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Research Article

**SOCIO-DEMOGRAPHIC FACTORS RESPONSIBLE FOR POOR  
TREATMENT OF HYPERTENSION**Dr. Abdul Ghaffar Memon<sup>1\*</sup>, Dr. Asim Mehmood<sup>2</sup>, Dr. Shahid Memon<sup>3</sup> and Dr. Mohsin Mehmood<sup>4</sup><sup>1</sup>FCPS, Associate Professor, Department of Cardiology, Liaquat University of Medical & Health Sciences Jamshoro/Hyderabad<sup>2</sup>MBBS, MPhil Assistant Professor

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<sup>4</sup>(MBBS) Liaquat University of Medical & Health Sciences Jamshoro/Hyderabad**Abstract:**

**Objective:** To see the frequency of socio-demographic factors responsible for poor treatment of hypertension, in patients having uncontrolled hypertension due to poor treatment.

**Material AND Methods:** This cross sectional study was carried out at OPD of cardiology department of Liaquat University hospital Hyderabad. Study duration was 6 months October 2015 to march 2016. All the patients with uncontrolled hypertension and having history of poor treatment were selected in the study. All the selected cases were interviewed regarding socio-demographic responsible reasons for poor treatment. All the data was recorded in the proforma.

**Results:** In this study total 59 patients were selected and patient's mean age was  $52.23 \pm 5.77$  years. Male gender was found in the majority 35(59.3%). Socio-demographic factors had big role in poor treatment of hypertension because when patients were interviewed regarding reasons of inappropriate treatment of hypertension there were multiple reasons answered by patients as most common factor was poor socioeconomic status answered by 50.8% cases followed by no available family physicians, cant travel to hospitals properly, no any care taker, under Homeo treatment, can't take drugs for long time, due to relative advice (drug addiction) and can't control fatty and salty diet with percentage of 06(10.2%), 07(11.8%), 05(08.5%), 03(05.1%), 08(13.6%), 08(13.6%) and 02(03.4%) respectively, while 12(20.4%) patients had issue of self-ignorance.

**Conclusion:** It is concluded that poor socioeconomic status, self-ignorance, relative advice, travels to hospitals properly and longtime treatment were the commonest responsible factors for poor treatment of hypertension.

**Key words:** Hypertension, socio-demographic factors, poor treatment

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**INTRODUCTION:**

High blood pressure is very important situation in adult population, affecting nearly 1 billion patients throughout the world [1]. It is the most common cause of cardiovascular morbidity and mortality with proven benefits of treatment. The presence of hypertension more than doubles the risk for coronary heart disease; including acute myocardial infarction and sudden death and more than triples the risk of congestive heart failure and strokes. The prevalence of hypertension in Sub-Saharan Africa has attained epidemic proportions likely due to the epidemiological transition with adoption of Western lifestyles. The estimated prevalence of hypertension among adults in SSA increased 4 folds from 2005 to 2008 and is projected to affect 125.5 million adults by 2025 [2]. In Cameroon; two recent population based studies estimated the prevalence rate of hypertension between 30% and 47.5% [3,4]. Incidence of high blood pressure is 32.2% in males and 30.5% in females in developing nations while 40.8% and 33.0% respectively in the developed nations [5]. NHSP conducted between 1990 to 1994, stated that hypertension affects 18% of adolescents above 15 years of age and 33% of adults above 45 years of age; less than 3% hypertensive patients, however, have their BP controlled to 140/90 mm Hg or below and more than 70% of all hypertensive patients (85% in rural areas) in Pakistan are not even aware of their disease [6,7]. Studies worldwide indicate that despite the availability of effective medical therapy, over half of all hypertensive do not take any treatment and more than half of those on treatment have blood pressures over the 140/90 mmHg threshold [8]. The World Health Organization (WHO) describes poor adherence as the most important cause of uncontrolled blood pressure and estimates that 50–70% of people do not take their antihypertensive medication as prescribed [9]. Many issues contribute to poor compliance with long-term antihypertensive treatment. Several cases have negative attitudes towards taking medication [10]. According to Jadelson *et al.*, the major reasons for non-compliance are multi-factorial and range from lack of adequate guidance to socioeconomic status. Although the socioeconomic status has not consistently been found to be an independent predictor of compliance low socioeconomic status may put patients in developing countries in the position of having to choose between competing priorities [11]. Such priorities include demands to direct the limited resource available to meet the needs of other family members, such as children or parents, for whom they care. Some factors reported to have a significant effect on compliance are: poor socioeconomic status (poverty), low level of

education, unemployment, lack of effective social support networks, unstable living conditions, long distance from treatment center, high cost of transport, cultural and lay beliefs about illness and treatment, and forgetfulness [12]. Factors that may influence adherence include socioeconomic status, access to health insurance, depression, patient's knowledge of the disease, and beliefs about medications.<sup>13</sup> Treatment with appropriate medication is a key factor in the control of hypertension and reduction in associated risk of complications. However, compliance with treatment is often sub-optimal, especially in developing countries. Mostly in the literature studies had been conducted regarding systemic factors responsible for hypertension, and very few data is available on socio-demographic factors responsible for uncontrolled hypertension due to poor treatment, especially in our population as in a national study stated that poor adherence is one of the biggest obstacles in therapeutic control of high blood pressure.<sup>7</sup> Therefore this study has been carried out to assess the frequency of socio-demographic factors responsible for poor treatment of hypertension.

**MATERIAL AND METHODS:**

This cross sectional study was carried out at OPD of cardiology department of Liaquat University hospital Hyderabad. Study duration was 6 months October 2015 to march 2016. All the patients with uncontrolled hypertension and having history of poor treatment were selected in the study. All the patients those were not agree to participate in the study and having history of proper antihypertensive treatment of were excluded. All selected patients were underwent complete clinical examination and their diastolic and systolic blood pressure were monitored. All the cases were interviewed in outpatient door (OPD) regarding socio-demographic reasons, responsible for poor treatment. Interview was taken simply regarding socio-demographic characteristics like socioeconomic status, occupational status, residential status, education level and knowledge regarding hypertension and its complications. Patients were also interviewed regarding reasons of poor treatment of diabetes. All the data was recorded in the Performa for the purpose of analysis. Data was analyzed in the SPSS version 16.

**RESULTS:**

In this study total 59 patients were selected. Patient's mean age was  $52.23 \pm 5.77$  years. Male gender was found in the majority 35(59.3%), while female were 24(40.7%). Majority of the cases 34(57.6%) were found with low socioeconomic status, 17(28.8%) were with middle socioeconomic class and 08(13.6%) patients were with upper socioeconomic

class. 41(69.5%) patients were from rural areas, while 18(30.5%) cases from urban areas. Majority of the cases were former house wife and multiple work performer with percentage of 11(18.6%), 15(25.4%) and 13(22.0%) respectively, while teacher were 05(08.5%), shopkeeper 05(08.5%) and landlord were 04(06.8%). **TABLE:1**

In this study mostly cases 47.45% were unaware, regarding hypertension, its treatment and its complications, 33.89% cases had partial knowledge and 18.64% patients had average knowledge.. **FIG:1**

In this study socio-demographic factors had big role in poor treatment of hypertension because when

patients were interviewed regarding reasons of inappropriate treatment of hypertension there are multiple factors answered by patients as most common factor was poor socioeconomic status answered by 30(50.8%) cases following by no available family physicians, cant travel to hospitals properly, no any care taker , under Homeo treatment, can't take drugs for long time, due to relative advice (drug addiction) **and** can't control fatty and salty diet with percentage of 06(10.2%), 07(11.8%), 05(08.5%), 03(05.1%), 08(13.6%), 08(13.6%) and 02(03.4%) respectively, while 12(20.4%) patients answered they are not taking proper treatment due to self-ignorance. **TABLE:2**

**Table:1. Patient's distribution according to Basic characteristics n=59**

| Basic characteristics             | Frequency (%)    |
|-----------------------------------|------------------|
| <b>Patient's Age</b><br>(mean+SD) | 52.23±5.77 years |
| <b>Gender</b>                     |                  |
| Male                              | 35(59.3%)        |
| Female                            | 24(40.7%)        |
| <b>Socio-economic status</b>      |                  |
| Poor                              | 34(57.6%)        |
| Middle                            | 17(28.8%)        |
| Upper                             | 08(13.6%)        |
| <b>Educational status</b>         |                  |
| Uneducated                        | 20(39.9%)        |
| Primary                           | 15(25.4%)        |
| Higher                            | 10(16.9%)        |
| Intermediate                      | 10(16.9%)        |
| Graduate                          | 04(06.8%)        |
| <b>Residential status</b>         |                  |
| Rural                             | 41(69.5%)        |
| urban                             | 18(30.5%)        |
| <b>Occupational status</b>        |                  |
| Farmer                            | 11(18.6%)        |
| Driver                            | 06(10.2%)        |
| Teacher                           | 05(08.5%)        |
| House wife                        | 15(25.4%)        |
| Landlord                          | 04(06.8%)        |
| Shopkeeper                        | 05(08.5%)        |
| Multiple work performer           | 13(22.0%)        |

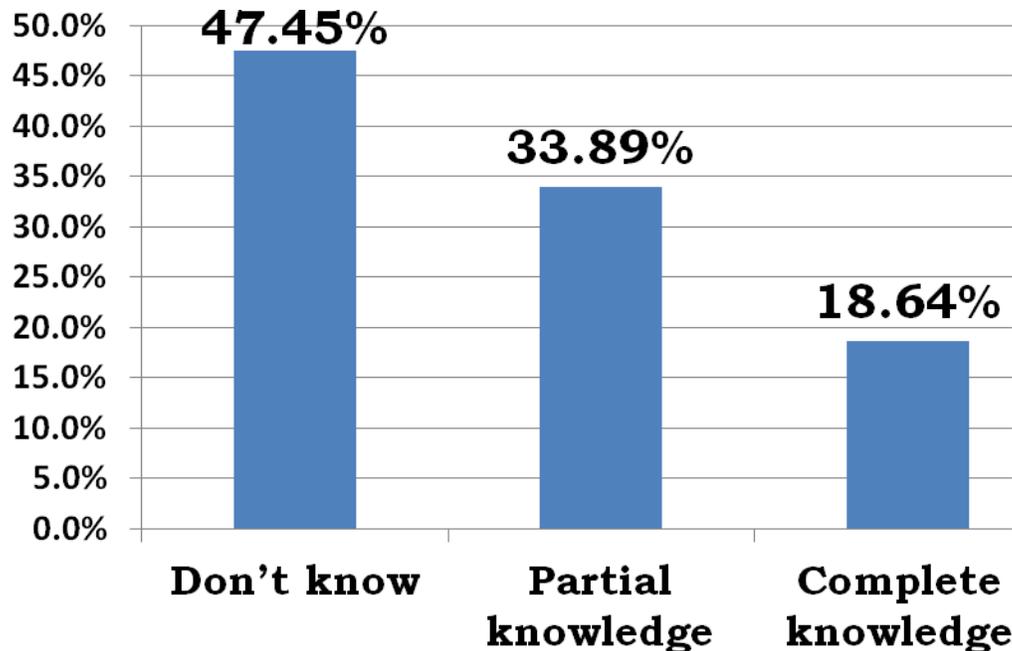


FIG:1. Patients distribution according to knowledge regarding hypertension, its treatment and complications n=65

Table 2: Factors responsible for poor treatment of hypertension n=65

| Responsible factors                         | Frequency(%) |
|---|--------------|
| <b>Why u don't take treatment properly?</b> |              |
| Poor SES                                    | 30(50.8%)    |
| No available family physicians              | 06(10.2%)    |
| Cant travel to hospitals properly           | 07(11.8%)    |
| No any care taker                           | 05(08.5%)    |
| Under Homeo treatment                       | 03(05.1%)    |
| Self-ignorance                              | 12(20.4%)    |
| Can't take drugs for long time              | 08(13.6%)    |
| Due to relative advice (drug addiction)     | 08(13.6%)    |
| Can't control fatty and salty diet          | 02(03.4%)    |

### DISCUSSION:

Hypertension is the important health event globally in the adult population. Adherence to the antihypertensive treatments is the effective step to control hypertension and prevention of the complications [14]. Poor control of hypertension may develop severe cardiovascular leading morbidity and the mortality. It has been reported in previous studies that highly adherence to treatment of hypertension is linked associated to decrease in cardiovascular diseases as compare to lower adherence [15]. This study has been conducted to assess the reasons of non-adherence treatment in hypertensive patients, and we found in our study that socio-demographic

factors had big role in poor treatment of hypertension because when patients were interviewed regarding reasons of improper anti-hypertension treatment, there were multiple factors answered by patients and the most common factor was poor socioeconomic status answered by 30 (50.8%) cases. In the comparison of our study Blazer et al [16] reported that low level of perceived social supports were to be risk factor for increasing hypertension and cardiac problems. In another study it is also stated that adherence to treatment was strongly linked to supports provided to hypertensive cases [17]. On other hand in a study stated that women having poor socio-economic status and lower educational status

were associated with low antihypertensive treatment adherence [12]. Similarly in the study of Magnabosco P et al [18] reported that cases having lower economic status showed the risk of non-adherence antihypertensive treatment, as well as according to whom poor SES significantly influences adherence treatment, and are also related to medicine purchasing power, educational level, cultural and social aspects [18,19]. In this study some other reasons as; no available family physicians, travel to hospitals, no any care taker, under Homeo treatment, drugs for long time, relative advice (drug addiction) and can't control fatty and salty diet with percentage of 06(10.2%), 07(11.8%), 05(08.5%), 03(05.1%), 08(13.6%), 08(13.6%) and 02(03.4%) respectively were also associated with poor hypertensive treatment. In the favor of our study Bader RJ et al [21] reported that Socio-demographic factors were significantly linked to non-adherence to hypertensive management.

In this study patient's mean age was  $52.23 \pm 5.77$  years. Male were found in the majority 35(59.3%), while female were 24(40.7%). Inconsistently Osamor PE et al [22] reported that out of 440 respondents 65.2% were women and 34.8% were men and similarly mentioned mean age was  $60 \pm 12$  years with range of minimum 25 years and maximum 90 years. In another study of Boima V et al [23] reported that mean age of non-adherent to medications patients was  $54.5 \pm 13.2$  years. Inconsistently Bilal M et al [24] reported that out of 664 hypertensive cases 422 were males and 242 were females with male to female ratio of 1.7:1, and mean age was  $54.4 \pm 12.5$  years and further he stated that 54.7% of cases were either illiterate, these findings are comparable to our study as well as we also found mostly cases were unaware. In our study majority of the cases 34(57.6%) were found with low socioeconomic status, 17(28.8%) were with middle socioeconomic class and 08(13.6%) patients were with upper socioeconomic class. 41(69.5%) patients were from rural areas, while 18(30.5%) cases from urban areas. Majority of the cases were former house wife and multiple work performer with percentage of 11(18.6%), 15(25.4%) and 13(22.0%) respectively, while teacher were 05(08.5%), shopkeeper 05(08.5%) and landlord were 04(06.8%). Comparable findings were seen in the study of Wee LE et al [25]. In our study 12(20.4%) patients answered they are not taking proper treatment due to self-ignorance, this may because un-education and un-awareness regarding hypertension and it's complications, as in this study mostly cases 47.45% were unaware regarding hypertension, its treatment and its related complications. Similarly in the study of Kilic M et al [26] reported that

approximately one-third of the hypertensive cases had very poor level of awareness regarding hypertension, while very few cases 6.6% were seen with average knowledge of hypertension. In the resulting it can be say that poor knowledge may also correlated with poor treatment of hypertension. In some other studies also reported that mostly patients were unaware to hypertension [27,28]. Very few studies are available in the literature purely regarding association between socio-demographic factors and antihypertensive treatment especially in our country. According to our findings it is very important factor and more research is needed on this event, to reduce the morbidity and mortality caused by hypertension due to poor antihypertensive treatment.

### CONCLUSION:

We concluded that poor socioeconomic status, self-ignorance, relative advice, travel to hospitals properly and longtime treatment were the commonest responsible factors for poor treatment of hypertension. More research is needed to evaluate the more responsible factors, and strategies should be developed to solve these problems to reduce the morbidity and mortality caused by poor treatment of hypertension.

### REFERENCES:

1. Osamor PE, Owumi BE. Factors associated with treatment compliance in hypertension in southwest Nigeria. *Journal of health, population, and nutrition*. 2011 Dec;29(6):619.
2. Twagirumukiza M, De Bacquer D, Kips JG, et al. Current and projected prevalence of arterial hypertension in sub-Saharan Africa by sex, age and habitat: an estimate from population studies. *J Hypertens* 2011;29:1243-52.
3. Dzudie A, Kengne AP, Muna WF, et al. Prevalence, awareness, treatment and control of hypertension in a self-selected sub-Saharan African urban population: a cross-sectional study. *BMJ Open* 2012;2.
4. Kingue S, Ngoe CN, Menanga AP, et al. Prevalence and Risk Factors of Hypertension in Urban Areas of Cameroon: A Nationwide Population-Based Cross-Sectional Study. *J Clin Hypertens (Greenwich)* 2015; 17:819-24.
5. Pereira M, Lunet N, Azevedo A, Barros H. Differences in prevalence, awareness, treatment and control of hypertension between developing and developed countries. *Journal of hypertension*. 2009 May 1;27(5):963-75.
6. National Health Survey of Pakistan 1990–1994. Karachi, Pakistan: Pakistan Medical Research Council; 1998. p. 50

7. Hashmi SK, Afridi MB, Abbas K, Sajwani RA, Saleheen D, Frossard PM, Ishaq M, Ambreen A, Ahmad U. Factors associated with adherence to anti-hypertensive treatment in Pakistan. *PLoS one*. 2007 Mar 14;2(3):e280.
8. Falaschetti E. Blood pressure. In: Sproston K, Primatesta P, editors. *Health Survey for England 2003*. TSO; London: 2004. pp. pp 181–220.
9. Mant J, McManus RJ. Does it matter whether patients take their antihypertensive medication as prescribed? The complex relationship between adherence and blood pressure control. *J Hum Hypertens*. 2006;20:551–553.
10. Hashmi SK, Afridi MB, Abbas K, Sajwani RA, Saleheen D, Frossard PM *et al*. Factors associated with adherence to anti-hypertensive treatment in Pakistan. *PLoS One* 2007;2:e280
11. Whitworth JA; World Health Organization, International Society of Hypertension Writing Group. 2003 (WHO)/International Society of Hypertension (ISH) statement on management of hypertension. *J Hypertens* 2003;21:1983-92.
12. Akpa MR, Agomuoh DI, Odia OJ. Drug compliance among hypertensive patients in Port Harcourt, Nigeria. *Niger J Med* 2005;14:55-7.
13. Lewis LM, Schoenthaler AM, Ogedegbe G. Patient factors, but not provider and health care system factors, predict medication adherence in hypertensive black men. *The Journal of Clinical Hypertension*. 2012 Apr 1;14(4):250-5.
14. Alsolami F, Hou XY, Correa-Velez I. Factors affecting antihypertensive treatment adherence: a Saudi Arabian perspective. *Clinical Medicine and Diagnostics*. 2012;2(4):27-32.
15. Blood Pressure Lowering Treatment Trialists' Collaboration, Turnbull F, Neal B, et al. Effects of different regimens to lower blood pressure on major cardiovascular events in older and younger adults: meta-analysis of randomised trials. *BMJ* 2008;336:1121-3.
16. Blazer DG. Social Support and mortality in an elderly community population. *Am J Epidemiol* 1982; 1115: 684–694.
17. Marin-Reyes F, Rodriguez-Moran M. Family support of treatment compliance in essential arterial hypertension. *Salud Publica Mex* 2001; 43: 336–339.
18. Braverman, J. and J. Dedier, Predictors of medication adherence for African American patients diagnosed with hypertension. *Journal of Ethnicity and Disease*, 2009. 19(4): p. 396-400.
19. Magnabosco P, Teraoka EC, Oliveira EM, Felipe EA, Freitas D, Marchi-Alves LM. Comparative analysis of non-adherence to medication treatment for systemic arterial hypertension in urban and rural populations. *Revista latino-americana de enfermagem*. 2015 Feb;23(1):20-7.
20. Santa Helena ET, Nemes MIB, Eluf-Neto J. Desenvolvimento e validação de questionário multidimensional para medir não-adesão ao tratamento com medicamentos. *Rev Saúde Pública*. 2008;42(4):764–767.
21. Bader RJ, Koprulu F, Hassan NA, Ali AA, Elnour AA. Predictors of adherence to antihypertensive medication in northern United Arab Emirates. *Eastern Mediterranean Health Journal*. 2015 May 1;21(5).
22. Osamor PE. Social support and management of hypertension in south-west Nigeria: cardiovascular topic. *Cardiovascular journal of Africa*. 2015 Jan 1;26(1):29-33.
23. Boima V, Ademola AD, Odusola AO, Agyekum F, Nwafor CE, Cole H, Salako BL, Ogedegbe G, Tayo BO. Factors associated with medication nonadherence among hypertensives in Ghana and Nigeria. *International journal of hypertension*. 2015 Oct 5;2015.
24. Bilal M, Haseeb A, Lashkerwala SS, Zahid I, Siddiq K, Saad M, Dar MI, Arshad MH, Shahnawaz W, Ahmed B, Yaqub A. Knowledge, Awareness and Self-Care Practices of Hypertension among Cardiac Hypertensive Patients. *Global journal of health science*. 2016 Feb;8(2):9.
25. Wee LE, Koh GC. Individual and neighborhood social factors of hypertension management in a low-socioeconomic status population: a community-based case-control study in Singapore. *Hypertension Research*. 2012 Mar 1;35(3):295-303.
26. Kilic M, Uzunçakmak T, Ede H. The effect of knowledge about hypertension on the control of high blood pressure. *International Journal of the Cardiovascular Academy*. 2016 Mar 31;2(1):27-32.
27. Saleem F, Hassali M, Shafie A, Awad A, Bashir S. Association between knowledge and drug adherence in patients with hypertension in Quetta, Pakistan. *Trop J Pharm Res* 2011;10.
28. Almas A, Godil SS, Lalani S, Samani ZA, Khan AH. Good knowledge about hypertension is linked to better control of hypertension; a multicentre cross sectional study in Karachi, Pakistan. *BMC Res. Notes* 2012;5:579.