ISSN 1695-6141
Revista electrónica trimestral de Enfermería
N°51
Julio 2018
www.um.es/eglobal/

ORIGINALES

Self-care of man with type 2 diabetes mellitus: impact of machismo

Autocuidado del hombre con diabetes mellitus tipo 2: impacto del machismo

Geu Mendoza Catalán [1]
Esther Gallegos Cabriales [2]
Juana Mercedes Gutiérrez Valverde [2]

[1] Doctor of Nursing Sciences. Autonomous University of Nuevo León, School of Nursing. Monterrey, N.L. Mexico.
2 Professor, Autonomous University of Nuevo León, Faculty of Nursing. Monterrey, N.L. Mexico

E-mail: gu_mendoza@yahoo.com.mx

http://dx.doi.org/10.6018/eglobal.17.3.287231

Received: 09/03/2017
Accepted: 27/05/2017

ABSTRACT:

Objective: To determine if machismo, family support, health perception and self-efficacy influence in the self-care activities of the man with type 2 diabetes mellitus.
Methodology: The design of the study was correlational descriptive, with a sample of 14 primary attention centers.
Results: Machismo correlated negatively with family support and self-efficacy. While self-care was explained the 30.5% of the variance, the predictor variables were the family conducts, the self-efficacy, the sub-scales of machismo, work supremacy, being independent and violent.
Conclusions: Machismo may influence directly to self-care and indirectly, through family support and self-efficacy

Keywords: Diabetes mellitus type 2, machismo, family support, self-efficacy, self-care.

RESUMEN:

Objetivo: Determinar si el machismo, apoyo familiar, la percepción de salud y la autoeficacia influyen en las actividades de autocuidado del hombre con diabetes mellitus tipo 2.
Metodología: El diseño del estudio fue descriptivo correlacional, con una muestra de 126 participantes de 14 centros de atención primaria.
Resultados: El machismo se correlacionó de manera negativa con el apoyo familiar y la autoeficacia. Mientras que el autocuidado se explicó el 30.5% de la varianza, las variables predictores fueron las conductas familiares, la autoeficacia, las sub-escalas del machismo; primacía del trabajo, ser independiente y violento.
Conclusiones: El machismo puede influir de manera directa al autocuidado y de manera indirecta, por medio del apoyo familiar y la autoeficacia.
.

Palabras clave: Diabetes mellitus tipo 2; machismo; apoyo familiar; autoeficacia; autocuidado.

INTRODUCTION

Diabetes mellitus is considered the XXI century pandemic, causing high hospitalization and premature death rates.[1] In Mexico the type 2 mellitus diabetes prevalence (T2DM) has increased from 4.6% to 9.2% from the year 2000 to 2012[2], currently occupying the second place in mortality in adults[3], nationally.

Men with T2DM, in comparison with women, present micro and macro vascular complications, with higher frequency the ones that are associated to a low adhesion to the treatment, what generally results in hyperglycemia[4]. Diverse studies report that male adults diagnosed with T2DM, confront the illness with higher laxity than women, they barely use the health services and don't perceive the benefits of self-caring. [5-7] A possible explanation is that the men's character is product of the social circumstances; the man has been taught to be strong, to not express emotions or fears that take him to behave as a weak being; they try not to get sick and feeling well, so they don't go find medical attention. To this group of behaviors, attitudes and values are known as "machismo". [8]

In Mexico, "machismo" makes men to take risk behaviors that direct them to the loss of health[9], reason why it is considered that masculinity expressed as "machismo" is a factor that can limit actions of caring to their health when they suffer from T2DM. [10] If men get sick it's the family, mainly the wife, who performs the role of carer, supporting them in the medical treatment, which implies modifications in their lifestyle. [11] However, family care is insufficient to achieve an appropriate attachment to the medical recommendations given to the adult man to control his illness; the self-care is the behavior by excellence that would take these patients to manage the chronical illness with better results in the metabolic/glycemic control. [12]

The current study framed the problem of disregard to the T2DM treatment by male adults in Orem's Theory of Self-care Deficit [13], where the theorist stablishes that self-care is a regulatory function that individuals do to achieve and keep the optimal conditions associated with life, the functioning and development. In context with the theory, it is understood that when they get sick, the individuals should learn new ways to take care of themselves, so they need to develop specialized capacities (CAC) that sustain and mediate the self-care actions (AAC) that take them to recover their health or to maintain it in the best state possible. Both AAC and CAC are influenced positively or/and negatively by internal or external factors to the individuals who this theorist denominates basic determining factors (FCBs). These concepts relate each other (Figure 1).

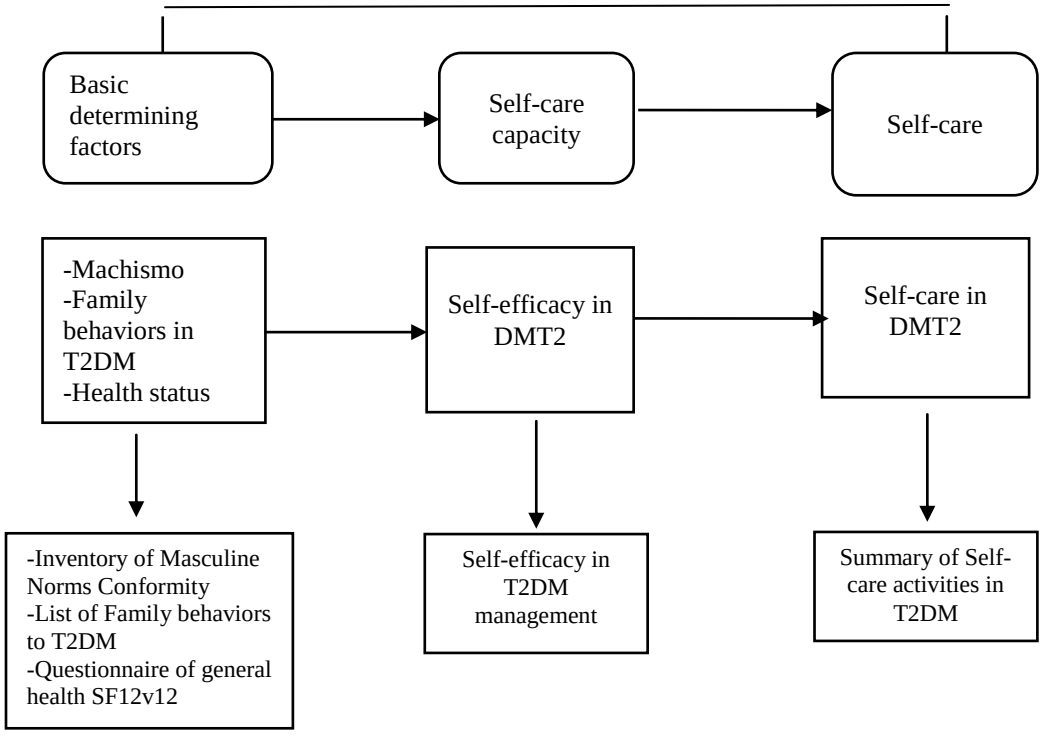
The global purpose of the research reported here was twofold: a) To determine if machismo, family support, health perception and self-efficacy influence predict the self-care actions; and b) To evaluate the mediator's role of the self-efficacy in the prediction of the self-care actions, in male adults diagnosed with T2DM under ambulatory treatment.

MATERIAL AND METHODS

The design was descriptive, transversal and correlational. The population of interest were adult men diagnosed with T2DM according with criteria of the ADA [14]; it was calculated a sample of 126 participants, with a significance level of .05, potency of 90% and size of effect of 0.14%. [15] The sampling was not probabilistic. The

recruitment was done in 14 Health Centers of the municipality of Monterrey, Nuevo Leon. The study was approved the Ethics Commission of the FAEN-UANL with registry FAEN-M-1099.

Figure 1. Relation of concepts of self-care theory, deduced concepts and empirical indicators (variables)



Inclusion Criteria: At least six months after being diagnosed with T2DM, which it was verified with the record in the health centers; age from 20 to 59 years old, and cohabit with at least one family member, the information was obtained according to answered question.

The participants' recruitment was done in two forms: a) from the assistants to a programmed consultation for the T2DM control on each health center, we approached them in the waiting room before they were called by their medic; b) The patients, which data was available in the Health Center's registry, were visited in their homes. In the first contact with the participants, we explained them the study and what did their participation consist if they agreed to be part of the study; if they answered positively, the informed consent was read for them, asking them to sign it and asked their relative who accompanied them to sign it too, as a witness. If the patient had a free time in that first meeting, the questionnaires were applied and the Somatometry was practiced. If the participant wasn't available, an appointment was stablished in the same health center for the Somatometry, and in their home for the filling of the instruments. The survey data collection was done from February to May, 2014.

Measurements

The measurements consisted in the implementation of paper and pencil instrument (Table 1) and of height and weight measurements with which the BMI was calculated with the Quetelet formula; although, the blood pressure was measured following the standardized procedure.[16] In the socio-demographic data document, it was registered

the age of the participants, education level, number or relatives living together, years with diabetes, blood pressure and BMI.

Table 1. *Description of measurement instruments for the study's variables.*

Instrument	Variables that measures	N° and type of reactive/scale of answer	Specifications	Reliability-Scores and interpretation
Summary of Diabetes Self-care activities (SDSCA)[18]	Self-care actions	14 reactive Scale 0-7	Measures frequency of activities 7 days previous to the interview	Cronbach's Alpha 0.78 Score 0-98 Higher scores indicate higher self-care
Scale of self-efficacy in T2DM management[19]	Self-efficacy in T2DM	20 reactive Likert-like scale 1-5	Evaluates the abilities to accomplish with diet, self-monitory of glucose, revision of feet, physical exercise and weight, and medical treatment	Cronbach's Alpha 0.91 Score 20-100 Higher scores indicate higher self-efficacy
List of family's behaviors to Type 2 diabetes[20]	Family support or not family support in T2DM	16 reactive Likert-like scale 1-5	Evaluates the perceptions of support and no support behaviors on diabetes in diet, self-monitory of glucose, taking medications and exercise	Cronbach's Alpha 0.89 Average 1-5 The sub-scales are evaluated by separate. In support, the higher average indicates higher family support In no support, the higher average indicates no family support
Questionnaire of general health SF12V2[21]	Status perception of health	12 reactive Likert-like scale 1-3 (If it limits me a lot-It does not limit me at all) and 1-5 (Always-Never)	Evaluates eight fields: Physical functioning, body pain, general health, vitality, social function, emotional role, and mental health	Cronbach's Alpha 0.90 Score 0-100 Higher scores means better health status
Conformity inventory of masculine norms [22]	Machismo	22 reactive Likert-like scale 0-3 Completely disagree-Completely agree	Measures 11 dimensions: Possession, emotional control, homophobia, womanizer, power over women, search of status, risks taking, independence, violence, winning, and job primacy	Cronbach's Alpha 0.69 Score 0-66 Higher scores means higher machismo

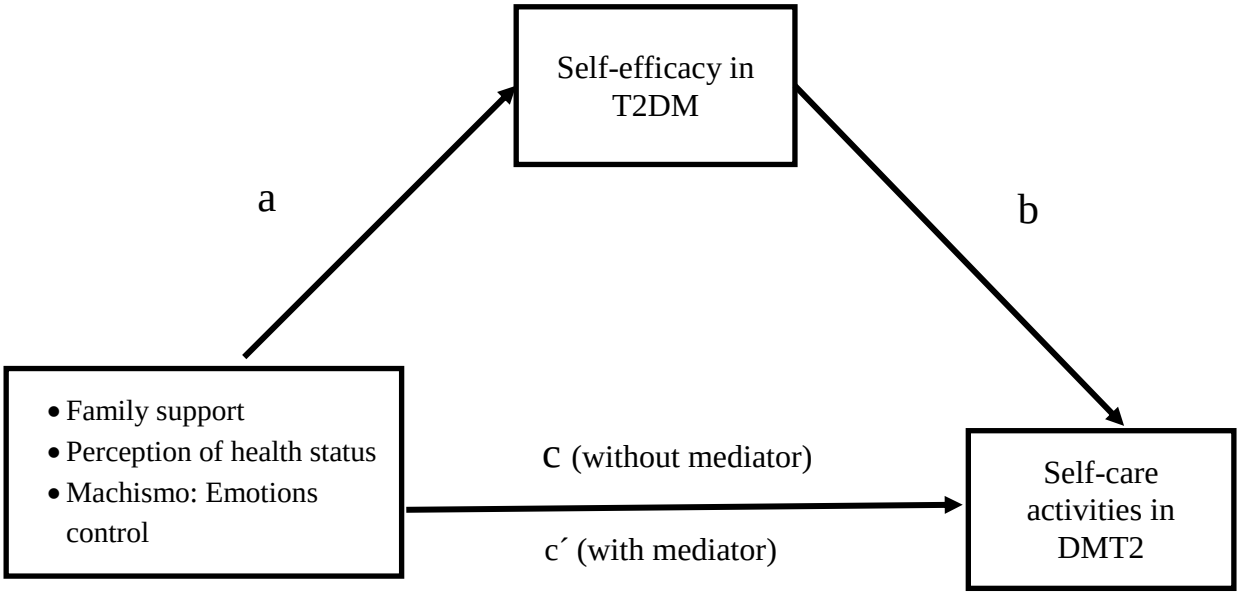
Statistical Analysis

For the data analysis, it was used the statistical program "Statistical Package for the Social Sciences" (SPSS) 17.0 version for Windows. We used the descriptive and inferential statistics. We determined frequencies and percentages for the categorical variables, and for the continuous variables we obtained central tendencies measurements (median) and dispersion (standard deviation) for the description of the study's variables. In an exploratory way, we applied the Spearman's co-relation in the study's variable. For the objective one, to determine the predictive power of the

selected variables over the Cronbach's Alpha (CA), a model of regression was adjusted with the Backward technique.

To evaluate the self-efficacy mediator's role, we followed what was pointed out by Baron and Kenny. [17] Under this model we stablished the self-efficacy's mediation between Perception of health status, social support and Machismo sub-scale "Emotions control" (FCBs) and self-care. Each one of these variables was related with the CA (first relation); as well as with the self-efficacy variable (second relation). In a third stage, three regression models were ran, where the predictor variable on each one of them was: health status, social support, and emotions control; the mediatory was self-efficacy; and the result was the CA (Figure 2).

Figure 2. Model of self-efficacy mediation in T2DM



RESULTS

Characteristics of the participants and study's variables

As we can see in Table 2, the final sample was of 126 participants, with an average age of 49.3 years old (DE = 7.05), schooling of 8.3 years (DE= 3.1) and relatives living together of 3.2 (DE= 1.6). Clinically are characterized by having and average of 7.6 years (DE= 4.9) after being diagnosed; 47.6% of them have overweight, 27.8% with obesity and 30% presented hypertension (>140/90) at the moment of the measurement. Besides, the average scores obtained in the scales are reported.

Correlations with the study's variables

Before the inferential analysis, the normality in continuous variables was verified under the Kolmogorov-Smirnov test with the Lilliefors' correction; the results showed that only the BMI presented normality. In the bi-varied analysis, machismo was correlated negatively with schooling, family support and self-efficacy. Self-efficacy was correlated negatively with the number of relatives and positively with family support, the

perception of health status and self-efficacy (Table 3). By introducing the variable of machismo by dimensions, they correlated the primacy of work r=.191, p<.05, and with the dimensions of the power over women r=-.188, p<.05, and the emotions control r=-.249, p<.01, results are not shown in the table.

Table 2. *Characteristics of the sample and the study's variables*

Variable	**M (DE)**
Age	49.37 (7.05)
Schooling	8.37 (3.15)
N° of relatives	3.21 (1.61).
Years with DMT2	7.6 (4.96)
IMC ***f* (%)**	
<25kg/m2	31(24.6 %)
25-29 kg/m2	60(47.6 %)
>29 kg/m2	35(27.8 %)
Blood pressure ***f* (%)**	
<120/80	38(30 %)
120/80- 130/90	50(40 %)
>140/90	38(30 %)
Self-care 0-98	48.8 (18.4)
Self-efficacy 1-100	77.7 (15.0)
Family Support 1-5	2.5 (1.02)
No family support 1-5	2.4 (0.83)
Health status 0-100	72.2 (19.6)
Machismo 0-66	31.4 (6.5)

Note: n=126

Table 3. *Correlation with the study's variables*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1	1										
2	.264	1									
3	.255**	-.186*	1								
4	.037	-.215*	-.072	1							
5	-.068	-.002	-.020	.238**	1						
6	-.078	-.222*	-.072	.007	-.138	1					
7	.087	-.115	.140	-.045	.015	-.198*	1				
8	.116	-.164	.175*	.046	-.009	-.141	.737**	1			
9	-.148	-.043	.075	.030	-.042	.155	-.172	.110	1		

10	-.180*	.098	-.091	-.119	-.003	-.266**	.195*	.034	.298**	1	
11	-.098	-.159	.139	-.258**	.064	-.027	.329**	.044	.285**	.342**	1

Note: 1. Ager, 2. Schooling, 3. Years with diabetes, 4. N° of relatives, 5. BMI, 6. Machismo, 7. Family support, 8. No family support, 9. Perception of Health status, 10. Self-efficacy in diabetes and 11. Self-care activities *p<.05, **p<.01

Model of multiple linear regression (backward) for self-care

The model of multiple regression was provided of independent variables (age, schooling, years with T2DM, N° of relatives, BMI, perception of health status, family support or no family support, self-efficacy, and dimensions of machismo) and the CA as a dependent variable. The "backward" technique created 15 models; in the initial model, six independent variables had significance. The final model showed significance in three sub-scaled of machismo and the two aspects of family support, explaining the 30.5% of the variance F(6,119)=10.14, p<.001, see table 4.

Table 4. Model of multiple regression (Backward) for self-caring in T2DM

	Model 1	**Model 15**	**IC 95%**	
Variable	**β**	**β**	**Inferior Limit**	**Superior Limit**
Constant		7.194**		
Age	-.063	X		
Schooling	-.169	X		
Years with DMT2	**.164***	X		
No. of relatives	**-.199***	X		
BMI	.049	X		
Health status	.091	X		
Self-efficacy	**.222***	.290**	.162	.550
Family-support	**.505****	**.524****	5.006	13.830
No family support	**-.429****	**-.404****	-14.588	-3.793
Primacy of work	.138	**.263****	1.395	5.313
Self-reliance	.142	**.164***	.132	4.034
Violence	**.179***	**-.187***	-4.873	-.389
Emotional control	-.047	X		
Power over women	.102	X		
Homophobia	-.030	X		
Risk taking	-.002	X		
Winning	-.014	X		
Pursuit of status	.065	X		
Dominant	.052	X		
Playboy	-.015	X		

R^2	.445	.338
F	4.203**	10.14**
R^2a	.339	**.305**

*Note: n=126, *p<.05, **p<.001. R2a = R squared adjusted X= eliminated variable*

Mediation Analysis of Self-efficacy

On the first stage, emotions control, family support, and perception of health status were significantly related to self-care (c). On the second stage, emotions control, family support, and perception of health status were significantly related to self-efficacy (a). On the third stage, self-efficacy was significantly related to self-care (b). On the last stage, when the self-efficacy integrates to the model of family support and perception of health status, the effect size decreases. For the case of emotions control, it also decreases its effect and shows no significant, see table 5.

Table 5. Analysis of self-efficacy measurement

Variable	Self-efficacy Model (a) β	Self-care Model (b) β	Self-care Model (c) β	Self-care Model (c´) β
Family Support	.227**		.308**	.245**
Self-efficacy		.334**		.278**
R2a	.044	.104	.088	.155
Perception of health status	.227**		.277**	.200*
Self-efficacy				.278**
R2a	.069		.069	.134
Emotions control	-.254**		-.191*	-.114
Self-efficacy				.305**
R2a	.057		.029	.109

Note: 126 participants

DISCUSSION

The study's purpose was to determine the effect of the variables machismo, family behaviors, perception of health status, self-efficacy and socio-demographic variables in the self-care activities in T2DM on male adults; machismo was considered as the first approximation in the management of a chronical-degenerative illness.

The studied sample was characterized by being relatively young, and accordingly with few years after being diagnosed with the illness. Clinically the most of the participants endured with overweight and obesity, and hypertension, which constitutes a risk for the developing of CV illnesses that are presented in a high percentage of who suffer T2DM. [23] Added to this situation, they barely practice the self-caring of their illness, even though they consider that they have the capacities to take care of themselves. This situation is very usual to find, as much in men as in women, which a possible

over-estimation of what they can do by themselves is suggested, but there's a lack of resources or unwillingness to do it. [24, 25] Some of the studies have reported that men with T2DM do not see a benefit to the treatment, therefore they do not do the self-caring activities, even that in social events they hide their diagnosis. [26, 27]

In the values that the variables took, the low average of "machismo" grabbed our attention, contradicting to a certain moment, the concept used until some years ago: "Mexican men are sexists" [28]; the investigations point out that machismo has been modified by the political and economic changes that have molded the roles of man-woman in the current society, where an important percentage of housewives contributes the home's economy with the product of their job. This may influence in the stance of the "macho", taking him to decrease associated behaviors in this model. [29]

The bi-variated correlation showed that a low schooling corresponds with higher levels of sexist behaviors; in these behaviors, emotions control was negatively related with the CA in T2DM. These data suggest that education is a factor that can modify culture, understood as the way of life that develops forms of behavior expected by the people who surround them. Specifically, education in health may be the mechanism by which self-care in men increased in chronical illnesses as T2DM and obesity, as well. [30, 31]

For adult males, as it's the case of the studied sample, emotions control seemed to affect the action's developing of CA in diabetes; this relation suggests that deeply inside of the male's conscience, machismo keeps prevailing since societies imposes a higher emotions control by being men, taking them to neglect their illness. Not taking medication, not assisting to the medical controls, not following the diet, and not exercising are very common behaviors in male adults who endure with T2DM. [8, 32] A same relation was observed in "power over women and emotions control" (dimensions of the machismo scale), with self-efficacy levels; the more power the man has over women and more controls his emotions, a lower level of self-efficacy is perceived, and if it is the case, a lover level in actions of CA.

In the predictor model for self-caring, self-efficacy, and family support behaviors, influenced positively in self-caring, results that have already been reported by other researches. [33, 34] While the sub-scales of machismo presented different relations; by one side, the primacy of work and being independent were positively related to self-caring. [35, 36] The obtained results are the opposite to what was reported in other studies related to work, which report that work is pointed out as a barrier for self-caring. This could be due to that man, to keep their position in the family and the role as a breadwinner recognizes the importance of taking care of his health to keep his job, being this activity the most important in adulthood. In the other side, men who answered that were agree with violence, showed lower levels of self-caring. This could be explained by what Figueroa-Perea [37] pointed out, that the construction of the masculine image is composed by the corporal violence as: enduring the pain and negate physical ailment, as a way to show their strength. So that making self-caring actions it is seen as something inappropriate for a man.

In this study, self-efficacy was evaluated as a mediatory variable between family support, perception of health status, emotions control (dimension of the scale of machismo) and self-caring. The results showed a moderated mediatory effect, where the relation between a good health status perceived with the CA, decreased when the self-efficacy in caring of T2DM was included, the relation between health status and the level of CA was weakened by the mediation of self-efficacy. The same effect was

observed with family support and emotions control. This means that self-efficacy performs a higher effect over the CA than the corresponding variables to the FCBs, which it is congruent with the statements of the theorist and what was reported by other researchers. [13, 25, 38]

Study limitations

.

The results should be taken with precaution by two fundamental aspects: The scale about Machismo was developed for a different population from Mexico, so its validity should be confirmed in the context of the Mexico's northwest adult male population. Secondly, the sample was intentional and homogeneous regarding to variables as in the years of education that, it is known, affect the comprehension of the construct. Likewise, the glycemic control wasn't measured in the participants, so that it is unknown if the CA actions were reflected in it.

CONCLUSIONS

In conclusion, the 30.5% of the explained variation of the AC in adult men with T2DM related with self-efficacy, family support, and three of the eleven dimensions of the scale that measures machismo. This explanation is modest, but should be also considered that the levels of CA are too low.

In second place, an important mediator role of self-efficacy was found, the one that directly relates with the CA, of three variables that generally are reported related with good levels of CA; this measurement confirms the strength of self-efficacy in the execution of actions of health care.

Implications for future research

It is suggested that future studies do more research in this population using a probabilistic sampling, as well as the developing of programs where they involve the family and improve the self-efficacy of the individuals with T2DM. Similarly, make programs to raise awareness to men about their health.

REFERENCES

1. Ginter E, Simko V. Type 2 Diabetes Mellitus, Pandemic in 21st Century. In: Ahmad S, editor. Diabetes. Advances in Experimental Medicine and Biology: Springer New York; 2013. p. 42-50.
2. Jiménez-Corona A, Aguilar-Salinas CA, Rojas-Martínez R, Hernández-Ávila M. Diabetes mellitus tipo 2 y frecuencia de acciones para su prevención y control. Salud Publica Mex. 2013;55:S137-S43.
3. INEGI. Principales causas de mortalidad por residencia habitual, grupos de edad y sexo del fallecido. http://www.inegi.org.mx/est/contenidos/proyectos/registros/vitales/mortalidad/tabulados/ConsultaMortalidad.asp: Dirección General de Estadísticas Sociodemográficas; Estadísticas Vitales.; 2015 [cited 2017 Febrero].
4. Wändell PE, Gåfvels C. Patients with type 2 diabetes aged 35–64 years at four primary health care centres in Stockholm County, Sweden: Prevalence and complications in relation to gender and socio-economic status. Diabetes Res Clin Pract. 2004;63(3):195-203.

5. Ibarra CT, Rocha JdJ, Hernández R, Nieves RE, Leyva R. Prevalencia de neuropatía periférica en diabéticos tipo 2 en el primer nivel de atención. Rev Med Chil. 2012;140(9):1126-31.
6. Rustveld LO, Pavlik VN, Jibaja-Weiss ML, Kline KN, Gossey JT, Volk RJ. Adherence to diabetes self-care behaviors in English-and Spanish-speaking Hispanic men. Patient preference and adherence. 2009;3:123.
7. How CB, Ai-Theng C, Ahmad Z, Ismail M. Men suffer more complications from diabetes than women despite similar glycaemic control and a better cardiovascular risk profile: the ADCM study 2008. J Mens Health. 2012;9(3):190-7.
8. Tannenbaum C, Frank B. Masculinity and health in late life men. American journal of men's health. 2011;5(3):243-54.
9. Franco NEM. Aprendizajes de género y cuidado de sí en la salud masculina: entre lo universal y lo específico. Psicología, Conocimiento y Sociedad. 2012;2(2):6-26.
10. Zanchetta MS, Monteiro MS, Gorospe FF, Pilon RS, Peña A. Ideas of masculinities in Latin America and their influences on immigrant men's attitudes toward health: prostate cancer prevention, an analysis of the literature. J Mens Health. 2010;7(3):259-69.
11. Rintala T-M, Jaatinen P, Paavilainen E, Åstedt-Kurki P. Interrelation between adult persons with diabetes and their family a systematic review of the literature. Journal of family nursing. 2013;19(1):3-28.
12. Itla L, Mila U. Fortalecimiento del autocuidado como estrategia de atención primaria de la salud: la contribución de las instituciones de salud en América Latina.[citado 2006]. Disponible en: pwe-hi bsalud or/dol/docsonline/get php.
13. Orem DE. Nursing: Concepts of practice: Elsevier Health Sciences; 2001.
14. Association AD. Standards of medical care in diabetes—2013. Diabetes care. 2013;36(Suppl 1):S11.
15. Grove SK, Burns N, Gray J. The practice of nursing research: Appraisal, synthesis, and generation of evidence: Elsevier Health Sciences; 2012.
16. WHO. Obesity: preventing and managing the global epidemic: World Health Organization; 2000.
17. Baron RM, Kenny DA. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. J Pers Soc Psychol. 1986;51(6):1173.
18. Toobert DJ, Hampson SE, Glasgow, RE. The summary of diabetes self-care activities measure: results from 7 studies and a revised scale. Diabetes care. 2000;23(7):943-50.
19. Bijl Jvd, Poelgeest-Eeltink Av, Shortridge-Baggett L. The psychometric properties of the diabetes management self-efficacy scale for patients with type 2 diabetes mellitus. J Adv Nurs. 1999;30(2):352-9.
20. Glasgow RE, Toobert DJ. Social environment and regimen adherence among type II diabetic patients. Diabetes Care. 1988;11(5):377-86.
21. Ware J, Kosinski M, Turner-Bowker D, Gandek B. SF-12v2: How to score version 2 of the SF-12 health survey. Lincoln, RI: QualityMetric Incorporated. 2002:29-38.
22. Mahalik JR, Locke BD, Ludlow LH, Diemer MA, Scott RP, Gottfried M, et al. Development of the Conformity to Masculine Norms Inventory. Psychology of Men & Masculinity. 2003;4(1):3.
23. Riobó Serván P. Obesidad y diabetes. Nutrición Hospitalaria. 2013;28:138-43.
24. Mohebi S, Azadbakht L, Feizi A, Sharifirad G, Kargar M. Review the key role of self-efficacy in diabetes care. J Educ Health Promot. 2013;2(1):36.

25. Walker RJ, Smalls BL, Hernandez-Tejada MA, Campbell JA, Egede LE. Effect of diabetes self-efficacy on glycemic control, medication adherence, self-care behaviors, and quality of life in a predominantly low-income, minority population. Ethnicity & disease. 2014;24(3):349-55.
26. Mathew R, Gucciardi E, De Melo M, Barata P. Self-management experiences among men and women with type 2 diabetes mellitus: a qualitative analysis. BMC Fam Pract. 2012;13(1):122.
27. McCloskey J, Flenniken D. Overcoming cultural barriers to diabetes control: a qualitative study of southwestern New Mexico Hispanics. J Cult Divers. 2009;17(3):110-5.
28. García-Campos T. Cultura tradicional y masculinidad feminidad. Interam J Psychol. 2008;42(1):59-68.
29. Del Pino JAR. El hombre unidimensional fragmentado. Revista castellano-manchega de ciencias sociales. 2013(16):97-106.
30. Bailey SC, Brega AG, Crutchfield TM, Elasy T, Herr H, Kaphingst K, et al. Update on health literacy and diabetes. Diabetes Educator. 2014;40(5):581-604.
31. Al Sayah F, Majumdar SR, Williams B, Robertson S, Johnson JA. Health literacy and health outcomes in diabetes: a systematic review. J Gen Intern Med. 2013;28(3):444-52.
32. Evans J, Frank B, Oliffe JL, Gregory D. Health, illness, men and masculinities (HIMM): a theoretical framework for understanding men and their health. J Mens Health. 2011;8(1):7-15.
33. Gao J, Wang J, Zheng P, Haardörfer R, Kegler MC, Zhu Y, et al. Effects of self-care, self-efficacy, social support on glycemic control in adults with type 2 diabetes. BMC Fam Pract. 2013;14(1):66.
34. Sharoni SKA, Wu SFV. Self-efficacy and self-care behavior of Malaysian patients with type 2 diabetes: a cross sectional survey. Nursing & health sciences. 2012;14(1):38-45.
35. Mathew R, Gucciardi E, De Melo M, Barata P. Self-management experiences among men and women with type 2 diabetes mellitus: a qualitative analysis. BMC Fam Pract. 2012;13(1):122.
36. Hawkins J, Watkins DC, Kieffer E, Spencer M, Espitia N, Anderson M. Psychosocial factors that influence health care use and self-management for African American and Latino men with type 2 diabetes an exploratory study. J Mens Stud. 2015:1060826515582495.
37. Figueroa-Perea JG. El ser hombre desde el cuidado de sí: algunas reflexiones. Revista Latinoamericana de Estudios de Familia. 2015;7:121-38.
38. Gharaibeh B, Gajewski BJ, Al-smadi A, Boyle DK. The relationships among depression, self-care agency, self-efficacy and diabetes self-care management. J Res Nurs. 2016;21(2):110-22.

ISSN 1695-6141