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Research Article

PERCEPTION OF DIABETES RISK IN ADOLESCENTS

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ABSTRACT

Adolescents and youth play an important role in society, constituting 30 per cent of the population in Latin America and the Caribbean. In Mexico, according to the figures reported in the 2019 National Demographic Dynamics Survey, there are 30.7 million young people aged 15 to 29, representing 24.6 percent of the population. This group is considered a healthy subset of the population, however it is precisely at this stage where healthy styles and behaviors that contribute to the reduction of risk factors associated with the development of chronic degenerative diseases such as diabetes must be strengthened, disease that currently occupies one of the leading causes of death and that according to the projections of the International Diabetes Federation in 2030 approximately 10.2% of the world's population will have this disease, this is why it is necessary to promote healthy styles in adolescents and young people, which contributes to the reduction of chronic non-communicable diseases and the complications associated with them.

INTRODUCTION

Type 2 diabetes (DT2) is a disease of multifactorial etiology, involving a whole group of disorders that decrease the production and use of insulin for the body, is characterized by increased blood glucose and changes in the metabolism of carbohydrates, fats, and proteins[1]. Globally, an estimated 425 million people are living with this disease; Mexico ranks fifth with a total of 12 million, accounting for 77% of all deaths nationwide[2], so that in the state of Puebla during epidemiological week 39[3], 185 new cases have been reported, having a total of 9923 people with this disease during the year 2019[4]. Despite the stark reality that these data represent, there is something positive that is that an early diagnosis and modification of lifestyles, can treat diabetes and can prevent its complications.

Each year the number of children and adolescents up to 19 years suffering from diabetes increases, during 2019, this figure was approximately one million worldwide, for this reason is that the promotion of healthy lifestyles becomes today more than ever a pressing need, however adolescence is a period that includes major changes, both physical and psychological, including the development and maturation of the frontal lobes that conclude their full development around the age of 24 and these frontal lobes play an important role in complex decision-making, including the adoption of healthy styles and behaviors, Likewise, the perception of the risk of developing diseases is an unclear issue for adolescents, hence the importance of inquiring about the perception of risk of developing diabetes in adolescents with a family history of diabetes. Adolescents now establish lifestyle patterns that affect their health during their transition from childhood to adulthood, thus constituting a priority care group, as it is a key stage in which healthy lifestyle patterns should be promoted that help the prevention of chronic diseases in adult life [5,6].

OBJECTIVES

***General*:**

Determine the relationship between perception of risk of developing diabetes and lifestyle of adolescents with a family history of DT2

Specific:

Describe the sociodemographic characteristics of the sample
Describe teens' perception of risk for type 2 diabetes
Describe the lifestyle of teens

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METHODOLOGY

A quantitative, descriptive correlational and cross-sectional study was carried out [7]

Population

The study population was made up of 100 adolescents from a rural secondary school in the municipality of Puebla aged between 14 and 19.

Sampling and Sample

The sampling was carried out by means of power analysis through the Cohen tables, with a statistical significance of .05, a power of .95 and an effect magnitude of .30, obtaining a sample of 100 adolescents

Selection Criteria

Inclusion criteria

Adolescents aged 14 to 19 who attended the secondary level, who had a family history of DT2 (mother, father, brother, and grandparents) were included in the study, to comply with the signature of informed consent by the guardians in the case of minors and the informed consent of the adolescent.

Exclusion criteria

Adolescents who do not wish to participate in the study, do not have the informed consent of guardians to participate and adolescents with Type 1 and 2 diabetes.

Elimination Criteria

Those participants who wish to withdraw of their own free will from the study will be omitted.

Instruments

The data were collected through the pen and paper technique, using a personal factors card (name, age, sex, weight, height and family history of diabetes).

The Health Promoting Lifestyle Profile (PEPS-II) instrument was used,[8], a Spanish version that measures health promoting behavior through lifestyle; it has previously been validated and applied in Mexican population, with a reliability of 0.92 [9], the instrument consists of 52 items with 4-point response format (never,1; sometimes, 2; frequently, 3; and routinely, 4), to measure the frequency of health promoting behaviors; it is subdivided into six subscales: responsibility in health with 9 items with minimum response value of 9 and maximum of 36; physical activity with 8 items, minimum value of 8 and maximum value of 32; nutrition with 9 items, minimum value of 9 and maximum value of 36; spiritual growth with 9 items, minimum value of 9 and maximum value of 36 ; and stress management with 8 items , minimum value of 8 and maximum value of 32. For statistical analysis, indexes were obtained with a value of 0 to 100 where a high index represents a better lifestyle.

DMT2 Risk Perception Scale (RPS-DD). This scale Risk Perception Survey - Developing Diabetes (RPS-DD), developed by Dr. Walker and collaborators in 2003, assesses the perception of the risk of developing diabetes in people without the disease. The instrument consists of 5 subscales with a total of 32 reagents.

Personal control subscale: formed by reagents 1 to 4, with the response pattern of 1. Very agree, 2. Agree, 3. Disagree and 4. Strongly disagree. Questions 3 and 4 are scored inversely (1=4, 2=3, 3=3, 4=1). The score ranges from 4 to 16, with the highest score interpreted as "greater personal control".

Sub-scale concern: Includes 5 and 8 reagents that are inversely rated. The expected score is 2 to 8 where the highest score is interpreted as "highest level of concern".

Sub-optimal optimistic thinking: Response scale is 1 to 4, contains reagents 6 and 7 that are reversed (1=4, 2=3, 3=3, 4=1), the expected score is between 2 and 8, where higher score is associated with "higher optimistic thinking".

Subscale risk to personal health: consists of 15 reagents (9-23), the response pattern is Likert-type with a meaning of 1=almost no risk, 2=low risk, 3=moderate risk and 4=high risk; with the common basis of: "How do you consider your risk of...." (15 chronic disease options are provided). These reagents are accompanied by the question: "You have or have had this disease, with an answer from "me" and/or family member, asking to specify kinship; if the answer is "Yes" in any of the cases a point is added. The original score is between 15 and 60 or more depending on the above question. The higher score can be referred to as "higher risk to personal health".

Subscale environmental health risk: contains 9 reagents from 24 to 32 and a response pattern of 1= almost no risk up to 4= high risk. The original score ranges from 9 to 36, where the higher score "higher perceived environmental risk".

The sum of these five scales integrates the risk index, where higher figures imply a higher perceived risk. This instrument contains an English version and a Spanish version, so it has already been contextualized and applied in Mexican population, reporting a reliability of 0.88. [10],

In order to collect the information, the identity card and instruments were captured in Google forms and applied electronically, after signing consent and informed settlement.

Study Ethics

The present study adhered to the provisions of the Regulation of the General Health Law on Health Research in Title Two of the ethical aspects of Human Research.

Statistical Analysis Plan

The statistical analysis was performed using the Statistical Package for the Social Sciences Program or Statistical Package for the Social Sciences (IBM. SPSS) v.24, [11], the analysis of the information was carried out through descriptive statistics that include: frequencies and percentages. The Cronbach coefficient was determined for the instruments and the Smirnov Kolmogrov test was applied to verify the normality of the variables.

RESULTS

The results presented below show the characteristics of the variables, the reliability of the instruments and the correlation between the study variables.

Reliability of the instruments

The Cronbach alpha coefficient was used to measure the internal consistency of the instruments. The Lifestyle Promoter Profile Questionnaire (PEPS-II) presented an alpha of .92 and

the Risk Perception Scale for Developing Type 2 Diabetes, a coefficient of .81

Normal adjustment test for data behavior

For inferential analysis, the variables Lifestyle and Perception of risk of developing DT2, were transformed to a scale of 0 to 100, these values were applied the Kolmogorov-normality test statistic Smirnov in order to know how the variables are distributed. (Figure 1)

Variable	K-S	P
Lifestyle	.101	.200
Perception of Risk of Developing Type 2 Diabetes	.107	.200

Sociodemographic characteristics of the sample

The sample consisted of 100 adolescents between 14 and 19 years of age with a family history of DT2, of whom 60 percent were female and 40 percent male, 20 percent were in the first grade of secondary school, 25% second degree and 55% third degree. 35 percent had a family history of diabetes by father, 45 percent by mother, 10 percent by both parents, 5 percent by grandparents and another 5 percent by another relative as uncles or cousins.

Inferential statistics

	Lifestyle	Perception of Risk
Lifestyle	1	-.055
Perception of Risk	-.055	1

CONCLUSIONS

The sample consisted of 100 adolescents, from a rural school in the municipality of Puebla, the lifestyle of adolescents was found between good and regular mostly, there was no relationship between the perception of risk and the lifestyle of the adolescent, which can be attributed to the fact that cognitive development is in maturation, so the cause and effect of DT2 is very abstract, which prevents the teenager from processing the information.

Restrictions due to health contingency prevented the collection of information in person, so the online application was used. Another barrier identified was that some guardians did not authorize the participation of adolescents, due to ignorance and distrust in the management of information, therefore it is suggested in future projects to create a virtual session with parents to let them know the objectives of information, the technique of collection and management of information.

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