

HEALTH PROFESSIONALS ATTITUDES TOWARDS DIABETES MELLITUS: AN INTEGRATIVE REVIEW¹

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ABSTRACT

Investigate the literature how are characterized the attitudes of health professionals in relation to diabetes. Integrative literature review on the basis Scientific Electronic Library Online, Brazilian digital library of theses and dissertations, Virtual Health Library, National Library of Medicine, Google Scholar, between 1990 and 2016, in English, Spanish and Portuguese. The results of quantitative studies were synthesized and those of a qualitative nature were subjected to content analysis. In general, quantitative studies show that doctors, nurses, dietitians and pharmacists showed favorable attitudes toward diabetes. However, there were differences in attitudes between the professional categories in relation to the severity of Type 2 diabetes, psychosocial impact of diabetes and autonomy of the person with diabetes. Meanwhile, in qualitative studies identified the presence of favorable and unfavorable attitudes among doctors, with regard to the autonomy of the person with diabetes. The synthesis of knowledge may help in understanding the different care practices in diabetes and in the planning of professional development programs.

Palavras-chave: Attitude of health personnel. Diabetes mellitus. Review.

INTRODUCTION

The complexity involved in caring diabetes Mellitus caused this condition to become a challenge for health care professionals. Allied to this, there is the fact that, although there are public policies and the technologies for the treatment of people with diabetes have advanced, it is estimated that its prevalence continues to increase, as well as its complications^(1,2).

Among the challenges faced by professionals in the field of health, there is the development of educational activities that consider the context of the life of the person who has diabetes, and promote his/her participation and autonomy in decisions related to treatment⁽³⁾. These actions, in turn, are influenced by attitudes that healthcare professionals have in relation to psychosocial and clinical aspects involving the condition of diabetes⁽⁴⁾.

The relevance of the theme is reinforced by the fact that international scientific publications aimed at identifying the attitudes of

professionals regarding diabetes have increased in recent decades, being these both qualitative and quantitative approach⁽⁴⁻⁹⁾. However, there are still a few national studies aimed at investigating this subject⁽⁸⁾.

In this context, it is believed that knowledge about the state of the art related to scientific productions regarding the attitudes of Health professionals on diabetes can contribute to the identification of prevailing attitudes among these professionals and thus subsidize the construction of upgrade programs to consider these aspects, since they are able to influence the relations between professionals and people living with this condition. Thus, the present study aimed to answer the following question: How are characterized the attitudes of health care professionals in relation to diabetes Mellitus?

METHODOLOGY

It is an integrative review research conducted during the months of January to April 2016⁽¹⁰⁾.

¹Article extracted from the PhD thesis Translation, cultural adaptation and validation of the instrument Diabetes Attitudes Scale", presented at the Federal University of Minas Gerais, Nursing School, Belo Horizonte, MG, Brazil.

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The literature search was conducted in the following databases: BDTD (Digital Library of Theses Dissertations), *National Library of Medicine* (Medline/PubMed route), VHL (Virtual Health Library), Scielo (*Scientific Eletronic Library Online*) and Google Scholar. The following subject descriptors were selected: Attitudes, Attitudes of health personnel, Diabetes mellitus, Health professional and Perception. In addition, the search of the articles was limited by the following filters: period (1/1/1990 to 3/31/2016); language (English, Portuguese and Spanish) and age of the target audience (19 years old or older). Another strategy used was the manual search in lists of references of the selected studies.

Besides the mentioned filters, the following inclusion criteria were used: national and international scientific articles, primary studies, qualitative or quantitative nature, concerning the attitudes of Health professionals in relation to diabetes *Mellitus*. For the quantitative approach studies, we selected those which used two versions of the Diabetes Attitudes Scale - DAS instrument. The option for restricting the studies of quantitative approach to those which use the *DAS instrument* is due to the fact of them being translated, adapted and validated in Brazil, constituting part of the doctoral thesis of the first author, yet to be defended. In this way, the selection of articles considered aspects investigated by the instrument: severity of the diabetes Type 2, autonomy of the person who has diabetes in therapeutic decision-making, psychosocial impact of diabetes on the life of the person who lives with this condition, need for professional update and importance of rigid control of glucose. The first version of the instrument differs from the third version for not owning the "importance of rigid control of glucose" subscale. Both scales feature a score ranging from zero to five points, and the closest score to five indicates favorable attitudes.

It is important to mention that the steps of database research, selection, analysis of studies and data collection were performed independently by two researchers. The data collection of the selected items, in turn, was held by forms developed by the authors considering the outline of the study and the recommendations set out in the literature^(11,12).

The data collected from the section of results of research of qualitative approach underwent content analysis⁽¹³⁾. The textual analysis of the part of the results of the qualitative studies was made up of the following stages: pre-analysis, material exploration and processing of results.

Yet, the critical evaluation of studies was based on standardized forms, considering each type of design. For the qualitative studies, we used the *Critical Appraisal Checklist For Interpretative & Critical Research* (JBI-QARI)⁽¹⁴⁾. The studies that have obtained six or more affirmative responses in the JBI-QARI remained in the final sample. For the quantitative and observational approach nature research, we used the *Prevalence Critical Appraisal Instrument*⁽¹²⁾. The studies that have obtained six or more affirmative responses to this instrument remained in the final sample of research. Finally, the quasi-experimental studies were evaluated through the TREND⁽¹⁵⁾ checklist, being included the studies attending at least 70% of the methodological recommendations for the development of the studies. It should be noted also that ethical principles were maintained, respecting the copyright, through the citation of each of the authors.

RESULTS AND DISCUSSION

Initially, we identified 1,581 studies, of which 18 were selected for the sample, being 11 of cross-sectional studies^(4-6,16-22,24), two quasi-experimental studies^(23,25) and five qualitative approach studies^(3,7,26-28). The studies inclusion process flow is illustrated in Figure 1.

Regarding the scale used in the quantitative approach studies to assess the attitudes of the professionals, nine of them used the *Diabetes Attitudes Scale – third version* and four of them used the first version of the scale.

Table 1 presents descriptions of the main features of the quantitative approach articles, and each article was identified according to the order of citation in the references.

Among the main results presented in studies that used versions of Diabetes Attitudes Scale, it was stated that the lowest and highest average score for professional category on subscale "need update" were: doctors (3.9-4.7)^(16,20),

nurses (4.2-4.8)^(5,17), pharmacists (4.2-4.4)^(4,5) and nutritionists (4.1-4.5)^(4,17). Nurses and doctors have been those that have more favorable attitudes on this issue. However, one should note that, while doctors direct their training to clinical aspects, nurses are more involved in issues related to educational practices directed at people who have diabetes⁽²⁹⁾.

As for attitudes related to the severity of diabetes, the lowest and highest average score among professionals were: doctors (3.0-4.5)^(23,24), nurses (2.6-4.6)^(5,17), pharmacists (2.9-3.9)^(5,25) and nutritionists (3.7-4.3)^(4,17). The lowest average score for this subscale was obtained between nurses and pharmacists, indicating the presence of less favorable

attitudes regarding the seriousness of diabetes Type 2. It is argued that the way in which health professionals perceive this condition is relevant by having direct implications in diabetes care, because their attitudes are related to their professional practices and they tend to pay more attention when they believe the condition to be treated is serious⁽⁵⁾.

For the "importance of rigid control of glucose" subscale, the following minimum and maximum values for score were obtained: doctors (3.4-4.0)^(5,18), nurses (3.4-3.9)^(5,17), pharmacists (3.3-4.0)^(4,25) and nutritionists (3.5-3.8)^(4,17). For this subscale, pharmacists were those who obtained the lowest score (3.3 ± 0.7)⁽⁵⁾ when compared to other professionals.

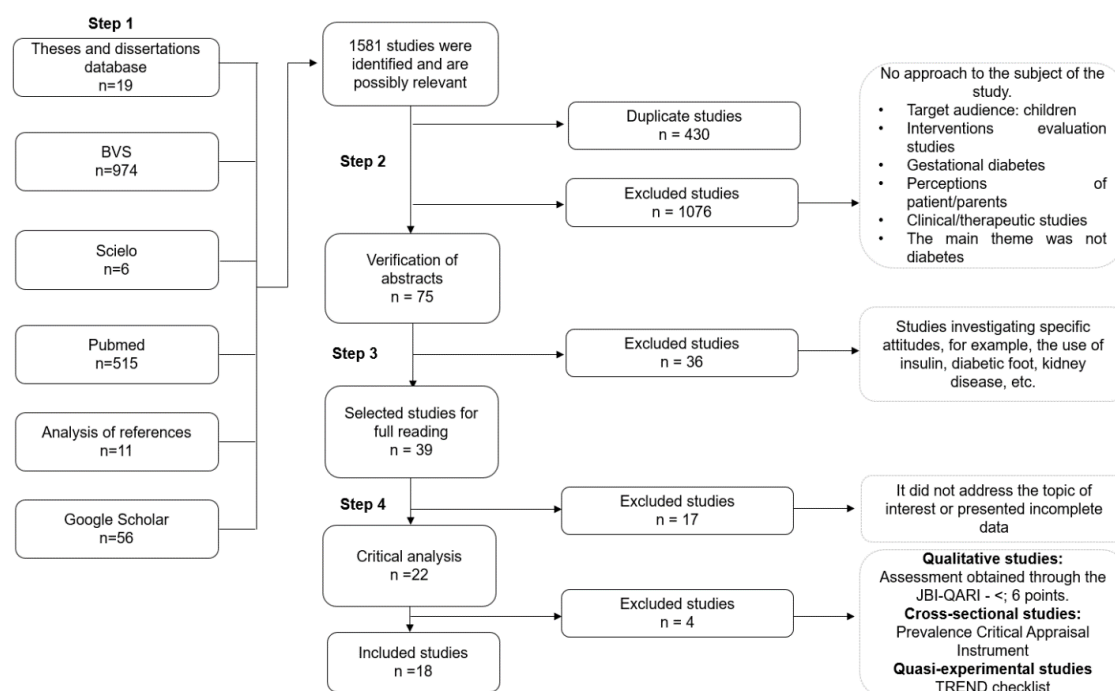


Figure 1. Flowchart for identification and selection of articles for the integrative review on the attitudes of healthcare professionals in relation to diabetes Mellitus, from 1990 to 2016.

At the same time, it was observed that, independent of the professional category or of the country where the study was conducted, the professionals tend to agree on the importance of rigid control of glucose. Whereas glycemic control is related to the development of complications and higher mortality, it is emphasized the importance of all health staff

having similar attitudes and giving special importance to this issue. However, it should be noted that the studies also showed that there is a specific definition of treatment for achieving glycemic targets with a tendency to disregard the other aspects related to the needs of people who have diabetes^(27,28).

Table 1. Description of the characteristics of a quantitative approach that composed the review. Belo Horizonte, MG, 2016.

n=13

References	Country	Method	Scale	Participants	Characteristics of participants	Summary of results* Average (DP)
Bani-Issa W, Eldeirawi K, Tawil H.A. [4]	United Arab Emirates	Transversal	DAS-3	96 doctors, 127 nurses, 52 nutritionists, 62 pharmaceuticals	70% were female; 34% aged 41-60 years and 39% aged between 31-40 years, 51% presented between 1 and 10 years of experience	Doctors: [a] 4.6 (0.3), [b] 4.2 (0.5), [c] 3.7 (0.5), [d] 4.0 (0.5), [e] 3.3 (0.4) Nurses: [a] 4.4 (0.4), [b] 3.8 (0.5), [c] 3.5 (0.4), [d] 3.9 (0.5), [e] 3.3 (0.4) Nutritionists: [a] 4.5 (0.4), [b] 3.7 (0.4), [c] 3.5 (0.4), [d] 3.7 (0.4), [e] 3.6 (0.5) Pharmacists: [a] 4.4 (0.4), [b] 3.6 (0.5), [c] 3.3 (0.4), [d] 3.6 (0.5), [e] 3.0 (0.5)
Salinas-Martínez AM, <i>et al.</i> [16]	Mexico	Transversal	DAS-3	255 Doctors	63% were male, with an average age of 42.5 years, average of 16.5 years of experience.	[a] 3.9 (0.6), [b] 4.0 (0.5), [c] 3.9 (0.4), [d] 3.7 (0.5), [e] 3.3 (0.5)
Babelgaith SD, Alfadly S, Baidi M. [5]	Yemen	Transversal	DAS-3	37 doctors, 17 nurses, 19 pharmaceuticals	76.7% were male, 43.8% presented 30-39 years of age	Doctors: [a] 4.2 (0.5), [b] 3.2 (0.4), [c] 3.4 (0.6), [d] 3.7 (0.4), [e] 3.4 (0.7) Nurses: [a] 4.2 (0.5), [b] 2.6 (0.4), [c] 3.4 (0.6), [d] 3.4 (0.5), [e] 3.3 (0.6) Pharmacists: [a] 4.2 (0.3), [b] 2.9 (0.5), [c] 3.3 (0.7), [d] 3.4 (0.5), [e] 3.0 (1.1)
Gagliardino JJ, González C, Caporale JE. [6]	Argentina	Transversal	DAS-3	252 healthcare professionals (doctors, nurses, nutritionists, social worker and podiatrist)	68% were female, with an average age of 43.5 years	[a] 4.6 (0.3), [b] 3.8 (0.5), [c] 3.5 (0.4), [d] 3.3 (0.5), [e] 2.8 (0.4)
Chen H, <i>et al.</i> [25]	Taiwan	Quasi-experimental	DAS-3	72 pharmaceuticals	54.2% were male, 50.2% presented between 10 and 20 years since the end of the degree studies.	[a] 4.3 (0.4), [b] 3.9 (0.5), [c] 4.0 (0.4), [d] 3.7 (0.5), [e] 3.5 (0.4)
Clark M, Hampson SE. [17]	United Kingdom	Transversal	DAS-3	22 doctors, 48 nurses, 34 nutritionists	81% were female	Doctors: [a] 4.1 (0.4), [b] 4.3 (0.3), [c] 3.8 (0.3), [d] 3.4 (0.3), [e] 3.4 (0.4) Nurse: [a] 4.8 (0.2), [b] 4.6 (0.4), [c] 3.9 (0.3), [d] 3.6 (0.4), [e] 4.3 (0.4) Nutritionists: [a] 4.1 (0.4), [b] 4.3 (0.3), [c] 3.8 (0.3), [d] 3.4 (0.3), [e] 3.4 (0.4)
Egede LE, Michel Y. [18]	United States	Transversal	DAS-3	55 doctors	65% were male, with an average age of 33.5 years	[a] 4.5 (0.4), [b] 4.1 (0.3), [c] 4.0 (0.2), [d] 4.1 (0.4), [e] 3.9 (0.4)
Sharp LK, Lipsky MS. [23]	United States	Quasi-experimental	DAS-3	58 doctors, 58 medical health professionals with other training	68% were female, with an average of 17 years of experience	Doctors: [a] 4.5 (0.3), [b] 4.5 (0.4), [c] 3.9 (0.3), [d] 3.4 (0.5), [e] 4.1 (0.5) Health professionals with other training: [a] 4.7 (0.3), [b] 4.5 (0.5), [c] 4.4 (0.6), [d] 4.4 (0.5), [e] 4.1 (0.5)
Fisk DM, <i>et al.</i> [20]	United States	Transversal	DAS-3	130 doctors	60.8% were female, with an average age of 30.7 years	[a] 4.7 (0.3), [b] 4.3 (0.7), [c] 4.3 (0.7), [d] 4.3 (0.7), [e] 4.1 (0.9)
Younis WS, Campbell S, Slack MK. [19]	United States	Transversal	DAS	93 pharmaceuticals	61% were male, 41% were aged between 20 and 40 years, 49% presented between 10 and 20 years since the end of the degree studies.	[a] 4.2 (0.7), [b] 3.1 (0.7), [d] 2.9 (0.7), [e] 3.1 (0.8)
Schapansky LM, Johnson JA. [21]	Canada	Transversal	DAS	339 pharmaceuticals	63% were female, 57% presented between 10 and 20 years since the end of the degree studies.	[a] 4.4 (0.5), [b] 3.4 (0.9), [d] 2.9 (0.7), [e] 3.5 (0.7)
Sharp LK, Lipsky MS. [24] Sharp LK, Lipsky MS. [24]	United States United States	Transversal Transversal	DAS DAS	57 doctors, 34 Health professionals with other training 57 doctors, 34 Health professionals with other training	68% were female, with an average of 15.6 years of experience 68% were female, with an average of 15.6 years of experience	Doctors: [a] 4.4 (0.5), [b] 3.0 (0.6), [d] 3.3 (0.9), [e] 2.8 (0.8) Doctors: [a] 4.4 (0.5), [b] 3.0 (0.6), [d] 3.3 (0.9), [e] 2.8 (0.8)
Shute R, King M, Lehmann J. [22]	Australia	Transversal	DAS	629 nurses	92% were female, with an average age of 33 years, average of 10 years of experience.	[a] 4.0 (0.4), [b] 3.5 (0.6), [d] 3.9 (0.5), [e] 3.9 (0.5)

Observations: * [a] – Subscale: needs update; [b] Subscale: gravity of diabetes; [c] Subscale: importance of rigid control of glucose; [d] Subscale: psychosocial impact of diabetes; [e] Subscale: autonomy of the person who has diabetes.

With respect to the attitudes of Health professionals regarding the psychosocial impact of diabetes, we observed a lower average score among pharmacists (2.9 ± 0.7)^(21,24) and a higher average score among doctors (4.3 ± 0.7)⁽²⁰⁾, indicating the presence of unfavorable attitudes among pharmacists and favorable among doctors. Among the studies, one could observe a variation between the average score obtained for the occupational categories, with these minimum and maximum values: doctors ($3.4-4.3$)^(20,23), nurses ($3.4-3.9$)^(4,5), pharmacists ($2.9-3.7$)^(19,25), nutritionists ($3.4-3.7$)^(4,17). It is noteworthy that the way the professionals value the psychosocial issues related to diabetes is a measure of how they value issues related to the daily life of people living in this condition, which in turn reflected in patterns of communication and listening adopted by Healthcare professionals⁽¹⁸⁾.

Regarding the autonomy of the person who has diabetes to decide on his/her plan of care, pharmacists were those with the lowest average score (3.0 ± 1.1)⁽⁵⁾, followed by doctors (2.8 ± 0.8)⁽²⁴⁾, being possible to identify the presence of unfavorable attitudes among these professionals. The highest average score for this subscale was obtained between nursing professionals (4.3 ± 0.4)⁽¹⁷⁾. Regarding the minimum and maximum values to the average score of each professional category: doctors ($2.8-4.1$)^(23,24), nurses ($3.3-4.3$)^(5,17), pharmacists ($3.0-3.5$)^(4,25), nutritionists ($3.4-3.6$)^(4,17).

Table 2 presents descriptions of the main features of the qualitative approach articles, and each article was identified according to the order of citation in the references.

The analysis of qualitative studies could confirm the results found in the research of quantitative approach with regard to the attitudes of health professionals about the autonomy granted to people who have diabetes in decisions regarding the treatment. The "Professional attitude related to the autonomy of the person who has diabetes" theme was identified and was divided into two categories: "Informative Attitude" and "Shared Attitude"⁽²⁷⁾. From this perspective it was possible to identify the perception of professionals about the autonomy of the person who has diabetes to make decisions related to the treatment. Still, the

studies identified the greater tendency to adopt a paternalistic/informative stance among medical professionals^(26,27), as can be verified in the following lines:

I managed to change the way of life of the patients. [...] advice on diet, lifestyle and diabetes, following these recommendations and additional treatment with medicines and insulin. (26:55)

They {professionals} inform or give advice to patients. The recommendations related to individual lifestyles are based solely on the professional point of view about what is right or wrong – the patient's individual perspective is widely ignored. (26:55)

I don't negotiate. I simply tell them 'Look, you have this and this condition. If we don't do the right thing for you, and if you don't do this by yourself, the chances of you having this and that are like this. (27:193)

On the other hand, it was possible to identify doctors and other health professionals who try to encourage participation of the person who has diabetes on treatment-related choices.

[...] provide the patient with knowledge about the disease so that he/she may have control over the treatment [...]. (26:55)

I explain to them 'You have these problems and we need to deal with them, we need to have a deadline'. I would like to work with this deadline, but if you want another term, you can tell me. And then we can establish a term. (27:195)

[...] you can give them as much information as you can, but ultimately, it's up to them to make the changes themselves. So, I think they become the most important member of the team, because they have control over how much they will strive to do it. So, working within what they are prepared to do is the best way to get results. (27:196)

In relation to the participation of people who have diabetes in decisions related to the treatment, pharmacists and doctors demonstrated unfavorable attitudes when compared to nurses, which, it is argued, is related to the care centered on the priorities of the professionals and not on the people who live with this condition^(5,17,24). These attitudes show a more paternalistic position of the Health area of work in relation to people who have diabetes^(8,27).

However, it is important to note that the management of the care is carried out in large part by people who have diabetes. Thus, it emphasizes the importance of considering the characteristics and choices of people living with diabetes to establish treatment goals and thus contribute to better results in preventing complications and promoting quality of life⁽³⁾.

Studies show that the attitudes of health professionals differ, showing that each

professional category has a different way of thinking about issues related to the care in diabetes. The differences in scores for the same professional category in the sample study suggest that both the cultural aspects as those related to training can influence the way of thinking and acting of these professionals⁽¹⁷⁾.

Table 2. Description of the characteristics of the qualitative approach that composed the review. Belo Horizonte, MG, 2016. n=5.

References	Country	Study focus of interest	Participants	Characteristics of participants	Data collection method/technique	JBIR-QAR I
Stuckey HL, <i>et al.</i> [3]	Multicenter	Describe the prospects of health care professionals in relation to their role and responsibilities regarding the person who has diabetes.	4785 health professionals	52.4% were male, with an average age of 45 years	Categorical thematic analysis	8
Abdulhadi NMN, <i>et al.</i> [7]	Oman	Explore the experiences of professionals in the primary care Health field on the doctor-patient relationship in the consultations.	19 doctors, 7 nurses.	68% were female, with an average age of 35 years	Content analysis/Semi-structured interview	8
Asimakopoulou K, Newton P, Scambler SS. [28]	United Kingdom	Identify which is the understanding of the health care professionals who work with diabetes about the "empowerment" term, and if the professionals apply the principles of this approach in practice.	13 health professionals	Not explained	Content analysis	6
Shortus T, Kemp Lynn, McKenzie S. [27]	Australia	Investigate the doctor's perspective on patient involvement in treatment choices	21 doctors and 8 health professionals with other training	Extensive clinical experience, 14 of them work in urban area	Theory based on data/Depth interview	7
Holmström I, Halford C, Rosenqvist U. [26]	Sweden	Identify the understanding of health care workers about the main aspects of care in diabetes.	65 doctors, 92 nurses, 12 professionals from other areas.	50% of doctors were female and 95% of the professionals in the field of Health, with training, were female.	Fenomenografia	7

FINAL CONSIDERATIONS

This review has identified differences in the attitudes of Health professionals in relation to diabetes, highlighting psychosocial issues related to diabetes and participation of people living with this condition in decisions related to their treatment.

If, on the one hand, there was disagreement between the studies on the importance that doctors attribute to psychosocial impact related to diabetes on people's lives, on the other hand,

there was some agreement between the researches on the results of nursing professionals, demonstrating they attach particular importance to this issue in their practice. It was also possible to identify that, while doctors and pharmacists present unfavorable attitudes towards the participation of people with diabetes in decisions related to their treatment, nurses showed favorable attitudes to such participation.

The results of this study point to the need to investigate this issue in Brazil and to promote professional development programs to consider these aspects.

ATITUDES DOS PROFISSIONAIS DA SAÚDE EM RELAÇÃO AO DIABETES MELLITUS: REVISÃO INTEGRATIVA

RESUMO

Investigar na literatura como são caracterizadas as atitudes dos profissionais da saúde em relação ao diabetes. Revisão integrativa da literatura nas bases Scientific Electronic Library Online, Biblioteca digital brasileira de teses e dissertações, Biblioteca Virtual em Saúde, National Library of Medicine, Google Scholar, entre 1990 e 2016, nas línguas inglesa, espanhola e portuguesa. Os resultados dos estudos de natureza quantitativa foram sintetizados e aqueles de natureza qualitativa foram submetidos à análise de conteúdo. Em linhas gerais, os estudos quantitativos mostram que médicos, enfermeiros, nutricionistas e farmacêuticos apresentaram atitudes favoráveis em relação ao diabetes. Entretanto, foram encontradas diferenças nas atitudes entre as categorias profissionais em relação à gravidade do diabetes Tipo 2, impacto psicossocial do diabetes e autonomia da pessoa que tem diabetes. Enquanto isso, nos estudos qualitativos identificou-se a presença de atitudes favoráveis e desfavoráveis, entre médicos, no que se refere à autonomia da pessoa que tem diabetes. A síntese do conhecimento pode auxiliar na compreensão das diferentes práticas de cuidado em diabetes e no planejamento de programas de atualização profissional.

Palavras-chave: Atitude do pessoal de Saúde. Diabetes mellitus. Revisão.

ACTITUDES DE LOS PROFESIONALES SANITARIOS RELACIONADAS CON LA DIABETES MELLITUS: UNA REVISIÓN INTEGRADORA

RESUMEN

Investigar en la literatura cómo se caracterizan las actitudes de los profesionales de la salud con respecto a la diabetes. Revisión integradora de la literatura sobre las bases Scientific Electronic Library Online, biblioteca digital brasileña de tesis y disertaciones, Biblioteca Virtual en Salud, National Library of Medicine, Google Scholar, entre 1990 y 2016, en las lenguas inglesa, española y portuguesa. Los resultados de los estudios de naturaleza cuantitativa fueron sintetizados y los de carácter cualitativo se sometieron al análisis de contenido. En general, los estudios cuantitativos muestran que los médicos, enfermeros, nutricionistas y farmacéuticos presentaron actitudes favorables hacia la diabetes. Sin embargo, hubo diferencias en las actitudes entre las categorías profesionales con relación a la gravedad de la diabetes Tipo 2, el impacto psicossocial de la diabetes y la autonomía de la persona que tiene diabetes. Mientras que en los estudios cualitativos fue identificada la presencia de actitudes favorables y desfavorables, entre los médicos, en cuanto a la autonomía de la persona que tiene diabetes. La síntesis del conocimiento puede ayudar en la comprensión de las diferentes prácticas de cuidado de la diabetes y en la planificación de los programas de desarrollo profesional.

Palabras clave: Actitud del personal de Salud. Diabetes mellitus. Revisión.

REFERENCES

1. Morsink LM, Smits MM, Diamant M. Advances in pharmacologic therapies for type 2 diabetes. *Curr Atheroscler Rep.* 2013; 15(2):302.
2. Klafke A, Duncan BB, Rosa RS, Moura L, Malta DC, Schmidt MI. Mortalidade por complicações agudas do diabetes melito no Brasil, 2006-2010. *Epidemiol Serv Saúde* 2014; 23(3):455-62.
3. Stuckey HL, Vallis M, Kovacs BK, Mullan-Jensen CB, Reading JM, Kalra S, et al. "I do my best to listen to patients": qualitative insights into DAWN2 (diabetes psychosocial care from the perspective of health care professionals in the second diabetes attitudes, wishes and needs study). *Clin Ther.* 2015 Sep; 37(9):1986-98.
4. Bani-Issa W, Eldeirawi K, Tawil H.A. Perspectives on the attitudes of healthcare professionals toward diabetes in community health setting in United Arab Emirates. *J Diabetes Mellitus.* 2015; 5:1-11.
5. Babelgaith SD, Alfadly S, Baidi M. Assessment of the attitude of health care professionals towards diabetes care in Mukalla, Yemen assessment Yemem. *IJPHS.* 2013; 2(4):159-64.
6. Gagliardino JJ, González C, Caporale JE. The diabetes-related attitudes of health care professionals and persons with diabetes in Argentina. *Rev Panam Salud Publica.* 2007; 22(5):304-7.
7. Abdulhadi NMN, Al-Shafae MA, Wahiström R, Hjeim K. Doctors' and nurses' views on patient care for type 2 diabetes: an interview study in primary health care in Oman. *Prim Health Care Res Dev.* 2013; 14(3):258-69.
8. David GF, Torres HC, Reis IA. Atitudes dos profissionais de saúde nas práticas educativas em diabetes mellitus na atenção primária. *Cienc Cuid Saude.* 2012; 11(4):758-66.
9. AK M, Sucakli MH, Canbal M, Kosar Y. What primary care physicians think about insulin initiation in type 2 diabetes: a field-based study. *Turk J Med Sci.* 2015; 45(2):409-15.
10. Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRAD. Revisão integrativa: conceitos e métodos utilizados na enfermagem. *Rev Esc Enferm USP.* 2014; 48(2):335-45.

11. Chung KC. JHS guidelines on systematic review and meta-analysis submissions. *J Hand Surg Am*. 2012 Jun; 37(6):1121-4. doi: 10.1016/j.jhsa.2012.03.024.
12. Munn Z, Moola S, Riitano D, Lisy K. The development of a critical appraisal tool for use in systematic reviews addressing questions of prevalence. *Int J Health Policy Manag*. 2014; 3(3):123-8.
13. Cavalcante RB, Calixto P, Pinheiro MMK. Análise de conteúdo: considerações gerais, relações com a pergunta de pesquisa, possibilidades e limitações do método. *Inf & Soc Est*. 2014; 24(1):13-8.
14. Joanna Briggs Institute. Joanna Briggs Institute Reviewers' Manual. Adelaide (Austrália): Joanna Briggs Institute, 2011. 200p. [citado 2003 abr 28]. Disponível em: <http://joannabriggs.org/assets/docs/sumari/ReviewersManual-2011.pdf>.
15. Fuller T, Pearson M, Peters JL, Anderson R. Evaluating the impact and use of transparent reporting of evaluations with non-randomised designs (TREND) reporting guidelines. *BMJ Open*. 2012;2:e002073.doi:10.1136/bmjopen-2012-002073
16. Salinas-Martínez AM, Mathiew-Quiros A, Núñez-Rocha GM, Garza-Elizondo ME. Comparación de actitudes hacia la diabetes entre médicos y pacientes diabéticos usuarios del sector privado, seguridad social o servicios de salud del Estado. *Rev Invest Clin*. 2004; 56(6):726-36.
17. Clark M, Hampson SE. Comparison of patients' and healthcare professionals' beliefs about and attitudes towards type 2 diabetes. *Diabet Med*. 2003; 20(2):152-4.
18. Egede LE, Michel Y. Attitude of internal medicine physicians toward type 2 diabetes. *South Med J*. 2002 Jan; 95(1):88-91.
19. Younis WS, Campbell S, Slack MK. Pharmacist's attitudes toward diabetes and their involvement in diabetes education. *Ann Pharmacother*. 2001 Jul-Aug; 35(7-8):841-5.
20. Fisk DM, Hayes RP, Barnes CS, Cook CB. Physician assistant students and diabetes: evaluation of attitudes and beliefs. *Diabetes Educ*. 2001 Jan-Feb; 27(1):111-8.
21. Schapansky LM, Johnson JA. Pharmacist's attitudes toward diabetes. *J Am Pharm Assoc (Wash)*. 2000 May-Jun; 40(3):371-7.
22. Shute R, King M, Lehmann J. The effect of nursing education and experience on attitudes to diabetes. *Aust J Adv Nurs*. 1997 Mar-May; 14(3):27-32.
23. Sharp LK, Lipsky MS. Continuing medical education and attitudes of health care providers toward treating diabetes. *J Contin Educ Health Prof*. 2002 Spring; 22(2):103-12.
24. Sharp LK, Lipsky MS. The short-term impact of a continuing medical education program on provider's attitudes toward treating diabetes. *Diabetes Care*. 1999 Dec; 22(12):1929-32.
25. Chen H, Lee T, Huang W, Chang C, Chen C. The short-term impact of a continuing education program on Pharmacists' knowledge and attitudes toward diabetes. *Am J Pharm Educ*. 2004; 68(5):1-6.
26. Holmström I, Halford C, Rosenqvist U. Swedish health care professionals' diverse understanding of diabetes care. *Patient Educ Couns*. 2003 Sep; 51(1):53-8.
27. Shortus T, Kemp Lynn, Mckenzie S, Harris M. Managing patient involvement: provider perspectives on diabetes decision-making. *Health Expect*. 2013 Jun; 16(2):189-98.
28. Asimakopoulou K, Newton P, Scambler SS. Health care professionals' understanding and day-to-day practice of patient empowerment in diabetes: time to pause for thought? *Diabetes Res Clin Pract*. 2012 Feb; 95(2):224-9.
29. Borba AKOT, Marques APO, Leal MCC, Silva RRSP. Práticas educativas em diabetes mellitus: revisão integrativa da literatura. *Rev Gaúcha Enferm*. 2012; 33(1):169-76.

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