

Coping Strategies and Quality Of Life among Individuals with Type – 2 Diabetes: Role of Demographic Variables

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Present study was conducted to explore the relationship between coping strategies and quality of life among individuals with Type-2 diabetes, with particular reference to the role of demographic variables. It was hypothesized that there is a significant negative relationship between active distractive and avoidance focused coping with quality of life, whereas there is a significant positive relationship of active focused coping and religious focused coping with quality of life. It was also hypothesized that the duration of illness is also negatively associated with the quality of life and active focused coping strategies. For the current study $N=100$ individuals with Type -2 diabetes were taken from general medicine department of Pakistan Institute of Medical sciences Islamabad (PIMS). The measures of current study included a Demographic Information Form, The Coping Strategies questionnaire (Kausar & Munir, 2004) and The WHO Quality of Life Questionnaire (Khalid & Kausar, 2008). The results of the current study revealed a significant positive relationship of social functioning and environment with active and religious focused coping and a significant negative relationship with active distraction and avoidance focused coping strategies, while physical functioning had significant weak relationship with active distractions and avoidance focused coping strategies and psychological functioning had a significant positive relationship with active focused coping and a negative relationship with active distraction and avoidance focused coping strategies. Results of univariate analysis of variance indicated that significant mean differences were found on active focused coping strategies ($F = 4.03, p < .01$) and environment ($F = 3.62, p < .01$). Results have important implication in providing a psychological consultancy to the individuals with type – 2 diabetes.

Keywords: Coping strategies, demographics variables quality of life, individuals with type – 2 diabetes.

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These days chronic illnesses are the leading cause of death. They are not completely curable but are manageable in nature. Chronic illnesses are basically of long duration and always add misery and pain in the life of an individual who is suffering from them. According to World Health Organization 1.5 million worldwide deaths are caused by diabetes. It's the 8th leading cause of death worldwide (WHO, 2016). About 25 million Americans are suffering from chronic illnesses and as a result of them have deteriorated quality of life and have to bear increased medical costs (Morewitz, 2006).

WHO reported that about 12.9 million individuals in Pakistan are suffering from diabetes, which is 10% of the total population and only few of them get diagnosed in the initial stages. According to this report, 9.4 million get diagnosed with diabetes, while the individuals who are undiagnosed and prediabetics are 3.5 and 3.8 million, respectively. According to the WHO statistics, Pakistan has become 7th largest country having higher prevalence rate of diabetes (Diabetic Institute Pakistan; DIP, 2018). The prevalence of diabetes in the province of Sindh is 16.2% among males and 11.70% in females, in KPK its 9.2% among males and 11.60% in females, in Balochistan 8.9% in females and 13.3% among males, while in Punjab its 9.83% in females and 12.14% in females (Meo, Zia, Bukhari & Arain, 2016). In Pakistan, on average, it is causing around 88,000 deaths per day which is quite alarming (DIP, 2018).

Diabetes has three types, which includes Type 1, Type 2 and Gestational diabetes. Type – 1 diabetes is also called as a juvenile diabetes and is often found in young individuals but adults can also develop it. In this type of diabetes, the body stops developing insulin or is not producing enough insulin for normal functioning of body. During pregnancy some females develop Gestational diabetes. Pregnant females secrete hormones that can lead to insulin resistance. All pregnant females have insulin resistance in late pregnancy. A female may develop gestational diabetes if her pancreas don't make enough insulin during pregnancy. Gestational diabetes goes away after delivery. Type – 2 diabetes also called as adult – onset diabetes, can be developed by anyone even children. Mostly overweight and inactive people have fair chances to suffer from it. It mostly starts with insulin resistance condition, in which the insulin is not properly used by

the body to carry out different daily life activities. With the passage of time pancreas don't make enough insulin when the blood sugar levels increase. Medical attention is required when pancreas no longer make insulin (National Institute of Diabetes, Digestive & Kidney Diseases, 2013).

Suffering from a chronic disease is a big issue. The Common-Sense Model which was proposed by Leventhal, Leventhal, and Cameron, (2001) basically provides interpretation about disease, use of coping strategies and its relationship with quality of life of patients. World Health Organization (WHO) has defined quality of life as personal evaluation of functioning in relation to individual and/or cultural standards, values, expectations and goals (World Health Organization, Quality of Life ;WHOQOL Group, 1998). Physical health is concerned with the fact that how effective an individual is in performing daily life physical activities, what's his or her energy level, work capacity, mobility, sleep, rest etc. The psychological domain is concerned with the spirituality, feelings (positive and negative feelings), thinking, learning, perception, sensation, high self-esteem, etc. The social domain is concerned with the personal relationships, social support and social context. Environment is linked with the matters like financial recourses, home environment, transport, physical environment etc. (World Health Organization, 1994). Quality of life is a very subjective experience (it is linked with individual's perspective), which is multi-dimensional (it is covering many domains of one's life like physical, psychological, social etc.) in nature (Delavari, Mahdavihazaveh, Norozinejad, & Yarahmadi, 2004). It is linked with all the important areas of one's life so literature always encouraged exploring it with relation to other variables (Saleem, Hassali & Shafie, 2014).

Literature clearly indicates that a disease has an adverse impact on the physical functioning of an individual; it also affects the psychological domain, spiritual domain, and family domain (Lustman et.al, 2000). Disease is exposing the individual to suffer from many issues, at that time the selection and use of appropriate coping strategies is very important. As coping strategies play a very important role in the course of disease and its prognosis. Many researchers have explained that many coping strategies have been used by the individuals to deal with hardships

of diabetes. Problem focused coping strategies are helping individuals to increase their attitude towards health care facilities to deal with the disease in effective manner (Karimi et al., 2016).

The quality of life of diabetics gets affected and deteriorates with the passage of time (Morewitz, 2006). They have low quality of life and have issues in health and physical dimensions (Kalka, 2014). Patients use different coping strategies to deal with the hardships of the diseases. There are different types of coping strategies like certain strategies are linked with practical solutions of the problems and these are called as active focused coping strategies. Active focused coping strategies are linked with an effort to solve the problem by using different effective and practical means. Literature indicates that numerous studies found a positive relationship between active, problem-focused coping behavior with an improved quality of life (Rose, Fliege, Hildebrandt, Schirop, & Klapp, 2002).

Literature highlights that there is a statistically significant negative relationship of avoidance focused coping strategies with physical functioning, psychological functioning and environment among individuals with diabetes. Distraction and Avoidance coping is basically emotion-focused coping which is linked with the continuous struggle of avoiding thoughts which are linked with the problem. It is basically wishful thinking. It is documented that it is clearly linked with increased health problems (Spilberger & Rickman, 1990). Diabetic patients use avoidant coping style, which leads to an inappropriate quality of life (Coelho, Amorim & Prata, 2003). Distraction and avoidance coping are associated with poorer quality of life among diabetics (Jović et.al, 2009).

Demographic variables like age, gender, family system, duration of illness, education etc. play a very important role in quality of life. Literature reveals that demographic variables like duration of disease Age, and number of prescribed drugs were significantly associated with quality of life (Iqbal, Haq, Bashir & Bashaar, 2017). Previous researches also quote that there is no significant relationship between coping strategies and demographic factors such as age, duration of diabetes, marital status (Moasheri, Ahangari, Norozi & Shayesteh, 2017).

As chronic illnesses are silent killers and are deteriorating the life of the individuals who are suffering from them, patients are using different coping strategies which are used to deal with the issues but the role of demographic variables can never be denied, the present study is an effort to study the coping strategies and quality of life of diabetic individuals with specific relation to demographic variables.

In the light of literature following hypotheses were formulated.

1. There is a significant negative relationship between active distractive and avoidance focused coping with quality of life of individuals suffering from type 2 diabetes.
2. There is a significant positive relationship of active focused coping and religious focused coping with quality of life of individuals suffering from type 2 diabetes.
3. Duration of illness is negatively associated with the quality of life and active focused coping strategies of individuals suffering from type 2 diabetes

Method

Research Design

The present study is correlational in nature and was conducted in General Medicine department of Pakistan Institute of Medical Sciences (PIMS) Islamabad.

Participants

The participants of the current study comprised of $N=100$ individuals ($n=50$ males & $n= 50$ females) who were suffering from Type – 2 diabetes and were hospitalized. Diagnosed diabetes Type – 2 patients were approached through purposive convenient sampling technique. Those having some comorbidity of other diseases were excluded. The average age of the participants ranged from 21 years to 53 years ($M = 28.52$, $SD = 10.86$) while $n= 72$ were from nuclear family whereas $n= 28$ were from the joint family systems.

Measures

Following measures were used in the current study:

Demographic data sheet. Comprised of questions regarding the age, duration of illness, marital status, education and income of the participants.

The Coping Strategies Questionnaire. The Coping Strategies Questionnaire is developed by Kausar and Munir (2001). The scale has 4 factors or subscales which cover coping strategies from 4 different dimensions. The subscales are active focused coping, active distracting, avoidance focused and religious focused coping with alpha reliabilities of 0.72, 0.75, 0.76 and 0.70 respectively. This statements are rated on a four-point likert scale in which participants have to respond choosing from *did not use at all* to *used quite a lot* (Kausar & Munir, 2004).

WHO Quality of Life Questionnaire. The World Health Organization Quality of Life Questionnaire is developed by Power (2003) and translated into Urdu by Khalid and Kausar (2008). It consists of 26 items and comprises of four subscales. The subscales are linked with the functioning of the individual in domains of physical, psychological, social dimension and environment. Their reliabilities are 0.78, 0.71, 0.56 and 0.73 respectively. Content validity was established and content validity index was 0.78 (Lodhi et al., 2017). The physical domain is linked with the physical functioning of the person and his energy level to perform daily physical tasks effectively. The psychological domain is linked with the psychological soundness of the individual whereas the social domain is linked with social relations and effective social functioning and the environment domain is concerned with the effective functioning of an individual in home, social and work environment.

Procedure

The data for the present study was collected from individuals with Type-2 diabetes, approached from PIMS hospital. With the permission of the hospital authorities the participants were approached and were requested to fill the questionnaires.

They were briefed about the purpose of the study and were assured about the confidentiality of the information. Confidentiality was maintained and privacy was assured. The participants took an average of 25 minutes to complete the questionnaires. All questionnaires were in Urdu language and in easy wording thus making it easier for participants to respond..

The ethical standards of the research were in accordance with the Institutional and National Research Committee formed by National Institute of Psychology, Quaid-i-Azam University Islamabad, Pakistan.

Results

The data of the current study was analyzed through SPSS 22. The Descriptive Statistical, Pearson Product Moment Correlation and ANOVA was conducted to check the hypothesis of the current study.

Table 1

Descriptive statistics and psychometric properties of coping strategies and WHO Quality of life (N = 100).

Variables	α	M	SD	Score Range		Skewness
				Mini	Max	
Coping Strategies						
Active focused	.84	7.13	1.07	5	9	-.77
Active distracting	.73	6.64	1.35	5	9	.34
Avoidance focused	.74	6.40	.70	6	9	1.90
Religious focused	.80	7.39	1.34	5	9	-.66
Quality of Life						
Physical functioning	.78	18.96	6.76	8	30	.38
Psychological functioning	.89	19.02	6.7	6	3	-.52
Social relationships	.89	10.21	3.09	6	15	.14
Environment	.82	28.57	7.85	18	40	.13

Table no 1 shows the mean, standard deviation, alpha values and skewness. The alpha values range from .73 to .89 which indicate that the instruments are psychometrically sound. Skewness values are within the range of +2 to -2 which indicates that the data is normally distributed.

Table 2
Pearson Product Moment Correlation between coping strategies and quality of life (N=100).

	Physical Functioning	Psychological functioning	Social Functioning	Environment
Active Focused Coping strategies	.12	.27**	.62**	.74**
Active Distracting Coping strategies	-.57**	-.25**	-.34**	-.50**
Avoidance focused Coping strategies	-.30**	-.30**	-.21*	-.37**
Religious focused Coping strategies	-.06	.03	.24**	.54**

Results in the table 2 indicate that there is statistically significant positive relationship of active focused coping strategies with psychological functioning, social relationships and environment among individuals with diabetes. There is statistically significant negative relationship of active distracting coping strategies with physical dimension, psychological dimension, social relationships and environment among individuals with diabetes. There is significant negative relationship of avoidance focused coping strategies with physical functioning, psychological functioning and environment among individuals with diabetes. There is statistically significant positive relationship of religious focused coping strategies with social relationships and environment among individuals with diabetes.

Table 3
Pearson Product Moment Correlation of duration of illness with quality of life and coping strategies (N=100).

	Duration of illness
Quality of life	
Physical functioning	-.19*
Psychological functioning	-.05
Social relationships	-.07
Environment	-.18*
Coping strategies	
Active Focused coping	-.19*
Active Distracting coping	-.15
Avoidance focused coping	-.002
Religious focused. coping	-.05

There is a significant negative relationship between duration of illness and physical functioning, environment and active focused coping strategies among individuals with diabetes.

Table 4
Education wise comparison of coping strategies and quality of life among individuals with diabetes (N=100).

	Un educated (N = 18)		Primary (N = 5)		Matric (N = 8)		F.A (N = 18)		BA (N = 51)		F	p	η ²	i-j	Mean (i-j)	SE	95% CI	
	M	SD	M	SD	M	SD	M	SD	M	SD							LL	UL
AFCS	7.26	.87	6.30	.96	6.03	1.11	7.53	.59	7.20	1.15	4.03	.01	.15	U>M	1.23*	.43	.03	2.43
														M<U	-1.23*	.43	-2.43	-.03
														M<FA	-1.45*	.43	-2.69	-.30
														M<BA	-1.17*	.39	-2.24	-.10
														FA>M	1.50*	.43	.30	2.69
														BA>M	1.17*	.39	.10	2.24
ADCS	6.88	1.46	5.33	.27	5.89	.52	6.86	1.29	6.71	1.41	2.19	.08						
AFCS	6.42	.70	6.12	.38	6.18	.46	6.19	.72	6.53	.73	1.27	.29						
RFCS	7.40	1.50	6.30	1.04	7.25	.97	7.14	1.41	7.61	1.31	1.36	.26						
PHY-F	21.17	5.80	19.20	8.29	15.00	3.70	20.39	6.29	18.27	7.26	1.53	.20						
PSY-F	19.72	6.30	21.60	2.70	19.63	3.20	18.56	6.86	18.90	6.52	.40	.81						
SR	10.78	3.15	8.40	2.30	7.88	2.75	10.50	2.62	10.45	3.21	1.91	.12						
ENV	29.50	9.11	21.20	3.96	21.25	3.06	29.50	6.93	29.78	7.85	3.62	.01	.13	M<BA	-8.53*	2.84	-16.43	-.64
														BA>M	8.53*	2.84	.64	16.43

Note. AFCS=Active Focused Coping Strategies, ADCS= Active Distracting Coping Strategies, AFCS=Avoidance Focused Coping Strategies, RFCS=Religious Focused. Coping Strategies, PHY-F = Physical Functioning, PSY-F=Psychological Functioning, SR= Social Relationships, ENV=Environment

Table highlights the univariate analysis of variance which was computed to find out the mean differences in the coping strategies and quality of life among individuals having diabetes, having different levels of education. Significant mean differences were found on active focused coping strategies ($F = 4.03, p < .01$), and environment ($F = 3.62, p < .01$). For the exploration of within group differences the post hoc was computed and the results indicated that active focused coping is more used by individuals with qualification of FA (intermediate) as compared to uneducated individuals, individuals with the qualification of BA (Bachelor in Arts), primary and matric. For the exploration of within group differences the post hoc was computed and the results indicated that functioning linked with environment is high among individuals with qualification of BA (Bachelor in Arts), FA (intermediate), uneducated individuals, matric and primary.

Discussion

Chronic diseases never come alone they always accompany serious issues with them, which directly or indirectly effect the normal functioning of the individuals. The burden of these diseases increases regularly and sufferers also bear the burden of effected quality of life. Chronic illnesses are the leading cause of deaths nowadays. Worldwide incidence of diabetes is increasing day by day (WHO, 2016).

Pakistan has a high incidence rate of Type – 2 diabetes (Shera, Jawad & Maqsood, 2007). Quality of life of diabetics gets affected and deteriorates with the passage of time (Morewitz, 2006). Results of the present study indicates that there is statistically significant positive relationship of active focused coping strategies with psychological dimension, social relationships and environment among individuals having diabetes. Active focused coping strategies are linked with an effort to solve the problem by using different effective and practical means. Literature also highlights that diabetic patients believe that using problem focused coping strategies (using resources) helps them in dealing with their illness and improves their quality of life (Graue,

Wentzel-Larsen, Bru, Hanestad, & Sovik, 2004; Tuncay, Musabak, Gok & Kutlu, 2008).

Distraction and Avoidance coping is basically emotion focused coping which is linked with continuous efforts to avoid thinking about the problem. It is basically wishful thinking. It is documented that this form of coping is linked with increased health problems (Spilberger & Rickman, 1990). Results of the present study revealed that there is statistically significant negative relationship of active distracting coping strategies with physical functioning, psychological dimension, social relationships and environment among individuals with diabetes. By adopting distractive coping strategies, the person is just distracting him or herself and not solving their problems. There is statistically significant negative relationship of avoidance focused coping strategies with physical functioning, psychological functioning and environment among individuals with diabetes. By using avoidance focused coping strategies, individuals are just running away from their problems instead of dealing with them. The results of the present study are consistent with the previous study findings that diabetic patients use avoidant coping style, which leads to a deteriorated quality of life (Coelho, Amorim & Prata, 2003). Distraction and avoidance coping are associated with poor quality of life among diabetics (Jović et.al, 2009). Furthermore, results of the present study also indicate that there is a statistically significant positive relationship of religious focused coping strategies with social relationships and environment among individuals with diabetes. These findings are consistent with the findings of Acheampong (2017).

Demographic variables like age, gender, family system, duration of illness, education etc. play very important role in quality of life as literature reveals that demographic variables like duration of disease, age and number of prescribed drugs were significantly associated with quality of life (Iqbal, Haq, Bashir & Bashaar, 2017). In the present study significant mean differences were found on active focused coping strategies ($F = 4.03, p < .01$)

and environment ($F = 3.62, p < .01$) on different educational levels. No significant relationship of age and marital status was found with coping strategies and quality of life among individuals with type – 2 diabetes. Literature also revealed that there is no significant correlation between coping strategies and demographic factors such as age, duration of diabetes and marital status (Moasheri, Ahangari, Norozi & Shayesteh, 2017).

Limitations and recommendations

In the present study few demographic variables were taken in consideration and therefore it is recommended that future studies should consider other demographic variables too as they play very important role in effecting individuals having diabetes. The sample size for the present study was limited and in future it is recommended to take a larger sample size for generalizability of findings.

Implications

The findings of the present study can help in forming rehabilitation programs for diabetics so that along with the medical care their psychological care is also taken into consideration. This study highlights that coping strategies are linked to the quality of life of diabetics and therefore they should be assessed while treating them. The study also identifies many demographic variables that are playing a very important role in affecting the quality of life of diabetics and therefore they should be considered during treatment.

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