

## Knowledge regarding hypertension among the middle-aged group adults of Sunwal, Nawalparasi: a cross-sectional study

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### ABSTRACT

**Introduction:** Hypertension has a great impact on cardiovascular disease and death all over the world. Low and middle-income countries, including Nepal, are facing a higher disease burden because of complications arising from uncontrolled hypertension. The patient's knowledge and perception play an important role in disease management. Due to the limited availability of studies on hypertension knowledge among middle-aged adults, this study aimed to assess their level of knowledge on hypertension.

**Methods:** A descriptive cross-sectional study was conducted among 150 respondents using convenience sampling. Data were collected using a structured and semi-structured questionnaire administered via interviews. SPSS version 20 was used to enter and analyze data.

**Results:** Among 150 respondents, most (78%) of the respondents were Hindu, and the least (8.66%) were Buddhist. The majority (38%) of the respondents belong to a nuclear family. The majority (60%) had primary education. Most (60%) of the respondents' monthly income was Rs. 5000-10,000, while the least (16%) was Rs. 1000-5000. Most of the respondents were involved in business (38%), while laborers (9%) were the least. Out of 150 respondents, 30% had inadequate knowledge, and 70% had adequate knowledge regarding hypertension. Education and occupation were significantly associated with knowledge ( $p=0.03$ ).

**Conclusion:** A majority of the middle-aged adults had adequate knowledge about hypertension. There was a significant relationship between levels of knowledge and socio- demographic variables such as occupation and education.

**Keywords:** Hypertension, knowledge, middle-aged.

### INTRODUCTION

Hypertension (HTN) is a major contributor to cardiovascular disorders in both developed and developing nations. Its significance has grown recently because of the epidemiological shift of nations from communicable to non-communicable diseases. In Nepal, it has been listed as one of the top five causes of death.<sup>1,2</sup> Hypertension is one of the most important preventable causes of premature morbidity and mortality in the world. Hypertension-related knowledge and practices among patients play an important role in controlling hypertension and in

preventing its long-term complications.<sup>3</sup> One of the main risk factors for the growing prevalence of cardiovascular diseases (CVDs) in developing nations is hypertension. Since the early 1970s, it has also been acknowledged as one of the main public health issues in emerging nations, and its prevalence is rising in both urban and low-socioeconomic rural communities.<sup>4</sup>

According to the World Health Organization (WHO), more than 80% of deaths from HTN and related CVDs currently occur in low and middle-income countries and are predominantly common among persons of low socio-economic status.<sup>5</sup> The degree of awareness among adults is often linked to factors such as age, religion, occupation, economic status, educational attainment, family history, and a diagnosis of hypertension.<sup>6</sup> Although there are many different causes of cardiovascular

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disorders, the most prevalent ones are atherosclerosis and/or hypertension.<sup>7</sup> Age, urbanization, sedentary lifestyles, inactivity, obesity, alcohol use, and ongoing stress are all factors contributing to the rise in the prevalence of hypertension.<sup>8</sup>

Hypertension, if left untreated, leads to severe life-threatening complications such as brain, heart, and renal disorders, which mostly lead to disability, life-threatening complications, and premature death. Knowledge and treatment adherence to hypertension are important to control hypertension and prevent long-term complications.<sup>9,10</sup> Lowering blood pressure, down to a normal level, is one of the key challenges.<sup>11,12</sup> Its high incidence makes it a crucial study topic and raises the risk of cardiovascular disorders and other problems. Understanding the disease increases compliance and effective control.<sup>13</sup> Patients' knowledge and perception play an important role in the proper management of hypertension. Due to mass need for awareness regarding hypertension knowledge among middle-aged adults,<sup>1</sup> this study aimed to assess their level of knowledge on hypertension.

## METHODS

A descriptive study was conducted among the middle-aged adult group of Sunwal-4, Nawalparasi, Nepal, to assess their knowledge regarding hypertension. Males and females between the ages of 40 and 60 years were included in the study, while those who were unavailable during the study period and non-consenting were excluded. The convenience sampling technique was used.

Ethical approval was obtained from IRC-DMCRI (IRC no. 03/2024), and community approval was sought from Sunwal Municipality 4 number ward office. The study duration was from 17<sup>th</sup> March 2024 to 20<sup>th</sup> June 2024.

The sample size was calculated using the Cochran formula

$$n = Z^2 * p * q / e^2$$

$$n = \{(1.96)^2 * 0.095 * 0.905\} / (0.05)^2 = 132$$

n = required sample size

z = confidence interval at 95% (standard value 1.96)

p = prevalence rate – 9.5%<sup>12</sup>

$$q = (1-p)$$

e = marginal error - 5%

The calculated sample size is 132, and adding non responsive rate, the sample size that was taken is 150.

A structured questionnaire was used, which consisted of two parts: demographic data and a knowledge and practice-based questionnaire regarding hypertension. The questionnaire was prepared in both languages, i.e., Nepali and English. The overall score was categorized as adequate knowledge if the score was above 50% and inadequate if the score was below 50%.<sup>14</sup>

## RESULTS

Regarding the demographic variables, the majority of the respondents were from the age group 40-45 years. The majority of the respondents were Hindu (78%), followed by Muslim (13.3%). The majority of the respondents (39%) were from a nuclear family. Likewise, according to educational status, the majority of the respondents (60%) were from primary education, (25%) were read and write only, and (15%) were from secondary and above. The majority of the respondents (60%) have 5000-10,000 monthly income. According to the occupation of the respondents, the majority (38%) were in business, (39%) in agriculture, (15%) in service, and (9%) in labor.

About 70% of the total participants have adequate knowledge regarding hypertension, and only 30% of them have inadequate knowledge. The present study revealed that there is statically significant association with knowledge level regarding hypertension (p=0.03)

## DISCUSSION

To assess the knowledge of hypertension, 150 middle age adult were selected from Sunwal-4, Nawalparasi community, in which the largest percentage (58%) was in the age group of 40-45 years. It could be because being older than 40 is thought to be a significant risk factor for hypertension.

A similar study done by Huang<sup>15</sup> found that the majority of the participants, and out of 150 participants, this study also revealed the majority

**Table 1: Demographic variables of the respondents. N=150**

| Variables                    | Frequency | Percentage (%) |
|------------------------------|-----------|----------------|
| <b>Age (in years)</b>        |           |                |
| 40-45 years                  | 87        | 58             |
| 46-50 years                  | 41        | 27.33          |
| 51-55 years                  | 17        | 11.33          |
| 56-60 years                  | 5         | 3.33           |
| <b>Religion</b>              |           |                |
| Hindu                        | 117       | 78             |
| Muslim                       | 20        | 13.33          |
| Buddhist                     | 13        | 8.66           |
| <b>Type of family</b>        |           |                |
| Joint                        | 48        | 32             |
| Nuclear                      | 58        | 39             |
| Extended                     | 44        | 29             |
| <b>Education level</b>       |           |                |
| Illiterate                   | 0         | 0              |
| Read and write but no school | 37        | 25             |
| Primary education            | 90        | 60             |
| Secondary and above          | 23        | 15             |
| <b>Income</b>                |           |                |
| Less than 1000               | 0         | 0              |
| 1000-5000                    | 25        | 17             |
| 5000-10,000                  | 90        | 60             |
| More than 10,000             | 35        | 23             |
| <b>Occupation</b>            |           |                |
| Service                      | 22        | 15             |
| Agriculture                  | 56        | 37             |
| Business                     | 58        | 39             |
| Labor                        | 14        | 9              |

**Table 2: Knowledge regarding hypertension (n=150)**

| Level of knowledge | Frequency | Percentage |
|--------------------|-----------|------------|
| Inadequate         | 45        | 30%        |
| Adequate           | 105       | 70%        |

(58%) of respondents were from the age group 40-45 years.

In a study of 150 people, 45 (30%) of the respondents had inadequate knowledge, and 105 (70%) had adequate knowledge regarding hypertension, which is supported by the study done by Yaseen. R16, in which more than 50% of the hypertensive patients in this study were well-informed of the risk factors for hypertension,

including stress and obesity, and also the study conducted by Khatri. E, found that more than half of those surveyed, or 52.1%, have good knowledge about hypertension.<sup>17</sup> The study found no discernible correlation between gender and hypertension knowledge, which aligns with the findings reported by Nadeem.<sup>18</sup>

The present study revealed that occupation has a statistically significant association with

**Table 3: Association between the level of knowledge regarding hypertension and socio- demographic data**

| Variables              | Inadequate Knowledge | Adequate knowledge | X <sup>2</sup> -Value | P-Value |
|------------------------|----------------------|--------------------|-----------------------|---------|
| <b>Age</b>             |                      |                    |                       |         |
| 40-45years             | 13                   | 74                 | 8.57                  | 0.95    |
| 46-50years             | 19                   | 22                 |                       |         |
| 51-55years             | 11                   | 6                  |                       |         |
| 56-59years             | 2                    | 3                  |                       |         |
| <b>Religion</b>        |                      |                    |                       |         |
| Hindu                  | 24                   | 93                 | 8.35                  | 0.95    |
| Muslim                 | 14                   | 6                  |                       |         |
| Buddhist               | 7                    | 6                  |                       |         |
| <b>Type of family</b>  |                      |                    |                       |         |
| Joint                  | 18                   | 34                 | 1.75                  | 0.8     |
| Nuclear                | 23                   | 44                 |                       |         |
| Extended               | 18                   | 13                 |                       |         |
| <b>Education level</b> |                      |                    |                       |         |
| Illiterate             | 7                    | 17                 | 0.74                  | 0.03    |
| Read and write only    | 13                   | 14                 |                       |         |
| Primary education      | 19                   | 20                 |                       |         |
| Secondary and above    | 27                   | 33                 |                       |         |
| <b>Income</b>          |                      |                    |                       |         |
| Less than 1000         | 0                    | 0                  | 1.47                  | 0.8     |
| 1000-5000              | 19                   | 48                 |                       |         |
| 5000-10,000            | 21                   | 25                 |                       |         |
| More than 10,000       | 17                   | 20                 |                       |         |
| <b>Occupation</b>      |                      |                    |                       |         |
| Service                | 18                   | 21                 | 0.57                  | 0.03    |
| Agriculture            | 12                   | 11                 |                       |         |
| Business               | 22                   | 38                 |                       |         |
| Labor                  | 11                   | 17                 |                       |         |

knowledge level regarding hypertension ( $p=0.03$ ), which is supported by the study done by Acharya R et al. al, (2020) in Kathmandu.<sup>2</sup>

To preserve health and prevent hypertension, health education and interventions should be used in both clinical and community settings. This would help to lower the rising incidence of hypertension and its associated problems.<sup>19</sup>

**Limitations:** Since it was conducted in one community setting, it cannot be generalized for whole population.

## CONCLUSION

The middle-aged group's knowledge regarding

hypertension was adequate, although around one-third had inadequate knowledge. Therefore, a public awareness campaign could be useful to raise awareness about hypertension.

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