

Agentes comunitarios de salud para el autocontrol en diabetes

Community health agents for self-control in diabetes

Agentes comunitários de saúde para autocontrole em diabetes

Antonio Vicente Yam Sosa

Facultad de Enfermería, Universidad Autónoma de Yucatán, México

ayamsosa@gmail.com

Silvia del Carmen Delgado Sandoval

División de Ciencias de la Salud e Ingenierías, Campus Celaya Salvatierra, Universidad de

Guanajuato, México

scdelgado@ugto.mx

Hugo Antonio Laviada Molina

Universidad Marista de Mérida, México

halm611031@hotmail.com

María Laura Ruiz Paloalto

División de Ciencias de la Salud e Ingenierías, Campus Celaya Salvatierra, Universidad de

Guanajuato, México

lauraruizpaloalto@hotmail.com

Resumen

Los agentes comunitarios de salud son personas capacitadas para asistir al profesional de salud durante la prestación de servicio en la comunidad. También reciben el nombre de par de apoyo: viven con la misma enfermedad que la persona a la cual apoyan y saben lo que significa vivir y lidiar con la enfermedad. El propósito de este trabajo es presentar evidencia científica sobre el alcance y beneficio de la contribución de los pares en diversos programas de educación para el automanejo de la diabetes mellitus tipo 2 (DT2). Para esto, se realizó una revisión bibliográfica de ensayos clínicos controlados publicados en los años de 2010 a 2015. Las fuentes fueron recopiladas

de bases de datos nacionales e internacionales, tales como MEDLINE, Pubmed, Web of Science (Science, Index). Los descriptores fueron tres conceptos “*diabetes*” AND “*apoyo de los pares*” AND “*resultados*”. Se incluyeron artículos de texto completo en inglés y español.

Los resultados de la búsqueda proporcionaron una fuerte evidencia de apoyo entre iguales en el automanejo de la diabetes. La intervención de los pares de apoyo demostró ser una excelente colaboradora con los profesionales de salud en el automanejo de la DT2. Tiene viabilidad en su implementación, sustentabilidad al retener la alta proporción de población participante, efectividad clínica y mejora en la calidad de vida al evidenciar una reducción significativa de hemoglobina glucosilada (HbA1c), eficacia —especialmente en personas con baja adherencia al medicamento y autogestión, y con bajo nivel de alfabetización en salud—, reducción de costos por hospitalizaciones, y, además, ha demostrado ser una práctica humanizadora. La implementación de programas para el automanejo de la diabetes con el apoyo de pares está altamente difundida en varias partes del mundo. Los hallazgos del estudio demostraron que los pares de apoyo son una excelente estrategia para el autocontrol y para hacer frente a los retos de salud presentes y futuros en el cuidado de la persona que vive con DT2.

Palabras clave: Agentes Comunitarios de Salud, Diabetes Mellitus Tipo 2, Educación en Salud, Atención Primaria en Salud (fuente: DeCS).

Abstract

Community health agents are individuals trained to assist the health professional during the provision of community service. They also receive the name of support couple: they live with the same illness as the person they support and know what it means to live and deal with the disease. The purpose of this paper is to present scientific evidence on the extent and benefit of peer contribution in various education programs for the self-management of diabetes mellitus type 2 (DT2). For this, a bibliographic review of controlled clinical trials published in the years of 2010 to 2015 was carried out. Data sources were compiled from national and international databases, such as MEDLINE, Pubmed, Web of Science (Science, Index). The descriptors were three concepts

"diabetes" AND "peer support" AND "results". Full text articles were included in English and Spanish.

The search results provided strong evidence of peer support in self-management of diabetes. The intervention of the support pairs proved to be an excellent collaborator with the health professionals in the self-management of the DT2. In addition, it has viability in its implementation, sustainability by retaining a high proportion of the participating population, clinical effectiveness and improvement in the quality of life at evidencing a significant reduction in glycosylated hemoglobin (HbA_{1c}), efficacy —especially in people with low adherence to medication and self-management, and low health literacy—, cost reduction for hospitalizations, and has proved to be a humanizing practice. The implementation of programs for the self-management of diabetes with the support of peers is widespread in several parts of the world. The study findings showed that support pairs are an excellent strategy for self-management and to address present and future health challenges in caring for the person living with DT2.

Keywords: Community Health Agents, Diabetes Mellitus Type 2, Health Education, Primary Health Care.

Resumo

Os agentes comunitários de saúde são pessoas treinadas para auxiliar o profissional da saúde durante a prestação de serviços na comunidade. Eles também recebem o nome do par de suporte: eles vivem com a mesma doença que a pessoa que eles apoiam e sabem o que significa viver e lidar com a doença. O objetivo deste trabalho é apresentar evidências científicas sobre o escopo e benefício da contribuição de pares em vários programas de educação para a autogestão do diabetes mellitus tipo 2 (DT2). Para isso, foi realizada uma revisão bibliográfica de ensaios clínicos controlados publicados nos anos de 2010 a 2015. As fontes foram compiladas a partir de bases de dados nacionais e internacionais, como MEDLINE, Pubmed, Web of Science (Science, Index). Os descritores foram três conceitos de "diabetes" e "suporte de pares" e "resultados". Os artigos de texto completo foram incluídos em inglês e espanhol.

Os resultados da pesquisa forneceram fortes evidências de apoio aos pares na autogestão da diabetes. A intervenção dos pares de apoio resultou ser um excelente colaborador com os profissionais de saúde na autogestão do DT2. Possui viabilidade na sua implementação, sustentabilidade, mantendo a alta proporção da população participada, a eficácia clínica e a melhoria da qualidade de vida, evidenciando uma redução significativa da hemoglobina glicosilada (HbA1C), a eficácia - principalmente em pessoas com baixa adesão à medicação e autogestão, e com baixo nível de alfabetização na saúde -, redução de custos para hospitalizações e, além disso, provou ser uma prática humanizadora. A implementação de programas para a autogestão de diabetes com o apoio de colegas é generalizada em várias partes do mundo. As descobertas do estudo demonstraram que o apoio aos pares é uma excelente estratégia para o autocontrole e para enfrentar os desafios de saúde presentes e futuros no cuidado da pessoa que vive com DM2.

Palavras-chave: Agentes Comunitários de Saúde, Diabetes Mellitus Tipo 2, Educação em Saúde, Atenção Primária à Saúde (fonte: DeCS).

Fecha recepción: Noviembre 2016

Fecha aceptación: Mayo 2017

Introduction

Diabetes education and self-management of diabetes are critical components for the effective care of this chronic condition for health professionals (Tang, Funnell, Gillard, Nwankwo and Heisler, 2011). The American Diabetes Association (ADA) and the American Association of Diabetes Educators (AADE) define education for self-management of diabetes as the ongoing process of facilitating knowledge, the skill and capacity necessary for self-care of diabetes, and support for the self-management of diabetes as activities to help the person with diabetes to implement and maintain the current behaviors needed to manage their disease. Stryer (2001) points out that, given the increasing increase in cases of diabetes, the need to reduce the time of doctor visits and the increase in the cost of health care, coupled with the fact that not all people with

diabetes have access to education and support for the self-control of their disease - in particular people from communities with insufficient and low medical resources - motivates a growing interest in the use of "peer support" as a possible model for the management of diabetes (Nettles & Belton, 2010; Heisler, 2008; and Brownson & Heisler, 2009).

Currently, in peer programs around the world, people who provide this support take different names: community health workers (TCS), promoters, health coaches, health advisory lawyers, guide patients, health workers or volunteers of health. Regardless of the name they receive, peer support is given among people who live with the same condition as the people they support. They are volunteers and, generally, focus on offering support for the self-control of the disease to a small group of people. Peers are good people to motivate and encourage other people because they understand the difficulties and challenges of living with the disease (Tang et al., 2011, and Thom, et al., 2012). They are trained to assist professional health personnel in contacting residents of the community to assess the needs of health services (Viswanathan, et al., 2010, Perry, Zulliger & Rogers, 2014). In this article the name of support pairs will be used. For Dennis (2003), peer support is the emotional, evaluative and informative assistance provided by a member of the created social network who has knowledge and experience about a specific or stressful behavior, which has similar characteristics to the target population.

Current evidence on supportive peer interventions in diabetes is promising, but limited. It is noteworthy that there is little information available to guide the integration of peer support efforts with clinical professional teams, in addition to strategies that vary widely in the diverse experiences where they have been implemented. New evidence suggests that the health team values the intervention of the peers, however, the preferences of the professionals regarding the interaction with the peers have not been explored in detail and how those preferences may differ in the discipline. Therefore, peer support practices and interventions will need to assess preferences within their own organization to allow for proper communication between peers and health professionals for their specific context.

Although the peer support model offers greater flexibility and personalization compared to the directed and usual professional model, it represents a challenge for the empirical evaluation in its implementation. There is quantitative research in this regard, however, more qualitative research is needed to understand how incentives affect and influence the initial and continuous motivation

of peers to participate in interventions. In addition, greater transparency is required in relation to the peer-training process and the methods used to assess the skills and competencies of potential peer supporters and apprentices. Without extensive evaluation, it is not possible to replicate or understand the underlying mechanisms of the peer support model (Tang, Ayala, Cherrington & Rana, 2011a).

The evidence points out that peer support helps people: prevent the disease; manage chronic diseases, such as diabetes; deal with stress or emotional and psychological problems; involve the population where the health system is limited in resources; and reduce unnecessary attention as a consequence of multiple hospital admissions caused by complications of the disease. Fisher et al. (2015a) point out that, in each of these situations, peer support is generally profitable and there is often cost savings. In this sense, Bonal, Almenares & Marzán (2012), refer that peer support in health is a new trend in the promotion and education in health at the primary level of care, aimed at achieving the empowerment and self-control of the person with a chronic noncommunicable disease.

The objective of this integrative review is to systematize the benefits and contributions in the support of the couple for the self-management of the disease in people living with type 2 diabetes according to the results obtained in different indexed scientific publications that refer to the subject. It is hoped that this work will provide an idea of the benefits, satisfaction and emotion that peer support can bring to people, professionals and health systems.

Method

A bibliographic search was carried out with the purpose of identifying articles about the interventions of peer support in diabetes, in the computerized databases MEDLINE, Pubmed, Web of Science (Science, Index). The descriptors used in combination were three concepts "diabetes" "AND" support of pairs "" AND "results". Full text articles were included in English and Spanish. The review provided 21 studies that met the inclusion criteria: a) intervention studies with peer support in diabetes, b) written in English and Spanish c) research published between 2010 and 2015. The review yielded 277 related articles with the theme, 75 in the period 2010-2015, 30 that met the eligibility criteria and the full text of 21 articles was obtained.

Results

The topics discussed in the research are: the contributions and benefits of peer support, the benefits of peer support in programs for people with limited resources, comprehensive attention in peer programs and evidence in the intervention of the couple on the control of diabetes. Next, the findings found in each of these topics are presented.

The contributions and benefits of peer support (4 articles)

Parry & Watt-Watson (2010) y Rosenthal *et al.* (2010) describe the advantages of peers in support of health care, that is, they invite people to share knowledge and experiences about their disease, provide health education to the person, groups and communities, provide practical assistance to achieve and maintain complex health behaviors such as glycemic control, offer emotional and social support, help people cope with stressors that accompany health problems, help people access and navigate clinical care resources need, increase individual and community capacity to understand health problems and promote ways to address them, advocate for patients and their communities, build relationships based on trust instead of relationships based on the hierarchical power of knowledge, facilitate the construction of cultural competence in health care professionals and improve health communication between patients and health care teams. We point out (Heisler, 2008) five models of peer support that facilitate their contributions and benefits: 1) face-to-face support intervention in group self-care programs, 2) peer coaches, peers or counselors, 3) community workers health, 4) peer support based over the phone, and 5) peer support through the internet based on email.

The benefits of peer support in programs for people with limited resources (5 articles)

Campbell (2014), Moskowitz, Thom, Hessler, Ghorob, Bodenheimer (2013), Piette, Resnicow, Choi & Heisle (2013) y Brown, *et al.* (2012) They point out that people who have greater health needs often do not receive prompt attention as those who have access to health systems. Peer support represents an opportunity to give attention, especially in people who are isolated from information, with low resources or who lack the means to care for their chronic disease. This situation translates into an aid to health professionals to better understand their patients and

motivate people to maintain healthy life patterns, despite vulnerable environments and those whose emotional distress complicates their care.

Thom et al. (2013) report positive evidence on peer support intervention in people with low economic resources in ethnic minorities with diabetes. They point out that the intervention of the peers substantially improved the control of glucose in relation to the usual control in their health center of the safety net. On the other hand, Piette et al. (2013) point out that peer support was effective among participants who started the study with the lowest levels of health literacy for their diabetes.

Comprehensive care in peer programs (4 articles)

Some authors, such as Fisher et al. (2015a) and Fisher et al. (2015), state that mental health or mental health problems are considered in programs with peer support, because they often influence self-management of diseases such as diabetes. Peer support is a positive strategy to address this underlying complex that causes psychological problems and leads to other diseases. Likewise, Fisher et al. (2015) and Chan et al. (2014) point out that these programs also alleviate mental health problems that complicate the attention, care and results of multimorbid health conditions such as those caused by diabetes. For their part, Pfeiffer, Heisler, Piette, Rogers & Valenstein (2011) reported substantial improvements in the emotional state of the participants through peer-support interventions that were initially designed only to address diabetes management. They also showed benefits of peer support for depression, compared to usual care.

The evidences in the intervention of the pairs (19 articles)

The findings obtained document the effectiveness of peer support in the programs and a series of characteristics pertinent to their intervention and adoption in health care in the management of diabetes, such as: feasibility, scope and limitations in their implementation, effectiveness, cost-effectiveness and humanizing principles.

- Feasibility for adoption

In this sense, Tang et al. (2011) report that peer support demonstrates a wide range of successful situations in practice, especially in low-income areas. All support pairs were able to implement support programs, regardless of socio-economic limitations and cultural variations. Peer support proved to be feasible in all settings and populations of the country. In peer-support training, researchers at the University of Michigan demonstrated the viability of the peer-training program in developing skills to provide self-management support for diabetes. In a 46-hour group training program, attendance was 100% and all participants demonstrated competence towards key objectives (for example, active listening, questioning). This project showed that non-professionals can be trained to perform interventions that are traditionally implemented by health professionals. On the other hand, Simmons et al. (2013) reported that, at the end of a pilot study with peer support with a duration of two months in the United Kingdom, the participants expressed the desire to continue fulfilling their peer support, which evidenced the value of the program for the people with diabetes.

On the other hand, peers are people who may or may not have formal educational instruction. The requirement is to know how to read and write. Its functions are aimed at providing support with experiential knowledge in a specific or stressful behavior and by the characteristics similar to the person who attend and that many health professionals do not understand. The findings raised in the study describe pairs that are from the same locality or community to which the person they support without formal educational instruction World Health Organization, (WHO, 2007).

Regarding the training that peers receive, there are several training programs, such as the one proposed by Tang et al. (2011), and in the world they have a different habilitation curriculum and its application adapted to the context. However, the programs are based on the principles and curriculum of the Chronic Disease Self-Management Programs. These programs teach and develop skills in an interactive way, designed to improve participants' confidence in their ability to perform specific self-care tasks. The objective is not to provide specific content of the disease, but rather to use interactive exercises to develop self-efficacy and other skills that will help participants to better manage their chronic conditions and to live actively. A vital element is the exchange and discussion among the participants with instructors, who may well be a health professional. Other peer training

programs report that non-professional peer trainers are a more informal and flexible means of supporting patients with diabetes. They meet one-on-one with other patients to listen, discuss concerns and provide support. Peer coaches are usually successful individuals who can serve as positive role models (WHO, 2007).

Regarding the number of hours invested for the accompaniment with the person, Norris, Engelgau, and Narayan (2001) point out that there is no timetable or agenda to provide peer support. The evidence indicates that the time of contact with the pair or educator is the most significant predictor of HbA1C reduction: 23.6 hours for each 1% of absolute decrease in HbA1C. However, the benefit decreased 1-3 months after the intervention ended, which suggests that, without support, health behaviors revert over time. More research is needed to develop effective interventions to maintain long-term glycemic control.

- Scope and commitments

Fisher *et al.* (2015a) evaluated 14 projects of peer support. They demonstrated that they were able to reach diverse audiences, mainly the most disadvantaged, an average retention in attendance of 78.6%, an initial glycosylated hemoglobin (HbA1C) of 11.1% on average versus 8.41% at the end of the project. In addition to the metabolic changes, the project benefited people with substantial needs to improve the management of the disease. Other results on the effectiveness of peer support indicate that of the 1,299 people enrolled in the peer support program, 167 were trained as peer support facilitators who fulfilled this commitment.

On the other hand, Andrea, Halanych, Cherrington & Safford (2012) point out that in the rural communities of Alabama there are more than 400 participants in peer support programs. These programs have the central purpose of establishing and maintaining alliances between the community and health professionals. In Beijing, China, the Association for the Prevention and Treatment of Diabetes enrolls 3 500 people with diabetes from 50 hospitals receiving peer support; It has been accepted by the participants who have set out to include 5,000 people in the project. Thom *et al.* (2013) showed that the effect of training in acquiring skills for health care was the same for people, regardless of demographic or psychological differences, which resulted in participants of different economic levels experiencing the benefits of peer support. On the other

hand, Urlaub et al. (2014) showed that support pairs reached 89% of adults with health needs such as: HbA1C > 8%, psychosocial distress, frequent referrals to the doctor and 84% of participants with regular care to their health. In Cameroon, in a peer support program that lasted 6 months, only 1 in 100 participants left.

- Effectiveness

Gagliardino *et al.* (2013) They performed an analysis on 14 support pairs projects, where HbA1C, in which they reported a decrease from an average of 8.5% to 7.7%, systolic blood pressure from 137 mmHg to 134 mmHg, and BMI 32.0 to 30.9 kg / m². Likewise, a study conducted in Argentina based on diabetes education and ongoing support by peer support was as effective as that implemented by health professional educators. Thom et al. (2013) reported that the peer support intervention in low-income and minority ethnic groups with diabetes improved substantially in glucose control compared to usual controls. In a project of trained supportive volunteers pairs showed sustained benefits in HbA1C and other clinical markers among Latino adults. (Tang et al., 2014). In Cameroon, the benefits of peer support demonstrated reductions in BMI (28.6 to 25.5 kg / m²), systolic and diastolic blood pressure (142.0 to 124.4, 84.4 to 77.7 mmHg), and HbA1C (9.6% to 6.7%). In Thailand, voluntary support partners in health were trained to include diabetes control in their work among individuals and communities. The evaluation showed improvement in glycemia and BMI along with a healthy diet, exercise, self-efficacy, and quality of life in general (Fisher et al., 2012).

The studies described make evident the feasibility for the adoption of the support pair in projects. Its scope, commitment and effect on peer support training in health care is the same, regardless of the demographic or psychological differences of the participants. Moskowitz et al. (2013) point out that participants from a variety of resources were able to experience the benefits of peer support. Likewise, Elstad et al. (2010) reviewed 47 articles related to peer support in various health problems in several countries. They point out that 39 (83%) of the articles reported significance between the groups and pre-post intervention changes, in addition to showing the benefits of peer support.

Several authors, such as Gagliardino et al., (2103); Greenhalgh et al., (2011), Mayes, Silvers & Prendergast (2010), McEwen, Pasvogel, Gallegos & Barrera (2010), Arretz (2010), Prezio et al. (2013), Ruggiero et al. (2010), Smith et al. (2011), Walton, Snead, Collinsworth & Schmidt (2012), Chen et al. (2010), Hargraves, Ferguson, Lemay & Pernice (2012) and Van der Wulp, Leeuw, Gorter & Rutten (2012) analyzed 17 projects on peer support intervention published on January 1, 2000 and June 2014 : 16 of the projects analyzed showed statistically significant evidence on the benefits of peer support, 11 of the articles reported clinical measurements before and after the intervention of the peers in HbA1C as a measure of glucose control. Mean HbA1C decreased significantly from 8.63% before the intervention to 7.74% after the intervention, a difference well above the point that the scientific community in diabetes considers clinically significant. In Uganda, peer support project participants communicated with each other and with a clinical nurse through a telephone / text network that caused the average HbA1C to decrease from 11.1% to 8.3%; The significant number of people in good glucose control increased from 17% to 32%. The mean diastolic blood pressure was reduced from 85.39 to 76.27 mmHg.

Mayes *et al.* (2010) they also reported an improvement in the perception towards the attention of the staff of the clinic, which suggests another benefit of peer support. In Nanjing, China, a peer support program that integrated resources and support from a hospital, community health centers, students, volunteers and doctors improved self-care behaviors, diabetes-related distress and symptoms depressants of the participants. In Beijing, during the first 8 months of a program for the prevention and treatment of diabetes, the percentage of participants with good blood glucose control increased from 48% to 64%.

This study focuses on people living with DT2. The support of the peers is related to a need that may well be reduction of HbA1C, weight reduction, blood pressure, improvement of physical activity and healthy eating, among others. Also the person may require improvement of psychosocial aspects such as the discomfort caused by diabetes, anxiety, depression among others. In this sense, the ADA (2016) recommends the goal of the control of DT2 <6.5% HbA1C.

- Cost-effectiveness in programs where peer support is implemented

Campbell (2014) y Moskowitz *et al.* (2013) reported that, when evaluating a peer support program economically, there is a saving of 55% to 93% of benefits depending on the number of participants included, such as, for example, a greater probability of being effective for those participants with greater health needs (with depression or poor baseline clinical status or onset). On the other hand, Moskowitz *et al.* (2013) showed that peer support was more effective in reaching participants less likely to follow a pharmacological regimen at the beginning of the program. In this same sense, Brown *et al.* (2012) reported a modification of participants in their lifestyles in low-income Latino adults with diabetes through the home visit of the support pair and a nurse in order to provide education for self-care and individual counseling. This situation resulted in savings of \$ 10,995 to \$ 33,319 for Quality Adjusted Life Year (QALY, adjusted quality of life per year). This situation was beneficial especially in people who have glycemic control.

- Humanizing principles in peer support programs

There is enough evidence that points out the basic functions of peers centered on the person: a) assistance in daily management, helping the person to do in his daily life what was planned with his doctor; b) social and emotional support, helping the person to stay motivated and talk about things when they feel stressed; c) link between the clinic and community resources, with which it is ensured that the person goes to the doctor when necessary; and d) continuous support, available and permanent support, because diabetes is endured throughout life.

Peer for Progress, Peer Support Around the World (2014) and Repper & Carter (2011) point out that the fundamental role of social relationships in health has important implications for peer support programs. In this sense, Roger *et al.* (2014) report that the personal characteristics of peer support are associated with the success of program participants in the improvement of HbA1C. Better levels of self-efficacy of the support pair in the care of their diabetes and certain levels of distress are associated with less improvement in the HbA1C of the participants, which suggests that some uncertainty of the pair on their own diabetes could promote a better self-management in the participant. These self-care characteristics should be considered in the selection of support

pairs. Undoubtedly, the humanizing effect of peer support in health care is due to the fact that program participants like the way in which their pair provides a personal connection to better understand their health by facilitating an expansion of the role of the peer. pair in the guidance of their own care.

Discussion

Comellas *et al.* (2010) they point out that interventions with peers of support are positively associated with improvements in self-care behaviors, such as diet and physical activity in general. The findings indicate that the interventions directed by pairs are more effective than the interventions led by professionals in health for the reduction of HbA1C, that is to say, those that participated in programs with in the support of pairs reported greater improvements in the clinical and psychosocial results that those of the intervention led by another health professional. However, Heisler, Vijan, Makki & Piette (2010) point out that these encouraging results do not mean that peers replace health professionals. Supportive peers play a vital role in contexts where resources are low and access to health and medical care professionals is poor. Controlled studies that followed the formation of peer support reported that they became effective peers, although they did not constantly use the techniques for support learned during their habilitation, however, study participants decreased to lower levels HbA1C after 6 months of peer support compared to those who did not receive training to serve as a support pair (Goldman et al., 2015).

In each of these interventions, peer support is generally cost-effective and often presents cost savings. People prefer peer support because of its humanized effect on care. In other words, the couple is willing to lead the person with diabetes by the hand and to awaken in him the latent spirit and confidence that exists in every person, through counseling and follow-up, which helps to produce changes in the self-management of the illness. The pair also helps the person to accept living with the disease. Acceptance is a state in which the person is willing to receive rather than to refuse and resist; he is able to accept things, to collaborate and to be receptive.

Finally, the support pair helps the individual understand that diabetes self-management programs are living standards that will serve him to the extent that he puts it into practice. The findings described in this article are based on standardized evidence that peer support improves health and humanized care (Fisher et al, 2015a). The evidence of peer support is expanding and is increasingly

innovative. Health professionals have the opportunity to explore the best way to extend peer support to those who need it, while retaining their effectiveness and person-centered characteristics, that is, the type of peer support work that works best, and how to integrate peer support effectively and efficiently into complex health systems.

There is no single model of peer support that works for all health conditions and all populations, however, emphasizing the science behind peer support and its humanizing impact on health care, health professionals. Health should advocate with leaders and decision makers to develop and sustain these important programs. Several authors-Viswanathan et al. (2010), Perry et al. (2014), Parry et al. (2010), Ayala Vaz, Earp, Elder & Cherrington (2010), Repper & Carter (2011), Pfeiffer et al. (2011), Lewin et al. (2010) and Giugliani, Harzheim, Duncan & Duncan (2011) - point out, through the review of nine articles, that an average of 65% articles report support benefits from peer support, as well as numerous contributions from peers of support in basic health needs in low-income countries, to primary care and health promotion in middle-income countries, and in the management of diseases in countries with developed economies.

The biggest challenge of chronic diseases, such as diabetes, derives from the fact that the person will live with the disease for the rest of his life. The health personnel should know that the successful self-management of the disease in the person with diabetes does not depend on it, but on their own, that is, on the result of their decisions and the consequences of the same. However, at present, health care models do not face this reality. It is necessary to focus attention on the care of the distinctive educational and psychological needs of people in the decades after their diagnosis, or after retirement, widowhood or other events throughout life.

For this, Fisher et al. (2012) point out that a perspective of life expectancy is necessary. The phases throughout life with diabetes include: the onset of the disease, the management of diseases and the prevention of complications, treatment of complications, progression of the disease and end of life. These phases can help and guide the interventions of peer support, because it considers the different self-management needs that may arise. Heisler (2008) points out that peer support is increasingly recognized as a viable and promising model for long-term self-management of diabetes, with greater attention focused on the evaluation of the health-related impact of diabetes. peer support interventions and understanding of the underlying mechanisms. It has been shown that the potential costs associated with volunteer-supported participation programs include the need

for recognition and modest compensation (for gas, telephone and other expenses) to the sustainable infrastructure needs of the program. Volunteer peer support programs can also face unique challenges with respect to training activities and programs, in their efforts to balance the content of the program and the time available to volunteers.

On the other hand, Cherrington et al. (2010) reported that intervention programs that wish to evaluate their scope or achievements may experience difficulties in evaluating the process, since volunteers are not paid to carry out administrative tasks. However, previous studies shed light on possible strategies to involve and retain supportive peers, for example, recognition within community acts and appearances in specific events such as lunches and newspaper articles, are sometimes as important or more important than economic remuneration. Recently, articles have been published that describe the development and implementation of peer training programs to facilitate support programs for self-management and education for diabetes self-care.

Tang et al. (2011) and Swider, Martin, Lynas & Rothschild (2010) provide a detailed guide for the development of a peer education program based on empowerment. The article presents the theoretical foundations of the training process and outlines the main components of the program (for example, the acquisition of knowledge, skills development and experiential learning), the specific competences that the pair must acquire and master (for example, communication, facilitation and behavior change skills), the teaching methods used for training (for example, role-playing, simulation, and brainstorming), assessment tools for formative and summative assessment, and established competence pre-criteria for successful graduation.

Conclusions

The findings of the study indicate that peer support interventions are successful, due to their contributions and benefits during the support process, benefits in the programs for people with limited resources, comprehensive attention in the peer programs and evidence in the intervention of the peers. Peers can help people living with type 2 diabetes in the self-management of their disease. Peer support models are especially promising for health systems with limited resources, since less resources are required for the development of these programs than interventions implemented by health professionals. Therefore, peer support interventions are an option for the self-management of diabetes, especially in low and middle income countries.

The health professional must remember that he is not omniscient or omnipotent, he must accept the fact that he has no control over diabetes and its consequences. The only person responsible for the self-management of the disease is the person who suffers it. Therefore, it is there where the efforts should be directed and the peers of support, in their own process of understanding themselves, will be in the best disposition not to analyze or censure the person with diabetes, especially when their efforts are insufficient to achieve your goals in the self-management of your disease.

In the process of accompaniment, the couple, like the person with diabetes, are induced to think differently about the difficulties they face in living with the disease. A new point of view gives them the proper perspective to channel these new ways of thinking, especially to resist the temptation to exaggerate the setbacks to the point that overwhelms them. Health professionals have a great ally in peer support for self-control of their disease in people living with T2D.

Conflicts of interest: The authors declare that they have no conflicts of interest.

Bibliography

- American Diabetes Associations. (2016). Standards of medical care in diabetes-2016: summary of revisions. *Diabetes Care Trials*, 33(3), 499-506
- Andreae, S. J., Halanych, J. H., Cherrington, A., & Safford, M. M. (2012). Recruitment of a rural, southern, predominantly african-american population into a diabetes self-management trial. *Contemporary Clinical Trials*, 33(3), 499-506.
- Arretz, D. (2010). Physician–community health worker partnering to support diabetes self-management in primary care. *Quality in Primary Care*, 18, 363-372.
- Ayala, G. X., Vaz, L., Earp, J. A., Elder, J. P., & Cherrington, A. (2010). Outcome effectiveness of the lay health advisor model among latinos in the united states: An examination by role. *Health Education Research*, 25(5), 815-840.
- Bonal Ruiz, R., Almenares Camps, H. B., & Marzán Delis, M. (2012). Coaching de salud: Un nuevo enfoque en el empoderamiento del paciente con enfermedades crónicas no transmisibles. *Medisan*, 16(5), 773-785.
- Brown, H. S., Wilson, K. J., Pagán, J. A., Arcari, C. M., Martinez, M., Smith, K., & Reininger, B. (2012). Peer Reviewed: Cost-effectiveness analysis of a Community Health Worker Intervention for Low-Income Hispanic Adults with Diabetes. *Preventing Chronic Disease*, 9. Retrieved <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3475531/>
- Brownson, C. A., & Heisler, M. (2009). The role of peer support in diabetes care and self-management. *The Patient: Patient-Centered Outcomes Research*, 2(1), 5-17.
- Campbell, C. (2014). An economic evaluation of a peer support intervention for diabetes self-management. *Birmingham, AL*. University of Alabama, Birmingham,;
- Chan, J. C., Sui, Y., Oldenburg, B., Zhang, Y., Chung, H. H., Goggins, W., Wong, R. Y. (2014). Effects of telephone-based peer support in patients with type 2 diabetes mellitus receiving integrated care: A randomized clinical trial. *JAMA Internal Medicine*, 174(6), 972-981.
- Chen, E. H., Thom, D. H., Hessler, D. M., Phengrasamy, L., Hammer, H., Saba, G., & Bodenheimer, T. (2010). Using the teamlet model to improve chronic care in an academic primary care practice. *Journal of General Internal Medicine*, 25(4), 610-614.

- Cherrington, A., Ayala, G. X., Elder, J. P., Arredondo, E. M., Fouad, M., & Scarinci, I. (2010). Recognizing the diverse roles of community health workers in the elimination of health disparities: From paid staff to volunteers. *Ethnicity & Disease, 20*(2), 189-194.
- Comellas, M., Walker, E. A., Movsas, S., Merkin, S., Zonszein, J., & Strelnick, H. (2010). Training community health promoters to implement diabetes self-management support programs for urban minority adults. *The Diabetes Educator, 36*(1), 141-151.
- Dennis, C. (2003). Peer support within a health care context: A concept analysis. *International Journal of Nursing Studies, 40*(3), 321-332.
- Elstad, E. A., Boothroyd, R., Henes, A., Maslow, G., Nelson, K., & Fisher, E. (2010, August). Global systematic review of peer support for complex health behavior. In *International Congress of Behavioral Medicine*. Retrieved http://peersforprogress.org/wp-content/uploads/2012/05/20120531_peer_support_global_systematic_review.pdf
- Fisher EB, Boothroyd RI, Coufal MM, Baumann LC, Mbanya JC, Rotheram-Boros MJ, Sanguanprasit B and Tanasugarn Ch. (2012) Peer support for self-management of diabetes improved outcomes in international settings. *Health Affairs (Millwood)*;31(1), 130-139
- Fisher, E. B., Ayala, G. X., Ibarra, L., Cherrington, A. L., Elder, J. P., Tang, T. S., Simmons, D. (2015). Contributions of peer support to health, health care, and prevention: Papers from peers for progress. *Annals of Family Medicine, 13*(Suppl_1):S28
- Fisher, E. B., Chan, J. C., Kowitt, S., Nan, H., Sartorius, N., & Oldenburg, B. (2015). Conceptual perspectives on the co-occurrence of mental and physical disease: Diabetes and depression as a model. In *Comorbidity of Mental and Physical Disorders* (Vol. 179, pp. 1-14) Karger Publishers. Retrieved <https://www.karger.com/Article/Abstract/365522>
- Gagliardino, J. J., Arrechea, V., Assad, D., Gagliardino, G. G., González, L., Lucero, S., Clark, C. (2013). Type 2 diabetes patients educated by other patients perform at least as well as patients trained by professionals. *Diabetes/metabolism Research and Reviews, 29*(2), 152-160.
- Giugliani, C., Harzheim, E., Duncan, M. S., & Duncan, B. B. (2011). Effectiveness of community health workers in brazil: A systematic review. *The Journal of Ambulatory Care Management, 34*(4), 326-338.

- Goldman, M. L., Ghorob, A., Hessler, D., Yamamoto, R., Thom, D. H., & Bodenheimer, T. (2015). Are low-income peer health coaches able to master and utilize evidence-based health coaching. *Annals of Family Medicine, 13 Suppl 1*, S36-41.
- Greenhalgh, T., Campbell-Richards, D., Vijayaraghavan, S., Collard, A., Malik, F., Griffin, M., Macfarlane, F. (2011). New models of self-management education for minority ethnic groups: Pilot randomized trial of a story-sharing intervention. *Journal of Health Services Research & Policy, 16*(1), 28-36.
- Hargraves, J. L., Ferguson, W. J., Lemay, C. A., & Pernice, J. (2012). Community health workers assisting patients with diabetes in self-management. *The Journal of Ambulatory Care Management, 35*(1), 15-26.
- Heisler, M. (2008). Different models to mobilize peer support to improve diabetes self-management and clinical outcomes: Evidence, logistics, evaluation considerations and needs for future research. *Family Practice, 27*, i23-i32.
- Heisler, M., Vijan, S., Makki, F., & Piette, J. D. (2010). Diabetes control with reciprocal peer support versus nurse care ManagementA randomized trial. *Annals of Internal Medicine, 153*(8), 507-515.
- Lewin, S., Munabi- Babigumira, S., Glenton, C., Daniels, K., Bosch- Capblanch, X., van Wyk, B. E., & Scheel, I.B. (2010). Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *The Cochrane Library*. Retrieved http://www.who.int/rpc/meetings/LHW_review.pdf
- Mayes, P. A., Silvers, A., & Prendergast, J. J. (2010). New direction for enhancing quality in diabetes care: Utilizing telecommunications and paraprofessional outreach workers backed by an expert medical team. *Telemedicine and E-Health, 16*(3), 358-363.
- McEwen, M. M., Pasvogel, A., Gallegos, G., & Barrera, L. (2010). Type 2 diabetes Self-Management social support intervention at the US- Mexico border. *Public Health Nursing, 27*(4), 310-319.
- Moskowitz, D., Thom, D. H., Hessler, D., Ghorob, A., & Bodenheimer, T. (2013). Peer coaching to improve diabetes self-management: Which patients benefit most? *Journal of General Internal Medicine, 28*(7), 938-942.

- Nettles, A., & Belton, A. (2010). An overview of training curricula for diabetes peer educators. *Family Practice, 27 Suppl 1*, i33-9.
- Norris SL, Engelgau MM, Narayan KM. (2001). Effectiveness of self-management traing in type 2 diabetes: a systematic review of randomized controlled trials. *Diabetes Care, 24*:561-87
- Parry, M., & Watt-Watson, J. (2010). Peer support intervention trials for individuals with heart disease: A systematic review. *European Journal of Cardiovascular Nursing, 9*(1), 57-67.
- Peer for progress peer support around the world (2014). Global evidence for peer support humanizing health care. Recuperado de <http://peersforprogress.org/wp-content/uploads/2014/09/140911-global-evidence-for-peer-support-humanizing-health-care.pdf>
- Perry, H. B., Zulliger, R., & Rogers, M. M. (2014). Community health workers in low-, middle-, and high-income countries: An overview of their history, recent evolution, and current effectiveness. *Annual Review of Public Health, 35*, 399-421.
- Pfeiffer, P. N., Heisler, M., Piette, J. D., Rogers, M. A., & Valenstein, M. (2011). Efficacy of peer support interventions for depression: A meta-analysis. *General Hospital Psychiatry, 33*(1), 29-36.
- Piette, J. D., Resnicow, K. F., Choi, H. F., & Heisler, M. (2013). A diabetes peer support intervention that improved glycemic control: Mediators and moderators of intervention effectiveness. *Chronic Illin. Dec; 9*(4)258-267
- Prezio, E. A., Cheng, D., Balasubramanian, B. A., Shuval, K., Kendzor, D. E., & Culica, D. (2013). Community diabetes education (CoDE) for uninsured mexican americans: A randomized controlled trial of a culturally tailored diabetes education and management program led by a community health worker. *Diabetes Research and Clinical Practice, 100*(1), 19-28.
- Repper, J., & Carter, T. (2011). A review of the literature on peer support in mental health services. *Journal of Mental Health, 20*(4), 392-411.
- Rogers, E. A., Hessler, D. M., Bodenheimer, T. S., Ghorob, A., Vittinghoff, E., & Thom, D. H. (2014). Diabetes peer coaching: Do “better patients” make better coaches? *The Diabetes Educator, 40*(1), 107-115.

- Rosenthal, E. L., Brownstein, J. N., Rush, C. H., Hirsch, G. R., Willaert, A. M., Scott, J. R., .Fox, D. J. (2010). Community health workers: Part of the solution. *Health Affairs (Project Hope)*, 29(7), 1338-1342.
- Ruggiero, L., Moadsiri, A., Butler, P., Oros, S. M., Berbaum, M. L., Whitman, S., & Cintron, D. (2010). Supporting diabetes self-care in underserved populations: A randomized pilot study using medical assistant coaches. *The Diabetes Educator*, 36(1), 127-131.
- Simmons, D., Cohn, S., Bunn, C., Birch, K., Donald, S., Paddison, C., Graffy, J. (2013). Testing a peer support intervention for people with type 2 diabetes: A pilot for a randomised controlled trial. *BMC Family Practice*, 14(1), 5.
- Smith, S. M., Paul, G., Kelly, A., Whitford, D. L., O'Shea, E., & O'Dowd, T. (2011). Peer support for patients with type 2 diabetes: Cluster randomised controlled trial. *BMJ*, 342: doi:10.1136/bmj.d715
- Stryer, D. (2001). Diabetes Disparities Among Racial and Ethnic Minorities. *Agency for Health Research and Quality*, 1-6. Retrieved <https://archive.ahrq.gov/research/findings/factsheets/diabetes/diabdsp/diabdsp.html>
- Swider, S. M., Martin, M., Lynas, C., & Rothschild, S. (2010). Project MATCH: Training for a promotora intervention. *The Diabetes Educator*, 36(1), 98-108.
- Tang, T. S., Ayala, G. X., Cherrington, A., & Rana, G. (2011). A review of volunteer-based peer support interventions in diabetes. *Diabetes Spectrum*, 24(2), 85-98
- Tang, T. S., Funnell, M. M., Gillard, M., Nwankwo, R., & Heisler, M. (2011). The development of a pilot training program for peer leaders in diabetes: Process and content. *The Diabetes Educator*, 37(1), 67-77.
- Tang, T. S., Funnell, M., Sinco, B., Piatt, G., Palmisano, G., Spencer, M. S., Heisler, M. (2014). Comparative effectiveness of peer leaders and community health workers in diabetes self-management support: Results of a randomized controlled trial. *Diabetes Care*, 37(6), 1525-1534.
- Thom, D. H., Ghorob, A., Hessler, D., De Vore, D., Chen, E., & Bodenheimer, T. A. (2013). Impact of peer health coaching on glycemic control in low-income patients with diabetes: A randomized controlled trial. *Annals of Family Medicine*, 11(2), 137-144.

- Urlaub, D., Parada, H., Ballesteros, J., Galvan, Y., McDonough, M., & Fisher, E. (June 2014). Population focused peer support to reach those not receiving recommended diabetes services. Population focused peer support to reach those not receiving recommended diabetes services. *American Diabetes Association 74th Scientific Sessions*; San Francisco. Resumen recuperado de http://peersforprogress.org/wp-content/uploads/2014/10/141107-ada2014_poster_peersforprogress_final.pdf
- Van der Wulp, I., de Leeuw, J., Gorter, K., & Rutten, G. (2012). Effectiveness of peer- led self-management coaching for patients recently diagnosed with type 2 diabetes mellitus in primary care: A randomized controlled trial. *Diabetic Medicine*, 29(10), e390-e397.
- Viswanathan, M., Kraschnewski, J. L., Nishikawa, B., Morgan, L. C., Honeycutt, A. A., Thieda, P., Jonas, D. E. (2010). Outcomes and costs of community health worker interventions: A systematic review. *Medical Care*, 48(9), 792-808.
- Walton, J. W., Snead, C. A., Collinsworth, A. W., & Schmidt, K. L. (2012). Reducing diabetes disparities through the implementation of a community health worker-led diabetes self-management education program. *Family & Community Health*, 35(2), 161-171.
- World Health Organization. *Peer support programmes in diabetes. Reporto of Q WHO consultation*, 5-7 november (2007). Recuperado de http://www.who.int/diabetes/publications/Diabetes_final_13_6.pdf

Rol de Contribución	Autor(es)
Conceptualización	Antonio Vicente Yam Sosa Hugo Antonio Laviada Molina
Metodología	Antonio Vicente Yam Sosa
Software	No aplica
Validación	Hugo Antonio Laviada Molina
Análisis Formal	No aplica
Investigación	Silvia del Carmen Delgado Sandoval (10%) Hugo Antonio Laviada Molina (35%) Antonio Vicente Yam Sosa (55%)
Recursos	No aplica
Curación de datos	Hugo Antonio Laviada Molina Antonio Vicnete Yam Sosa
Escritura - Preparación del borrador original	Hugo Antonio Laviada Molina Antonio Vicnete Yam Sosa
Escritura - Revisión y edición	Silvia del Carmen Delgado Sandoval (25%) María Laura Ruiz Paloalto (25%) Antonio Vicente Yam Sosa (55%)
Visualización	Antonio Vicnete Yam Sosa
Supervisión	No aplica
Administración de Proyectos	Antonio Vicente Yam Sosa.

Adquisición de fondos	No aplica
-----------------------	-----------