ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 2(D), pp. 23976-23979, February, 2018

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

Research Article

LIFESTYLE AND SELF-EFFICACY IN HEADS OF FAMILY WITH AND WITHOUT TYPE 2DIABETES

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DOI: http://dx.doi.org/10.24327/ijrsr.2018.0902.1573

ARTICLE INFO

Article History:
Received 20th November, 2017
Received in revised form 29th December, 2017
Accepted 30th January, 2018
Published online 28th February, 2018

Key Words:
Type 2 Diabetes, self-efficacy, Lifestyle practice

ABSTRACT

Introduction: Lifestyle influences the self-efficacy of family parents and decision-making regarding the treatment of chronic diseases. This study describes the relationship between self-efficacy (AU) and lifestyle (EV) of those without (n1) and with (n2) Type 2 diabetes (T2D), and describes the difference between the means of the EV in both groups. The framework was Pender's Health Promotion model (Pender, 2006).
Methodology: The design of the study was descriptive, transversal, correlational and comparative, the sample was collected in a rural area of Puebla, Mexico, it was nonprobabilistic with 312 participants (n1 = 151, n2 = 161).
Results: For n1 the average age was 40.15 years (S.E.± 8.16), where 71.5% were women, the correlation between lifestyle and self-efficacy was defined by r = 0.222, p≥0.01, accounting for 4.9% of the variance (R2 = 0.049), and the n2 the average age was 57.3 years (S.E.± 9.8), where 70.6% were women, with an r = 0.382 (p≤.001) between self-efficacy and lifestyle, accounting for 14.6% of the variance (R-Squared = 0.146), the t test was -4.153 (p≤.001 so there were no differences in the EV of both groups.
Conclusions: The correlations were positive and statistically significant, it follows that self-efficacy favors the adoption of a better lifestyle, confirming what Pender model (2006) promulgates. There is no difference between the lifestyle of family parents with and without T2D coinciding with Mellado (2011) Gamarra, *et al* (2010), Angulo *et al* (2014). These findings confirm that the promotion of self-efficacy in family parents with and without T2D improves their lifestyle, with which risks and complications of the disease will be reduced.

INTRODUCTION

Type 2 Diabetes (T2D), is a chronic metabolic disease characterized by hyperglycemia, associated with an absolute or relative deficiency in the secretion and action of insulin (Panamerican Organization of Health [OPS], 2013). Over time, it causes micro and macrovascular damage as angiopathy, retinopathy, heart disease, nephropathy etc; given by overproduction of insulin and resistance sustained by the beta cells of the pancreas until they are exhausted and do not produce any more insulin (Holmes, Robinson & Tscheschlog, 2007) This type of diabetes represents 90% of the cases world-wide. It is considered a chronic disease related to genetic load and it is greatly affected by various risk factors associated to lifestyle, like overweight, obesity and physical inactivity, diet, exercise, responsibility in health, stress management, interpersonal support and self-actualization, combined with the ability people have to self-regulate these behaviors (World Health Organization [OMS], 2012). It affects 382 million people; if the trend continues as it has until now, it is expected that, by the year 2035, there will be 471 million and it is estimated that it will be the seventh leading cause of death in the world. In Mexico there are 8,223 million people with T2D and it occupies first place in mortality (ENSANUT, 2012; IDF [International Diabetes Federation], 2013).

Several studies suggest that changes in lifestyle (LE), such as the increase of the physical exercise, along with a balanced diet, reduces the incidence of T2D in people with glucose intolerance or metabolic syndrome (Cabrera 2009; Barquilla *et al*, 2009; Giraldo, Toro, Macias, Valencia & Palacios 2010; FDI (2014)& FDI (2015) . It has been found that personal

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factors such as age and gender, in addition to risk factors like obesity and sedentariness have an influence in people's lifestyle, mainly in exercise and diet; as a result, several investigators argue that lifestyle improves when acquiring greater knowledge about T2D(Corbacho, Palacios & Vais, 2009; Medina, Díaz, Barrientos & Peña, 2009; Mellado, Pérez, Arcega, Soriano & Arrioja, 2011).

According to Cid, Orellana and Barriga in 2010, perceived self-efficacy (AP) is the judgment or judgements that each person has about their own capacities, based on which they will organize and execute their actions in a way that allows them to reach the desired result, which is related to the well-being of the individuals. In 2011 Reyes and Hernandez reported to have demonstrated the relationship between perceived self-efficacy and adhesion to the treatment. In 2010 Alvarez and Barra pointed out that it increases as reasoned perception advances and that it is influenced by gender (Pérez, Salazar, Cruz, Soriano & Arcega, 2009; Reigal & Videra, 2013).

On the other hand, perceived self-efficacy and lifestyle have been studied separately in diverse populations and diseases, for that reason it is important to establish if there is a relationship between both variables, also to know if the lifestyle is different among healthy people and among those who suffer from T2D. Nola J. Pender's Health Promotion Model (HPM) (Pender, 2006), is a frame of reference that allows to establish these relations.

Thus, the intention of the study is to describe the relationship that exists between perceived self-efficacy and lifestyle of the heads of family with and without T2D, as well as to determine if there is a difference between the lifestyle of the heads of family with and without T2D.

MATERIALS AND METHODS

The study was descriptive, transversal, correlational and comparative. The population studied was conformed by people between 30 and 70 years, of both genders. Group 1 (n1= 151) was formed by those with medical diagnosis of T2D, and group 2 (n2 = 161) by people self-reported as healthy, that attend medical checkup at the rural health center of Tlatlauquitepec, Puebla. The sampling was non probabilistic, for convenience, the sample was calculated with a confidence level of 95%, an effect estimated at 0.05 and an α of 0.521. People who developed acute complications at the time of the study, pregnant women and people with mental illness were excluded. For lifestyle, a scale consisting of 48 questions in a Likert-type scale was used, where the minimum value is 48 and the maximum is192. Reliability for this study was reported at 0.93 . A scale with 8 items with Likert-type answers with values scaling from 8 to 40 was used to measure the perceived self-efficacy. A Cronbach's alpha of 0.79 was obtained for this study. The data were analysed using the SPSS v.21 software. The study was registered with the Secretaria de Investigacion y Estudios de Posgrado(Department of Reseach and Postgraduate Studies) of the Faculty of nursing of the Benemérita Universidad Autónoma de Puebla as prescribed by the General Health (1987) of México, modified in 2014, in what corresponds to research. It abides by what is stated in articles XIII, XIV, XIV, XVI, XVII, XX and XXII; participants responded in conformity, with previous written consent.

RESULTS

151 apparently healthy people participated in n1, 71.5% were women, the age average was 40 years (M=40.15, ± 8.16), 75.5% report having a partner, 36.4% of the population studied up to middle-school, 53% are housewives. With respect to those that suffer T2D in n2, there were 161 participants, out of which 70.6% are women whose age was 57 years in average (M=57.3, ± 9.8), 66.9% have a partner, 49.4% does not have studies and 60% are housewives, 9.6 ± 6.5. suffered from T2D an average of 9.6 years.

In relation to the continuous variables, we found that for n1, lifestyle reports a median of 50.98 (SD=12.5) and for the Perceived self-efficacy it was of 58.7 (SD=16.3); as far n2, a median of 57.6 (SD=15.4) is reported for lifestyle and for perceived self-efficacy the median was 60.6 (SD=17.8) [see table 1].

Table 1 Descriptive data of the variables Lifestyle and Selff-efficacy.

	n1		n2	
Variable	Mean	SD	Mean	SD
Lifestyle	50.9	12.5	57.6	15.4
Selff-efficacy	58.7	16.3	60.6	17.8

Source: Pender Health Promoter Lifestyle Style Scale (1996), De Vet. Self-Efficacy Scale (2008), adapted by Bañuelos (2011).

The Pearson Product-Moment Correlation Model was used in n1. It was found that self-efficacy is related to Lifestyle (r=0.222, p≤0.001); n2 showed a similar behavior (r=0.382, p≤.0001), for which reason there is a positive and moderate correlation in both cases, thus, the better self-efficacy there is, the better the lifestyle, whether people suffer from T2D or not.

When adjusting the Model of Simple Linear Regression it was found that for the people of n1, the perceived auto-efficacy explains the 4.9% (R^2adjusted = 0.049) of the variability of lifestyle. The model was significant when obtaining F (1, 149) = 7.692, p ≤ 0.010); as far as the people of n2, it was found that the perceived auto-efficacy explains the 14.6% (R^2adjusted=.146) of the variability of lifestyle. The model was significant because it obtained F (1, 158) = 26.93, p≤0.010).

In order to determine if there is a difference between people's lifestyle in n1 and n2, Student's t-test was used to obtain -4.153 (p≤.0001), thus inferring that there is no difference between people's lifestyle in n1 and n2 since similar variances are assumed corroborated by Levene.

DISCUSSION

The results of the study show that the Perceived Self-efficacy in both groups was above .50 percentile; the data correspond with what was found by Acuña and González in 2010, but contrary to what Vivaldi and Barra reported in 2012 since they reported lower averages. With respect to the lifestyle in n1, it was located below .50 percentile and in n2 above it, that is to say, those who suffer T2D think of themselves as able to modify their health conducts at least moderately. This coincides with what was found by Mellado, *et al*. Thus, we found that although people with T2D consider themselves at least moderately able to modify their health conducts, they do not do it since the results of their lifestyle are low. On the

other hand, the results of the participants who self-report as healthy show the same behavior. This has an effect on their quality of life and on the presence of complications or in the lack of preventive measures not to become ill.

It is evident that for this population, the existence of a relationship between perceived auto-efficacy and lifestyle is confirmed. This phenomenon could be explained since self-efficacy in the people with and without T2D, as a psychological factor, determines their capacity of decision making over their health, that is to say, they are conscious of the capacity they have to modify their lifestyle. This coincides with Acuña and González (2010); Alvarez and Barra (2010); Perez, *et al* (2009) & Reigal and Videra (2013). Confirming the above, we find that despite the moderate explanation of the phenomenon, in both groups, the Perceived self-efficacy explains the variability of lifestyle in persons with and without T2D. These results, could corroborate what Pender's Health Promotion Model establishes. However, the low results in each of the variables calls into question the empirical capacity of the theoretical model, since one would expect to have found higher medians in lifestyle.

When making the comparison of lifestyle in heads of households with and without T2D we find there were no significant differences between the two groups, in spite of the fact that those with the disease had a better lifestyle than those self-reported healthy. The median in n2 didn't go over 0.75 percentile, thus we assume that the people diagnosed with T2D do not make significant changes intheir health behavior that could allow them to improve their lifestyle. This coincides with Mellado, *et al* (2011); Gamarra, *et al* (2013); Angulo *et al* (2014), who report similar results. With the above, we can conclude that perceived self-efficacy influences the lifestyle of people with and without T2D. However there were no significant differences in lifestyle for people from both groups. For this reason, it is necessary to promote health practices from an early age in order to improve lifestyle and have intervention tools in nursing to promote them under the support of public policies that facilitate the implementation of such interventions.

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How to cite this article:

Morales-Nieto A *et al*.2018, Lifestyle And Self-Efficacy In Heads of Family With And Without Type 2diabetes. *Int J Recent Sci Res*. 9(2), pp. 23976-23979. DOI: http://dx.doi.org/10.24327/ijrsr.2018.0902.1573

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