insurance. Some other findings were revealed by Prabhakar *et al.* [14] in Delhi. Among 350 study participants, 88 were diabetic and 147 were hypertensive. 34(38.6%) of the diabetics and 64(43.5%) of the hypertensives receives treatment at PHCs. Nearly 52(68.4%) of diabetics and 77(59.7%) of hypertensives have out-of-pocket expenditures for seeking health care. Barua *et al.* [15] in his study found that less than half of the total participants had appropriate healthcare-seeking behaviour. In a similar study conducted by Wang *et al.* [16] Longer duration of hypertension and the existence of comorbid conditions require more intense therapy resulting in more possibility of having more relative expenditure.

Another study conducted by Chakraborty *et al.* [17] shows a poor preference for public establishments and people visiting non-public establishments with more Out-of-pocket expenditures. Another study conducted by Sheleaswani Inche Zainal Abidin *et al.* [18] in Tanjong Karang also showed that utilizing health facilities (89.8%) for the treatment of people with diabetes is still low. A similar study was conducted by Paul Andrew *et al.* [19] has demonstrated that the age of respondents, educational level, employment status, mean household income, duration of illness, presence of other illnesses, duration of seeking treatment upon diagnosis, family support, and perception severity of disease were determinants of appropriate health-seeking behaviour.

A study conducted by Karinja *et al.* [20] shows the preference in this population for using public health facilities for diagnosis and treatment could be a direct consequence of the type of facilities available in the areas that were predominantly rural and perhaps also a patient's capacity to pay for services since government facilities are cheaper compared to private facilities. A

study conducted by Anagaw *et al.* [21] shows the common reasons and contributing factors for not seeking health care from health facilities for Non-communicable diseases were low educational status, rural residency, low economic status, young age, lack of health insurance, support during treatment, alcohol consumption and lack of knowledge on Non-communicable diseases risk factors. A study conducted by Aboyade *et al.* [22] among women suffering from hypertension and diabetes who utilised public health facilities to manage their condition.

CONCLUSIONS

Through the implementation of early screening, treatment, and follow-up, health-seeking behaviour has a substantial impact on NCD prevention and control, ultimately leading to a reduction in NCD-related premature death. Further research is needed to understand healthcare-seeking behaviour in older adults. In the future, the government should pay more attention to this group by encouraging people to change their unhealthy lifestyles, improve their health status, and prevent the incidence of NCDs. Establishing nursing homes for the elderly, creating income for the elderly, and improving healthcare counselling services for the elderly through communication via social media.

CONTRIBUTION OF AUTHORS

Research concept- Dr. Suryananth KB, Dr. J.S. Meena

Research design- Dr. Suryananth KB, Dr. J.S. Meena

Supervision- Dr. J.S. Meena

Materials- Dr. Suryananth KB, Dr. J.S. Meena

Data collection- Dr. Suryananth KB

Data analysis and Interpretation- Dr. Suryananth KB

Literature search- Dr. Suryananth KB

Writing article- Dr. Suryananth KB, Dr. Brindha P

Critical review- Dr. J.S. Meena

Article editing- Dr. Suryananth KB, Dr. Brindha P

Final approval- Dr. J.S. Meena

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