



HYPERTENSION; COPING STRATEGIES USED BY PEOPLE

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Article received on:
10/03/2015

Accepted for publication:
07/05/2015

Received after proof reading:
09/07/2015

ABSTRACT... The literature review portrays a reasonable picture of the role of certain coping strategies in developing hypertension. **Objectives:** Present research based on self-regulation theory explored correlation of coping strategies of stress with hypertension. **Design:** Cross sectional research design. **Setting:** Shaikh Zayed Hospital, Services Hospital, Ganga Ram Hospital, Lahore. **Period:** June 2010 to June 2011. **Method & material:** Sample ($N = 400$) outdoor hypertensive males ($N = 100$) and hypertensive females ($N = 100$) between ages 30-60, and their age matched healthy controls ($N = 200$, 100 males, 100 females) were taken from 3 hospitals. **Measures:** Brief COPE scale was used to measure coping strategies. **Analysis:** Chi-square and logistic regression analysis were carried out. **Results:** Significant positive correlation of hypertension with active coping, substance use, instrumental support, positive reframing, acceptance, and self-blame was found and active coping, acceptance, instrumental social support and self-blame coping strategies appeared as significant predictors of hypertension.

Key words: Hypertension, active coping, instrumental social support, positive reframing, self-blame

Article Citation: Mushtaq M, Najam N. Hypertension; coping strategies used by people. Professional Med J 2015;22(7):876-880.

INTRODUCTION

Coping strategies are considered the factors which cause an increase in raising or mitigating blood pressure rate. Some researchers have reported the relationship of hypertension with emotion focused coping.¹ While others have reported positive correlation of problem focused strategies with hypertension.^{2,3} It is reported that people with hypertension use more active coping strategies with other certain social factors.⁴

Coping with stress strategies are different from individual to individual and it is difficult to manage that stressful situation. It needs patience and appropriate application of analytical abilities. In the presence of stressful times there is elevation in blood pressure and the individual gets infuriated, which affects his/her performance. It is an established fact that coping with stress measures is significantly associated with rise in blood pressure.⁵ People with hypertension set targets and direct their energies and actions in the

achievement of those targets. In some cases they become overactive, alert and involve themselves in the solution of that problem which hinders their normal physical functioning and obstructs the normal flow of blood.

Problem focused coping is aimed at resolving the problem and to find a proper solution to change the sources of stress.⁶ Emotion-focused coping is aimed at minimizing distress triggered by stressors in an emotional way like blaming to others or trying to solve the problem only by praying. Emotion-focused coping includes a wide array of responses, ranging from self-soothing to expression of negative emotions, from focus on negative thoughts to attempts to break away from stressful situations. According to Lazarus (2006) problem and emotion-focused coping also facilitate one another in some cases.⁷ Effective emotion-focused coping diminishes distress, to make it possible to consider the problem more calmly, perhaps thinking it better than problem-

focused coping. The interconnectedness of problem and emotion-focused coping makes it more practical to believe of the two as complementary coping functions rather than as two completely different and independent coping categories.

The literature review portrays a clear picture of the role of some coping strategies in developing hypertension. Burgeoning literature has suggested that coping strategies of stress are most important causal factors in developing hypertension. Plenty of the literature has provided basis for stress provoking condition and its impact upon the increase rate of blood pressure.^{8,9}

Role of coping strategies in developing hypertension is not a new subject; still there is a dearth of research work in this field in developing countries. In Pakistan especially this observable fact has seldom been studied or at least our internet search has not shown sufficient literature on the topic. Consequently the present research would be unique one because it aims to explore the coping strategies of hypertension among the Pakistani middle class male and female hypertensive population recruited from hospital surroundings.

Hypotheses

On the basis of the literature review following hypotheses were generated:

1. There will be positive correlation of problem-focused coping strategies and hypertension.
2. Coping strategies are likely to be the significant predictors of hypertension.

METHOD

Participants

Cross-sectional research design was used for this research project. The data was collected from 3 public hospitals of Lahore by means of purposive sampling technique. A sample of 400 participants, hypertensive males ($n = 100$), hypertensive females ($n = 100$), non-hypertensive males ($n = 100$), and non-hypertensive females ($n = 100$) with age range of 30-60 years finally participated

in the study.

Instruments

1. Demographic Information Sheet

A demographic information sheet was developed by the researchers in order to gather information about age, gender, education, number of dependents, family history of hypertension and family living system monthly expenditures, height, occupation and weight of the research participants. These variables were explored from literature review. Brief COPE by Carver, Scheier and Weintraub (1997) is a 28 items self-report measure to measure different coping strategies. The scale has fourteen subscales and each scale encompassed of two items only. Cronbach alpha's for active coping ($\alpha = .68$), religion ($\alpha = .82$), self-distraction ($\alpha = .71$), planning ($\alpha = .73$), humor ($\alpha = .73$), acceptance ($\alpha = .57$), using instrumental support ($\alpha = .64$), venting ($\alpha = .50$), denial ($\alpha = .54$), emotional support ($\alpha = .71$), positive reframing ($\alpha = .64$), substance use ($\alpha = .90$), behavioral disengagement ($\alpha = .64$) and self-blame ($\alpha = .69$), respectively as stated by Carver (1997). Urdu translation of brief Cope (Jibeen & Khalid, 2008) was used in the current study.¹⁰ Overall Cronbach alpha of brief Cope in Urdu is .81.¹⁰

PROCEDURE

Participants were told about the uses of the study. Then a consent form along with a demographic information sheet and brief COPE (1997) were independently administered to the entire research sample.

RESULTS

Chi-square was used to investigate correlation of different social factors and coping strategies with hypertension. Logistic regression analysis was carried out to explore the effect of coping strategies on hypertension.

As shown in Table-I that hypertension has statistically significant positive relationship with active coping ($\chi^2 = 70.79, p < .01$) indicating that hypertensive patients use more active coping to meet stressful situation. Similarly hypertension

Coping strategies	M	SD	χ^2	df	p
Active coping	6.01	1.88	80.05	6	.001**
Self-distraction	5.24	2.27	85.48	6	.071
Denial	4.10	2.13	1.00	6	.084
Substance use	3.98	2.56	1.17	7	.001**
Emotional social support	4.96	2.67	1.04	8	.061
Instrumental social support	5.03	2.52	1.00	6	.001**
Behavioral disengagement	3.81	1.95	78.37	7	.089
Venting	4.97	2.34	40.08	8	.073
Positive reframing	5.87	2.19	1.01	6	.001**
Planning	5.79	2.03	1.07	7	.001**
Humor	4.34	2.22	1.02	6	.421
Acceptance	5.98	1.77	73.51	6	.001**
Religion	5.44	2.40	1.05	6	.121
Self-blame	4.91	2.49	1.03	6	.001**
Total coping	70.30	9.86	96.09	40	.001**

Table-I. Correlation of coping strategies with hypertension (N =400)

Note: M = Mean scores, SD = Standard Deviation of scores, χ^2 = Chi-square; **= $p < .01$

has significant relationship with substance use ($\chi^2 = 98.41, p < .01$), instrumental social support ($\chi^2 = 148.54, p < .01$), positive reframing ($\chi^2 = 21.66, p < .01$), planning ($\chi^2 = 118.59, p < .01$), acceptance ($\chi^2 = 118.63, p < .01$), self-blame ($\chi^2 = 148.06, p < .01$), and coping ($\chi^2 = 113.17, p < .01$) respectively. This indicates that those who are suffering from hypertension use more problem solving strategies to deal with stressful stimulus.

Effect of Coping Strategies on Hypertension

Logistic regression model was applied to test the 2nd hypothesis that coping strategies are predictors of hypertension. As shown in Table 2 that active coping ($OR = 1.51, p < .001$) appeared a significant predictor of hypertension. In the same way, acceptance ($OR = 1.20, p < .01$); instrumental social support ($OR = 2.29, p < .001$); and self-blame ($OR = 1.68, p < .001$) turned out to be the significant predictors of hypertension.

Variable	β	S.E	Wald	Lower	(e) B	Upper
Constant	-13.45*	4.90				
Active coping	1.65***	.63	6.84	5.25	1.51	18.21
Acceptance	.83**	4.63	.92	1.43	1.20	1.97
Instrumental social support	-2.29***	.66	11.89	9.95	-2.69	36.72
Self-blame	1.82***	.66	7.56	6.20	1.68	22.79

Table-II Logistic regression analysis to examine coping strategies as predictors of hypertension (N= 400)

Note: $R^2 =$ (Hosmer & Lemeshow 56.17) (Cox & Snell .51) (Nagelkerke .75). Model $\chi^2 (14) = 198.13, *p < .05, **p < .01, ***p < .001$

The odds ratio for active coping is 1.51 and $\beta = 1.65$ and coefficient is positive, so when active coping increases by one scale unit, probability of hypertension in an individual is increased by 1.65 times. The odds ratio for acceptance is 1.20 and $\beta = .83$ and coefficient is also positive which indicates that as acceptance increases

by one scale unit likelihood of hypertension is increased by 1.20 times. The odds ratio for instrumental social support is 2.69 and $\beta = -2.29$. The coefficient is negative which indicates that each unit increases in scores of instrumental social support is associated with decrease in the odds of hypertension by a factor of -2.69 (95% CI

9.95 and 36.72). Similarly the odd ratio for self-blame is 1.68 and $\beta = 1.82$, therefore when self-blame is increased by one scale unit chances of hypertension in a person is increased 1.68 times (see Table-II).

DISCUSSIONS

Key findings of the present study were the significant relationship of active coping, substance use, instrumental social support, positive reframing, and acceptance and self-blame with hypertension. Similarly active coping, acceptance, instrumental social support and self-blame appeared as strongest predictors of hypertension.

The main finding of the present research that coping strategies like active coping emerged as significantly correlated with hypertension. Active coping is a style with more attentiveness and also for active participation to solve any problem. It needs patience and appropriate application of analytical abilities to manage with stress. Active coping is very similar to Lazarus's problem focused coping which is the application of direct energies to deteriorate the stressful condition.⁷ Current finding corroborates with previous researches which have reported more use of active coping strategies by focusing more on problem by hypertensives.⁴ It is further established that participants with more use of active coping experience more rapid change in their blood pressure.³ The use of active coping and problem focus coping strategies provide basis to increase diastolic blood pressure.² It is established from prior literature that cardiovascular reactivity in response to active coping is a major predictor of later hypertension.¹¹ This demonstrates that more the alertness regarding predicament and use of active coping style, more the risk of increase in blood pressure which eventually causes hypertension disease.

Moreover, hypertension has a significant relationship with substance use might be explained that hypertensive patients use alcohol related things like sleeping pills to pacify the stresses of life and to take a sound sleep. May

be they are experiencing sleeplessness due to the high level of stress. The current finding corroborates with researchers who report quantity of alcohol intake has greater impact on blood pressure rate and prevalence of hypertension.¹ It is also established that reduction in alcohol consumption can bring noticeable decrease in blood pressure¹³ and excessive alcohol intake has deleterious effects upon health and increase the rate of blood pressure.¹⁴

Positive reframing is a significant feature of hypertension in the present study. Hypertensive patients make attempts to find the suitable solution of stressful situation. In this process they reframe the problem and positively try to face the challenge. Carver et al. (1989) explained that construing a stressful transaction in positive terms should basically lead the person to continue or resume the active coping strategies. The prolonged stressful situation causes metabolic activity in their blood which increases their diastolic blood pressure. Sometimes the person also experiences anger.¹⁵ If the situation comes again and again the persistent increase would cause them to suffer from hypertension.

Problem focused coping involve several distinct activities like instrumental social support, acceptance, and self-blame.⁶ These variables turned out to be significant predictors of hypertension in the existing study. This finding is in line with those which suggest that problem focused and information seeking coping strategies along with parental history of hypertension are associated with hypertension.^{2,16}

Implications

The present study was an effort to explore different coping strategies of hypertension. The coping strategies associative with hypertensive can be highlighted through print and electronic media and public health awareness programs. Understanding the coping strategies of hypertension could open up lines of scientific inquiry in understanding the causal factors of hypertension.

CONCLUSIONS

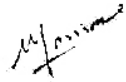
It is concluded that active coping, substance use, instrumental social support, positive reframing, acceptance, and self-blame coping strategies are found to be significantly correlated with hypertension.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Mamoona Mushtaq	Conceived topic, designed the study, collected data, analyzed data, wrote discussion and prepared manuscript	
2	Dr. Najma Najam	Supervised the complete PhD dissertation and guided at each step till the completion of PhD, edited the present manuscript	