

## **A Study on the Prevalence of Misinformation about Hypertension in Hypertensive Patients of an Urban South Indian Hospital**

**Dr C Rajendran**

Senior Consultant Physician, Associate Professor, Sri Chamundeshwari Medical College, Bangalore, Karnataka, India

Correspondence: Dr C Rajendran, [2611adu@gmail.com](mailto:2611adu@gmail.com)

### **ABSTRACT**

**Background:** Misinformation about Hypertension is widely prevalent in our patient population and works against effective management of Hypertension and its complications

**Methods:** A prospective observational study was conducted on patients reporting to Outpatient clinic in an Urban South Indian tertiary level hospital. In the pilot study, 100 Hypertensive patients were interviewed and the most common myths were tabulated. In phase II, 300 patients were interviewed and the prevalence of the myths studied. The results were then analyzed.

**Results:** The study showed that a large number of myths were prevalent in the patient population. Most common myths were that Hypertension is not a serious disease and that non-consumption of table salt is enough treatment and that high BP always produces symptoms. The study found that myths are common in all sections of our society, even in graduates and post-graduates. The study also found myths decrease as the duration of Hypertension increases.

**Conclusions :** This study concludes that a large number of myths about Hypertension are prevalent in the patient population in urban South India. Vigorous Health Education efforts are needed to counter these myths and wrong beliefs.

**Keywords:** Myths, Urban, South India, Hypertension

### **Introduction**

Primary Hypertension is a common disorder seen in patients. In India, the prevalence of Hypertension is about 21% in women above 15 years and about 24% in men above 15 years. <sup>[1]</sup> The management of this disease, as with all other diseases, is influenced by the knowledge behavior and attitude of Hypertensive patients. <sup>[2,3]</sup> When we start treating patients of Hypertension, not only do we find lack of information but also misinformation about Hypertension, its effects and its management. In fact, misinformed patients are more difficult to treat as we have to dispel their myths first and then give correct information and only after that can we expect good treatment results.

The present study was undertaken on a group of Hypertensive patients reporting to Medical OPD in a Tertiary Level Hospital in Urban Bangalore, Karnataka, India. The aim was to evaluate the prevalence of misinformation about Hypertension and its treatment.

## **Material and Methods**

The study was a prospective observational study. This study was conducted on a group of Hypertensive patients reporting to Medical OPD in a Tertiary Level Hospital in Urban Bangalore, Karnataka, India.

### **Inclusion criteria**

Since this was an observational study on the prevalence of misinformation about Hypertension in the Hypertensive population, all the patients who were Hypertensive were eligible. All Hypertensive patients who reported to Medical OPD and who consented to take part in the study were included in the study

### **Exclusion criteria**

There were no exclusion criteria. All patients who consented to take part in the study were included.

### **Study Methods**

Every patient who was included in the study was interviewed and counselled. Informed consent was taken for the study. Detailed history about Hypertension and other diseases was taken. The patients were interviewed and specifically asked about **Educational qualifications** ( illiterate / upto matric / upto graduate / graduate / post-graduate ), **Socio-economic status** ( Monthly salary used as a surrogate marker; monthly salary less than Rupees 30,000 / Rupees 30,000-2 Lakhs / more than Rupees 2 lakhs ), **Duration of Hypertension** (in years ), **Control of Hypertension** ( good / poor /very poor ). All patients included in the study were asked as above.

For evaluating misinformation about Hypertension in the study population, the study was conducted in two phases - Pilot study and Phase II study.

The Pilot study was conducted mainly to enumerate the wrong beliefs prevalent in the study population. In this part, detailed verbal interview was conducted to find out about the prevalent wrong beliefs and myths. They were then tabulated.

In the Phase - II study, a larger number of patients were evaluated. The patients were interviewed using a standard questionnaire and the prevalence of misinformation studied. The use of a questionnaire enabled the study of a larger number of patients and allowed a statistical analysis.

For the purpose of the study, Misinformation / wrong belief / myth was defined as any belief that the patient held which was not true as per present knowledge and current guidelines on Hypertension and its management ( as decided by Physician ). For Socio-economic status, monthly income was used as a surrogate marker.

After the interviews, for all patients, a detailed health education session was conducted for all patients in an attempt to dispel the misinformation that the patients held.

The health education session was conducted for a minimum of 20-25 minutes for every patient

The results were then tabulated and studied.

#### Statistical methods and Data Analysis

Database was created in MS Excel and analyzed using IBM SPSS (Statistical Package for Social Sciences) statistics software version 22. Data was presented in numbers, percentages and mean + SD. Other statistical methods used in the data analysis were Standard Error of difference between Two Means as per the nature of data. For statistical significance p value was considered at 5% level ( $p < 0.05$ ).

#### **Results**

A total of 100 patients were interviewed in the Pilot study and 300 patients interviewed in the Phase-II study.

The age profile of the patients is shown in Table 1 and Figure 1. Most of the patients were middle-aged and elderly. This seems quite natural as most were Hypertensive patients of some duration.

The gender profile of the patients is shown in Table 2 and Figure 2. The number of male and female patients were almost equal.

The educational profile of the patients is shown in Table 3 and Figure 3. Most of the patients were educated, mostly matriculates and graduates.

The Socio-economic profile of the patients is shown in Table 4 and Figure 4. Most of the patients were from the mid socio-economic strata of the society.

The duration of Hypertension in the patients is shown in Table 5 and Figure 5. Most of the patients had Hypertension ranging from 10 to 20 years.

The BP control profile of the patients is shown in Table 6 and Figure 6. There were patients of both good and poor BP control in almost equal numbers. Few had very poor BP control.

The most common myths that came to light and were studied were tabulated and the prevalence of myths was studied in Phase II. The results are shown as prevalence in Table 7.

The prevalence of myths was analyzed with reference to age ( Table 8, Figure 7 ), gender ( Table 9, Figure 8 ), Educational profile ( Table 10, Figure 9 ), Socio-economic status ( Table 11, Figure 10 ), duration of Hypertension ( Table 12, Figure 11 ) and Blood Pressure control ( Table 13, Figure 12 ).

Misinformation and wrong beliefs were prevalent in all age groups. The distribution of myths was almost the same in both the genders.

In terms of educational profile, non-matriculates and matriculates had the most number of myths. Surprisingly, graduates and post-graduates also had a significant number of myths , although a lower number.

In terms of the Socio-economic profile, low and mid-income patients had more number of myths than the high-income patients. Myths about Hypertension are prevalent in all strata of our society, even in the well-to-do and educated sections.

In terms of duration of disease, patients with shorter duration of Hypertension had more myths than the ones with longer duration of disease. This was probably due to the effect of health education and inter-patient discussions over time.

In terms of BP control, patients with good BP control had lesser number of myths than the patients with poor and very poor BP control. This is not surprising as patients who make efforts to educate themselves about the disease and dispel myths are expected to have better disease control

## **Discussion**

Myths and misinformation about diseases are commonly encountered in the clinic or hospital setting. Dispelling myths is an important part of Health Education as very often, these myths and wrong beliefs interfere with effective treatment. The first step in breaking these myths is to identify the common prevalent wrong beliefs in the target population. This study was intended to achieve this aim.

We focussed on an urban South Indian patient population reporting to Medical clinic in a Tertiary Level Hospital. The Hypertensive patient should be at the centre of our Health Education effort because it is the patient's knowledge or the lack of it that has a direct bearing on the success of treatment. The clinic can be an important place for this education as the patient is receptive to education effort especially if the physician is also involved.

The most common myth that we found was that Hypertension is a common disorder that does not cause serious effects on the body. Another myth that was common was that avoidance of table salt is enough for treatment. Another common myth was that high BP always causes symptoms. Many also thought that medicines can be stopped once BP was controlled.

When we look through previous studies, a common myth is that psychological stress is the main cause of Hypertension and that a permanent cure of Hypertension can be achieved ( David A Oke et al <sup>[4]</sup> ). Another study by Al-Soweilem et al also had similar findings. <sup>[5]</sup> Another study by Hale et al reported that patients did not believe that Hypertension can cause organ damage <sup>[6]</sup>. Similar myths were found in our study also.

An important finding in our study was the large number of myths prevalent in our patient population. Another important and startling finding was that many myths are prevalent even in the educated strata of our society. Graduates and even post-graduate patients had wrong beliefs.

## **Conclusion**

This study concludes that a large number of myths about Hypertension are prevalent in the patient population in urban South India. Vigorous Health Education efforts are needed to counter these myths and wrong beliefs.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

**References**

1. Govt of India. (2022). National Family Health Survey-5 (2019-2021). Ministry of Health and Family Welfare, New Delhi
2. Wizner B, Grodzicki B, Gasowski J, et al. Knowledge about hypertension and blood pressure level. *Przegl Lek.* 2000;57:402-405.
3. MacMahon SW, Blacket RB, Macdonald GJ, et al. Obesity, alcohol consumption, and blood pressure in Australian men and women. The National Heart Foundation of Australia risk-factor prevalence study. *J Hypertens.*1984;2:85-91
4. DA Oke, EO Bandele. Misconceptions of Hypertension. *J National Medical Association Nigeria.*2004;96;1221-1224
5. Al-Sowielem LS, Elzubier AG. Compliance and knowledge of hypertensive patients attending PHC centres in Al-khobar, Saudi Arabia. *J Hypertens.* 1998;4:301-307.
6. Hale LA, Frtz VU, Eales CJ. Do stroke patients realize that a consequence of hypertension is stroke? *S Afri Med J.* 1998;88:451-454.

Table 1 : Age profile of patients enrolled in the study

Age	Pilot study n=100	Phase II study n=300	Total n=400
< 30 yr	1	5	6
30-40 yr	5	10	15
40-50 yr	33	126	159
50-60 yr	30	91	121
60-70 yr	21	58	79
> 70 yr	10	10	20

Figure 1 : Age profile of patients enrolled in the study

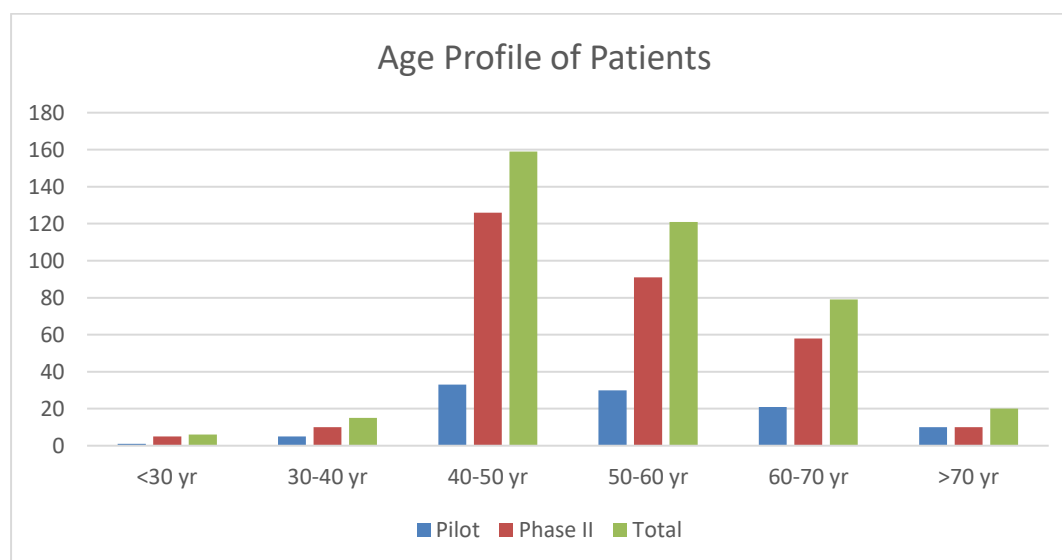


Table 2 : Gender profile of patients enrolled in the study

Gender	Pilot study n=100	Phase II study n=300	Total n=400
male	52	134	186
female	48	166	214
third gender	0	0	0

Figure 2 : Gender profile of patients enrolled in the study

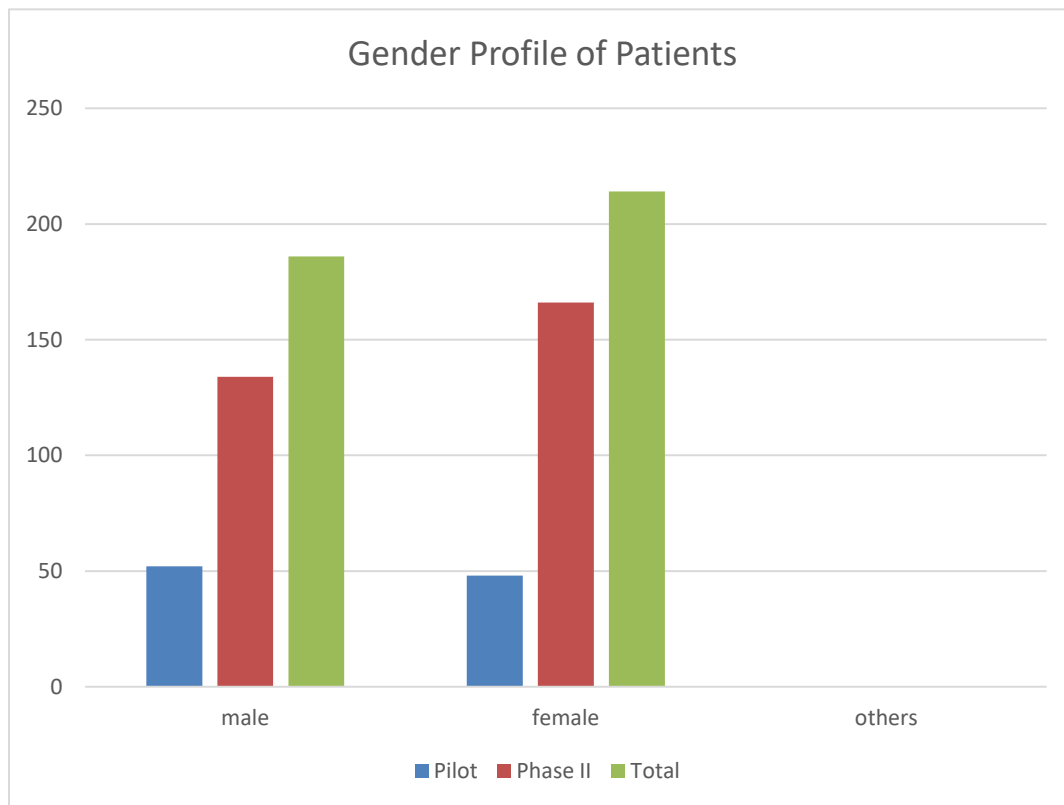


Table 3 : Educational profile of patients enrolled in the study

Education	Pilot study n=100	Phase II study n=300	Total n=400
Illiterate	0	0	0
upto 10 <sup>th</sup> grade	18	46	64
matriculate	42	141	183
graduate	31	96	127
post-graduate	9	17	26

Figure 3 : Educational profile of patients enrolled in the study

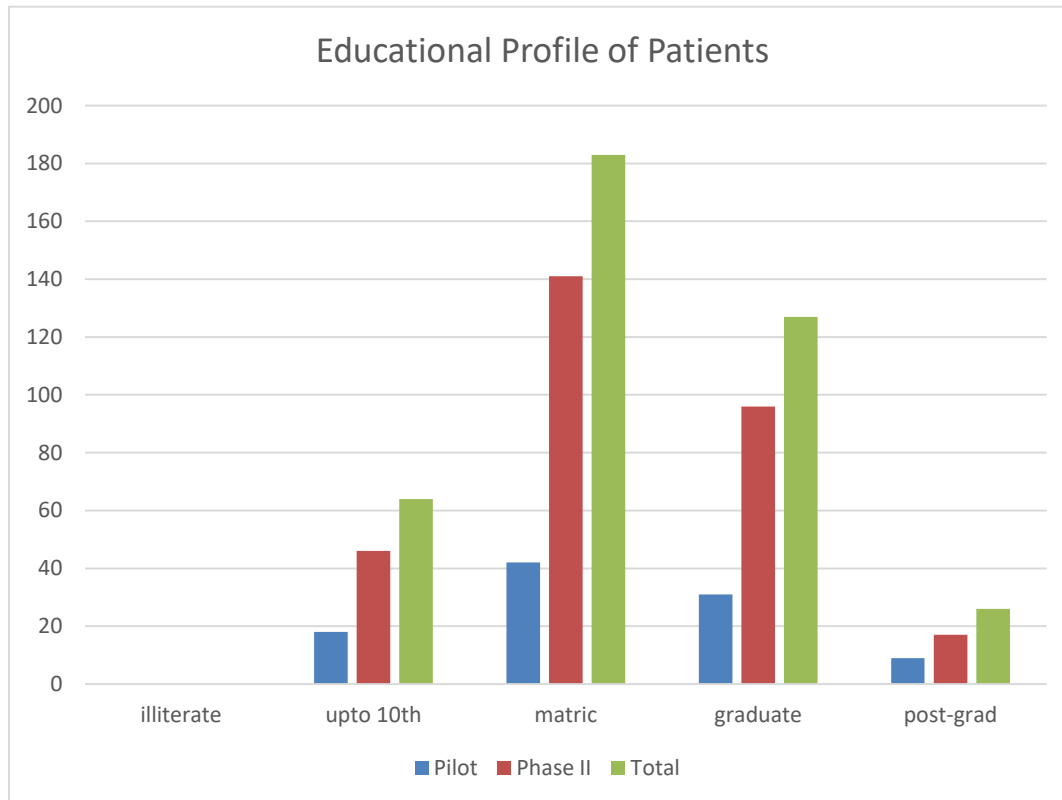


Table 4 : Socio-Economic status profile of patients enrolled in the study

Income status	Pilot study n=100	Phase II study n=300	Total n=400
Low income	28	40	68
mid income	70	255	325
high income	2	5	7

Figure 4 : Socio-Economic status profile of patients enrolled in the study

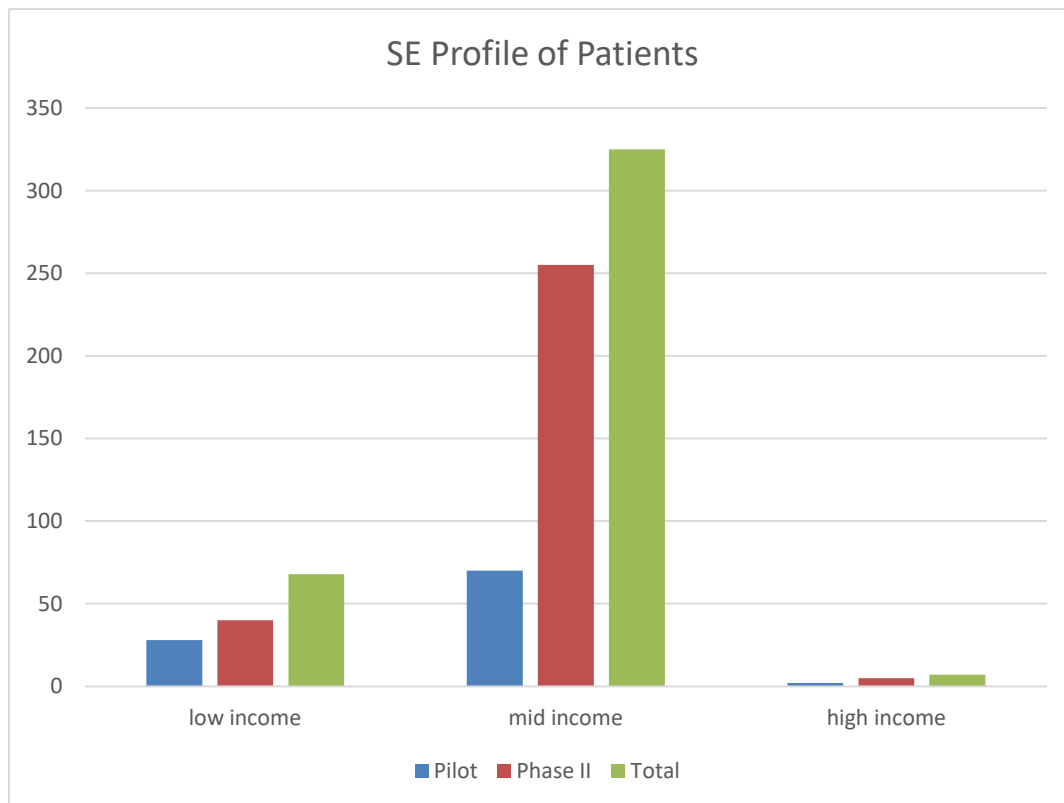




Table 5 : Duration of Hypertension of patients enrolled in the study

Duration of HTN	Pilot study n=100	Phase II study n=300	Total n=500
0-5 yr	15	34	49
5-10 yr	27	56	83
10-15 yr	24	92	116
15-20 yr	22	94	116
20-25 yr	12	24	36
> 25 yr	0	0	0

Figure 5 : Duration of Hypertension of patients enrolled in the study

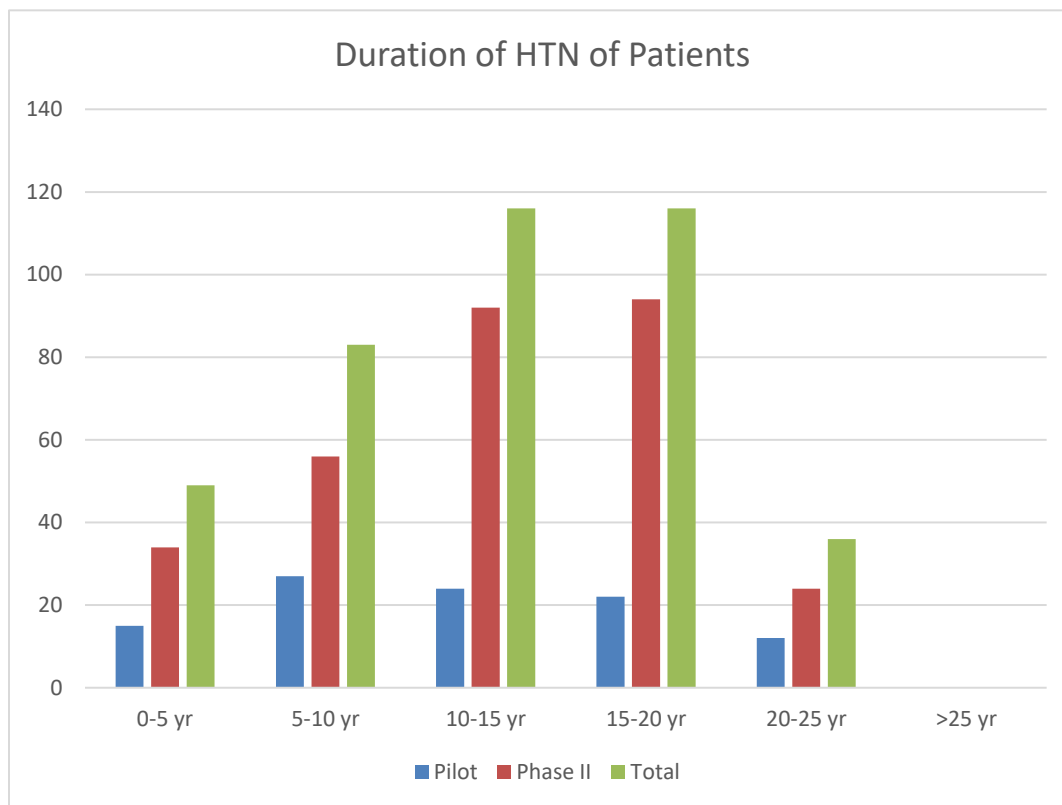


Table 6 : BP control of patients enrolled in the study

BP control	Pilot study n=100	Phase II study n=300	Total n=400
good	44	142	186
poor	51	146	197
very poor	5	12	17

Figure 6 : BP control of patients enrolled in the study

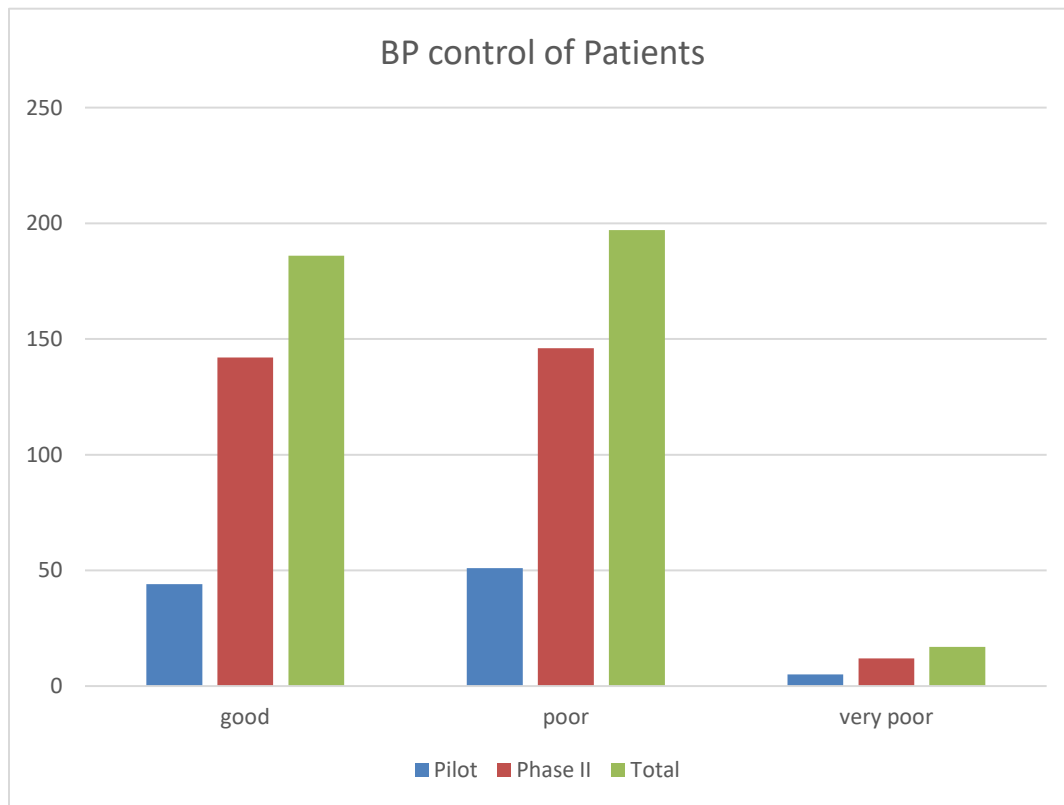


Table 7 : Common myths noted in Pilot study and their prevalence in Phase II

	MYTHS ABOUT HYPERTENSION	Prevalence ( out of 300 )	Prevalence ( in percentage)
1.	Hypertension is common and is not a serious disease	130	43
2.	Hypertension is inherited	33	11
3.	It is not possible to prevent Hypertension	20	6
4.	Risk of Hypertension is same for everybody	40	13
5.	Hypertension affects only men, women are not affected	80	26
6.	Hypertension occurs only in old age	64	21
7.	My BP is OK as long as it is 100+age	110	36
8.	High BP in elderly does not have to be treated	84	28
9.	Hypertension is not connected to salt intake	84	28
10.	Hypertension is not connected to alcohol intake	76	25
11.	Hypertension is not connected to obesity	24	8
12.	Hypertension is not connected to sleep	44	14
13.	Hypertension is not connected to psychological stress levels	74	24
14.	Hypertension is not connected to exercises	36	12
15.	Hypertension is not connected to high sugar and cholesterol levels	24	8
16.	Only overweight people develop Hypertension	18	6
17.	Hypertensive patients cannot be active	20	6
18.	Hypertensive patients cannot do exercises	64	21
19.	Hypertensive patients cannot drive	6	2
20.	Hypertension does not cause complications	80	26
	MYTHS ABOUT DIET IN HYPERTENSION		
21.	Not consuming table salt is enough to control Hypertension	136	45
22.	Sea salt and kosher salt can be consumed as much as needed	96	32
23.	Intake of salted foodstuffs ( pickles, papad, Processed food, Processed meat, canned food items ) is not important	124	41
24.	Wine is good for Hypertension; I can have more wine	144	48
25.	Drinking tea and coffee increases BP	70	23
	MYTHS ABOUT TREATMENT		
26.	If my BP goes high, I will develop symptoms	152	50
27.	I donot need to check BP at home	102	34

28.	Hypertension can be cured	52	17
29.	Hypertension can be cured by Ayurveda / Homeopathy	84	28
30.	Hypertension can be cured by Alternate therapy	80	26
31.	Hypertension medicines are addictive	8	2
32.	Hypertension medicines can be stopped once my BP becomes normal	128	42
33.	Hypertension medicines cause severe side effects	90	30

Table 8 : Prevalence of myths analyzed with respect to age profile

Age	Phase II study n=300	No of myths Mean $\pm$ SD
< 30 yr	5	7 $\pm$ 2
30-40 yr	10	20 $\pm$ 3
40-50 yr	126	18 $\pm$ 3
50-60 yr	91	19 $\pm$ 2
60-70 yr	58	17 $\pm$ 2
> 70 yr	10	16 $\pm$ 2

Figure 7 : Prevalence of myths analyzed with respect to age profile

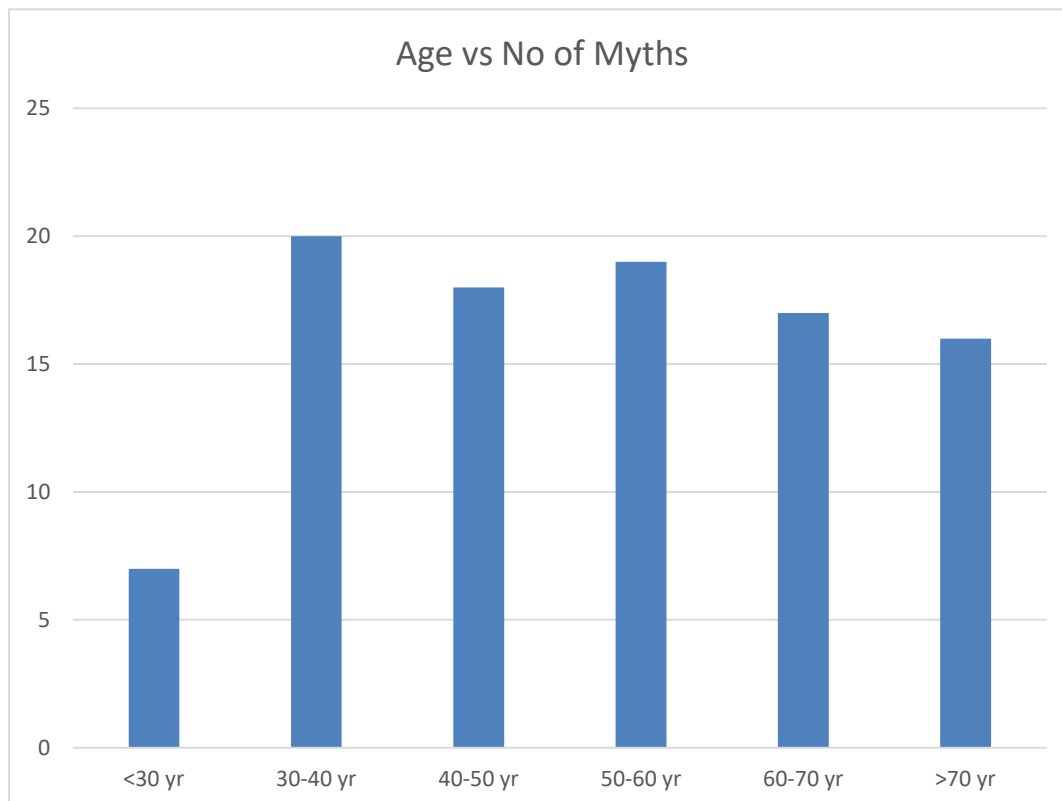


Table 9 : Prevalence of myths analyzed with respect to gender

Gender	Phase II study n=300	No of myths Mean $\pm$ SD
male	134	18 $\pm$ 3
female	166	19 $\pm$ 3
third gender	0	0

Figure 8 : Prevalence of myths analyzed with respect to gender

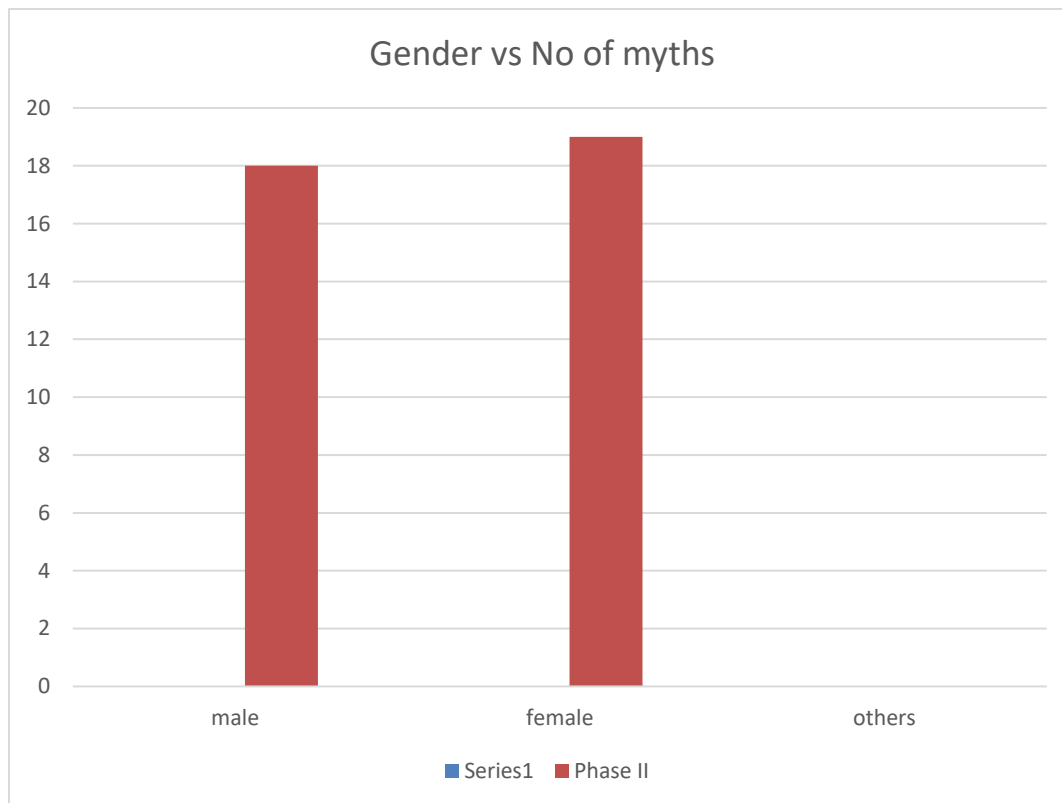


Table 10: Prevalence of myths analyzed with respect to education

Education	Phase II study n=300	No of myths Mean $\pm$ SD
Illiterate	0	0
upto 10 <sup>th</sup> grade	46	18 $\pm$ 3
matriculate	141	18 $\pm$ 3
graduate	96	12 $\pm$ 2
post-graduate	17	10 $\pm$ 2

Figure 9 : Prevalence of myths analyzed with respect to education

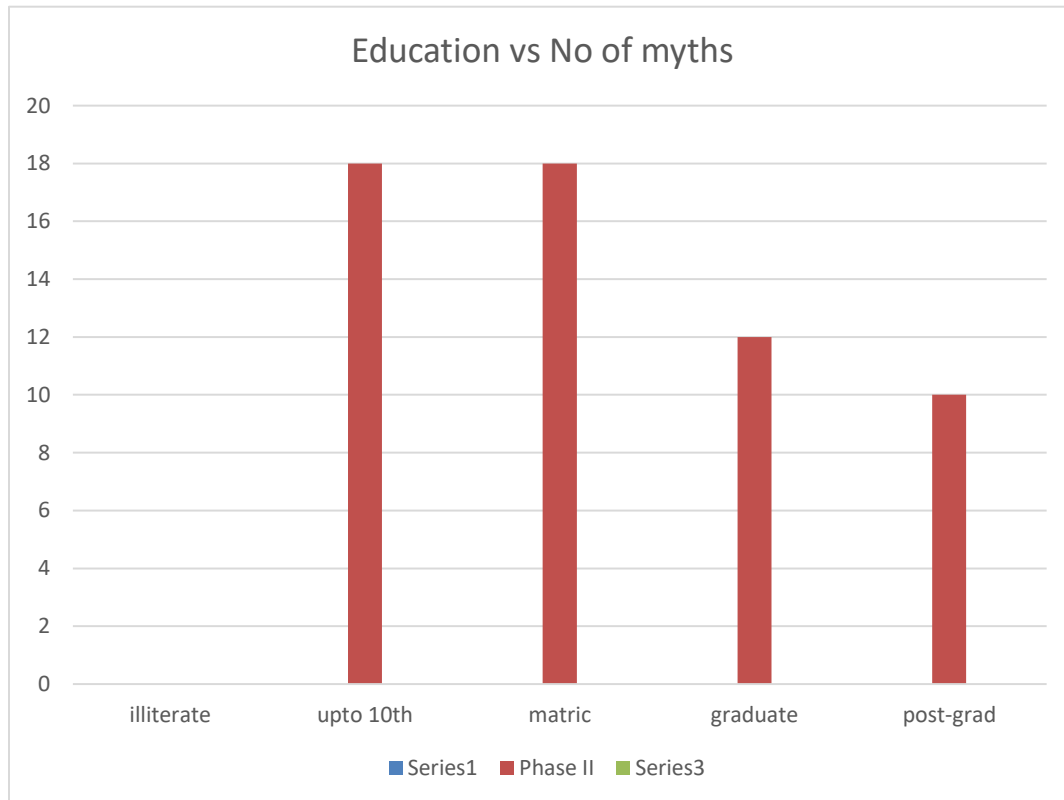


Table 11 : Prevalence of myths analyzed with respect to SE status

Income status	Phase II study n=300	No of myths Mean $\pm$ SD
Low income	40	20 $\pm$ 3
mid income	255	19 $\pm$ 3
high income	5	14 $\pm$ 2

Figure 10 : Prevalence of myths analyzed with respect to SE status

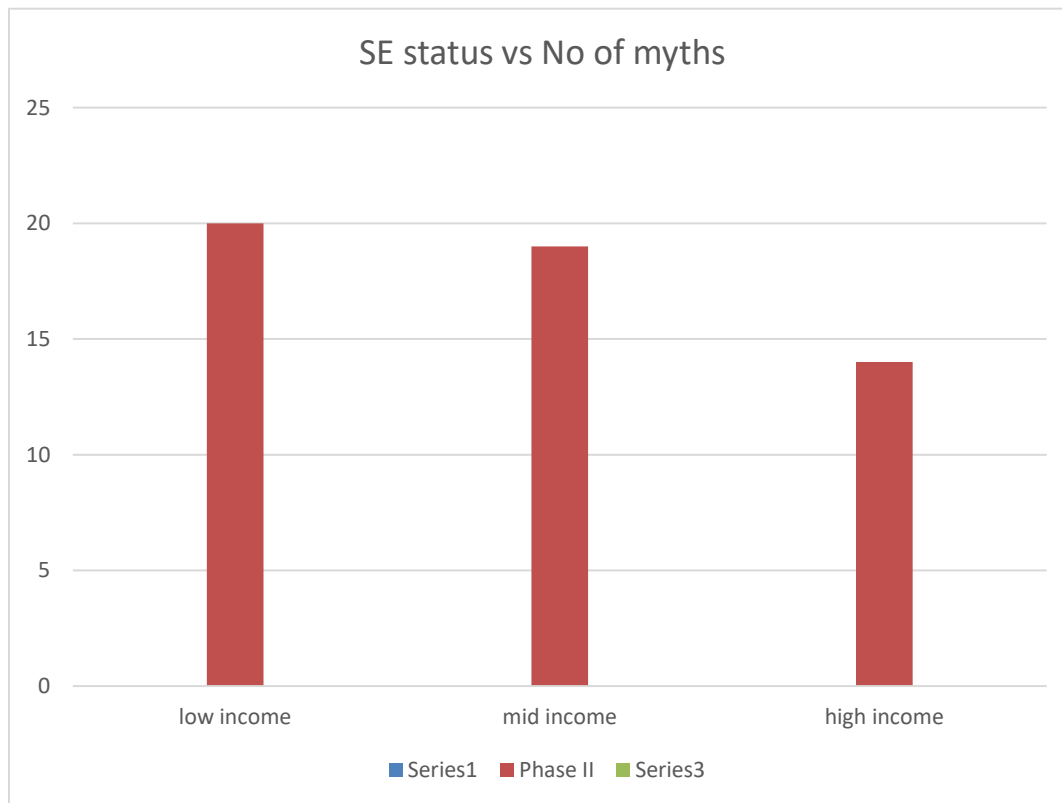


Table 12 : Prevalence of myths analyzed with respect to duration of Hypertension

Duration of HTN	Phase II study n=300	No of myths Mean $\pm$ SD
0-5 yr	34	20 $\pm$ 3
5-10 yr	56	19 $\pm$ 2
10-15 yr	92	16 $\pm$ 2
15-20 yr	94	16 $\pm$ 2
20-25 yr	24	12 $\pm$ 2
> 25 yr	0	0

Figure 11 : Prevalence of myths analyzed with respect to duration of Hypertension

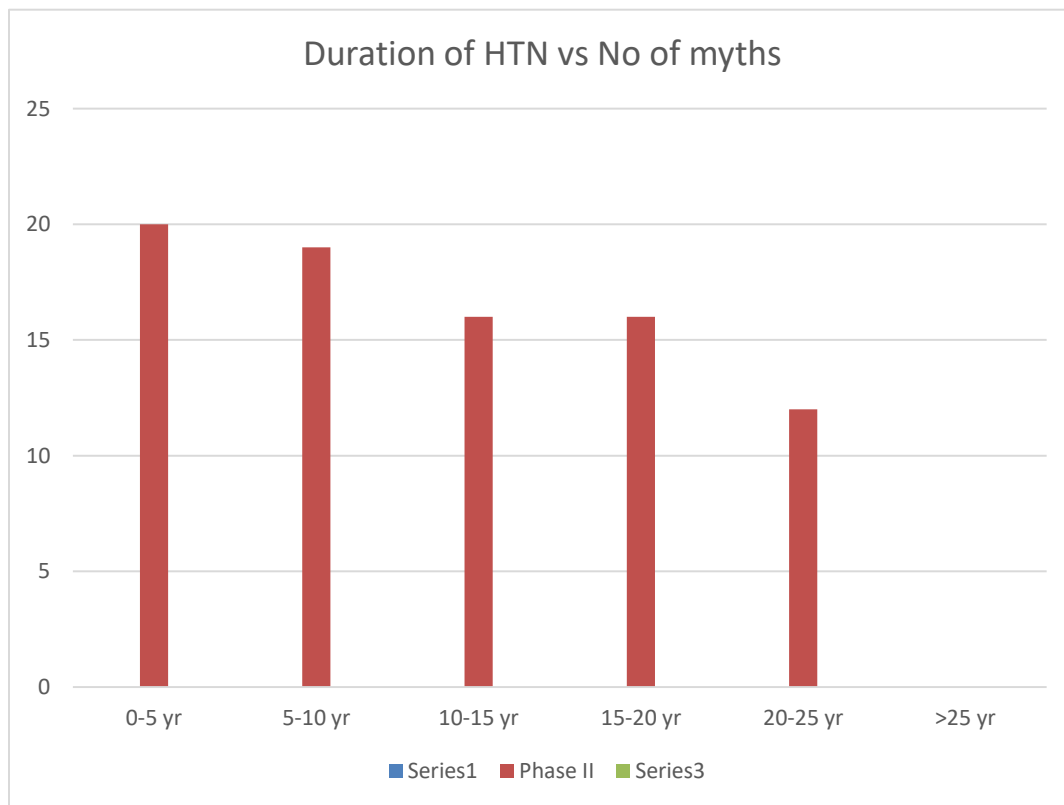




Table 13 : Prevalence of myths analyzed with respect to degree of BP control

BP control	Phase II study n=300	No of myths Mean $\pm$ SD
good	142	16 $\pm$ 2
poor	146	20 $\pm$ 3
very poor	12	24 $\pm$ 3

Figure 12 : Prevalence of myths analyzed with respect to degree of BP control

