Original Article

Alcohol consumption and emotional problems related to diabetes mellitus

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This study aimed to analyze the use of alcohol and emotional problems in patients with diabetes. The convenience sample consisted of 82 patients with type 2 diabetes in two centers of university extension in 2010. For data collection we used the Alcohol Use Disorders Identification Test and the Problem Areas in Diabetes. The results showed that 93.9% of patients had low risk for alcohol and 21.9% rated their emotional problems as relevant. We conclude that alcohol use and emotional problems are important variables for planning a diabetes education program.

Descriptors: Diabetes Mellitus; Emotions; Alcohol Drinking.

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Consumo de álcool e problemas emocionais relacionados ao diabetes mellitus

Este estudo teve como objetivo analisar o uso de álcool e os problemas emocionais de pacientes com diabetes. A amostra de conveniência foi constituída por 82 pacientes com diabetes tipo 2, em dois centros de extensão universitária, em 2010. Para coleta de dados, foram utilizados os instrumentos *Alcohol Use Disorder Identification Test* e o *Problem Areas in Diabetes*. Os resultados mostraram que 93,9% dos pacientes apresentaram baixo risco para uso de álcool e 21,9% classificaram os problemas emocionais enfrentados como relevantes. Conclui-se que o uso de álcool e os problemas emocionais constituem variáveis importantes para o planejamento de programa educativo em diabetes.

Descritores: Diabetes Mellitus; Emoções; Consumo de Bebidas Alcoólicas.

Consumo de alcohol y problemas emocionales relacionados a la diabetes mellitus

Este estudio tuvo como objetivo analizar el uso de alcohol y los problemas emocionales de pacientes con diabetes. La muestra de conveniencia fue constituida por 82 pacientes con diabetes tipo 2 en dos centros de extensión universitaria, en 2010. Para recogida de datos fueron utilizados los instrumentos *Alcohol Use Disorder Identification Test* y el *Problem Areas in Diabetes*. Los resultados mostraron que 93,9% de los pacientes presentaron bajo riesgo para uso de alcohol y 21,9% clasificaron los problemas emocionales enfrentados como relevantes. Se concluye que el uso de alcohol y los problemas emocionales constituyen variables importantes para la planificación de programa educativo en diabetes.

Descriptores: Diabetes Mellitus; Emociones; Consumo de Bebidas Alcohólicas.

Introduction

Diabetes mellitus (DM) is a chronic disease, whose main treatment is based on patient education for adjustments in lifestyle in order to help them make effective self-care decisions in the long term, reduce or prevent chronic complications[1].

Necessary lifestyle changes, such as eating habits and physical activity, as well as the continued use of medication depend on how the patient perceives the disease[2]. Thereby, the proposed treatment may cause them distress and emotional maladjustments. Rage, anger, fear, depression, distress and anxiety feelings are common in diabetic patients[2].

Emotional instability can be detrimental to the maintenance of self-care regarding diabetes and, hence, to treatment adherence. Thus, the way patients deal with the disease can interfere with self-care performance; emotional problems can have a major impact on many aspects of their lives, both at work with their interpersonal relationships, such as social activities and physical and emotional well-being. In this respect, there is need to motivate them to change their behavior through psychological management and identification of emotional problems that affect the proposed treatment[2-3]. One issue experienced in relation to emotional and social problems in diabetes education group refers to the detection of alcohol consumption among these patients.

A study performed in Mexico, with elderly people, investigated the stressful life events related to use and abuse of alcohol and drugs has shown that the most stressful event was living with diabetes[4]. This relationship has been the subject of researchers' interest since diabetes has been considered a worldwide epidemic[1] and alcoholism, a huge social problem[5]. Alcohol consumption may be related to current lifestyle, high levels of stress, anxiety, low self-esteem and depressive feelings[6].

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Despite its widespread social acceptance, alcoholic consumption in excess triggers several problems including traffic accidents and violence associated with drunkenness episodes. Alcohol consumption, in the long term depending on the dose, frequency and circumstances can cause a condition of dependence called alcoholism. Thus, alcohol consumption leads to direct and indirect costs[5]. In diabetes the excessive use of alcohol can trigger or aggravate acute and chronic complications related to the disease[7].

In Brazil, there are several studies that tracked the risk to the consumption, alcohol abuse or dependence use in the Southeast[8], South[9], Northeast[10] and North[11]. However, there are still few studies on the prevalence and pattern of alcohol consumption by patients with diabetes compared to the general population[12-14]. It is recognized that alcohol consumption and emotional problems are linked in diabetes treatment and health professionals still have difficulties to deal with these issues. Thus, this study aimed to analyze alcohol consumption and emotional problems in patients with diabetes. we hoped it can offer subsidies to health professionals on alcohol consumption and emotional problems of patients with diabetes for planning diabetes education group.

Method

This is a quantitative, observational and transversal study conducted from August 2009 to August 2010 in two university extension centers. The first refers to the Nursing Education Center for Adults and Elderly (CEEAI), of the Nursing School of Ribeirão Preto – EERP, University of São Paulo – USP. The second, the Polyclinic of Federal University of Amapá (UNIFAP), in the city of Macapá – AP. In both there is weekly multidisciplinary care assistance to adult patients with diabetes. It is worth saying that the second Center implemented its assistance to patients with diabetes using the same CEEAI assumptions and are partners in research activities.

The criteria chosen for inclusion of patients were: adults diagnosed with type 2 diabetes; both sexes; ability to listen and answer questions, registered in those centers. The convenience sample consisted of 82 patients with type 2 diabetes; 42 of them registered in CEEAI and 40 in the Group of Diabetes Mellitus of the Polyclinic UNIFAP who were present on the day stipulated for data collection.

For data collection we used three instruments. The first refers to a socio-demographic questionnaire containing five questions related to gender, age, education, income and occupation. The second, *Alcohol Use Disorders Identification Test* (AUDIT)[15] was developed by WHO for tracking the risk use, abuse or alcohol dependence. It is validated in Brazil[9] and contains ten items that include alcohol use, drinking behavior, and alcohol-related problems. Each item has a minimum score of zero and a maximum of four. Therefore, it admits scores from 0 to 40. Scores between zero and seven are classified as low risk; from eight to 15 use risk, 16 to 19 abuse use and from 20 to 40 with probable dependence[15]. And the last, the scale *Problem Areas in Diabetes* (PAID)[16], validated in

Brazil, has 20 items that focus on the emotional aspects of the patient with diabetes. This scale allows us to evaluate four areas: emotional stress, treatment barriers, problems related to diet and lack of social support. Each item can be rated on a *Likert* scale of five points, from zero (no problem) to four (serious problem). The obtained scores are converted to a scale from 0 to 100, where higher scores indicate higher emotional distress[16].

The data were obtained by the directed interview technique in a private room in each of these Centers. The responses were recorded manually on the instruments and the average time per interview was 15 minutes. A database program was developed in *Microsoft Excel*. The data were organized with double entered and validation process. After validation, the data were imported into SPSS (*Statistical Package for Social Science*) for Windows base module and *exact test* version 15.0. Data were analyzed using descriptive statistics and presented as absolute values and percentages.

The study was approved by the Research Ethics Committees of the School of Nursing of Ribeirão Preto, University of São Paulo, no. 196/96 of the National Health, protocol no. 1026/2009 and authorized by the Federal University of Amapá.

Results

Of the 82 (100%) patients with diabetes, 68.3% were women, 64.3% from 50 to 69 years old. Regarding education, 35.4% had not finished elementary school. Regarding occupation, 37.8% were housewives and 25.6% were retired. Family income ranged from one to two minimum wages to 39% of them.

A to the use of alcohol, 93.9% had low risk (Table 1). Of these, 65.9% had a total score of zero; 6.1% who had both alcohol risk and abuse use were men. The highest score was 19, i.e., regarding alcohol abuse and risk use to health.

Table 1 - Distribution of patients with type 2 diabetes according to total scores of AUDIT scale. Ribeirão Preto, SP/Macapá, AP, Brazil, 2010 (N=82)

Scores obtained by AUDIT	n	%
0-7 (low risk use)	77	93.9
8-15 (risk use)	3	3.7
16-19 (abuse use)	2	2.4

Of the 34.1% patients who had any alcohol use pattern, 2.4% used alcohol for four or more days per week, with ingestion of one to three doses; 19.5% consumed once or less per month. For 8.5% of patients use pattern was two to four times per month; 3.7% of two to three times per week and 7.3% of five or more doses at once.

Most patients (98.8%) reported that they never stopped doing something because of alcohol and 2.4% informed they could not stop drinking. The intake

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of alcohol in the morning as a strategy to feel good throughout the day, after drinking too much the day before was not reported by patients. It is worth saying that 2.4% reported that they were unable to recall something the day before due to excessive alcohol consumption and none reported having suffered loss or damage caused to others after consuming alcohol. As for guilt or remorse, 6% of patients reported having these feelings. The concern with drinking and the suggestion of suppressing this habit for a relative, friend or health professional was reported by 11% of patients, and for 66.6% this suggestion occurred 12 months ago.

In regard to emotional problems related to diabetes, 37.8% did not mention them, while 21.9% classified them as serious. Note that the item regarding the concern about the future and the possibility of serious complications of the disease received the highest total score when compared to other items of the scale, followed by the item related to guilt when they left to take care of diabetes control.

As for emotional problems related to treatment, 45.2% of patients reported no problems; 8.5% reported moderate problem, and 18.3% reported serious problem. Regarding emotional problems related to food, 54% reported no problems and 18.3% reported serious problem. In relation to emotional problems related to social support, 37.8% of patients did not report them. It is noteworthy that the item that had the higher score was related to lack of support from friends and family by not appreciating their effort to cope with diabetes. Only 14.6% of the patients considered social support a serious problem.

For 41.4% of patients the score obtained by the PAID scale was from 0 to 24 points and 35.4% from 25 to 49 points. To 32.9% of patients the obtained scores were above 40 (Table 2). Women had higher scores regarding emotional stress.

Table 2 - Distribution of patients with type 2 diabetes according to total scores of PAID scale. Ribeirão Preto, SP/Macapá, AP, Brazil, 2010

Scores obtained by PAID	n	%
0-24	34	41.4
25-49	29	35.4
50-74	15	18.3
75-100	4	4.9

When comparing the scores obtained using PAID and AUDIT, we found that patients who never consumed alcoholic beverages (4.9%) were those with the highest scores for emotional problems (77.5; 96.3; 93.8 and 91.3 points). Compared to 19.5% of patients who had monthly alcohol consumption we identified that they had scores of emotional problems from 35.0 to 86.3 points. The 2.4% patients with alcohol consumption and frequency of four or more days per week had 45 points in relation to emotional problems. These results indicate a considerable emotional stress score, and can be related to the abuse pattern of alcohol consumption. Patients with higher scores on PAID had low scores on AUDIT.

Discussion

The findings show that the percentage of patients with alcohol consumption (34.1%) is lower when compared to studies conducted in California (50.8%)[13] and Mexico (62 %)[14]. Regarding consumption pattern, 4.9% of patients consumed three doses or more, which is higher than the consumption found in California (1.6%). In our findings, 15.8% of patients consume less than a dose per month, while in California they represent 34%. Thus, the percentage of patients who consume alcohol is lower; however, the amount ingested is higher. On the other hand, equal or less consumption once a month is in agreement with those found in research in Mexico[14].

These data are relevant because they may lead patients with diabetes to acute manifestations, such as hypoglycemia, besides the appearance and / or worsening of chronic complications related to diabetes in the long term when related to excessive alcohol consumption[7]. The patient with diabetes can drink alcohol respecting the recommended limit. The World Health Organization (WHO) recommends a dose for women and two for men. A dose is a can of beer, a glass of wine or 50 ml of liquor. To reduce the risk of hypoglycemia, alcohol beverage should be consumed with food[1]. Alcohol moderate consumption has a reducing effect on cardiovascular diseases and is considered a protective factor for mortality[12,17]. Patients with diabetes benefit from this protective factor, as much as those people without the disease. The risk for glycemic control, weight and blood pressure are limited in patients who follow WHO recommendations. Excessive consumption of alcohol can lead to poor metabolic control and nullify the beneficial effects on the cardiovascular system[7,12-13]. Thus, it is the nurse's role to be a mediator in alcohol use by patients with diabetes as a protective self-care factor[3].

Alcohol consumption patterns lower than those found in other studies may be related to the characteristics of the sample, with a predominance of female housewives. Studies on alcohol consumption of patients with diabetes suggest that consumption is predominant in males[11-14].

Results on patterns of alcohol consumption in the investigated sample are similar to those found in the Brazilian population, between 2005 and 2006, with 3,007 people in 143 cities from North to South, i.e., 77% of the population consumed sporadically alcohol in small quantities and 23% frequently consumed it[18]. Among those who consume alcohol, almost a quarter has emotional problems and consumes quantities potentially harmful to health.

Alcohol consumption among single and younger men is usually more frequent and in higher quantities than those with 60 years or older. Up to 44 years, over 30% of Brazilians who used alcohol had five doses or more. The frequency of consumption between men and women is markedly different, women represent mostly

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low consumption (up to two doses)[18]. This data was also found in the present study. It is worth noting that the sample consisted mostly of women from 50 to 69 years.

Findings with regard to emotional factors associated with diabetes showed that 32.8% of patients had scores exceeding 40 points or more. The issues that had higher scores lead us to infer that patients are concerned about the possibility of having future chronic complications and have feelings of guilt when they failed to control diabetes.

A research conducted in Germany[19] and in Sweden[20] also showed that patients are concerned about the possibility of having future chronic complications. In addition to concern about the future, feelings of guilt also obtained the highest scores in agreement with those found in Swedish research[20]. These feelings were related to guilt when they failed to control diabetes.

Regarding gender, a research carried out for the validation of the Brazilian version of PAID[16] showed that women had higher scores of stress related to emotional problems, corroborating the findings of this study and of the literature, showing that women present higher emotional distress[16,19,21].

With regard to age and diagnosis time, research show that older patients with more time of diagnosis may perceive the disease on a less stressful way[16,19]. Our findings in relation to age are consistent with those found in a survey conducted in Turkey with 161 adults with diabetes whose average age was 49.01 years[22]. This research has shown that only a minority reported emotional problems related to diabetes manifested by feelings of denial, detachment behavior and substance use[22].

Regarding monitoring of diabetes patients by multiprofessional group to prevent the risks of excessive alcohol consumption, the findings showed that because of previous counseling patients may have reduced or ceased alcohol consumption. This reduction can be explained due to health decline in the course of the disease and the patient's perception of the need to abandon risky behaviors such as alcohol consumption, in order to prevent development of chronic complications[23-24].

We emphasize that this is the first research in Brazil regarding alcohol consumption in a sample of patients with diabetes. However, some limitations should be considered. A convenience sample investigated was registered and being monitored by a multidisciplinary group in a systemized care and patients received orientation on healthy lifestyle and emotional support from both the multidisciplinary group as their peers; it should also be considered possible cultural differences between patients in both study locations.

Conclusion

The results showed that 93.9% of patients had alcohol consumption at low risk and 21.9% rated their emotional problems as relevant. We expected that the results obtained in this study arouse new questions for future research and that it can contribute to debate among health professionals on the importance of addressing alcohol consumption and emotional problems in diabetes education groups.

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