Medication adherence and psychological well-being among patients of hypertension

Ruqia Safdar Bajwa[1], Beenish Shoukat[2]

ABSTRACT

This cross section correlational study was conducted to evaluate the relationship between medication adherence and psychological wellbeing and its related demographic factors among patients of hypertension. Valid self-report measures were utilized to assess the relationship of the variables i.e. Medicine adherence and psychological well-being. To measure these variables Ryff Psychological Well-Being Scales (PWB), 42 Item version and to measure Medication Adherence Morisky Scale comprising 4 items was used to assess the non-adherence risk. Significant positive correlation (.538**) was found between medication adherence and psychological wellbeing. Among these variables, gender had insignificant difference in Psychological Wellbeing (PW) and Medication Adherence (MA) while residential area made significant difference in both variable (p value 0.01 and 0.03 respectively). People living in urban setup had more medication adherence and psychological wellbeing as compared to the people living in rural setup. Psychological wellbeing was different in people of different age groups.

Conclusion: Medication adherence has a relationship with psychological wellbeing of hypertensive patients.

Keywords: Hypertension, Medication adherence, Socio-demographic characteristics, Psychological wellbeing, Residential area.

How to Cite This:

Bajwa RS, Shoukat B. Medication adherence and psychological well-being among patients of hypertension: a survey of Multan city. Isra Med J. 2019; 11(4)-Part B: 327-330.

INTRODUCTION

Hypertension, commonly known as elevated or high blood pressure, is a condition where blood vessels endure persistent high pressure of blood. It is a serious issue regarding global public health where 1.13 billion people are affected by High blood pressure worldwide. Excessively, it affects people living in low income countries like Pakistan where due to the lack of facilities health systems are already weak. Approximately 9.4 million deaths are recorded worldwide every year due to the complications of hypertension[1] . A huge body of research has been focused on the control and prevention of hypertension. The control has been achieved by the mechanisms include following medication plans and recommendations regarding lifestyle e.g. diet, exercise and proper sleep etc[2-4]. Medication adherence, characterized as "whether patients take their drugs as endorsed and also whether they keep on taking a recommended drug," is a fundamental factor in positive patient health results[5] and multiple factors are involved in the maintenance of successful adherence. Non adherence could be very high even up to the 50 percent[6] and it is reported as the major cause of poor blood pressure control in patients[7]. Psychological wellbeing can be explained as having positive sentiments and considerations towards life. It incorporates constructs, for example, fulfillment, positive feeling, optimism, and enthusiastic vitality, and speaks to something more than just the inverse or nonattendance of sick being[8-10]. Among the constrained and principally cross-sectional examinations that have analyzed the relationship between psychological well-being and hypertension, discoveries are blended. A few investigations have discovered a self-protective impact of psychological well-being in connection to hypertension[11, 12].

This extensive review for patients with hypertension demonstrates that there is enough evidence about core relationship of hypertension with medicine adherence and psychological well-being. Both variables have been widely studied but the interaction between medication adherence and psychological wellbeing remains largely unexplored mainly in Pakistan and subsequently in south Punjab as well. Hypertension is very common in Pakistan, but little work has been done to better understand the mechanism related to hypertension. To fill this information gap, the study was designed to determine the demographic exploration as well as level of medication adherence and psychological wellbeing in the patients with hypertension in south Punjab. The study aimed to check the relationship between medication

1. Lecturer of Applied Psychology
2. Research Scholar of Applied Psychology

Bahauddin Zakariya University Multan

Correspondence:
Ruqia Safdar Bajwa
Lecturer of Applied Psychology,
Bahauddin Zakariya University Multan
Email: ruqiasafdar@bzu.edu.pk

Received for Publication: July 08, 2019
Accepted for Publication: July 13, 2019

adherence and psychological wellbeing and their differences based on age, gender, residential area in the patients of hypertension. The results of research will be beneficial in clinical settings for the better prevention and treatment of hypertension. The information of this research should be valuable for patients and health care providers to gain a better understanding about the problem and its solution related to the role of medication adherence and psychological wellbeing in hypertension patients. So this study was conducted to evaluate the relationship between medication adherence and psychological wellbeing and its related demographic factors among patients of hypertension.

METHODOLOGY

This cross sectional, co-relational study was conducted indifferent hospitals of Multan City from 02nd January 2017 to 28th February 2017. The sample included 103 hypertension patients (35 females and 68 males). Their age range was between 26 to 96 years. Participants were taken from different hospitals of Multan City Multan City including Nishter Hospital, Civil Hospital and few private Clinics Rahmania Clinic and Khan Medical Care through purposive sampling technique. The criteria for inclusion was the patients diagnosed with primary hypertension for more than a year and who were taking medicines for hypertension but those who were not diagnosed patients were not taken as participants. In study, valid self-report measures were utilized to access the relationship of the variables including Medicine adherence and psychological well-being. In order to measure these variables Ryff Psychological Well-Being Scales (PWB), 42 Item version and to measure Medication Adherence Morisky Scale comprising 4 items was used[13] to assess the non-adherence risk.

Ryff's[14] scale is comprised of six psychological dimensions. Each dimension deals with different challenges individuals face in an effort to function optimally[14-16]. Scoring Instruction for Ryff psychological well-being scale is to recode negative phrased items: no. 3, 5, 10, 13,14,15,16,17,18,19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 (i.e. to give an exact reverse score to the chosen score by respondent if the scored is 5 in one of these items, the adjusted score is 2; if 3, the adjusted score is 4 and so on…). Add together the final degree of agreement in the 6 dimensions and get a total score expressing the psychological wellbeing[14]. Morisky Scale of Medication Adherence Questionnaire is a scale used to evaluate adherence to medications. This is a valid and reliable self-report tool used to measure adherence for different diseases like Hypertension. This questionnaire contained four items which are based on patients yes or no responses related to medication-taking behavior with a scoring scheme of "Yes" = 0 and "No" = 1. The items are summed to give a range of scores from 0 to 4. While interpreting Zero is the lowest level of medication adherence and 4 is the highest level of medication adherence. To get the data patients diagnosed with primary hypertension and coming for treatment in different hospitals and clinics were selected for sample. Only those patients were selected for study that had history of illness for at least 1 year on regular basis and they were getting treatment of hypertension. The participant's age was from 26 years onward, so informed consent was taken to participate in the research.

Data Analysis: The data analyzed by using SPSS 21 version, Descriptive statistics (mean, standard deviations, variance, and Pearson product moment and correlation coefficient were used to study the relationship of medicine adherence and psychological well-being. T-test and ANOVA were used to check group differences.

RESULTS

Among a total of 103 patients' majority were male (n=68, 66.0%) as compared to females (n=35, 34.0%) only. Majority of the patients (n=75, 72.8 %) were above 55 years and with respect to education 64 respondents (69.2%) were having education metric and above and others were either uneducated or below metric.

Table-I: Correlation between the scores of RYFF'S psychological wellbeing scale and medication-taking adherence scale (N=103)

Scales	Medication- taking Adherence scale
Psychological wellbeing scale	.538**

** Correlation is significant at the 0.01 level

The results in Table-I explain a significant positive correlation between the scores of psychological wellbeing scale and Medication-Taking Adherence Scale.

Table-II: Gender and Residential differences in medication adherence and psychological well-being among males, females and rural and urban patients (N=103)

Variables		n	Mean	SD	t-statistic	p-Value
Psychological Well-being	Female	35	155.7059	11.51645	-.953	.343
	Male	68	158.1714	14.08689		
Medication Adherence	Female	35	2.7941	1.35557	.181	.857
	Male	68	2.7429	1.37932		
Psychological Well-being	Rural	52	153.7500	9.67486	-2.353	0.01
	Urban	51	159.3922	14.26896		
Medication Adherence	Rural	52	2.5385	1.42060	-1.819	0.03
	Urban	51	3.0196	1.25682		

Note. p is insignificant; *p < .05

Table-II results shows that there is an insignificant difference in psychological well-being and medication taking adherence among males and females while there is significant difference in psychological wellbeing and medication taking adherence in patients according to their residential area. Patients living in urban areas have greater mean in the scores of psychological wellbeing as well as in the scores of medication taking adherence as compared to the patients who live in rural areas. Analysis of variance of psychological wellbeing among different age groups shows the significant difference among the psychological well-being of different age groups in patients of hypertension. Results depicts that the level of psychological well-being vary in different age groups. The LSD test tells that among all the age groups people who are up to 40 years old have high level of psychological wellbeing as compared to other age groups.

DISCUSSION

Primarily the study aimed to assess the relationship between medication adherence and psychological wellbeing among the diagnosed patients of hypertension. While assessing this link many related socio demographic variables were also assessed like gender, education and residential status. Many studies have been done to assess medication adherence and its relation with different psychological factors among patients[17-20] but exactly relationship between treatment adherence and psychological wellbeing have not been measured in Pakistani context up the best of knowledge and search. A study[21] conducted in Turkey to check the demographic feature's relationship with medication adherence and quality of life shows he same age and sex distribution. The main objective of our study was to check the correlation between the Ryff's Psychological wellbeing and medication adherence and it was found significantly positive in hypertension patients. Similarly in some previous studies the satisfaction has been found strongly linked to treatment adherence[22-24].

Our study checked gender differences in medication adherence and psychological well-being and the results show insignificant differences in these variables in hypertension patients. The literature has addressed gender differences in medication adherence and brought mixed results[25,26] while many other studies have concluded that gender has no role in predicting compliance to medication[27-29]. Gender differences were also statistically insignificant in psychological wellbeing of the patients. A meta-analysis has revealed the role of gender in detail in the context of psychological wellbeing, little gender differences were found in different studies[30].

The results of our study exposed the importance of residential area in medication taking adherence and psychological wellbeing of the patients. Patients living in urban areas have greater mean in the scores of psychological wellbeing as well as in the scores of medications taking adherence as compared to the patients who live in rural areas. In the field of environmental psychology, a good number of studies[31-33] are focusing on the importance of environments as having good esthetic value in predicting high level of psychological wellbeing[34]. A study conducted on Urban African Americans[35] explored medication adherence in patients and found 74 percent adherence to medication in patients. In contrast to this, another study[20] has recognized a big number of risk factors for poor compliance to antihypertensive medication particularly done in urban settings. Current study has also checked age differences in psychological wellbeing of the patients. And these differences were highly significant in patients of different age groups[16,36]. Results shows that among all the age groups people who are up to 40 years old have high level of psychological wellbeing as compared to other age groups. Results reveal as age increases level of psychological wellbeing mean scores decrease[14,37,38].

Limitations of Study: As this is a cross sectional study, it's very hard to establish cause and effect relationship between medication adherence and psychological wellbeing and other factors. To confirm the current conclusion, other studies must be conducted with larger sample and from more hospitals and cities.

CONCLUSION

Medication adherence has a relationship with psychological wellbeing of hypertensive patients.

CONTRIBUTION OF AUTHORS

Bajwa RS: Conceived idea, Designed research methodology, Literature review, Manuscript writing, Statistical analysis Data interpretation.
Shoukat B: Data collection, Scales collection.

Disclaimer: None.
Conflict of Interest: None.
Source of Funding: None.

REFERENCES

1. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet. 2012;380(9859):2224-2260.
2. Chobanian AV. National heart, lung, and blood institute joint national committee on prevention, detection, evaluation, and treatment of high blood pressure; national high blood pressure education program coordinating committee: the seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: the JNC 7 report. JAMA. 2003;289:2560-2572.
3. He FJ, Li J, MacGregor GA. Effect of longer term modest salt reduction on blood pressure: Cochrane systematic review and meta-analysis of randomised trials.BMJ. 2013 ;346:f1325.
4. Webber J. The effect of a lifestyle modification adherence tool on risk factors in patients with chronic hypertension compared to usual management (Doctoral dissertation) Website [:https://www.semanticscholar.org/paper/The-effect-of-a-lifestyle-modification-adherence-on-Webber/0ef586b4a3eefdc0804055c0481575f53cd9345e.]

5. Ho PM, Bryson CL, Rumsfeld JS. Medication adherence: its importance in cardiovascular outcomes. Circulation. 2009;119(23):3028-3035.
6. Garfield FB, Caro JJ. Compliance and hypertension. Current Hypertension Reports. 1999;1(6):502-506.
7. Burnier M. Medication adherence and persistence as the cornerstone of effective antihypertensive therapy. Oxford University Press; 2006;1190-1196.
8. Diener E, Emmons RA. The independence of positive and negative affect. J of Person & Soc Psychol. 1984;47(5):1105.
9. Suls J, Bunde J. Anger, anxiety, and depression as risk factors for cardiovascular disease: the problems and implications of overlapping affective dispositions. Psychological Bull. 2005;131(2):260.
10. Ryff CD, Love GD, Urry HL, Muller D, Rosenkranz MA, Friedman EM, et al. Psychological well-being and ill-being: do they have distinct or mirrored biological correlates? Psychother & Psychosom. 2006;75(2):85-95.
11. Ostir GV, Berges IM, Markides KS, Ottenbacher KJ. Hypertension in older adults and the role of positive emotions. Psychosom Med. 2006;68(5):727.
12. Steptoe A, Wardle J. Positive affect and biological function in everyday life. Neurobiol of Aging. 2005;26(1):108-112.
13. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. Med Care. 1986:67-74.
14. Ryff CD. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J of Personality & Soc Psychol. 1989;57(6):1069.
15. Keyes CL, Shmotkin D, Ryff CD. Optimizing well-being: The empirical encounter of two traditions. J of Personality & Soc Psychol. 2002;82(6):1007.
16. Ryff CD, Keyes CLM. The structure of psychological well-being revisited. J of Personality & Soc Psychol. 1995;69(4):719.
17. DiMatteo MR, Sherbourne CD, Hays RD, Ordway L, Kravitz RL, McGlynn EA, et al. Physicians' characteristics influence patients' adherence to medical treatment: results from the Medical Outcomes Study. Health Psychol. 1993;12(2):93.
18. Trivedi RB, Ayotte B, Edelman D, Bosworth HB. The association of emotional well-being and marital status with treatment adherence among patients with hypertension. J of Behav Med. 2008;31(6):489.
19. Vreeman RC, Nyandiko WM, Ayaya SO, Walumbe EG, Marrero DG, Inui TS. The perceived impact of disclosure of pediatric HIV status on pediatric antiretroviral therapy adherence, child well-being, and social relationships in a resource-limited setting. AIDS Patient Care & STDs. 2010;24(10):639-649.
20. Hyre AD, Krousel-Wood MA, Muntner P, Kawasaki L, DeSalvo KB. Prevalence and predictors of poor antihypertensive medication adherence in an urban health clinic setting. The J of Clin Hyper. 2007;9(3):179-186.
21. Atan G, Elanur Yilmaz Karabulutlu PhD R. Relationship between Demographic Features, Adherence to Treatment and Quality of Life of Hypertension Patients in Turkey. Int J of Caring Sci. 2017;10(3):1624-1632.
22. Sa'ed HZ, Al-Jabi SW, Sweileh WM, Morisky DE. Relationship of treatment satisfaction to medication adherence: findings from a cross-sectional survey among hypertensive patients in Palestine. Health & Quality of Life 0utcomes. 2013;11(1):191.
23. Côté I, Farris K, Feeny D. Is adherence to drug treatment correlated with health-related quality of life? Quality of Life Res. 2003;12(6):621-633.
24. Handler J. Quality of life and antihypertensive drug therapy. The J of Clin Hyper. 2005;7(5):274-285.
25. Berg KM, Demas PA, Howard AA, Schoenbaum EE, Gourevitch MN, Arnsten JH. Gender differences in factors associated with adherence to antiretroviral therapy. J of General Int Med. 2004;19(11):1111-1117.
26. Li WW, Wallhagen MI, Froelicher ES. Hypertension control, predictors for medication adherence and gender differences in older Chinese immigrants. J of Adv Nurs. 2008;61(3):326-335.
27. Mert H, Ozcakar N, Kuruoglu E. A multidisciplinary special study module research: treatment compliance of patients with hypertension. Turkish J Fam Pract. 2011;15(1):7-12.
28. Horne R, Weinman J. Patients' beliefs about prescribed medicines and their role in adherence to treatment in chronic physical illness. J of Psychosomatic Res. 1999;47(6):555-567.
29. Tümer A, Dereli F, Demir Uysal D. The compliance level of treatment of hypertensive patients. Turkish J of Cardiovas Nurs. 2016;7(13):105-113.
30. Pinquart M, Sörensen S. Gender differences in self-concept and psychological well-being in old age: A meta-analysis. The J of Gerontol Series B: Psychol Sci & Soc Sci. 2001;56(4):P195-P213.
31. Hartig T, Böök A, Garvill J, Olsson T, Gärling T. Environmental influences on psychological restoration. Scandinavian J of Psychol. 1996;37(4):378-393.
32. Fuller RA, Irvine KN, Devine-Wright P, Warren PH, Gaston KJ. Psychological benefits of greenspace increase with biodiversity. Biology Letters. 2007;3(4):390-394.
33. Cohen P, Struening EL, Muhlin GL, Genevie LE, Kaplan SR, Peck HB. Community stressors, mediating conditions and wellbeing in urban neighborhoods. J of Comm Psychol. 1982;10(4):377-391.
34. Galindo Galindo MP, Corraliza Rodríguez JA. Environmental aesthetics and psychological wellbeing: Relationships between preference judgements for urban landscapes and other relevant affective responses. Psychology in Spain. 2000;4(1):13-27.
35. Hill-Briggs F, Gary TL, Bone LR, Hill MN, Levine DM, Brancati FL. Medication adherence and diabetes control in urban African Americans with type 2 diabetes. Health Psychol. 2005;24(4):349.
36. Bardage C, Isacson DG. Hypertension and health-related quality of life: an epidemiological study in Sweden. J of Clin Epidemio P. 2001;54(2):172-181.
37. Ryff CD. In the eye of the beholder: Views of psychological well-being among middle-aged and older adults. Psychol & Aging. 1989;4(2):195.
38. Ryff CD. Psychological well-being in adult life. Curr Directions in Psychol Sci. 1995;4(4):99-104.