

ORIGINAL ARTICLE

HAPPINESS IN PATIENTS WITH DIABETES MELLITUS AND SYSTEMIC ARTERIAL HYPERTENSION

Nazia Iqbal, Muhammad Alamgir Khan*, Rabia Zonash**

Department of Psychology International Islamic University, Islamabad, *Army Medical College, Rawalpindi,

**Foundation University Rawalpindi, Pakistan

Background: Happiness is a state of mind which reflects an array of hormonal interplay within the body. These mechanisms have tremendous overall impact on patient's health in terms of enhanced immunity. Current study was planned to evaluate happiness in patients with diabetes mellitus and systemic arterial hypertension. The study also aimed to explore the effect of age and gender in such patients. **Methods:** This cross-sectional comparative study was conducted at Department of Psychology, Islamic International University Islamabad from February to May 2016. Thirty-six patients of diabetes mellitus and 44 of arterial hypertension were included through convenience sampling from Heart International hospital and Benazir Bhutto Hospital Rawalpindi. Happiness was measured using a validated and reliable tool 'the subjective happiness scale'. Mean happiness levels were compared between the groups using independent *t*-test and One-Way ANOVA. Alpha was kept at 0.05. **Results:** There were 36 (45%) patients with diabetes mellitus and 44 (55%) with hypertension with age range of 30–60 years and male to female ratio of 1:1. Mean happiness levels between diabetics and hypertensives were 19.13 ± 2.64 and 14.11 ± 3.98 respectively and the difference was significant ($p=0.02$). There was no effect of age and gender on happiness level in these patients. **Conclusion:** Patients with arterial hypertension have lower level of happiness compared to those suffering from diabetes mellitus irrespective of age and gender.

Keywords: Happiness, diabetes mellitus, arterial hypertension

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INTRODUCTION

Happiness is another name for joy, satisfaction, tranquility and liveliness with emotional and optimistic psychological evaluation of life.¹ Positive emotional experience such as happiness gives a resilient retrieval forces against adverse experiences. In simple terms happiness is elaborated as recurrent optimistic feelings and gratification in every life condition.² For more than five decades psychologists had been exploring the underlying mechanisms of happiness. A contented person has characteristics of vigorous health, sociability, and modesty. Happy people are idealist, non-worrier, spiritual, they have high self-worth and are loyal to social moral values.^{3,4} Happiness has been attributed in affecting overall life domains like life gratification, better mood/emotional state, contented family relations and ability in individual progress.⁵ Happiness has been strongly linked with accomplishment when persons have the ability of better utilization of chances in the environment.³

Number of researches have highlighted positive link between individual cognitive approaches with happiness when confronted with adverse life conditions.^{6,7} Different demographics (e.g., age, gender, socio-economic status and marital status) are strongly linked with different level of happiness. Medical professionals are finding methods to develop strategies to promote perception of happiness in terminally ill patients as when these patients start analytically comprehending

critical life events in positive manner its helps them to enhance their wellbeing.^{8–10}

Happiness is considered to be the most influential motivator of life aims. Evaluating happiness in chronic medical illnesses can be a central to enhance quality of life of patients suffering from such diseases.¹¹ It helps in enhancing emotional regulation against life stresses, improve immune function, decrease morality and also help in developing resilient power against distress feelings which patients often suffer after prolonged life illness.¹² Levels of happiness in chronic diseases like hypertension and diabetes mellitus has never been explored in previous researches in Pakistan. We planned the current study to evaluate happiness in patients with diabetes mellitus and systemic arterial hypertension. The study also aimed to explore the effect of age and gender in such patients. Results of the study will help the medical professionals in establishing effective intervention plans to enhance contentment among hypertensive and diabetic patients.

METHODOLOGY

This cross-sectional comparative was conducted at Department of Psychology, Islamic International University Islamabad from February to May 2016 after getting approval from Institutional Review Board of the university. Written informed consent was also obtained from all the participants. Sample size was calculated using WHO sample size calculator. By keeping the values of alpha at 0.05, beta at 0.1,

population standard deviation at 4 and mean difference at 3, a sample size of 38 was calculated for each group making a total sample size of 76, however we included a sample size of 80 for the current study.

Data collection tool was the subjective happiness scale which is comprised of 4 items with responses on 7-point Likert scale ranging from 1=not a very happy person to 7=a very happy person.¹² Permission from instrument author was obtained before commencement of the study. The items which had reverse coding were adjusted for analysis. The questionnaire was distributed to 36 diabetic and 44 hypertensive patients. The patients diagnosed with diabetes and hypertension by the consultant physician, for more than one year were recruited from Heart International Hospital and Benazir Bhutto Hospital Rawalpindi.

Data were analyzed using SPSS-21. Descriptive and inferential analysis were performed. Comparison between groups were done using *t*-test and ANOVA, and $p < 0.05$ was taken as significant.

RESULTS

There were 36 (45%) patients with diabetes mellitus and 44 (55%) with hypertension with age range of 30–60 years and male to female ratio of 1:1. Table-1 shows comparison of happiness levels between diabetics and hypertensives along with *p*-value and confidence interval. Level of happiness between male and female patients of both diabetes mellitus and arterial hypertension has been compared in Table-2. It also shows the values for significance and effect size. Effect of age on happiness in these patients is shown in Table-3 along with *p*-value and effect size.

Table-1: Comparison of happiness between diabetic and hypertensive patients

Groups	Mean±SD	95% CI	<i>p</i>	Cohen's d
Diabetes mellitus (n=36)	19.13±2.64	3.48–6.56	0.02	1.48
Hypertension (n=44)	14.11±3.98			

Table-2: Comparison of happiness between males and females

Groups	Mean±SD	95% CI	<i>p</i>	Cohen's d
Male (n=40)	16.20±4.23	-2.25–1.55	0.68	-0.08
Female (n=40)	16.55±4.23			

Table-3: Comparison of happiness across different age groups

Groups	Mean±SD	<i>p</i>	Eta squared
30–40 (n=26)	15.53±4.98	0.07	0.13
41–50 (n=39)	17.46±3.87		
51–60 (n=15)	15.00±3.22		

DISCUSSION

The present study intended to explore the level of happiness in patients suffering from chronic diseases like diabetes mellitus and hypertension. The results highlighted that level of happiness among hypertensive patients was lower as compared to those suffering from diabetes mellitus. The study also showed that there was no effect of age and gender on the level of happiness in patients suffering from such chronic illnesses. It was interesting to know that hypertensive patients had lower level of happiness as compared to diabetics perhaps due to the difference in nature and outcomes of the two diseases. Hypertension is a disease which may have a greater likelihood of affecting mood of the patient as compared to diabetes mellitus.¹³ There seems to be some truth in the myth prevalent in lay population that whosoever had higher blood pressure is prone to be angrier.¹⁴ Current study generated a hypothesis about lower level of happiness in hypertensives as compared to diabetics, which need to be further investigated. This requires experimental study designs to provide better evidence for the cause and effect.

Potential of these chronic diseases to affect level of happiness is same irrespective of age and gender. The inherent health problems linked with such diseases affect males and females of all the age groups equally. A previous study showed that females were higher on happiness as compared to males because males perhaps suffer from more emotional strains for job issues and economic stability of family.¹⁵ Other studies have found no significant mean difference in gender regarding level of happiness as happiness is subjective feelings of optimism regardless of gender constraints put forth by the community.¹⁶

Although not reached statistical level of significance, our study showed that level of happiness was higher in age group 41–50 years. This was a unique finding as on both sides of this age group the level of happiness dropped making a '∩' shaped curve. Perhaps the younger age group lacks the abilities to cope with the burden of chronic illnesses whereas in old age group reduction in overall capacity as well as addition of further untoward factors might play role in drop in level of happiness. Family members and health care providers may have to focus more on these two extreme groups so that the patients can handle the stress of such chronic illnesses with their support. The common denominator to be achieved in all chronic diseases is better quality of life which is reflected in level of happiness, inner peace and satisfaction. Earlier studies have contradictory results about effect of age on happiness in chronic illness. Frijters P reported a 'U' shaped pattern which is exactly opposite to what we found in our study.¹⁷ They reported that level of happiness was lower in middle age group and higher on the two sides making the two limbs

of 'U'. Differences in nature of the diseases, measuring instruments, race and various associated factors might be the reasons for opposing result of the two studies. Happiness is a state of mind which has a complex multi factorial basis. A range of factors may affect one's level of happiness irrespective of the disease, age and gender. While exploring few factors involved in happiness due consideration should be given to the confounders. In current study we could not control the confounders like family system and socioeconomic/marital status. Future studies need to be carried out with experimental designs to find out the causes of reduced happiness in chronic illnesses.

CONCLUSION

Patients with arterial hypertension have lower level of happiness compared to those suffering from diabetes mellitus irrespective of age and gender.

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Address for Correspondence:

Dr. Nazia Iqbal, Assistant Professor, Department of Psychology, International Islamic University, Islamabad, Pakistan.

Cell: +92-335-6187036

Email: nazia.iqbal@iiu.edu.pk

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