



Trend of Hypertension in Gujarat–Understanding the NFHS-4 and NFHS-5 Data

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ABSTRACT

Introduction: Several rounds of national health surveys have generated a vast amount of data in India since 1992. This article describes the key health information - hypertension from the National Family Health Survey (NFHS- 4 and 5) of Gujarat. The main aim of this article is to observe the prevalence of hypertension in Gujarat from NFHS-4 and 5 dataset.

Methods: The study was secondary data analysis based on the data from NFHS 4 and NFHS 5.

Results: NFHS 4 data illustrates the average prevalence of blood pressure to be 22.7% (for both men and women, total of all the three categories) in Gujarat. NFHS 5 data demonstrates the average prevalence of blood pressure to be 74.7% (for both men and women, total of all the three categories) in Gujarat.

Conclusion: The prevalence of hypertension is slightly increasing or almost equal to same in all categories of hypertension in rural as compared to urban area of Gujarat.

Key Words: NFHS-4, NFHS-5, Hypertension

INTRODUCTION

An estimated 1.13 billion people worldwide have hypertension, most (two-thirds) living in low- and middle-income countries.⁽¹⁾ The prevalence of hypertension is rapidly increasing in developing countries and is one of the leading causes of death and disability. The prevalence of hypertension in India is reported to be 30.7%. Prevalence adjusted for 2011 census population and the WHO reference population was 29.7% and 32.8%, respectively.⁽²⁾ There is a strong correlation between changing lifestyle factors and increase in hypertension. The rural populations being the marginalized and vulnerable communities in India face considerable disparity as compared to urban populations in terms of health facilities, education and economic pursuits.⁽³⁾ Prevalence of hypertension has been found to increase in rural populations undergoing transformation. Average

prevalence of hypertension in India according to NFHS-4 is 22.4 %.⁽⁴⁾

METHODOLOGY

The present article reviews the NFHS 4 and NFHS 5 data highlighting the prevalence of hypertension among rural and urban population in Gujarat.

NFHS-4 fieldwork for Gujarat was conducted from 30 January 2016 to 30 June 2016 by Centre for Operations Research and Training (CORT) and gathered information from 20,524 households, 22,932 women, and 5,574 men.

NFHS-5 fieldwork for Gujarat was conducted from 23 June, 2019 to 30 November, 2019 by Centre for Operations Research and Training (CORT) and TALEEM Research Foundation. Information was gathered from 29,368 households, 33,343 women, and 5,351 men.

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About NFHS

The National Family Health Survey is a large -scale, multi-round survey conducted in a representative sample of households throughout India. It is equivalent of demographic and health surveys done in many countries around the world. The National Family Health Survey (NFHS) was initiated in India in the early 1990s with the first NFHS conducted in 1992-93. Since then, India has successfully completed NFHS-2 in 1998-99 and NFHS-3 in 2005-06. NFHS 4 in 2015-2016 and in 2019-20, India completed the 5th National Family Health Survey (NFHS-5). However, NFHS-5 includes some new topics, such as preschool education, disability, access to a toilet facility, death registration, bathing practices during menstruation, and methods and reasons for abortion. The scope of clinical, anthropometric, and biochemical testing (CAB) has also been expanded to include measurement of waist and hip circumferences and the age range for the measurement of blood pressure and blood glucose has been expanded. However, HIV testing has been dropped. NFHS-5 data will be useful in setting benchmarks and examining the progress the health sector has made over time. Besides providing evidence for the effectiveness of ongoing programmes, the data from NFHS-5 help in identifying the need for new programmes with an area specific focus and identifying groups that are most in need of essential services.⁽⁴⁾

Categorisation of Hypertension in NFHS 4 and NFHS 5

In NFHS-4 and NFHS-5, blood pressure measurements were taken to assess the prevalence of high blood pressure in the population, using the OMRON BP monitor. To measure the respondent's blood pressure, three blood pressure readings were obtained. Blood Pressure measurements were taken for women 15-49 years and men 15-54 years.

NFHS 4 has categorized hypertension in three sub categories i.e. Cat 1) Slightly above normal (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%); Cat 2) moderately high (Systolic 160-179 mm of

Hg and/or Diastolic 100-109 mm of Hg) (%); and Cat 3) Very high (Systolic \geq 180 mm of Hg and/or Diastolic \geq 110 mm of Hg) (%)

NFHS 5 has categorized hypertension in three sub categories i.e. Cat 1) Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%); Cat 2) Moderately or severely elevated blood pressure (Systolic \geq 160 mm of Hg and/or Diastolic \geq 100 mm of Hg)(%); and Cat 3) Elevated blood pressure (Systolic \geq 140 mm of Hg and/or Diastolic \geq 90 mm of Hg) or taking medicine to control blood pressure (%).

OBSERVATION & DISCUSSION

NFHS 4 data illustrates the average prevalence of blood pressure to be 22.7% (for both men and women, total of all the three categories) in Gujarat. Prevalence is somewhat higher in case of males in total and also across slightly above normal and moderate categories in comparison to the female counterparts. Maximum numbers of respondents lie in the first category, i.e. slightly above normal (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) which indicated 2.5 % more cases in men as compared to female, whereas equal prevalence of very high category has been observed in male and female.

Prevalence is higher in case of urban population in slightly above normal categories in comparison to the rural in both gender.

NFHS 5 data demonstrates the average prevalence of blood pressure to be 74.7% (for both men and women, total of all the three categories) in Gujarat. Prevalence is little higher in case of males in total and also in Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg)(%) in comparison to the female counterparts.

Maximum numbers of respondents lie in the third category, i.e. Elevated blood pressure (Systolic \geq 140 mm of Hg and/or Diastolic \geq 90 mm of Hg) or taking medicine to control blood pressure which indicated 0.3 % more cases in female as compared to male.

Table 1: Prevalence of hypertension in urban and rural area of Gujarat (NFHS-4 & 5)

Hypertension Categories	Women			Men		
	Urban (%)	Rural (%)	Total (%)	Urban (%)	Rural (%)	Total (%)
NFHS 4						
Slightly above normal*	8.2	6.7	7.4	10.8	9.2	9.9
Moderately high**	1.7	1.3	1.5	2	2.5	2.3
Very high***	0.7	0.8	0.8	0.6	0.9	0.8
NFHS 5						
Mildly elevated blood pressure#	11.4	12	11.7	12.7	13.3	13.1
Moderately or severely elevated blood pressure##	3.8	5.1	4.6	3.9	4.8	4.4
Elevated blood pressure###	21.1	20.1	20.6	20.3	20.3	20.3

* (140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%); ** (Systolic 160-179 mm of Hg and/or Diastolic 100-109 mm of Hg) (%); *** (Systolic \geq 180 mm of Hg and/or Diastolic \geq 110 mm of Hg) (%); # (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%); ## (Systolic \geq 160 mm of Hg and/or Diastolic \geq 100 mm of Hg) (%); ### (Systolic \geq 140 mm of Hg and/or Diastolic \geq 90 mm of Hg) or taking medicine to control blood pressure Elevated

Prevalence is slightly higher in case of urban in elevated blood pressure in male whereas, in female the prevalence are same in urban and rural.

CONCLUSION

The Criteria of hypertension was different during the survey of NFHS -4 and NFHS-5, so it is difficult to directly compare trend of hypertension in Gujarat. Only the category -I (Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) is similar in both survey which is indicating increasing trend of mild hypertension. Mild hypertension shows increasing trend in both the gender as well as in urban and rural area in NFHS-5 as compared to NFHS-4.

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