

Diabetes Mellitus 2 and its prevalence in physical health, oral and employment of teachers from the Autonomous University of Campeche

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Human resource, as key element at colleges, contributes to achieve educational goals projected by their administration; therefore it is sensitive to the presence of factors related to physical, oral and working health, particularly with chronic-degenerative diseases such as diabetes, which affects the overall performance. This study is descriptive type with non experimental-transactional design and its results allow us to infer that student population has mostly good physical and dental health, but do not attend prevention programs for these diseases and differ among themselves about whether if they are causal of labor restrictions. Designing and implementing an institutional program that supports the prevention and detection of this kind of diseases will contribute to maintain academic productivity and improve the work environment inside of colleges.

Chronic-Degenerative Diseases, Physical Health, Working Absenteeism

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Introduction Background

According to the World Diabetes Association (2013), over 371 million people suffer from this disease, this figure increases in each country; with half of the world population ignoring who has it. In Mexico the national prevalence is 14.3% in the population aged from 20 to 69 years, equivalent to 9 million people with diabetes. The human body needs energy to perform its functions and to carry out their daily activities, this energy is obtained from the consumed food and by digestion, this is degraded to become glucose, which is the main source of energy cells. (Mexican Association of Diabetes, AMD, 2013).

Problem

Diabetes is an autoimmune and a metabolic disease characterized by the selective destruction of pancreatic beta cells causing absolute insulin deficiency. Insulin is a hormone secreted by the pancreas which has the function of controlling the concentration of sugar in the blood and stimulates the body's tissues to absorb the glucose they need to fuel. The most common is type 2 diabetes in 90 or 95% of cases and produces alterations in stomatological levels, the most frequent periodontal disease, gingivitis, caries, xerostomia and burning mouth syndrome. This disease is not curable and people who have it should be subject to an specific arrangements to care their physical and oral health and prevent complications affecting their lifestyle; its high incidence in Mexico justifies the need to investigate how susceptible patients may be even with high levels of academic study as the case of professionals who provide their expertise in public institutions of higher education and proposing mechanisms for its detection and prevention.

Objectives

- a) Identify the prevalence of diabetes mellitus 2 in the physical health of teachers of the Autonomous University of Campeche.
- b) Determine the prevalence of diabetes mellitus 2 in oral health of teachers in the Autonomous University of Campeche.
- c) Evaluate the impact of diabetes mellitus 2 in absenteeism of teachers at the Autonomous University of Campeche.

Boundaries study

The study was developed in the Faculty of Accounting and Administration of the Autonomous University of Campeche, considering population the faculty thereof. There are attached to this faculty 55 teachers trained in areas of knowledge such as: Accounting, Administration, Finance and Engineering, graduated studies at master and doctoral level, which defines the population as individuals with high levels of knowledge in their disciplines.

Theoretical Framework

Chronic degenerative diseases

According to the World Health Organization (WHO, 2013), non-communicable diseases (NCDs), also known as chronic diseases are not transmitted from person to person. They are long lasting and usually evolve slowly. The four main types of non-communicable diseases are cardiovascular diseases (such as heart attacks and stroke), cancer, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. NCDs affect all age groups and all regions.

These diseases are often associated with the older age groups, but the evidence shows that more than 9 million deaths attributed to noncommunicable diseases occur in people younger than 60 years old; 90% of these 'premature deaths' occur in low- and middle-income. Children, adults and seniors are all vulnerable to the risk factors that favor noncommunicable diseases such as unhealthy diets, physical inactivity, and exposure to snuff smoke or harmful use of alcohol.

These diseases are favored by factors such as aging, rapid unplanned urbanization, and globalization of some unhealthy lifestyles. Unhealthy diets may manifest as high blood pressure, increased blood glucose, hyperlipidemia, overweight and obesity. These are called "intermediate risk factors" that can lead to cardiovascular disease, one of the ENT. Noncommunicable diseases (NCD) mortality is more than 36 million people each year. Almost 80% of deaths from NCDs 29 million occur in low- and middle-income. More than 9 million deaths attributed to noncommunicable diseases occur in people younger than 60 years old; 90% of these 'premature' deaths occur in low- and middle-income.

Cardiovascular diseases are the most deaths from NCDs, 17.3 million annually, followed by cancer (7.6 million), respiratory diseases (4.2 million), and diabetes (1.3 million). These four groups of diseases are responsible for about 80% of deaths from NCDs.

They also share four risk factors: snuff consumption, physical inactivity, harmful use of alcohol and unhealthy diets. (WHO, 2013).

Metabolic and physiological risk factors

The behaviors conducive four metabolic / physiological key changes that increase the risk of NCDs: hypertension, overweight / obesity, hyperglycemia (elevated blood glucose) and hyperlipidemia (high levels of lipids in the blood).

In terms of attributable deaths, the main risk factor for NCDs worldwide is the increase in blood pressure (to which 16.5% of deaths worldwide (1), followed by the consumption of snuff are (9%), increased blood glucose (6%), physical inactivity (6%), and overweight and obesity (5%). (WHO, 2013).

According to WHO (2012), in the world there are over 347 million people with diabetes. An estimated 3.4 million people died as a consequence of excess blood sugar in 2004. More than 80% of diabetes deaths occur in countries of low and middle income. Nearly half of those deaths are in people under 70, and 55% of them are women and is expected that deaths from diabetes are multiplied by two between 2005 and 2030.

According to research conducted in DM2 in relation to physical activity and quality of life in health, the results show changes in the quality of life in health DM2 with practice and exercise regularly.

Diabetes is a chronic disease that occurs when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Meanwhile, insulin is a hormone that enables cells to take up glucose from the blood and used it for energy. Lack of insulin production and its inaction or both lead to increased glucose levels in the blood called hyperglycemia. (Diabetological Federation Colombiana (FDC, 2005).

Diabetes mellitus 2.2

Diabetes is a disorder in the way the body uses glucose obtained by eating food, resulting in elevated levels of glucose in blood known as hyperglycemia. The pancreas is a gland behind the stomach, among its many functions is tasked to produce insulin (a hormone produced by the beta cells that are located in the Islets of Langerhans), the function of insulin is to enable the glucose to enter the cells; under optimal conditions, the production of insulin in the body depends on the accumulation of glucose in the blood, a less production of insulin produce an elevation of the levels of glucose. (AMD 2013)

Classification

According to the International Classification of Diseases types of diabetes are:

Diabetes Type 1: Formerly known as juvenile diabetes and / or insulin-dependent diabetes, is a disease of autoimmune origin, this means that the beta cells responsible for producing insulin, are unknown and destroyed by the immune system (antibodies responsible for own protect the body against viruses, bacteria and diseases). This process of self-destruction is gradual and the symptoms begin when most of the cells have already been removed. It has been identified that this can begin several years before a person is diagnosed with diabetes. If so, is believed to occur by hereditary factors and manifests from a trigger that eventually manifest diabetes, the precise reason why this condition occurs is unknown. This type of diabetes is 10 times less common than type 2.

Clinically is characterized by early onset before 20 years of age, Mexican association of diabetes. Diabetes Type 2: Formerly called adult and / or non-insulin dependent, this type of diabetes begins when the liver produces excess of glucose and at the same time, the tissues (mainly muscle) diminish the use of insulin, which causes high levels of blood glucose. This is called "insulin resistance" (that is a defect in insulin utilization) or because insulin production is no longer sufficient and is triggered for various reasons: a) obesity, b) sedentary, c) poor diet e) heredity.

It's a little symptomatic disease, so diagnosis is performed in about 50% of cases through laboratory tests requested by another cause, and no clinical suspicion. The little classic symptoms, high frequency determined to be diagnosed late and in the presence of chronic complications, Mexican association of diabetes.

Gestational Diabetes: It occurs during pregnancy in a woman who had not had diabetes before; in this case there is an insulin resistance too. During pregnancy the body undergoes by intense hormonal changes and in the gestational diabetes these hormones produce the opposite effect to insulin, raising blood glucose. Most often this condition disappears after pregnancy, but there are cases where diabetes is considered to remain and diabetes type 2 (AMD 2013).

Difference between diabetes type 1 and 2

In diabetes type 2 are associated 2 alterations: a decrease in insulin action with impaired beta cell function that is capable of responding initially to an increase in insulin production (hence levels these are high or normal to the shortfall of action) but subsequently insulin production is becoming inadequate.

However in diabetes type 1 alteration occur at the level of beta cells, including very low insulin level; for that reason C peptide levels (which is secreted with insulin) are normal or high in diabetes type 2 and type 1 usually very diminished.

According to the Official Mexican Standard NOM-015-SSA2-19994: For prevention, treatment and control of Diabetes diagnosis of diabetes is established if it meets any of the following criteria:

Presence of classic symptoms and casual glucose > 200mg / dl.

Plasma fasting glucose > 126 mg / dl.

Glucose > 200 mg / dl two hours after oral load of 75 g. of glucose dissolved in water.

The clinical features, signs and symptoms of the patient with diabetes vary depending on the specific type of the disease, but generally include polyuria, polydipsia, polyphagia, weight loss and fatigue.

The symptoms of type 2 can be classified into:
ACUTE: Acute metabolic complications in Diabetes Mellitus Type 2, comprising mainly the presence of 2 main clinical pictures:

Diabetic hyperosmolar nonketotic (CDHNC) hypoglycemia and secondary treatment of diabetes with insulinosecretagogas drugs and / or insulin.

Chronic: Chronic complications of diabetes mellitus type 2 can be divided roughly into two categories: a) The microvascular complications (eye disease nephropathy and neuropathy) and b) macrovascular (coronary heart disease, cerebrovascular and peripheral vascular disease.).

Control Criteria

According to the National Center for Health Statistics of the United States (2013), is considered co that the control criteria are of two types and depend on compliance or enforcement of the following parameters:

a) Adequate:

- 1.- healthy nutritional regime and balanced
- 2.- Drugs in the indicated doses
- 3.-Insulin therapy
- 4.-Exercise regularly
5. Check the blood glucose levels regularly.
6. Blood glucose within the limits of 80-130 mg / dl

b) Not suitable:

1. Fatigue and weakness
2. Numbness of hands and feet
3. Blurred vision
4. Dry Skin
5. Frequent urination
6. insatiable thirst
7. tooth mobility.
- 8.-Glucemia high of 200,300 or more in 1000 md / dl.

Physical Health

In literature there are numerous definitions of quality of life due to the large number of aspects to be evaluated in human life. Given the need to unify criteria, WHO proposed to define quality of life as "proper and correct perception of itself a person in the cultural context and values on which it is immersed, in relation to its objectives, standards, expectations and concerns"

It is a large and complex concept that encompasses physical health, psychological state, level of independence, social relationships, personal / spiritual beliefs and relationship to salient features of the environment. (WHO, 2006)

In the health field, the given quality of life approach is limited to the Quality of Life Health Related (HRQOL) (Health-Related Quality of Life), being a term used when trying to assess the impact of disease and treatment in the patient's life. But it was not until after the WHO defined the concept of quality of life, some clinical investigators were raised to consider the quality of life as a measure to consider, since it represents the end result of a medical intervention from the important insight of its protagonist, the patient. In recent years it has attracted interest from clinicians and researchers to assess the quality of life of people with diabetes, because this is an important outcome variable interventions of healthcare. Moreover, the quality of life is considered an element in the decision making. (Mateos, 2013).

Physical activity is defined as behaviors that produce any movement that contributes to the total energy expenditure of human beings. (Caspersen, Powell and Christenson, 1985).

The benefits of physical activity in diabetics according to several authors are: improvement in insulin sensitivity, lowering both basal and postprandial insulinemia; increased use of glucose by the muscle, this helps to prevent hyperglycemia; reduction of daily insulin requirements doses or oral hypoglycemic agents or normoglicemiantes.

Diabetes is a disease where your main treatment is the combination of diet and weight control with physical activity or exercise because it can help prevent it together. The moderate-intensity activity is seems most appropriate, plus it can be used for weight control. The effect is immediate and therefore should be practiced regularly. Assessing quality of life in a patient represents the impact of a disease and its subsequent treatment has on patient perception and welfare. Defined as the extent to which assigned to the lifespan depending on the perception of physical, psychological, social and reduced opportunities because of illness limitations, its consequences, treatment and / or value changes the health policies. (Barrera and Perez, 2014).

Oral Health

The association between diabetes and inflammatory periodontal diseases has been widely studied for over 50 years. It is known that the prevalence of diabetes type 2 mellitus increases with age, having older populations, the overall prevalence increases (Hyattsville, MD: National Center for Health Statistics of the United States, 2005).

International research agree that with increasing age individuals spend a lifestyle marked by physical activity and caloric restriction to one that is characterized by inactivity and high caloric intake. This predisposes to suffer from this disease. Furthermore diabetes mellitus type 2 increases in frequency with age due to loss of beta cell mass in a genetically marked pancreas.

Determining the risk of dental caries is difficult due to the existence of complex interactions among multiple factors, mellitus Diabetes increases the risk when combined with poor oral hygiene, cariogenic diets (not determined on the basis of sugar content, but must be consider different factors), among others (Jintao, Teanpaisan, Chongsuvivatwong, Dahlen and Rattarasarn, 2007).

In patients with diabetes mellitus, who presented hyperglycemia, a salivary viscosity factor that predisposes to suffer from tooth decay because the viscous saliva is less effective in the clean of carbohydrates. The risk of tooth decay changes over the life of the person, to the extent that risk factors which escapes no change Diabetes mellitus. With increasing age and deficiency exists in oral hygiene, greater accumulation of plaque, which reduces the diffusion coefficient of the acids formed by fermentation microorganisms; this facilitates the process of demineralization and increases the risk of caries, especially in people with high number of cariogenic microorganisms (Salvi, Kandylaki, Troendle, Persson and Lang, 2005).

When age increases the prevalence of periodontitis is higher. This is due to the effect of other factors in time and not a consequence of aging. It is higher in the diabetic product decreased resistance to infection, vascular changes, altered oral bacterial flora, among others (Ervasti, Knuuttila, Pohjamo and Haukipuro, 2005).

Diabetes mellitus and periodontal diseases.

The relationship between diabetes and periodontal disease has been the subject of more than 200 articles published in English in the last 50 years varying clinical and radiological criteria used to assess the prevalence of periodontal disease, the extent and severity; evolving standards for the degree of glycemic control, and methods for assessing change of complications associated with diabetes. In addition, researchers and clinicians should be careful when comparing results from different studies, since research has focused on the various populations and often included relatively small number of subjects or lacked controls. (Cutler, Machen, Jotwani, and Iacopino, 1999).

a) Gingivitis

Symptoms include red and swollen gums and even bleeding and white or yellow pus around the gums; teeth are longer and gums that have receded from the teeth. An overall assessment of available data suggests that diabetes is a risk factor for gingivitis. In a classic study of diabetes and gingivitis reported more than 30 years, the prevalence of gingival inflammation was higher in children with diabetes type 1 than children without diabetes who had similar levels of plaque. Ervasti and colleagues observed an increased gingival bleeding in patients with poorly controlled diabetes than in control subjects without diabetes or people with poorly controlled diabetes. Subjects with type 2 also had more gingival inflammation than control subjects without diabetes, the highest level of gingivitis was found in patients with poor glycemic control. (Ervasti, Knuuttila, Pohjamo and Haukipuro, 1985)

According to Ervasti, Knuutila, Pohjamo and Haukipuro (2005), using an experimental protocol gingivitis was more rapid and severe gingival inflammation in adult patients with type 1 than in control subjects without diabetes, although qualitatively similar diabetes and quantitative characteristics of the plaque, suggesting a hyper-inflammatory gingival response in people with diabetes, symptoms of periodontal disease.

b) Periodontitis.

Possible signs of periodontal disease or periodontitis include tooth sensitivity, pain when chewing, bleeding or red gums, and bad breath; treatment of periodontal disease or periodontitis (Ervasti, Knuutila, Pohjamo, Haukipuro, 1985).

The treatment of severe periodontal disease may include a thorough cleaning procedure called scaling and root planning (Lalla, Cheng, Lal and Tucker, 2006).

Most of the evidence also suggests that diabetes increases the risk of developing periodontitis. In a classic cross-sectional study of diabetes type 1 is associated with an increased prevalence of periodontitis five times in adolescents (Shlossman, Knowler, Pettitt, and Genco, 1990). A recent case-control study developed by Lalla, Cheng, Lal and Tucker (2006), confirmed that the insertion loss is more frequent and extensive in children with diabetes than children without diabetes. In addition, epidemiological research supports an increase in the prevalence and severity of attachment loss and bone loss in adults with diabetes. (Shlossman, Knowler, Pettitt and Genco, 1990).

A multivariate risk analysis showed that subjects with diabetes type 2 have increased about three times the odds of having periodontitis compared with subjects without diabetes, after adjusting for confounding variables such as age, sex and oral hygiene measures (Martinez, 2007).

c) Dental prostheses

A dental prosthesis, an artificial element is designed to restore the anatomy of one or more teeth, also restoring the relationship between the jaws, while returns the vertical dimension, and resets the teeth. Diabetic patients are more prone to tooth loss therefore are good candidates for oral tissue-borne prosthesis or adjusted.

The literature reflects controversial aspects regarding the role of certain factors and their possible ways. Among the most important local factors in the development of oral lesions appear to be the traumatic nature, poor oral hygiene and oral dryness in diabetic patients. The former include burns, chewed mucosa, maceration, Local abuse candy, local effect of snuff and action of the prosthesis, which to be maladaptive, cause microtrauma continuous support on the mucosa covering.

Moreover, an incorrect prosthesis hygiene of the oral cavity and facilitated accumulation and growth of microorganisms causing the imbalance of the oral microflora and may allow the action of opportunistic organisms such as *Candida albicans*. (Brian, 2007).

Absenteeism

According to Saldarriaga and Martinez (2007), absenteeism due to medical cause has unfavorable implications for all: the worker because suffers with the disease, the company loses productivity and society suffers delays in its economic and social growth. Therefore, it is useful to study this problem with epidemiological rigor to advance appropriate prevention and control. Absenteeism due to medical cause is associated with biological, cultural and behavioral factors; these should be taken into account in the design of prevention programs of health in the workplace.

The amount of lost time as a result of absenteeism is much higher than the lost due to labor disputes time. The main type of absenteeism is attributed to medical leave for health-related causes; either by illness or accident. Absenteeism rates have increased in all industrialized above 30% over the past 25 years, despite improvements in supply, quality of healthcare and socioeconomic conditions. One strategy to address this problem, which affects the majority of governments and companies in the world, should be directed to the control of the determining factors in the duration and impact of the episode of incapacity.

The current living conditions are characterized by exposure to agents such as stress, noise, pollution, violence, poor diet and especially inactivity. People have dramatically decreased the level of physical activity engaged in their work and leisure time, because the burden of chronic degenerative diseases has assumed epidemic proportions. The sedentary lifestyle affects about 50-80% of the world population.

In consideration of the foregoing, home person can adopt habits favorable living or not, with a differential impact on your health level. (Saldarriaga and Martinez, 2007)

For Pulido (2010) , concluded in a study conducted in Colombia on causes of absenteeism, the highest percentage is presented as a general disease with 72.5%, then the presence of accidents with 20% identify, with physical consequences for working as hand injury, foot fracture, sprain, poisoning, trauma of hand and fractured pelvis; less familiar and permissions calamity percentage terms.

The Professional Risk Managers and organizations, from the regulations of the Colombian norm, have promoted the development of oriented occupational health and safety in enterprises, creating procedures for understanding and investigating the causes and effects of risks processes occupational health worker, accidents and work accidents and identifying actions or situations that can lead to absenteeism; likewise, have been promoted training programs with workers and employers aimed at achieving awareness of the people, against the adoption of safer behaviors, highlighting the importance of creating healthy work environments and organizations. So then, to understand demographic, personal and organizational factors that lead people to be more likely to miss work are, allows the adoption of preventive measures in the field of occupational health. (Bridges and Pulido, 2010)

Burgos, Rodriguez and Alvarez (2011), beyond the issue of prevention and develop a work on the prevention of occupational hazards of students, evaluating a set of model-based on success factors (predictors) proposed by the European Agency for Safety and Health at work (EU-OSHA).

The results achieved after implementing a multiple linear regression analysis indicated that factors related to making and the decision of the implementation of occupational risk prevention are the most influential predictors of success in achieving a set of benefits related future labor market access of students.

It is necessary to promote programs on health and safety based on three fundamental phases, first, a diagnosis of pre situation in the workplace; Second, we must define the adequacy and development of education in prevention, for this, you must define the purpose of the program and / or project and its specific objectives, tools and / or strategies for collecting and analyzing, costs, schedule and implementation responsibilities, and from there, a plan of action that terms and functions are set to play by the different agents involved. Finally, we conclude with the implementation phase of the project on prevention. The key elements for the success of the educational project is determined by the recognition of safety and health as a substantial component of education, according to criteria such as physical, mental and social well-being. (Burgos, Rodriguez and Alvarez (2011).

According to the Ministry of Labour and Social Previsión (2012), in a study based on the opinions depending on the nature of occupational injuries in 2008, 2009 and 2010, Mexico chronic degenerative diseases such as diabetes mellitus, diseases rank first as cause of absenteeism followed by dorsopathies and tumors (neoplasms) malignant; it increases the need for studies aimed at development and promotion of preventive programs in the economically active population.

Methodology

Type of study

This research is descriptive because it is intended to measure or collect information on the variables involved in the problem under study as physical health, oral and absenteeism. The experimental design is not cross because data were collected at a single moment in its natural context, by surveying the founder members; having as purpose the variables describing and analyzing their impact and interaction.

The method used to collect quantitative information is through fieldwork and the technique used is the questionnaire (Hernández, Fernández and Baptista, 2006).

Subject

The study population considered the faculty of the School of Accounting and Administration of the Autonomous University of Campeche, with probability sample selected by convenience, unblended and uncontrolled. 55 teachers who participated are attached to this power 50 representing 91% of the total population.

Inclusion criteria:

- a) Ascribed to the School of Accounting and Administration of the Autonomous University of Campeche Teachers
- b) Teachers who wish to participate in the study

Instrument

The tool that was used to obtain quantitative information, was a questionnaire to all 50 participating teachers, composed of the dimensions of physical health, oral and absenteeism, and that originates from previous studies by the authors of where you chose the most representative items for this investigation. Instrument the plasma composition in Table 1.

Conceptual Definition: The magnitude and family influence on a company regarding to the decision-making and conflict resolution relevant to it.

Dimension	Operational	Reactives	Proportion
Physical health	Refers to the evaluation of quality of life in a patient with a disease, treatment and possible physical, psychological and social constraints.	1, 2,3,5,6,7,8,9,10,11,12,13 y 14	62%
Oral health	Is the observation of the basic rules of prophylaxis and diagnosis for the proper conservation of the mouth and its components, as a natural way of food intake.	4,15,16 y 17	19%
Absenteeism	Refers to the inability of workers to meet their workday by natural or social causes.	18,19,20 y 21	19%

Table 1 Operationalization of variables and instrument specifications.

Reliability of the instrument

Before the interview and manage a pilot questionnaires were developed to verify the correct understanding of the questions and avoid detours on the objectives and adapt to the questionnaire study population. The instrument was administrated to 10% of the initially planned population determined a Cohen's Kappa of 0.88 Subsequently, the administration of the questionnaire reliability thereof was set to obtain a Cohen's Kappa 0.85 parameters considered acceptable (Lind, Marchal was administered and Wathen, 2012).

Procedure for data collection and analysis

In the first phase personally questionnaires were applied to teachers of the companies with duration of ten minutes per questionnaire.

To process the information was used statistical analysis program called SPSS (Statistic Program for Social Sciences) was used. To analyze the quantitative data obtained from questionnaires administered to the subjects involved a descriptive and frequency of the main variables Statistical analysis was performed. These instruments involve scores assigned on a Likert-type scale with values ranging from 1 to 5, with 5 being the value considered the highest.

Subsequently a Pearson distribution analysis (chi square) was used to find the differences present between each of the variables, considering that the objective is to determine the prevalence in each dimension of type 2 diabetes mellitus

Results

The population studied comprised a total of 55 teachers of which eventually involved 50, which represents 91% of the total population, of whom 34 (68%) were male and 16 (32%) female. The average age of the sample was 47.1 with an age range between 30 and 75 years. The most representative age group was 39 to 47 years with 40% and the age group of 66 to 75 years with 4%. Table 2.

Average age	Frequency	%
30 a 38	7	14.0
39 a 47	20	40.0
48 a 56	18	36.0
57 a 65	3	6.0
66 a 75	2	4.0

Table 2 Age of teachers by rank

Of the 50 teachers surveyed 5 (10%) responded that they suffer from diabetes, of which 3 are men and two are women. Similarly 3 (6%) responded that if they have other degenerative disease of whom are women.

Once defined sociodemographic characteristics of the participating subjects, we proceeded to apply the descriptive analysis of the dimensions of physical health, oral health and absenteeism to identify which of the three areas had the answers with the highest average and the dimension with greater dispersion. In the case of physical health dimension was determined both the mean and standard deviation, with the aim of analyzing the near and distant reagents assigned values and the level of dispersion of responses; the Likert scale used is from 1 = never to 5 = always. See Table 3.

Reactive	Maximum Minimum		Average	Standard deviation	Chi square
	Value	Value			
1. Receive treatment for diabetes	1	5	4.5	1.21	0.60
2. Has clinical control analysis	1	5	2.7	1.20	0.60
3. Keep track of diet and exercise	1	5	2.7	1.20	0.50
5. Your current health, are you limited to moderate exercise, such as moving a table, vacuuming, or walking for over an hour?	1	5	4.3	0.90	0.60
6. Your current health, are you limited to walk a mile or more?	1	5	3.7	1.20	0.10
7. Your current health, are you limited to severe, such as running, lifting heavy objects, or participating in strenuous sports efforts?	1	5	3.7	1.20	0.10
8. During the past 4 weeks, have had to reduce the time spent on work or daily activities because of your physical health?	1	5	4.3	1.03	0.10
9. During the past 4 weeks, did you have to stop doing certain tasks at work or in their daily activities?	1	5	4.4	1.03	0.01
10. During the past 4 weeks, have had to reduce the time spent on work or daily activities because of any emotional problems like being sad, depressed, or nervous?	1	5	4.6	0.88	0.60
11. During the past 4 weeks, did you feel full of vitality?	2	5	2.2	0.85	0.80
12. During the past 4 weeks, have you felt calm and peaceful?	2	5	2.3	0.97	0.10
13. During the past 4 weeks, how your physical health or emotional problems interfered with your social activities (like visiting friends or relatives)?	1	4	4.4	0.94	0.80
14. I am as healthy as anybody, my health is excellent.	1	5	2.1	0.95	0.40

Table 3 Descriptive statistics on physical health dimension (scale 1-5)

As can be seen, ten is the reagent having the highest average according to the Likert scale, indicating mostly teachers surveyed did not reduce their work activities because of any emotional problems, followed by reactive one nine and thirteen establishing untreated diabetes (not getting it), not allowed to do certain tasks at work or daily activities or social difficulties have emotional causes. Conversely the lowest mean the won fourteen reagents, since the vast majority of teachers considered to have excellent health.

Regarding the standard deviation the lower values were obtained by the reagents eleven and ten related to the feeling of vitality and reduced work activities due to emotional causes, which suggests that together teachers mostly do not suffer depression and nervousness and instead feel full of energy; however reagents two, three, six and seven, the highest values obtained dispersion compared to regular monitoring of their health through clinical analysis, follow a diet, practice some exercise, limitations to walk a mile and heavy physical exertion.

When evaluating the dispersion of Pearson, no statistically significant differences were found in the dimension of physical health by linking diabetes mellitus with the reactants within it.

Moreover to assess the oral health dimension was identified that the reagent with the absolute average inverse (4.60) corresponds to the reagent four that points out that most people never smoke. The lowest average is the reagent fifteen on the habit brushing your teeth after every meal. Table 4.

Reactivos	Maximum	Minimum	Average	Standar Deviation	Chi Square
	Value	Value			
4. Do you smoke?	1	5	4.60	0.90	0.30
15. Do you brush your teeth after every meal?	1	3	1.42	0.90	0.90
16. Do you present some bleeding when brushing your teeth?	1	5	2.05	0.93	0.30
17. Do you visit your dentist for checkups?	1	5	2.50	0.90	0.50

Table 4 Descriptive statistics on oral health dimension (scale 1-5)

Regarding the standard deviation of oral health dimension, most reagents have a high dispersion of values, no statistically significant differences in the dispersion of Pearson.

In assessing the extent of absenteeism is observed that the mean in reverse between 4 and 5, derivative teachers mostly without diabetes or considered to be due to absenteeism, limit their professional development; however indicate that the workplace no trains on the prevention of chronic degenerative diseases, as shown in item twenties. Equally divided opinions on the approach observed that chronic degenerative diseases are due to work restrictions.

Regarding the degree of dispersion of responses regarding absenteeism dimension the twenty reagents shows the diversity of views on the issue and its impact on the workplace. The analysis described above can be seen in Table 5.

Reactivos	Maximum	Minimum	Average	Estandar Deviation	Chi Square
	Value	Value			
18. If you have diabetes, is it a reason of absenteeism?	4	5	4.9	0.88	0.50
19. If you have diabetes, Do you consider limited your professional development?	2	5	4.8	0.62	0.60
20. Your workplace provides training on prevention of chronic degenerative diseases?	2	5	4.3	0.95	0.60
21. Do you consider that chronic degenerative diseases are caused by work restrictions?	1	5	2.9	1.46	0.40

Table 5 Descriptive statistics on the absenteeism dimension (scale 1-5)

Conclusions

Based on the results of the instrument administered to all teachers who participated in the study and observing its objectives, it may be noted that:

a) The professors of the School of Accounting mostly without diabetes mellitus type 2 at the date of completion of the study, according to information provided by them.

b) No present oral health problems and have acceptable hygiene, taking as a positive factor that most nonsmokers.

c) do not consider that diabetes mellitus is due to absenteeism, since only five teachers relate this condition, and consequently is not a limited factor for professional development.

It is desirable that the school will implement a program at the institutional level to train your staff at all levels on this public health problem, because even though it is not significant in the participant population is not indicative of the presence in other educational units up to it, as a preventive measure and as a reflection of institutional concern for the health and welfare of their workers.

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