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Alexithymia, Poor Glycaemic Control and Poor Quality of Life Among Patients Having Type 2 Diabetes

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Alexithymia is a personality trait characterized by difficulty in identifying and describing emotions verbally and inability to distinguish between bodily sensations. Patients having chronic illness i.e., diabetes develop alexithymic characteristics overtime. Type 2 diabetes is a stressful, life-long and non- curable condition. Patients having type 2 diabetes and comorbid alexithymia characteristics show poor control on diabetes. This study aimed to investigate the relationship among alexithymia, poor glycemic control and poor quality of life in patients having type 2 diabetes. The cross-sectional research method was used with 300 type 2 diabetes patients having age bracket 35-75 years (M= 50.49 SD= 8.93). Sample was recruited through purposive sampling. The participants were presented with demographic sheet along with Perth Alexithymia Questionnaire and The Revised version of Diabetes Quality of Life Scale. The Haemoglobin A1C test results were obtained from patients' medical record. Data was analyzed using SPSS 22. Correlation and multiple regression analysis were employed. The significant positive association was found among alexithymia, poor glycemic control and poor quality of life. Regression analysis showed that alexithymia and poor glycemic control predicted poor quality of life among patients. This study highlighted that alexithymia has negative impact on diabetes management. Therefore, there is a dire need to investigate alexithymia among type 2 diabetes patients to increase the efficacy of treatment among patients. This study's findings will be helpful for clinicians and psychologists to design interventions and management plan for better treatment outcomes in patients.

Keywords: alexithymia, glycaemic control, quality of life, type 2 diabetes, alexithymic characteristics

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Diabetes is a life-long, non-communicable and most prevalent disease which affected 536.6 million people worldwide by 2021 (Sun et al., 2022). Approximately, 90% of the cases of diabetes account for type 2 diabetes (Bhatti, 2021). Diabetes is considered as global killer and account for 6.7 million deaths in 2021 (International Diabetes Federation, 2021). In Asian countries like Pakistan the prevalence of diabetes is very high. Pakistan ranked third after China and India due to high prevalence of diabetes in the report issued by International Diabetes Federation in 2021 where 33 million people are living with diabetes (Bhatti, 2021). There are many risk factors that are related to high prevalence of diabetes in Pakistan. These factors include unhealthy eating behaviors, obesity, sedentary life-style, genetic predisposition, hypertension, greater waist circumference, low education and lack of awareness (Alamri et al., 2021). Biological risk factors are non-modifiable however, environmental risk factors like obesity, in-active lifestyle etc. can be modifiable. Awareness about risk factors among patients can help in early detection, treatment of diabetes and prevention of complications (Fletcher et al., 2002). Poor diabetes management is responsible for high rates of morbidity and mortality worldwide and leads to serious health complications (World Health Organization, 2021). These complications range from acute to chronic in nature. Acute complications include diabetes ketoacidosis, diabetic coma, hypoglycaemia and hyperglycaemia whereas, chronic complications include macroangiopathy, retinopathy, nephropathy, neuropathy, diabetic foot, myopathy, frequent infections, osteoporosis, arthropathies, liver damage, heart disease and stroke (Farmaki et al., 2020). These diabetes related complications had significant negative

impact on quality of life and also considered as major cause of diabetic morbidity (Kumar et al., 2014). Effective management of diabetes helps in reducing risk of short and long-term complications, increasing optimal glycemic control and blood pressure level and improving blood lipids (Sun et al., 2021). Effective management of diabetes include both pharmacological interventions and lifestyle modifications i.e., active life-style, healthy diet consumption, adequate sleep, management of stress and adherence to pharmacological management (Borse et al., 2021). Due to the demanding nature of diabetes many patients develop psychological problems. Getting diagnosis of diabetes itself is associated with wide range of emotional reactions ranging from depression to denial (Turin & Radobuljac, 2021). Depression, anxiety and diabetes distress are more common among patients with type 2 diabetes than healthy individuals. Psychological problems impede patients' self-management activities and foster the progression of disease related complications. These problems also have direct adverse impact on blood glucose levels (Garrett & Doherty, 2014). Emotional regulation is associated with optimal blood glucose levels in patients having type 2 diabetes. Difficulty in emotional regulation leads to poor glucose levels and quality of life in patients (Shayeghian et al., 2020). Turin and Radobuljac (2021) showed that approximately one third of patients having diabetes develop serious psychological and social problems. These problems lead to ineffective diabetes management and diabetes related complications in patients. Degirmencioglu et al. (2021) suggested that emotional problems i.e., alexithymia, depression and anxiety were common among patients with type 2 diabetes. Moreover, patients who had low education, female gender, unsatisfactory job were at edge of developing severe depression, anxiety and alexithymia.

Alexithymia means having no words for expressing one's emotions. It is a personality trait that show stability over time and becomes an important risk factor for emotional deficit (Larionow, Mudlo-Glagolska & Preece, 2025). In the current study, alexithymia is theorized as a trait alexithymia which represents enduring and consistent emotional patterns rather than a momentary emotional state. Literature also showed that individuals having trait alexithymia exhibited persistent cognitive and affective deficit that culminate in limited contemplation with emotional and physiological cues (Taylor, Begby & Parker, 1997; Begby, Parker & Taylor, 2020). Main features of trait alexithymia are difficulty in verbalizing, identifying, analyzing, fantasizing and emotionalizing feelings and emotions (Taylor & Begby, 2013). It has two forms: primary alexithymia and secondary alexithymia. Primary alexithymia is innate and becomes stable overtime. It leads to the development of psychosomatic conditions and have neurobiological origin. Secondary alexithymia appears in the result of traumatic events. It is usually associated with stressful conditions like, severe medical procedures and any disaster or associated with childhood trauma. In secondary alexithymia, patients use defence mechanisms to protect themselves from experiencing severity of disease and related emotions (Mnif et al., 2014). Diabetes patients usually develop alexithymia due to the chronic nature of their illness (Sonmez, Demirbas & Hocaoglu, 2025). Diabetes patients having alexithymia experience emotional irregulations, sympathetic activation and over dependence on physiological indicators for affect expression (Taylor & Begby, 2013). Diabetes is a stressful physical condition that develops different emotional reactions in patients. Patients face different adjustment problems after getting diagnosis as it requires strict treatment plan and self-management skills. These adjustment problems cause persistent emotional regulation problems that leads to the development of secondary alexithymia in patients (Mnif et al., 2014). Alexithymia is a personality trait which has its negative impact on emotional processing, life-style behaviors, and immune functioning in patients having diabetes. Almost, 40% patients having type 2 diabetes have alexithymic characteristics. High level of alexithymia is associated with poor glycemic control, anxiety, and depression among patients (Porcelli & Taylor, 2018). Patients having high level of alexithymia cannot express their needs, show compliance to treatment plan and seek social support from others. This can lead to poor glycemic levels and management within clinical settings (Amanat et al., 2025). A study conducted by Martino et al. (2020) showed that alexithymia is associated with poor glucose levels and poor physical quality of life. Alexithymia is also associated with poor diabetes management and emotional wellbeing

(Shahi & Mohammadfar, 2017). Another research explored that patients who had high level of alexithymia have inability to describe and identifying emotions verbally and externally oriented thinking style than patients without alexithymic characteristics (Sting et al., 2018). Patients who experience alexithymia have difficulty in making difference between emotions and bodily sensations (Ning et al., 2016). Emotional irregularities lead to poor glycemic control and diabetes management (Avici & Kellici, 2016).

The consistent and stable characteristics of alexithymia are especially important with reference to diabetes, where long-term adaptive coping, self-monitoring, and emotional awareness are crucial for effective management. In particular, externally oriented thinking style is related to misperception of internal bodily sensations and emotional cues and difficulty in identifying and expressing emotional states are related to poor diabetes management and hypoglycemic symptoms. These consistent emotional and cognitive deficits are also related to dysfunctional coping, unawareness about somatic sensations and difficulty in communicating their symptoms to clinicians (Taylor & Begby, 2013). In terms of glycemic control, trait alexithymia makes patients more susceptible to poor self-care practices and treatment adherence by compromising their ability to understand emotional and physiological cues related to stress or blood glucose levels (Topsever et al., 2006; Avici & Kellici, 2016). Glycemic control is the main target of diabetes management (Yosef et al., 2021). Poor glucose levels are linked with serious complications. Maintenance of HbA1C level of 6.5-7.5% is necessary to slow down the progression of diabetes related complications and maintain adequate quality of life (Doherty, 2015). Patients should focus on glycemic control to improve their health and to increase life expectancy (Erlich et al., 2014). Adherence to treatment plan, knowledge about diabetes and increased physical activity have positive impact on glycemic levels in patients having type 2 diabetes (Haghighatpanah et al., 2018). Emotional problems i.e., depression, anxiety and diabetes distress show independent association with poor adherence, self-management and HbA1C levels in patients (Gonzalez et al., 2023). A study conducted by Alramadam et al. (2018) showed that psychological issues are related to poor glucose levels in patients having type 2 diabetes. Diabetes patients who had signs of alexithymia have more episodes of hyperglycemia than patients without alexithymia (Fares et al., 2019). Alexithymia has positive association poor glycemic levels and low social support in patients (Celik et al., 2021). Main predictors of poor glycemic control among patients with type 2 diabetes were long illness duration, presence of diabetes related complications, unhealthy living style, low self-efficacy, and poor mental well-being (Oluma et al., 2021). Optimal glucose levels help decrease the progression of diabetes related complications in patients. Many demographical and clinical variables are linked with impaired glycemic control and development of complications. Demographic variables such as advancing age, sex, BMI and job status were related to poor glycemic control. Moreover, clinical variables such as quantity of medications, HDL levels, comorbid physical and psychological problems were linked with progression of complications and elevated blood glucose levels (Haghighatpan et al., 2018). Treatment of comorbid psychological and physical illnesses would increase the compliance level, reduce diabetes related complications and improve quality of life among patients with type 2 diabetes (Luca et al., 2015).

Quality of life refers to individuals' perception regarding physical, mental, emotional, and social status. World Health Organization refers it as, *"individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. Therefore, except for person's physical health, definition of quality of life includes psychological state, level of person's independence, social life and personal beliefs"* (WHO, 1998). Diabetes is a serious health issue and causes deterioration in quality of life. Poor glycemic control and psychological problems are associated with poor quality of life among patients having diabetes (Youssouf, 2021). Good glycemic control leads to high quality of life among diabetes patients (Alshayban & Joseph, 2020). Many elements are associated with quality of life in patients. These elements include old age, obesity, complications, insulin drug therapy and impaired glucose levels (Gebremriam

et al., 2022). Poor diabetes management and mental health conditions cause poor quality of life (Martino et al., 2019). Regular monitoring of blood glucose levels, treatment of psychological problems and emotional regulation can improve quality of life in patients with type 2 diabetes (Jing et al., 2018). A research conducted by Shayeghain et al. (2020) showed that alexithymia has its bad impact on quality of life and blood glucose levels in patients having type2 diabetes.

Relationship among Alexithymia, Poor Glycemic Control and Quality of Life

Relationship of alexithymia, poor glycemic control and quality of life can be better understood with attention- appraisal model of alexithymia. Attention- appraisal model (Preece et al., 2017) is a two-stage model: attention stage and appraisal stage. According to this model, individuals with alexithymic characteristics experience difficulty at both stages. At attention stage, individuals have deficit in focusing their attention to different emotional responses. At appraisal stage, individuals have deficit in identifying and describing emotions; considered as difficulty in appraising about their emotional responses. Moreover, this model explain that alexithymia has affective nature therefore, it should be measured on both sides of affective spectrum (i.e., positive and negative) (Preece et al., 2017). Difficulty in emotional regulation can alter the normal functioning of sympathetic nervous system (system that ready body for emergency situations) and immune functioning. Type 2 diabetes is an autoimmune disease. Patients with type 2 diabetes who have symptoms of alexithymia reported poor glycemic control (Lopez-Munoz & Perez-Frenanden, 2020). Moreover, alexithymia is also linked with maladaptive behavioural patterns in patients with type 2 diabetes. Patients who experience alexithymia have inability to appraise their bodily signals accurately. Therefore, such patients have no concern towards hypo and hyper glycemia and show poor adherence and compliance to medications and life-style modifications (Naito et al., 2021).

Aim and Rationale of the Study

Above mentioned discourse explained negative impact of alexithymia on glycemic control and quality of life in patients having type 2 diabetes. The main aim of current study is to find out the relationship among alexithymia, poor glycemic control and poor quality of life in patients having type 2 diabetes in Pakistan. The prevalence of diabetes increased rapidly in few years. In developing countries like Pakistan this situation is worst as International Diabetes Federation (2021) declared Pakistan as high diabetes prevalent country after India and China. To deal with his challenge it is essential to assess all possible factors related to diabetes. Many psychological factors create hindrance in effective management of diabetes regardless of medications. Therefore, it is necessary to explore underlying psychological factors related to diabetes so that increasing number of diabetes cases can be control effectively. Emotional regulation is linked to optimal glycemic control and self-care behaviors in patients having type 2 diabetes. Literature shows that emotional irregularity i.e., alexithymia has its negative impact on glucose levels and quality of life in patients living with type 2 diabetes. With reference to Pakistan, no literature has been found that examine the prevalence of alexithymia in patients having type 2 diabetes. The prevalence of diabetes is very high in Pakistan. Therefore, there is an urgent need to investigate the presence of alexithymia in patients with type 2 diabetes to overcome this challenge. This study results would be beneficial for clinicians and psychologists to design interventions and treatment strategies for effective management of diabetes. This study is also filling the gap in literature by presenting the link between alexithymia, poor glycemic control and quality of life in patients having type 2 diabetes

Hypotheses:

H1: there is a positive correlation between alexithymia, poor glycemic control and poor quality of life among patients with type 2 diabetes.

H2: Alexithymia and poor glycemic control are positively predicted poor quality of life among patients with type 2 diabetes.

Method

Research design

A cross-sectional research design was used to examine the relationship among variables i.e, alexithymia, glycaemic control and quality of life in patients with type 2 diabetes.

Sample

A purposive sampling technique was used to collect data. The sample consisted of 300 type 2 diabetes patients including 150 men and 150 women. The sample aged between 35-75 years (M=50.49, SD= 8.49). Patients having at least one year of diabetes history and recent HbA1C report were included in the study. Patients having any psychological and other endocrinological disorders were excluded from the study.

Measures

Demographic Questionnaire

A Demographic sheet prepared by the researcher was used to collect information about participants' age, gender, marital status, family structure, years of education and duration of diabetes.

Perth Alexithymia questionnaire (Preece et al., 2018)

The Perth alexithymia questionnaire is a 24 item self-report measure. It has 5 subscales that are used to assess patients' inability to describe, identifying and focusing attention on their negative and positive emotions. Items are rated on 7-point Likert scale from 1(strongly disagree) to 7 (strongly agree). Total score is the sum of all items. Higher scores reflect great level of alexithymia. The internal consistency (Cronbach alpha) of scale is .91 (Preece et al., 2023; Becerra et al., 2021; Preece et al., 2018).

Glycated hemoglobin test results (American Diabetes Association, 2018)

Glycated hemoglobin test results were used to determine patients glycemic control. Patients having HbA1C value $\geq$ 7% (Saqib et al., 2022; Chiang et al., 2020; Owara, 2018) considered poor glycemic control in this study.

The revised version of diabetes quality of life scale (Bujang et al., 2018)

The revised version of diabetes quality of life scale is a self-report measure and consists of 13 items. It has three sub-domains named: satisfaction, impact and worry. This scale was used to measure patients' life satisfaction, impact of disease on social life and worry about complications. Total scores can be obtained by adding all items. Impact and worry domains items are rated on 5-point Likert scale where 1 (never) to 5 (always). Satisfaction domain items are rated on 5-point Likert scale where 1(very satisfied) to 5(very dissatisfied). The internal consistency (Cronbach's alpha) of satisfaction, impact and worry domains are .92, .78 and .79 respectively (Zahra, Khan & Sadia, 2025; Al-Qerem, Al-Maayah & Ling, 2021; Bujang et al., 2018). High score on items indicate poor quality of life.

Procedure

The approval for conducting research was taken from Department ethical research Committee. All the measures were back translated to Urdu before data collection. Data was collected from government hospital. Permission was taken from hospital's medical Superintended to approach participants. Participants were informed about research objectives. They were assured about confidentiality of obtained data. Participants were provided with written informed consent along with research measures. Participants took 15-20 minutes to complete the questionnaires. Participants HbA1C levels were obtained from their medical records directly by the researcher.

Ethical considerations

Patients' participation was completely voluntary. There were no physical or psychological harm to participants. They were assured about data confidentiality and no incentives were offered to participants for taking part in research.

Statistical Analysis

SPSS V 22.0 was used to evaluate data. Correlation analysis was employed to find out the relationship among study variables. Multiple regression analysis was employed to predict quality of life with alexithymia and poor glycemic control in patients. Alexithymia was independent variable and glycemic control and quality of life were dependent variables in this study.

Results

Table 1

Frequencies and percentages of demographic variables of participants

Variables	*f*	%	*M*
Age			50.49
Gender			
Male	150	50	
Female	150	50	
Marital Status			
Married	269	90	
Unmarried	3	1	
Divorced	2	7	
Widow	26	9	
Family Structure			
Nuclear	154	51	
Joint	146	49	
Years of Education			5.63
Duration of Diabetes (Years)			9.30

Note: N=300

Table 1 shows that average age of sample was 50.49. Most of the participants were married (90%). Patients belong to nuclear family system and joint family system were 51% and 59% respectively. The participants mean years of education was 5.63 and mean duration of diabetes was 9.30 years.

Table 2

Correlation between alexithymia, poor glycemic control and poor quality of life

Variables	*M*	*SD*	1	2	3
Alexithymia	97.60	23.35	-	.41**	.27**
Poor Glycemic Control	9.27	2.55	-	-	.26**
Poor Quality of Life	58.70	10.20	-	-	-

Note. ***p*<.01. M= Mean, SD= Standard Deviation

Table 2 shows the relationship of alexithymia with poor glycemic control and quality of life. Results indicates that alexithymia has positive association with poor glycemic control (r= .41, p<.01). Moreover, alexithymia is positively correlated with poor quality of life (r= .27, p<.01). Poor glycemic control has positive relationship with poor quality of life (r= .26, p<.01). Correlation analysis revealed significant positive association among alexithymia, poor glycemic control and poor quality of life so, that hypothesis was approved.

Table 3

Regression on alexithymia and poor glycemic control as predictors of poor quality of life

Variables	*B*	*SE*	*β*	*t*	*Sig.*	*95% CI*	
						LL	UL
Constant	43.62	2.69		16.23	.00*	38.33	49.91
Alexithymia	.09	.03	.20	3.31	.001*	.04	.14
Poor Glycemic Control	.71	.24	.18	2.91	.004*	.23	1.18
R2	.10						
ΔR2	.10						
F	16.52						

Note. B= Unstandardized beta*, β*= Standardized beta*, SE*= Standard Error*, ***p<.001, df= 2, 297*

The predictive role of alexithymia and poor glycemic control in the relationship of poor quality of life is analyzed through regression analysis. Results indicates that alexithymia is a significant positive predictor of poor quality of life (β= .20, SE=.03, P<.01). Moreover, poor glycemic control is also a significant positive predictor of poor quality of life (β =.18, SE =.24, p<.01). The overall model explained 10% variance in poor quality of life. This means that high level of alexithymia and poor glycemic control predict poor quality of life among patients living with type 2 diabetes.

Discussion

The current study aimed to reveal the relationship of alexithymia with glycemic control and quality of life in patients with type 2 diabetes. Moreover, this study also aimed to investigate the predictive role of alexithymia and poor glycemic control in the relationship of poor quality of life. Pearson correlation analysis and multiple regression analysis were employed to obtain results. Correlation analysis showed that alexithymia has negative association with glycemic control. This is also consistent with literature (Shayeghian et al., 2020; Porcelli & Taylor, 2018; Martino et al., 2020; Shahi & Mohammadfar, 2017; Alramadan et al., 2018). These researches indicated that high level of alexithymia limits patients' ability to perform self-care behaviors and results in poor blood glucose levels. A study conducted by Madanian & Froozandeh (2017) to investigate the impact of psychological problems on haematological parameters in patients having type 2 diabetes. Results explored that inability to express emotions was related to high cholesterol level in patients.

However, depression and anxiety were related to high HbA1C level in patients. Moreover, results concluded that psychological problems lead to poor diabetes management. Another research showed that alexithymia has negative correlation with HbA1C levels, BMI, treatment adherence and diabetes related complications in patients having type 2 diabetes (Hintinson et al., 2013). Many factors such as increased BMI, complexity of treatment plan, low socio-economic status and comorbid mental health problems were linked with poor glycemic control in patients (Almomani & Tawalbeh, 2022). A research done in Pakistan suggested that many factors like obesity, low educational status, lack of diabetes related knowledge, presence of any diabetes related complications, hypertension and low socio-economic status were associated with impaired glucose levels in patients (Siddique et al., 2022). This current study also found that alexithymia leads to poor quality of life in patients with type 2 diabetes (Martino et al., 2020; Stingl et al., 2018; Rasmussen et al., 2013; Hintinstan et al., 2013). These findings also accord with literature. A research explored the impact of physical and emotional well-being in patients having type 2 diabetes. Results found that type 2 diabetes has negative impact on patients' physical and emotional health and results in poor quality of life in patients (Tietjen et al., 2021).

Advancing age, unemployment, emotional problems, diabetes related complications, quantity of prescribed medications, long illness duration and lack of education were factors related to poor quality of life in patients with type 2 diabetes (Girma et al., 2020). Pati et al. (2020) suggested that patients having type 2 diabetes who had comorbid mental health issues have poor health related quality of life. A study conducted by Iqbal et al. (2017) to assess predictors of poor quality of life in Pakistani patients having type 2 diabetes. Results suggested that advancing age, long illness course, poor medication adherence, comorbid physical and mental illness, high cost of treatment, impaired HbA1C, poor health-care facilities and lack of diabetes awareness were significant predictors of poor quality of life among patients. Current study also found that poor glycemic control is associated with poor quality of life in patients having type 2 diabetes (Quinto et al., 2022; Cielik et al., 2021; Lai et al., 2019; Lumely et al., 2009). This is consistent with literature. These researches indicated that patients who had high HbA1C levels have poor health related quality of life. Moreover, poor glycemic control affects patients' physical, psychological and social domains adversely. Quality of life's role in the management of type 2 diabetes was assessed in patients having type 2 diabetes in Pakistan. Results indicated that assessment of quality of life is essential to achieve optimal blood glucose levels, adherence and compliance to treatment plan and better psychological and social well-being (Majeed et al., 2019). Zarepour and colleagues (2017) find out the relationship between quality of life and glycemic levels in patients with type 2 diabetes. Results suggested that awareness about self-care behaviors, high educational level marital status were related to high quality of life and optimal blood glycemic levels in patients.

Regression analysis showed that alexithymia and poor glycemic control play predictive role in poor quality of life in patients. These findings confirmed the importance of alexithymia in the poor diabetes management. Previous researches have also supported the results of present study It has been seen that patients having alexithymia show poor control on their diabetes which in turn leads to poor self-care behaviors and diabetes management among patients (Shayeghian et al., 2020; Shahi & Mohammadfar, 2017; Fares et al., 2019). Alexithymia also limits patients' ability to perform healthy behaviors and results in poor life quality in patients (Shayeghain et al., 2016). A research explored the relationship of alexithymia with type 2 diabetes found that prevalence of alexithymia is high in patients having type 2 diabetes. Moreover, high HbA1C levels and diabetes distress (depression, anxiety and alexithymia) adversely affect patients' quality of life. Alexithymia also had negative impact on diabetes self-management activities (Martino et al., 2020). A research done by Degirmencioglu and colleagues (2021) explained that depression, anxiety and alexithymia have positive correlation with impaired glucose levels.

Moreover, factors like illiteracy, female gender, un-satisfactory job status, high level of depression, anxiety and alexithymia were associated with poor quality of life in patients having type 2 diabetes.

Current study findings concluded that alexithymia prevails in patients having type 2 diabetes in Pakistan. These findings further elaborated that alexithymia had its negative impact on HbA1C levels and quality of life among patients. Different researchers conducted in Pakistan and other countries also confirmed this relationship. However, many demographical and clinical factors also play their key role in defining this relationship. Results from current study and previous researches approved the study hypotheses.

Implications

This study has its implication in medical and psychological areas. Patients having type 2 diabetes and physicians usually focus on physical symptoms of illness and ignore comorbid psychological problems. These psychological problems create hindered in adherence to treatment, self-management activities and optimal blood glycemic levels in patients. Physicians and clinicians should consider negative impact of alexithymia in the treatment of diabetes so, main target of treatment i.e., glycemic control can be achieved effectively. This study findings would be helpful for health psychologists and other mental health practitioners to develop interventional strategies and screening tools for patients suffering from diabetes and comorbid alexithymia. So that, early screening of alexithymia would lead to effective diabetes management and good quality of life in patients. This study's findings would be beneficial for diabetic societies and primary health-care associations at country level to raise awareness campaigns, programs, seminars and public awareness walks regarding effective management of diabetes and negative impact of alexithymia in diabetes self-management. Training sessions at community level should ensured for families and patients so, better management of diabetes will be possible. There is an urgent need for policy making in the field of health psychology and medicine. In Pakistan, there is no policy regarding hiring health psychologists in hospitals. Clinicians don't admit the role of health psychologists in the management of illnesses. Health-care practitioners don't pay attention to this area. So that's why patients are unaware of the adverse impact of comorbid alexithymia in poor diabetes management and the development of diabetes related complications. It is recommended that health-care sector and Diabetes Community of Pakistan should incorporate health psychologists in the multidisciplinary team of diabetes care so that, effective management of diabetes will be possible. It will also help in reducing disease burden in Pakistan. This study also opens the door for further researches in this area with other chronic illnesses as well.

Limitations and Suggestions for Future Research

The findings of current study have some limitations. This Study was conducted in Lahore city only. For generalizing the results, it is recommended to collect the representative sample from the whole country. As no literature was found that address alexithymia among patients having type 2 diabetes with reference to Pakistan. So, it is recommended to investigate the presence of alexithymia in Pakistani patients having diabetes with other well-designed studies. Other psychological problems and their relationship with type 2 diabetes should also encounter in future studies with respect to Pakistan. It is also filling the gap in literature by presenting the link between alexithymia, poor glycemic control and poor quality of life in patients with type 2 diabetes. This study will be beneficial for psychologists and clinicians to design interventions and management plan to enhance the efficacy of treatment for patients.

Conclusion

The study showed that alexithymia has positive relationship with poor glycemic control and poor quality of life. Moreover, optimal glycemic control has significant positive association with high quality of life. Early screening of mental health problems among patients having type 2 diabetes is necessary to overcome the disease burden as well as better management of diabetes.

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