

GENDER DIFFERENCES IN PEER SUPPORT IN TYPE 2 DIABETES SELF-
MANAGEMENT:
AN INTERNATIONAL QUALITATIVE STUDY

Florence Osita Okoro

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Approved by:

Debra Barksdale

Jennifer Leeman

Kathleen Knafl

Shawn Kneipp

Edwin Fisher

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ABSTRACT

Florence Okoro: Gender Differences in Peer Support in Type 2 Diabetes Self-Management: An International Qualitative Study conducted through Interview and Written Responses to Open Ended Interview Questions
(Under the direction of Dr. Debra Barksdale)

Peer support in the context of diabetes self-management occurs when people with similar disease experiences provide assistance for daily disease management, social and emotional support, linkage to clinic care and community resources, and ongoing support to other people who are struggling with their own disease self-management. Therefore, because people with similar life experiences can better support each other, issues like gender differences play a role in peer support. No studies have explored the gender differences and gender issues in peer support with a view to consider such when designing and implementing a peer support program for Type 2 diabetes self-management.

This study explored the gender differences in support provision that occurred in peer support programs and aimed to identify gender related issues and their cultural contexts. The research investigated: a) what are the gender differences in the response and participation in peer support activities b) how does the peer support provided by male and female relate to the four key functions of peer support, and c) what variations are there in the socio-cultural context of peer support provided by male and female. Data collection method was open-ended structured interview questions by telephone and written responses to the interview questions. Data analysis

was done using deductive content analysis technique and included coding, comparison of data, construction of tables and in-depth exploration of categories.

Findings included that males dominated as peer supporters in peer support programs in Cambodia and Hong Kong and females dominated in African American and Latino peer support programs. Females seek, receive, and give emotional and social support more than males. Males and females give and seek support for assistance with daily disease management equally. When viewed separately, males give support for assistance with daily disease management first, followed by linkage to clinic care/community resources and ongoing support in that order. This study revealed that gender related issues occurred in all the peer support programs studied and highlighted the contextual cultural issues.

This study explains the gender differences and gender related issues in peer support in Type 2 diabetes self-management and provides evidence to support program planning of peer support programs.

To my late father, Sir J. C. Okereke

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CHAPTER 1

TYPE 2 DIABETES

Introduction

Diabetes mellitus is an incurable chronic disease characterized by abnormally high blood glucose levels. Diabetes is a global public health concern due its fast-growing nature from 366 million people suffering from the disease in 2011 to 387 million in 2014 and the projection that this figure will grow to 592 million people by 2035 (Guariguata et al., 2014; International Diabetes Federal [IDF], 2014).

The prevalence of type 2 diabetes has increased, secondary to increased incidence of overweight and obesity, increased intake of calorie dense foods, decrease in physical activity and increased sedentary behavior (Standards of Medical Care in Diabetes, 2013). Virtually all countries are experiencing an increase in diabetes. Table 1 provides an overview of the estimates of diabetes cases for the countries included in this study. The diabetes figures range from 96.29 million in China to .299 million in Cambodia (IDF, 2014). These figures are projected to increase to 143 million and .445 million respectively in the next twenty years for these two countries (Guariguata et al., 2014).

Table 1: Estimates of people with diabetes (20-79 years) for 2014 and 2035 projection

Country	Number of diabetes cases in millions (age 20-79)	
	2014	2035
Cambodia	0.299	0.445
Cameroon	0.515	1.1
China	96.29	143.0
Thailand	4.1	4.3
United States	25.8	29.7
Uganda	0.693	1.7
Vietnam	3.3	6.3

Sources: IDF, 2014; Guariguata et al., 2014

Diabetes Self-Management

Diabetes self-management is the cornerstone of good glycemic control in patients with type 2 diabetes (Nagelkerk, Reick, & Meengs, 2006; Standards of Medical Care in Diabetes, 2013). Diabetes self-management or self-care is the recommended daily activities an individual should do to keep blood glucose at an optimal level, minimize complications, and cope with the psychosocial effects of living with the disease (Chlebowy, Hood, & LaJoie, 2013; Gomersall, Madill, & Summers, 2011). Optimal glucose control is necessary to prevent or delay the complications of diabetes which include neuropathy, end-stage renal disease, non-traumatic lower limb amputation, diabetic retinopathy, cardiovascular complications and poor quality of life (Fowler, 2011). Diabetes self-management includes self-blood glucose monitoring (SBGM), medication and insulin administration, medical nutrition therapy, exercise, foot care, and follow up with health care professionals (Albine, van der Bruggen, Widdershoven, & Spreuwenberg, 2008). Diabetes care also includes prevention, early detection, and treatment of acute complications and integrating psychosocial adjustment into daily life (Albine et al., 2008).

The available healthcare professionals will never be enough to take care of all the needs of the ever increasing number of patients with diabetes (Murray, Gasper, Irvine, Scarpello, & Sampson, 2012). With the downturn in world economies, especially in the middle and low income countries, health care systems might lack sufficient resources to provide the support patients need to effectively manage their diabetes. The challenge is access to self-management support that is sufficient, effective and ongoing. To meet this challenge, peer-delivered social support can be an efficient and cost-effective means of providing support for the sustenance of self-management in patients with chronic diseases, such as diabetes (Gallant, 2003; Gillespie, O'Shea, Paul, O'Dowd, & Smith, 2012).

Diabetes Self-Management Support

Large numbers of studies have affirmed that people with diabetes benefit from ongoing support to stay motivated to sustain life-long self-management (Pal et al., 2014; Ricci-Cabello et al., 2014; Mayberry & Osborn, 2012; Gomersall, Lucinda & Summers, 2011; Frosch, Uy, Ochoa, & Mangione, 2011; Egede & Osborn, 2010; Furler et al., 2008; Gallant, 2003). Support for self-management can be provided by health care professionals, family and friends. However, the number of health care professionals will never be sufficient to give the one-on-one attention that patients require, in the amount of time they require to discuss all the self-care concerns they have and get all the satisfactory answers they need (Boothroyd & Fisher, 2010; Brownson & Heisler, 2009a; Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanprasit, & Tanasugarn, 2012a). Moreover, the healthcare cost for providing such care may be beyond the resources of the health care systems of the middle and low income countries facing the escalating number of adults with type 2 diabetes (Murray et al., 2012).

Qualitative studies have demonstrated the influence of family support on diabetes self-management; families provide instrumental and emotional support to help patients to continue on the complex behavioral changes associated with diabetes self-care (Carter-Edwards, Skelly, Cagle, & Appel, 2004; Jones et al., 2008; Mayberry & Osborn, 2012). In these studies, the same patients report that family members provide support during the acute phase of the disease and leave the patient to deal with self-care when the disease seems to be under control. Moreover, family members may feel overburdened by the need to provide a more continuous form of care that is endless, and which may also affect their personal wellbeing (Carter-Edwards et al., 2004). In addition, family members may feel obligated to provide support and may have a well-intended motive but the support recipient may not appreciate their efforts because the support is accompanied with nagging, threats, and judgmental statements (Carter-Edwards et al., 2004; Karlsen & Bru, 2013).

Peer Support

As a consequence of inadequate self-management support from health care professionals and family, peer support has been identified as a promising way to provide support for the life-long self-management needs of patients with type 2 diabetes. Peer support as defined by Dennis, (2003) is “provision of emotional, appraisal and informational assistance by a created social network member who possesses experiential knowledge of a specific behavior or stressor and similar characteristics as the target population, to address a health related issue of a potentially or actually stressed focal person”.

Heisler (2010) identified seven models of providing peer support:

- i. Face-to-face group meeting facilitated by a professional.
- ii. Peer-led face-to-face group meetings.

- iii. Peer mentor or peer coach provides one-on-one face-to-face meetings and serving as role model to the receiver explaining what worked for him/her.
- iv. Community Health Workers led group also known as ‘promotoras’.
- v. People who live in the same community as the patients and share the same culture serving as peer supporters to patients.
- vi. Mutual support groups, such as informal meeting of people with the same disease experience who come together to share their experiences managing their diseases. They offer encouragement, practical and emotional support to each other, telephone-based peer support which can be used alone or in combination with other methods. This method offers people opportunity to hide their identity if they wish to.
- vii. Internet-based peer support.
- viii. In the context of chronic disease peer support is social support provided by a peer. A peer in the context of a chronic disease is someone who (1) shares the same disease experience by suffering from the disease or (2) has experienced the disease by caring for/living with someone with the disease (Tang, Ayala, Cherrington, & Rana, 2011).

Gender and Social Support

Gender exerts strong influence in giving and receiving social support (Barbee et al., 1993; Eagly & Crowley, 1986; Flaherty & Richman, 1989; Olson & Shultz, 1994; Shumaker & Hill, 1991), yet this phenomenon has not been fully explored in peer support in Type 2 diabetes self-management. In addition, because people of similar life experiences can relate to a life situation and can better support each other, issues like gender differences certainly play a role in peer support and needs to be studied.

Statement of the Problem

The World Health Organization (WHO) consultative committee on peer support programs in diabetes endorsed peer support as an effective means of health promotion and diabetes management (World Health Organization, 2008). Peers for Progress, a global initiative of the American Academy of Family Physicians Foundation was developed in response to the promise of peer support as an effective means of sustaining diabetes self-management and for the need to conduct further research to set up ‘best practices’ in peer support around the globe (Boothroyd & Fisher, 2010). In order to promote the value of peer support as well as disseminate its successes, Peers for Progress is funding series of evaluation grants and also collaborates with various peer support programs and their leaders around the globe (Boothroyd & Fisher, 2010).

Peer support programs have been established in many parts of the world including Australia, United States, Ireland, United Kingdom, Canada, Cambodia, Thailand, Netherlands, Vietnam and more. Evidence demonstrates that some of the programs recorded positive diabetes outcomes such as improvement in glycalated hemoglobin (HbA1C) (Haltiwanger & Brutus, 2012; Heisler, Vijan, Makki, & Piette, 2010; Long, 2012). In addition, Hunt et al. (2011) reviewed 16 studies on peer support programs, 7 of the studies were randomized controlled trials (RCT), 6 before and after design and 3 qualitative studies. Eight studies listed HbA1C as outcome measure and 7 reported significant decreases in HbA1C while one study reported non-significant decrease. Self-reported feeling of being supported was the outcome in all the 3 qualitative studies reviewed. Other positive outcomes of peer support that have been reported include improvement in diabetes knowledge, increased adherent behaviors, significant changes in coping styles and coping with stress, and a trend towards improvement of clinical outcomes (Dale, Caramlau, Sturt, Friede, & Walker, 2009; Dale, Williams, & Bowyer, 2012; Haltiwanger

& Brutus, 2012; Rotheram-Borus et al., 2012; Smith et al., 2011; Wu, Chang, Courtney, & Kostner, 2012).

Some qualitative studies recorded self-reported feelings of being supported and high level of acceptability of peer support programs (Dale, Williams, & Bowyer, 2012; Hunt, Grant, & Appel, 2011; Dale et al., 2012; Hunt et al., 2011). However, some peer support programs did not report improvements in clinical indicators as reported in a 2012 systematic review of 25 studies comprising of 14 randomized controlled trials, 6 before and after design, 1 non-randomized comparative study, 2 descriptive studies, 1 feasibility and 1 case study (Dale et al., 2012). Of the 14 randomized controlled trials that evaluated changes in HbA1C in that study, 11 found non-significant improvement while 3 reported significant changes. However, Peers for Progress warned that researchers should be careful in reporting non-significant values in HbA1C after purported peer support interventions because of lack of standardized criteria for evaluating peer support programs (Fisher et al., 2012). Peers for Progress identified four key functions of peer support to be used as a standard for program evaluation while each program can tailor its' activities to the needs, setting, strengths and the culture of the people it is serving (Boothroyd & Fisher, 2010).

Peer support is a form of social support. Gender exerts an important influence in social support (Cheng et al., 2013; Fuhrer & Stansfeld, 2002; Gordillo et al., 2009; Matud, Ibáñez, Bethencourt, Marrero, & Carballeira, 2003; Reevy & Maslach, 2001). The literature shows that there is a difference in how men and women comprehend and incorporate support into their lives (Cheng et al., 2013; Fuhrer & Stansfeld, 2002; Gordillo et al., 2009; Matud et al., 2003; Reevy & Maslach, 2001), and this may be due to traditional gender role patterns and socializations (Matud et al., 2003). An understanding of the areas of potential differences in the engagement and

response to peer support activities between women and men may help in the utilization of the positive effects of the differences in peer support programs. To date no study was found that explored gender differences in peer support since gender is a huge issue in social support in general. One qualitative study that reviewed 16 peer programs using Community Health Worker model in the United States reported that peer support program managers were concerned about gender and culture issues particularly in the Hispanic population where for instance, the female Community Health Worker had difficulty speaking to the male participants on problem of sexual dysfunction as probable effect of diabetes (Cherrington et al., 2008).

Purpose of the Study

Peer support for diabetes self-management has also been established in some African countries, including South Africa, Cameroun and Uganda (Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanpravit, & Tanasugarn, 2012b). However, to date there is no peer support program for type 2 diabetes in Nigeria despite the promise of peer support as an effective, efficient and cost effective means of diabetes self-management support (Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanpravit, & Tanasugarn, 2012b; Gillespie et al., 2012). In the culture of Nigeria, gender plays a significant role in social support expectations in terms of who gives it and how. Therefore, knowledge of how gender issues were handled in peer support programs will be helpful when setting up similar program in my country, Nigeria.

The current proposed study therefore aimed to explore gender differences in the participation and response to peer support from the perspectives of peer support program managers.

The broad objective of the study was to identify the gender differences regarding participation and response to peer support. The overall goal was to determine if gender differences in providing peer support in Type 2 diabetes self-management should be considered when planning and setting up a peer support program.

Specific objectives:

- i. To identify gender differences in the response to peer support
- ii. To identify differences in how males and females participate in peer support activities.
- iii. To identify the types of peer support provided by men and the types provided by women in a peer support program.
- iv. To identify how the peer support provided by men and women relate to the four key functions of peer support.
- v. To identify the socio-cultural context of the provision of the 4 key functions of peer support by men and women.

Research Questions

The research questions were:

Research question 1: What are the gender differences in the response and participation to peer support activities?

Research question 2: How does the peer support provided by male and female relate to the four key functions of peer support?

Research question 3: What variations are there in the socio-cultural context of peer support provided by male and female?

Theoretical Framework

The goal of peer support programs is to help patients with chronic diseases to sustain a life-time of self-management, prevent complications, and maintain good quality of life. This qualitative descriptive study was guided by socioecological framework and the four key functions of peer support (Figure 1).

Overview of Socio-Ecology Framework

The social ecology framework developed by Stokols (1992), emphasizes that behavior has multiple levels of influence identified as: the intrapersonal (the individual) level, the interpersonal level (consisting of the relationships with family, friends, and neighbors, the socio-cultural environment, social norms, and gender roles), and last, the community and policy levels. Hence, the focus of the socioecological framework is people's transaction with their physical environment (location, housing structure, infrastructure, recreational facilities) and social environment (culture, social roles, social norms, socio-economics, and politics) (Stokols, 1992). These levels of influence interact and impact each other in a nonlinear direction, making the framework complex, thereby requiring knowledge from sociology, anthropology, psychology, medicine, and public health to understand the complexity of the problem (Sallis, Owen, & Fisher, 2008) and, by extension, the application of nursing principles to solve the problem.

Figure 1: Socio-ecological framework showing the role of the key functions of peer support

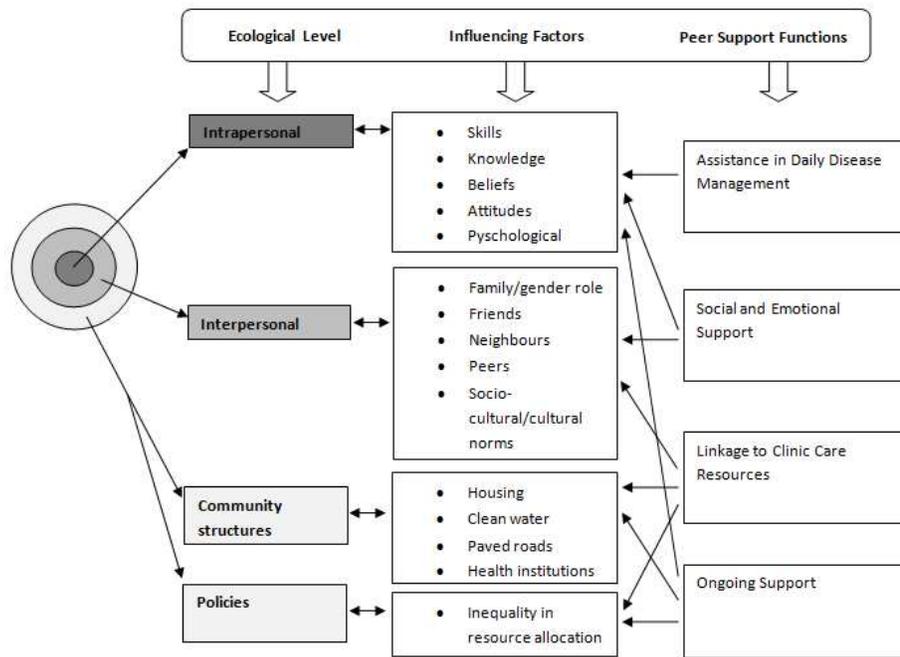


Figure 1 shows how the four key functions of peer support target problems at multiple levels of influencing of the socio-ecological framework.

The socio-ecology framework has four major principles, identified as:

- 1) Health behaviors have factors which influence it at multiple levels.
- 2) The influencing factors are not mutually exclusive but are interrelated and can influence behavior from any of the levels. For instance, a factor at the intrapersonal level can influence behavior on the interpersonal level.
- 3) Frameworks are modifiable to suit specific health behaviors, meaning that the framework used for diabetes self-management, for instance, may not be suitable for smoking cessation.

4) Targeting interventions at the various levels is required to achieve a sustained change in health behavior (Sallis et al., 2008).

Intrapersonal: At the intrapersonal level, this framework proposes that an individual's personal characteristics such as biological or genetic make-up, attitudes, beliefs, personality make-up, knowledge, skills, and feelings about the self-influence health behavior (Stokols, 1992). For an individual with a chronic disease like diabetes, knowledge about the disease condition, skills of diabetes self-care (blood glucose monitoring, diet, exercise, medication adherence, and keeping clinic appointments), beliefs, and attitudes toward the disease influence the health behavior change. Although these attributes are referred to as intrapersonal, interpersonal relationships also play a role at this level, supporting the complexity of the framework. Therefore, any individual-level intervention to bring about behavior change must involve the interpersonal component (Fisher et al., 2005).

Interpersonal: Relationships with the family, friends, neighbors, and peers play a vital role in health behavior change (Sallis et al., 2008). Such social supports have the potential to aid an individual with a chronic disease like diabetes to sustain a lifetime of self-management (Boothroyd & Fisher, 2010; Brownson & Heisler, 2009a; Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanprasit, & Tanasugarn, 2012a). Culture and social norms also influence health behavior. However, socio-cultural factors like gender family roles and gender stereotypes disproportionately affect the well-being of females (Lindsey, 2011). Peer support programs can be a means of bringing positive change in behavior at this level. Research has documented the positive influence of peer support in sustaining health behavior change in people with diabetes (Fisher et al., 2012a; Hunt et al., 2011; Long, 2012). Thus gender-specific peer support programs targeting intrapersonal, interpersonal, and community/policy levels may be a means of improving the well-being of females with diabetes (Fisher et al., 2012).

Community and Policy Level: Community structures, processes, and policies can have a significant influence on health and health behavior (Fisher et al., 2005; Sallis et al., 2008). Community influences can be defined in many ways. It can be in terms of the living conditions within a geographical area. In African communities, for instance, community structures will include housing, social infrastructures like availability of good quality water, means of transportation, good roads, and availability of health institutions. Community processes and policies that will disproportionately affect the health of women will be the patrilineal nature of African society, where women have limited access to resources that will improve their socio-economic status (Nwoye, 2013; Yolah, 1998) and indirectly affect their health and well-being. Community structures in the western societies will include availability of recreational parks for physical exercise, safe walkways that are close to people's living areas, farmers' markets where fresh produce can be purchased at cheaper rates and restaurants that sell healthy foods.

Socio-ecology Framework and Key Functions of Peer Support

Peer support programs have four key functions that can be applied to address the problems of chronic disease self-management support at the multiple levels of influencing. The four key functions are: 1) assistance in daily disease management, 2) emotional and social support, 3) linkage to clinic care, and 4) ongoing support (Boothroyd & Fisher, 2010). Chronic disease self-management or self-care is the capability of an individual to manage the daily recommended activities to keep the disease under control, avoid complications, cope with the psychosocial effects of living with a chronic disease, and maintain a good quality of life (Embuldeniya et al., 2013). Patients with chronic disease need sustained support that is uninterrupted to maintain a lifetime of chronic disease self-management. The term chronic disease infers that the disease is not curable. Patients need to be assisted to make life adjustments to manage the disease (Fisher et al., 2012a). Peer support programs aim to provide self-

management support to individuals with chronic diseases, especially diabetes mellitus, to enhance and sustain their capabilities to maintain self-care over their life-time. Peer support programs achieve this aim through the four key functions (Boothroyd & Fisher, 2010). These can be applied at the multiple levels of influencing congruent with the socio-ecological framework.

Assistance in Daily Disease Management: Peer support most especially targets problems at the intrapersonal and community structures/policies levels (Figure 1). People with a chronic disease like diabetes may be experiencing some constraints to self-management, including not getting adequate information about diabetes and diabetes self-care, diet, blood glucose monitoring, exercise, and medication. They may lack the skills of self-care. They may also not get adequate care and support from their healthcare providers. Peer support programs incorporate patients' empowerment in their programs by teaching them about their disease and the skills of daily management, by using motivational interviewing. Empowerment improves patients' self-worth and confidence to discuss their disease conditions. It gives the patients a positive outlook on life and makes them feel capable of being assertive; asking their health providers questions, and presenting any requests they may have concerning their care (Embuldeniya et al., 2013; Lynch & Egede, 2011).

Heisler et al. (2009) identified five activities of the peer supporters in the peer support programs that assist the people living with diabetes to manage their daily self-care. These activities include 1) providing the patients information on diabetes, 2) educating patients on diabetes self-care skills, 3) reinforcing the education provided by the healthcare professional, 4) acting as a link person between the healthcare system and the patient, 5) being available and willing to listen to the patient at all times, providing emotional support, and teaching the patient problem-solving skills. A 2011 review of 16 studies on the theoretical basis of peer support

programs with patients with Type 2 diabetes, found that the roles of the peer supporter included counselor, educator, advocate, case manager, program facilitator, and promoter (Hunt et al., 2011). In the same review, the activities of the peer supporters were identified as conducting and coordinating diabetic education classes, linking patients to community resources, appropriate clinics, and healthcare professionals; and facilitating peer support meetings (Hunt et al., 2011).

In the peer support program, peer support groups may cook meals together during group meetings to learn to cook healthy diabetic meals with locally available food stuffs. The group cooking was successfully implemented in Cameroun in an all-women peer support group for Type 2 diabetes (Fisher et al., 2012a).

Social and Emotional Support: The peers are provided opportunities to discuss personal problems either in the group settings or one-on-one with the peer supporters. The peer supporters are trained in listening and providing emotional support (Fisher et al., 2012a). The peers are encouraged to share experiences of what worked for them when they faced difficult and challenging situations in their self-care. A qualitative synthesis of 25 studies on chronic disease peer support interventions revealed that sharing made participants feel normal, reduced feelings of being alone, and fostered acceptance (Cherrington et al., 2008). Emotional support can be provided by placing regular telephone calls and text messages (Fisher et al., 2012a). Social and emotional support target problems at both the intrapersonal and interpersonal levels of the social ecology framework (see Figure 1).

Linkage to Clinic Care and Community Resources: People living with chronic disease conditions may feel that the healthcare system is complex, and they express difficulty navigating the system. They may not trust their health provider, which may result in an inability to

communicate effectively with the provider (Heisler et al., 2009). They may also suffer disparities in health care due to their inability to access high-quality health care (Lewin et al., 2007; Swider, 2002). Peer support programs function in these areas to help the people living with chronic disease navigate the healthcare systems, link them to clinic care, and access community resources (Boothroyd & Fisher, 2010; Brownson & Heisler, 2009a; M. Heisler et al., 2009).

Also peer support programs provide encouragement for patients to keep their clinic appointments. This they do through diverse means like automated telephone reminders, provision of transportation, and accompanying the patients to the clinic visits if needed (Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanprasit, & Tanasugarn, 2012a; Ingram, Torres, Redondo, Bradford, Wang, & O'Toole, 2007a; Long, 2012).

Linkage to clinic care is achieved through developing a good relationship between the peer support program and the healthcare provider. Peer support programs also link patients to community resources that will assist them in their daily management. They have helped link patients to drug programs, from where they can access drugs at cheaper rates. In a volunteer peer support program for patients with Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) in a small South African community, patients were linked to governmental, non-governmental, and external agencies and missionaries who donated antiretroviral drugs to them. The Acquired Immune Deficiency Syndrome patients were very poor; unable to afford the cost of transportation to the nearest hospital thirty miles away or the antiretroviral drugs, and lived in an environment where patients pay out of pocket for medical treatment (Campbell, Nair, & Maimane, 2007).

Peers have initiated the setting up of farmers' markets in certain communities. Peers have campaigned for food labelling at eating places and in schools' food programs (Brownson & Heisler, 2009). In New Zealand, a peer support program set up a community shop where patients bought supplies for their chronic disease management at an affordable price (Simmons, Voyle, Rush, & Dear, 2010). In a rural community in Thailand, the peer support group formed an agricultural group and established a garden where they got fresh vegetables (Fisher et al., 2012b).

Peer support programs might play the role of advocates, representing the interests of the patients with government agencies, non-governmental organizations, donor agencies, philanthropists, and community groups (Campbell, Nair, & Maimane, 2007). These activities of peer support target problems at multiple levels to bring about change (see Figure 1).

Ongoing Support: Some models of peer support programs are incorporated into the healthcare system, making it possible to provide sustained support. For instance, the volunteer peer support group in Thailand (Fisher et al., 2012b) and South Africa (Campbell et al., 2007), the community health worker model in the United States (Brownson & Heisler, 2009; Cherrington et al., 2008), and the various lay community health worker groups in New Zealand (Simmons et al., 2010). Ongoing sustained support helps the people with chronic disease to maintain self-care, avoid disease complications, and live good quality life (Fisher et al., 2012).

Socio-Ecological Framework and Social Support

Social ecological framework can be used to understand and facilitate social support as proposed by Vaux, 1990. Social support is a multi-construct phenomenon. Vaux (1990) proposed three concepts of social support which can be used to explain the usefulness of social ecology in understanding the gender influences in the peer support process in the context of Type 2 diabetes

self-management. The three constructs are: support network resources, supportive behavior and subjective appraisals of support (Vaux, 1990).

Support network resources can be described as the set of relationships through which the individual in need gets help to solve problems or to achieve desired objectives. In the context of the current study, the network resources will be the feminine and masculine genders that form the peer supporters and support recipients. Supportive behaviors are the functions of the network resources directed to actually sort out the needs or the problems of the support recipient. These functions could be in the form of emotional, informational, instrumental or appraisal modes of support. Subjective appraisals of support are feedback people give about how supportive their support network resources are (Vaux, 1990).

Peer support in diabetes self-management when examined holistically can be said to be a transactional process in an ecological context. It is a dynamic support process occurring between individuals and their social network in the context of going through the same experience of disease self-management (Vaux, 1990). The peer support system is a consciously created social system that needs to be organized and actively maintained to effectively utilize the resources of the system to meet the goals of providing relevant sustainable support (Vaux, 1990).

In view of the forgoing, it is pertinent to explain the link between the network resources, the supportive behavior and the subjective support appraisals and to understand how personal characteristics of the support resources and ecological factors combine to influence the support process. First, the network in the context of diabetes is the 'diabetes peer'. This is a homogenous network in one sense because it is disease specific and heterogeneous in composition because it is not gender specific; there are male and female members. Relevant properties of the network

include accessibility, possession of necessary expertise and information, and closeness (Aswathy, Unnikrishnan, Kalra, & Leelamoni, 2013; Dennis, 2003; Fisher, Boothroyd, Coufal, Baumann, Mbanya, Rotheram-Borus, Sanguanprasit, & Tanasugarn, 2012a).

Accessibility should be a given in this type of network group because one of the roles of peer supporter is to be accessible to the support recipients (Brownson & Heisler, 2009). In addition, the peer supporters are chosen based on their experiential knowledge, therefore, it is assumed that they possess the necessary expertise and information. Furthermore, closeness is remarkable because peers are supposedly people who have close relationships in some ways. Closeness makes for increased motivation to provide help and greater understanding of the kind of assistance to provide to meet the support needs of the recipients (Vaux, 1990). Yet it is understandable that these relevant properties may be different by gender due to the seeming similarities of these properties to the universal gender characteristics.

From an ecological view point, networks have ‘sustainable yield’, that is, the network can provide long term ongoing support depending on the network composition and setup (Vaux, 1990). If the support resources are not properly developed and maintained the peer support system might be damaged or simply become inactive. Depending on the social environment and culture, it may be more acceptable to have supporter-recipient combinations of male-male, female-female, male-female or female-male dyads or groups.

The support behavior is equally as important as the network resources. The peer supporters may “provide support reluctantly, may appear to provide too little support, or too much too soon or may earnestly provide the wrong mode of support” (Vaux, 1990). Studies have noted the association between support resources and supportive behaviors (Vaux &

Athanassopoulou, 1987; Cutrona, 1986). For example, studies have shown that women are inclined to provide more emotional and long-term sustainable support than men while men are inclined to provide more informational and instrumental support than women (Gordillo et al., 2009; Matud, Ibanez, Bethencourt, Marrero, & Carballeira, 2003; Norris & Kaniasty, 1996; Thoits, 1995; Olson & Shultz, 1994; Wething & Kessler, 1986; Schaefer, Coyne, & Lazarus, 1981).

Another socio ecological factor that shape support process is cultural orientation like the Anglo American individualistic and the Asian collectivist culture widely reported in the literature (Kim, Sherman, & Taylor, 2008; Taylor et al., 2004; Wellisch et al., 1999). It will be beneficial to know how the dynamics of culture interact with the universal gender role orientation in the peer support process.

CHAPTER 2

LITERATURE REVIEW: OVERVIEW OF PEER SUPPORT

Peer support can be broadly defined as social support provided by a peer. A peer in the context of chronic disease self-management is someone who has similar disease or has experience with the disease self-management by having a close relative with the disease or caring for someone who has the disease (Lewin 2007, Heisler 2009). People who are similar in various ways are assumed relate better and, as a result, can offer one another compassionate, genuine support that is helpful. It is natural for people with similar life experiences to provide each other practical advice and recommend strategies for dealing with specific problems. Experts may not offer or even know that such specific strategies can be used to solve such problems. In relation to healthcare, peer support has been defined as “provision of emotional, appraisal, and informational assistance by a created social network member who possesses experiential knowledge of a specific behavior or stressor and similar characteristics as target population, to address a health-related issue of a potentially or actually stressed focal person” (Dennis, 2003).

Models of Peer Support

Peer support occurs naturally with people who have been through situations willingly offer advice and support to a person facing a similar situation. However, due to the evidence of the health benefits of peer support, in type 2 diabetes disease management, organized models of peer support came into being as a means to sustain self-care in diabetes management. Heisler

(2010a) identified seven models of peer support which can be applied individually or in combination in a peer support program to enhance the effectiveness of the program (Heisler, 2010a). There are two categories of models: 1) those that describe modes of contact in peer support programs and 2) the types of peer support programs.

Modes of Contact

Face-to-face contact: This mode of contact can be in form of group face-to-face or one on-one face to face. This method can be used to provide support for self-management problems that patients are dealing with, it can be used for discussion on healthy eating, physical activity, and training for self-management skills like insulin administration and blood glucose monitoring (Funnell, 2010b). The forum can be used for teaching problem solving skills, motivation and encouragement. A trained peer leads the group or provides one-on-one support as a mentor or peer coach (Ingram, Torres, Redondo, Bradford, Wang, & O'Toole, 2007a). Also a professional can direct/organize the group meetings but they are facilitated by peer leaders (Hunt et al., 2011).

Face-to-face contact can be clinic based, take place in community centers and patients' homes. Several of peer support programs used face-to-face contact alone and in combination with other methods (Haltiwanger, Piven & Brutus, 2012; Hunt et al., 2011; Ingram, Torres, Redondo, Bradford, Wang, & O'Toole, 2007a). In a peer support program in Cameroun which lasted six months, peer supporters had monthly face to face group meetings, five individual face-to-face monthly visits to each participant in addition to follow-up telephone calls (Fisher et al., 2012a). Various empowerment programs with Community Health Worker peer supporter used face to face group meetings for initial contacts, followed by one-on-one face to face and telephone contacts (Cherrington et al., 2008; Heisler et al., 2009; Spencer et al., 2011). In one study that assessed Latina adults' preferences for group education and telephone based one-on-one peer

interventions, majority of participants in that study preferred group based face-to-face intervention to give them opportunity to interact and share experiences of what worked for them from different individuals (Baig et al., 2012). The participants in the same study also noted group meetings promote a sense of community than the impersonal nature of telephone conversations.

Telephone contact: This mode of contact can be used alone or in combination with other methods. Some peer support programs were designed to use telephone contacts as a primary mode of contact (Chomutare, Arsand, & Hartvigsen, 2011; Dale, Caramlau, Lindenmeyer, & Williams, 2008; Dale, Caramlau, Sturt, Friede, & Walker, 2009; Long, 2012; Plotnikoff et al., 2010). Telephone based support programs were used in some cases because it was cost effective in comparison with other methods (Murray, Gasper, Irvine, Scarpello, & Sampson, 2012; Rotheram-Borus et al., 2012). Telephone contact was used to solve the problem of distance and cost of transportation to meeting venues in an underserved population in United States (Colon, 1996). Another study reported that the use of telephone was accepted as a replacement for face-to-face visits (Reid Rudy, Rosenfeld, Galassi, Parker, & Schanberg, 2001). An innovative form of telephone contact known as ‘Interactive voice recording’ was found to be feasible and acceptable for a peer-to-peer support (Heisler et al., 2007; Heisler & Piette, 2005). For those who prefer to remain anonymous, telephone based peer support was said to be suitable as a mode of contact (Heisler et al., 2007).

Internet based peer support: This mode of peer support can be described as both a method of contact and a type of peer support program. Internet based peer support may be another means of contact to solve the problem of face-to-face visit. It may be convenient for those who cannot travel. Those who want to remain private and it may be cost effective in comparison with other methods of contact (Heisler, 2010b; Heisler, 2010c). However, internet

based peer support may not be feasible or effective in poor resource countries where electricity supply is not regular and internet connection is either not available or not affordable and computers or technology for connecting may not be available or affordable either.

Types of Peer Support Programs

Community Health Worker Program

Community Health Workers go by different names: lay health advisers, *promotoras de salud* (Fisher et al., 2012b), community health advisors (Hunt, Grant, & Appel, 2011), lay health workers (Lewin et al., 2007), patient navigator, and natural helpers (Norris et al., 2006).

Community health workers are trusted members of the community who work as link persons between the community and health care providers (Heisler, 2010b; Heisler et al., 2009; Hunt et al., 2011; Spencer et al., 2011). Community Health Worker peer supporter may not have the disease but they are peers to the people they serve in some other ways. For example they may have a family member with the disease or they may have had experience taking care of a person with the disease (Heisler et al., 2009; Lewin et al., 2007). They may also be peers by coming from a similar culture, living in the same community, and speaking the same language as the people they help (Heisler, 2010b).

Community Health Worker receive some form of training, the level of which also varies among different programs. In an integrative review of 16 studies on lay community advisors in type 2 diabetes, Hunt et al. (2011) reported that the role of the Community Health Worker determined the intensity of training. If the Community Health Worker is expected to serve primarily as a supporter, the training lasted between 1-2 hours comprising of listening skills, positive appraisal, encouragement and support. If the program involved the Community Health Worker in providing education and counselling, training was more elaborate ranging from 2

hours to 6 months. One program in that review was said to include training on human subject protection. Another program tested the Community Health Worker after training using competency and skills check list. Three programs provided the Community Health Workers ongoing support through continuing education and regular meetings to share experiences, discuss challenges, and improve performance. In a review of Community Health Worker models in the United States, Cherrington et al., (2008) noted that in all 16 programs reviewed, the Community Health Worker received some form of training on diabetes and self-management. Seven programs trained the Community Health Workers on health-related technical skills of blood pressure and blood glucose monitoring. The intensity of training reported in this review ranged from 8 to 240 hours with practice. The method of teaching was hands on skills acquisition, teaching practice and role play. In a Cochrane review on lay health workers, Lewin et al., (2007), reported that training intensity varied according to the level of responsibilities assigned to the Community Health Worker. One hour training was given in one study where the Community Health Workers were basically told about the aims and principles of the program, one study trained the Community Health Workers for 2.5 hours, 2 studies trained them for 100 hours, another study trained for 8 weeks at the level of national vocational certificate. Majority of the reviewed programs trained the Community Health Workers on disease specific self-management skills lasting more than one month.

The Community Health Worker-led peer support programs served mainly the difficult-to-reach and the underserved ethnic minority who suffered from health disparities (Baig et al., 2012; Haltiwanger & Brutus, 2012; Heisler, 2010a; Hunt et al., 2011; Ingram et al., 2007).

Regardless of the name by which the Community Health Workers go, their roles are largely similar across programs, though their activities vary but they must possess some identified competencies associated with the roles. The competencies are (www.machw.org):

Outreach methods and strategies: Community Health Workers possess the ability to conduct outreach in order to locate the population they serve in their usual domains. These include community centers, churches, community parks, street corners, shopping complexes and, grocery stores. This strategy is used to bring health care to the door steps of the people and it is used to reach the hard-to-reach group like the minority population.

Client and community assessment: Involves the ability to carry out individualized assessment to identify problems and needs. Community assessment is done to identify the needs of the community and the resources that can be harnessed for the health benefits of the community members. Community assessment also helps to identify strategies for planning community outreach programs.

Effective communication: The major roles of the Community Health Workers are health education and counseling. Therefore they must possess the ability to communicate effectively, using appropriate terms and concepts that are culturally congruent.

Culturally based communication and direct patient care: Community Health Workers are expected to be good listeners, showing empathy at all times and offering advice without being judgmental. They must possess the skills of self-management so that they can provide direct patient care when the need arises. They also have the potential to tailor the patient care in a culturally acceptable manner.

Health education and counseling: Community Health Workers receive basic diabetes education and training in the skills of self-management like blood glucose testing, diabetes diet, carbohydrate counting, exercise, meal preparation, foot care, prevention and early detection of diabetes complications and others. This training helps the Community Health Workers to acquire the knowledge and skills of diabetes education and counseling.

Support, advocate and co-ordinate care for patients: Community Health Workers possess the ability to provide social and emotional support. They advocate for their patients making sure that they receive good quality care. They act as a bridge between the health care provider and the patients. In order to co-ordinate care for their patients, they must be knowledgeable about the health care system and the agencies that are involved in the care of their clients. The Community Health Worker must also have knowledge of the available community resources and how their patients can benefit from such resources.

Application of public health concepts and approaches: The Community Health Worker must understand that they are an integral part of public health team whose aims include health promotion, prevention and early detection of complication. This awareness will help them to assist the individuals, families and communities in understanding the importance of basic public health principles and being involved in their care.

The roles of the Community Health Workers include:

Support and direct care: The Community Health Workers provide emotional, informational, appraisal and tangible support (Hunt et al., 2011). They lead face-to-face group meetings and also meet one-on-one with the patients through face-to-face contact in the clinics, community centers, through home visits and phone contacts (Hunt et al., 2011; Norris et al., 2006). The types

of support they provide include assistance with blood glucose and blood pressure monitoring (Hunt et al., 2011; Norris et al., 2006), accompany patients to grocery, to stores to review food labels (Tang, Ayala, Cherrington, & Rana, 2011) , to clinic appointments (Goldman, Ghorob, Eyre, & Bodenheimer, 2013; Spencer et al., 2011), to take a walk, and provide transport to clinic appointments (Haltiwanger & Brutus, 2012; Hunt, Grant, & Appel, 2011; Ingram et al., 2007).

Educator. A systematic review of 18 studies identified that the Community Health Worker was primarily the patient educator in 8 studies and in the other studies the Community Health Worker assisted the health care professional in the education and counseling sessions (Norris et al., 2006). Another integrative review reported that education was a component of the program in all the studies reviewed (Hunt et al., 2011). In a randomized controlled trial of effectiveness of Community Health Worker-intervention among African American and Latinos with Type 2 diabetes, culturally tailored group education class was one of the activities of the Community Health Workers (Spencer et al., 2011). The other two activities in that trial were, one home visit per month to the support recipient and accompanying the support recipient to a clinic visit with the primary health care provider. Topics presented in the classes included exercise, how to eat healthy, diabetes self-management skills, and early detection of complications.

Advocate. The advocacy role of the Community Health Workers range from helping in navigation of the complex healthcare system, linking the patients to community resources, or assisting patients to schedule group or one-on-one meetings with the health care provider (Heisler, 2010b; Hunt et al., 2011). Case management is a part of the advocacy role which involves helping the patients to locate available services that they are qualified to use, for instance Medicaid (Hunt et al., 2011; Swider, 2002). The advocacy role of the Community

Health Workers include acting as link between the healthcare provider and the patients (Hunt, et al; 2011; Norris et al., 2006).

Program facilitator. The Community Health Workers assist in organizing group meetings, act as ushers during meetings, provide technical assistance by setting up the room for group meetings with health professionals, share out education materials to the patients, and assisting in inviting specialists as speakers during meetings at churches and community centers (Hunt et al., 2011).

Majority of the peer support programs in the United States hired the Community Health Worker peer supporters as full time or part-time employees. In two peer support interventions for self-management among Mexican Americans with diabetes, promotoras were full time staff of the community health centers (Haltiwanger & Brutus, 2012; Ingram et al., 2007). Similarly, in a review of 16 peer support programs in the United States, Cherrington et al., 2008, reported that 9 programs hired the Community Health Workers as full time employees, 4 hired the Community Health Workers as both part-time and hourly paid employees and 3 programs paid stipends only.

Volunteer-based Peer Support Programs

These are those peer supporters who are not full or part-time employees of the program and do not receive monetary compensation for their work though they may receive reimbursement for transportation and child care (Tang, Ayala, Cherrington, & Rana, 2011). In a review of 12 volunteer based peer support programs, training of the peer supporters ranged from low intensity described as 3 hour to 2.5 day workshop (6 programs), moderate intensity was 4 day workshop of 2.5 hours (3 programs) and high intensity lasting a total of 27 hours (3 programs) (Tang, Funnell, Gillard, Nwankwo, & Heisler, 2011). In the same review, the delivery modes of the peer support programs were face-to-face group interventions (7 programs), telephone-based interventions (5 programs), and telephone supporting another method (1

program). The populations served were Whites (6 programs), underserved ethnic minority (5 programs) and one program did not specify the population served.

Peer Coach/Mentor-Mentee or Peer-Leader Programs

The designated coach/mentor or peer-leader is someone who manages his/her disease well and uses his/her experience of what worked for him/her to encourage the mentee to work towards achieving the same goal (Boothroyd & Fisher, 2010; Funnell, 2010a). The mentor is expected to serve as a role model helping the mentee to set realistic goals and work towards achieving the goals without being judgmental (Heisler, 2010a). The mentor receives between 8 to 32 hours of training with emphasis on effective communication and problem solving skills (Heisler, 2010a).

Mutual Support Group

Mutual support group is where patients support and encourage each other for their self-management. Patients were matched based on some criteria which may be age, sex, disease severity and ethnicity. Patients receive training on problem solving and communication skills (Heisler, 2010b). In one such program in the United States, participants were encouraged to place weekly calls using the Interactive voice recording (IVR) phone system through a toll-free line. This was an innovative method that did not require the exchange of telephone numbers so patients maintained their privacy (Heisler & Piette, 2005). The system had an internet link through a password-protected web site which enabled the health care professionals to monitor and record the activities of the duo (Heisler & Piette, 2005). A South African peer support program, known as the Diabetes Bodies, was an all-women group which in addition to weekly group meetings, the women were paired and encouraged to support each other through mobile phone calls and text messages (Rotheram-Borus et al., 2012).

Characteristics of the Peer Supporter

Peer supporters are a crucial and important component of the peer support programs. Aside from having the disease or having a close person with the disease, the peer supporter is chosen based on some characteristics of the individual. The personal characteristics of the individual are considered before recruitment because they are assumed to influence the ability of the individual to provide the expected peer supporting role. These characteristics are described in the guide to program development of Peers for Progress, an organization of the American Association of Family Health Physicians Foundation, at www.peersforprogress.org and listed as:

Knowledgeable: This is a special kind of knowledge which is acquired through practical experience of going through life processes and stages of the disease. The individual is equipped with practical information which when shared with peers helps problem solving and improves well-being. Maintaining its non-professional vantage point is crucial in helping people rebuild their sense of community when they've had a disconnecting kind of experience. Research evidence documents that peer supporters used sharing their experiences to gain the confidence of those they are supporting, develop close bonds, link them to community resources that will improve their economy, social life, health and their sense of self-worth (Embuldeniya et al., 2013).

Empathetic: The peer supporter is able to show true understanding of the feelings of the peers being supported.

Good listener: The peer supporter should be able to use the Ask-Listen-Offer-Suggestions model. The peer supporter will be a good listener, offering suggestions, being nonjudgmental at all times in any conversations with peers.

Similarities to the peer being supported: One of the most important characteristics of the peer supporter is similarity with the support recipient. The peer supporter will come from the same community as the peers' being supported to facilitate building trusting relationship. Peer support is a subset of social support which has strong cultural influence. This makes it imperative that the peer supporter should understand the culture of the community, speak the same language with the people being supported and have similar cultural preferences. Peer support programs are designed to be culturally congruent to enhance its acceptability and success (Haltiwanger & Brutus, 2012). Other areas of similarities equally important are age, gender and disease condition. Age is relevant because it will be beneficial to match people who are within the same age category for better communication and respect. Matching by gender was a problem as some peers prefer to be matched with someone of same sex because they feel more comfortable discussing some intimate issues of sexual problems with someone of the same sex (Cherrington et al., 2008).

Strong interpersonal relationship skills: The peer supporter should be someone who loves talking and engaging people in discussion like asking after their children, their families, how they spent their day and other current interesting topics. The peer supporter will be respectful and serious minded when discussing peoples' problems or when suggesting possible solutions without trivializing the peoples' problems.

Strong communication skills: Communication is a key aspect of peer support, therefore the peer supporter must be able to convey ideas and provide well thought-out responses to questions. In a meta-analysis of studies on effective behavioral strategies in peer support programs in diabetes, Funnell (2010) reported that two effective communication strategies used in peer support programs were the unobtrusive method of 'Ask-Listen-Empathize' and encouragement

which enabled peers to open up to the peer supporters in a way that fostered better understanding of the problem, leading to better action plan and the more directed method used for patients who are disinclined to change (Funnell, 2010). The communication tone must always be nonjudgmental, empathetic, and encouraging.

Leadership qualities: A peer supporter is the group leader who should possess the qualities of a good leader, should be honest, dependable and a respected member of the community he/she is serving.

Availability: Peer supporter has to be willing to commit time to the program. Providing support is time consuming. The peer supporter should be accessible to the peers at all times through dual telephone calls to discuss any issues or problems they may be facing outside the scheduled meeting periods.

Willingness to serve: Some peer support programs recruit volunteers who meet the desired qualities. Therefore the person must have expressed the willingness to serve.

Willingness to learn: Peer supporters receive training from professionals to further refine their skills to provide the level of support expected. Hence, they have to be willing to use the available resources to improve their skills. They are not professionals so they have boundaries of what they can and cannot do. The health care professionals are available to act as resource persons and they are encouraged to refer cases they are not supposed to handle to the health care professional.

Education: The peer supporter is expected to have completed middle school. This is the minimum level of education required for better understanding of the training curriculum since the peers will receive training on the disease condition to be make competent in providing health education.

In a review of 16 Community Health Worker programs for persons with diabetes in the United States, it was identified that the criteria for recruiting the Community Health Workers were: community linkage, living in the target community, strong interpersonal skills, being literate, had diabetes, inclined to learn, and had means of transportation. Another review of 12 volunteer-based peer support interventions reported that the criteria for recruiting peer supporters included: ready and willing to be trained, speak same language as the target community, possess good interpersonal skills, having similar culture with the target community, able to facilitate group meetings, residing in the target community, willingness to give back to the community, possess problem solving skill, being a good motivator and having effective communication skills especially being a good listener (Tang et al., 2011).

Generally peer supporters receive some form of training as earlier described. However, the extent of training varied depending on the roles they were expected to play in the program. Peer supporters were hired by the programs for which they worked (Tang et al 2011; Hunt et al; 2011; Heisler et al; 2009; Norris et al; 2006). The promotoras de salud are hired to be dedicated to the clinics and to serve the Latina population who attend the clinics (Albarran, Heilemann, & Koniak-Griffin, 2014; Messias et al., 2013; Ryabov, 2014). The peer supporters are vital part of the research team and clinics, they worked closely with the health care professionals in the research team and the clinics. The health care professionals, often the nurses, supervise the Community Health Workers and serve as resource persons (Hunt et al; 2011).

Social Support

Peer Support is a subset of social support. Social support has a potential positive influence in chronic disease self- management (Schaefer, Coyne, & Lazarus 1981). The literature reported that there is positive correlation between social support and chronic disease management (Adeniyi, Idowu, Ogwumike, & Adeniyi, 2012; August & Sorkin, 2011; Brownson

& Heisler, 2009b; Cervantes-Becerra & Martinez-Martinez, 2012).

The term social support has been described in many forms in the literature. Cobb (1976) defined social support as a form of communication to a person that makes the person believe he is valued, loved, esteemed, and a member of a network group obligated to each other. Social support was described as emotional support that shows empathy, concern, affection, love, trust, acceptance, intimacy, encouragement, and caring (Langford, Bowsher, Maloney, & Lillis, 1997). Heany and Isreal (2008) defined social support as tangible or instrumental support in the form of financial, material goods, or services as a concrete direct assistance to people in need. Social support is also said to be the extent to which an individual perceives that help is available from family, friends, and social networks in times of need (Procidano & Heller, 1983).

In summary social support can be defined as a positive behavior towards another person that informs the receiver that he is valued, loved, cared for, esteemed, and belongs to a network group that looks out for each other's well-being (Kim, Sherman, & Taylor, 2008). The various definitions of social support are suggestive of a construct that is multidimensional.

Social support is classified into structural and functional (Kafetsios & Sideridis, 2006). Structural social support is the social relationships or the social networks. The social network is described as the forum through which social support is delivered (Kahn & Antonucci, 1980; Hogue, 1985). Langford et al (1997) referred to social network as the antecedent of social support. Components of social network include familial relatives, peers, friends, neighbors, colleagues, fellow patients, pen-friends, or even social networking on the internet and more. Winocour (2002) opined that social network can provide a reasonable amount of information that a patient needs on diagnosis, during treatment, dealing with complications and other expectations of diabetes management. Social network gives cognitive support in form information,

knowledge, and advice and can offer objective support in form of goods and materials (Jacobson, 1986). However, there are conflicting reports on the effect of large network size on health. Kahn & Antonucci (1980) cautioned that large size of social network does not translate to large amount of social support. This is contrary to other reports which affirmed that larger networks and satisfaction with the received support have positive correlation with lower morbidity and self-reported health status in older adults (Arthur, 2006; Chaix, Isacson, Råstam, Lindström, & Merlo, 2007).

Functional social support is the nature of the interaction within the social relationships. There are four functional categories of social support: emotional, informational, appraisal and instrumental or tangible (Cohen & Wills, 1985).

Emotional support is regarded by some as the most important form of support (Hill, 1991; Procidano & Heller, 1983). This type of support conveys to the recipient that he/she is loved and valued as he is. It bolsters self-esteem and self-worth. The individual feels that despite his/her shortcomings and deficiencies he is accepted for who he is (Cohen & Wills, 1985).

Informational support is the giving access to new knowledge which will help the individual to solve problems without feeling overwhelmed. The new knowledge helps him/her to understand his new world and adjustment to the resultant changes (Jacobson, 1986). Informational support also includes advice and guidance that enables the individual to persevere towards a desired goal (Cohen & Wills, 1985).

Appraisal support deals with the provision of feedback on the goal related activities of the individual. The supporter provides guidance, positive reinforcement and honest comments on

how far the individual is progressing towards the stated goal without being judgmental or criticizing (Cohen & Wills, 1985).

Tangible support, also known as instrumental support, is the actual provision of material help like assistance in form of monetary gifts or loans, help with transportation to clinic appointment, assistance with meal preparation, or taking over of chores. Tangible support helps to solve practical problems (Jacobson, 1986).

These categories of functional support are not mutually exclusive. Informational and tangible support has the potential to enhance emotional support when it expresses caring and not as an obligation (Schaefer, Coyne, & Lazarus; 1981).

Another dimension of social support is in terms of perceived and received social support. “Perceived support is the extent to which an individual perceives that his or her needs for support, information, and feedback are fulfilled by friends and by family”(Procidano & Heller, 1983). Perceived social support is believed to be more strongly related to positive health outcomes because it directly evaluates the support available to the person (Schaefer, Coyne, & Lazarus; 1981). Perhaps, psychologically, it may be more relaxing and pleasing to be in the mental frame that you have a supportive social network that will come to your aid in times of stressful life events. Received social support is the actual support given. There may be reasons why received social support may not positively influence health outcomes. Too much support may impede on a person’s personal space and the person may feel like he/she is losing his/her independence, thus adding to the person’s stress (Shumaker & Hill, 1991). The support given may not be needed (Cohen & Wills, 1985). Also, the support given if unsolicited may make the

support receiver suspicious and uncomfortable that the support giver may have some ulterior motives or some vested interests.

Although social support is a global concept viewed by all cultures as beneficial to well-being, there are cultural differences in how people seek and receive social support (Kim et al., 2008; Taylor et al., 2004). The most frequently examined cultures in the literature are the individualistic culture exemplified by European Americans which emphasizes self-centeredness and the collectivist culture exemplified by the Asian/Asian American which emphasizes interdependence and communal living. There is evidence that people from an individualistic culture are more inclined to explicitly seek and receive social support to cope with stress than people from the collectivist culture (Kim et al., 2008; Taylor et al., 2004; Wellisch et al., 1999). Taylor et al (2004) reported that the reason for this observed differences may be due to the underlying cultural values and social rules governing the relationship patterns and expectations in peoples' social network. The European-American actively seeks for support to solve his/her personal problems because he believes that he should use the resources around him to solve his personal problems and people are not obliged to assist if they do not want to, whereas the Asian will not disclose personal problems for fear of being seen as incapable of handling personal problems or being seen as taking undue advantage of the social network group (Kim et al., 2008; Taylor et al., 2004).

Gender Differences in Social Support

Gender exerts an important influence in social support. The literature has reported that there is a difference in how men and women perceive and integrate support into their lives (Cheng et al., 2013; Fuhrer & Stansfeld, 2002; Gordillo et al., 2009; Matud et al., 2003; Reevy & Maslach, 2001) and this may be due to traditional gender role patterns and socialization. An

understanding of the areas of potential difference in social support between women and men will help in the utilization of its positive effects to enhance the health and well-being of both male and female (Cobb, 1976; Shumaker & Hill, 1991).

In many cultures, male socialization focuses on autonomy, assertiveness, self-reliance, competitiveness and independence while playing down on the expressions of the feelings of emotions (Matud et al., 2003). This is suggestive of socialization process that may negate the formation of effectual networks (Barbee et al., 1993), which may support the hypothesis that peer support is more a feminine activity.

Women are more likely socialized to being verbally expressive, compassionate, expression of warmth, quick to display emotions and inclined to search for intimacy in a relationship (Olson & Shultz, 1994). Also women, more than men are more likely to seek out, give and receive assistance, suggestive of a character that explicitly encourages socially supportive relationships (Olson & Shultz, 1994; Shumaker & Hill, 1991). Consequently, the formation and sustenance of a socially supportive group is easier for women than men (Olson & Shultz, 1994) as noted above, also supporting the hypothesis that peer support is largely a feminine activity.

Both men and women rely on women as their main sources of support (Antonucci & Akiyama, 1987). Women tend to have varieties of network groups more than men (Cheng et al., 2013; Fuhrer & Stansfeld, 2002; Hill, 1991). Women are also inclined to readily utilize their extensive network groups for support in stressful situations while men sorely depend on their spouses for support in times of need (Antonucci & Akiyama, 1987). In addition, women more than men report having a close confidant and that the close confidant is not their spouse while

men report not having a close confidant and for the few who do, the close confidant commonly mentioned is their spouse (Antonucci & Akiyama, 1987). Women more than men spend more time involved in support giving activities (Kessler, McLeod, & Wethington, 1985). Thus women are able to develop and sustain social network groups used by both men and women (Shumaker & Hill, 1991).

Because sex and gender are significantly related, it generally follows that women tend to have more feminine qualities while men tend to have more masculine qualities (Reevy & Maslach, 2001). However, this assumption may not always be true. Some men score high in feminine characteristics of nurturance, feelings, compassion, and affiliation which are qualities relevant to social support. On the other hand, some women score high in masculine qualities of autonomy, independence, and self-reliance which are variables related to social support. Therefore it may be more beneficial to evaluate gender directly in social support regardless of sex (Reevy & Maslach, 2001).

Hitherto, two masculine gender-related qualities that stand out in social support and interpersonal relationships are independence (autonomy) and self-confidence (Olson & Shultz, 1994). Characteristically, independent people are self-reliant, and are unlikely to seek or receive support as frequently as the non-independent people (Olson & Shultz, 1994). Also, independent people may be inclined to avoid seeking or receiving any form of support that will reveal emotional vulnerability, thus they will not seek or receive emotional or appraisal type of support. This is also true of self-confident people. However, self-confident people will seek support for personal reasons and because they are not shy by nature, they may be more inclined than others to solicit support from anybody around them irrespective of the degree of their relationship (Reevy & Maslach, 2001). In view of this, it can be rightly assumed that self-confident people will solicit

and receive instrumental and informational support as opposed to soliciting and receiving emotional support.

In contrast to masculinity, feminine qualities related to social support include nurturance and alliance (Cook, 1985). Characteristically, nurturing people show warmth, are compassionate and tolerant of other people's views (Hill, 1991). They are more sensitive to feelings, including theirs and that of other people. Hence they are more likely to seek and receive emotional support more than other forms of support (Hill, 1991; Reevy & Maslach, 2001). In addition, affiliative people can easily form and sustain relationships. They are able to belong to a wide variety of social network groups with whom they develop strong and intimate ties, on which they can readily rely for support in times of stressful life events (Antonucci & Akiyama, 1987; Reevy & Maslach, 2001).

The ability and motivation of the person giving the social support cannot be overemphasized because of its influence in the quality of social support received. There is no difference in the quality or quantity of support given by gender, but there is difference in the form or mode of support each gender can give (Eagly & Crowley, 1986). Persons with masculine gender tend to give support when help is needed urgently like in emergency or disaster situations and to give instrumental aids while the female gender is inclined to give assistance that is long-term in nature and consistent (Barbee et al., 1993).

Research studies have also demonstrated that males do better in providing support in certain contexts (Yankeelov, Barbee, Cunningham, & Druen, 1991). Yankeelov et al (1991) in an experimental study involving male-female dyads reported that the males provided more support to their female partners when the females failed in task-oriented problems than when they were

in depressive moods. The females provided more support to their male partners when they were in depressive moods than when they failed in a task, suggesting that females provide more emotional support than the males while the males provide more instrumental support than the females (Yankeelov, Barbee, Cunningham, & Druen, 1991). Corroborating this finding, Belansky & Boggiano (1994) noted that females are more likely to help in a nurturant way than a problem-solving way while the opposite holds for males.

There are differences in the types of support peer support programs that serve mostly men and the ones that serve mostly women provide to the group. Examples are peer support programs for men with prostate cancer and programs for women with breast cancer which suggest sex differences in provision and response to peer support. Research reports affirm that men more than women are reluctant users of psychological support groups (Coreil & Behal, 1999; Gray, Fitch, Davis, & Phillips, 1997; Rickwood & Braithwaite, 1994; Steginga, Pinnock, Gardner, & Dunn, 2005; Weber et al., 2004; Weber, Roberts, Yarandi, Mills, Chumbler, & Algood, 2007; Weber, Roberts, Yarandi, Mills, Chumbler, & Wajzman, 2007a). Psychological issues received minimal attention in prostate cancer support groups (Coreil & Behal, 1999; Steginga et al., 2005). In a survey in the United States of one of the popular prostate cancer peer support groups, known as 'Man to Man Prostate Cancer Support Groups', it was reported that educational component (the attention was focused more on guest speakers from health professionals giving talk on different aspects of prostate cancer) was given priority while psychosocial support was not emphasized (Coreil & Behal, 1999). Participants were asked which aspects of the support group programs they valued the most, 83% of the informants said they valued receiving information and education about prostate cancer the most. Items that received lower ratings by participants in that survey included "help me coped with emotional aspects of prostate cancer"

(Coreil & Behal, 1999). In a related study, Weber et al (2004b) reported that men preferred dyadic meeting to group meetings because they were more comfortable discussing personal issues like sexual and urinary dysfunction in a dyadic meeting than in a group meeting suggesting that dyadic meeting was more effective in meeting their emotional needs (Weber et al., 2004b).

From another perspective, clinicians' support of prostate cancer support group was said to influence patients' participation in the group and predictive of men reporting higher positive and less negative support of the group (Steginga et al., 2007). Clinicians were more likely to recommend a prostate cancer support group to their patients if they were directly or remotely affiliated, (e.g. participation as a guest speaker) (Steginga et al., 2007). This is a further acknowledgement that men's priority in a support group is for education and information.

In contrast to the prostate cancer support group that serves mainly men, the breast cancer peer support group that serves mainly women primarily emphasizes the emotional well-being of their members (Ashing-Giwa et al., 2012; Cheng et al., 2013; Giese-Davis et al., 2006; Gotay et al., 2007; Gray, Fitch, Davis, & Phillips, 1997). In one study, it was reported that the most frequently discussed topic during the peer support meetings was expression of feelings followed by coping strategies, suggesting that peer support experience for women with breast cancer was more of an emotional and social support than an education forum (Giese-Davis et al., 2006). In another qualitative focus group, women freely discussed sensitive private problems like family issues, sexual and reproductive life for the younger women, breast reconstruction, body-image associated with hair loss; an aftermath of chemotherapy (Gray et al., 1997). Therefore, in comparison to men, women were less inhibited to discuss personal problems with others.

Though women are more inclined to give and receive emotion-focused support, the mode in which they express the need for the support or the willingness to give the support differs with culture (Burleson, 2003; Kim et al., 2008). Females in the collectivist culture will neither disclose the details of their problems nor will they want to be pressured to talk about the problem, but they expect their social network group to understand that they need help through gestures and body language and then provide support (Kim et al., 2008). This is known as implicit support (Kim et al., 2008). The same is true of men in the collectivist culture. The men are more inclined to give and receive information and problem-focused support, but they will want it in an implicit way (Kim et al., 2008; Taylor et al., 2004).

The issue of gender differences in peer support has not been fully explored in the peer support programs in Type 2 diabetes self-management. Also since gender exerts strong influence in social support and peer support is a form of social support, it is pertinent to study the influence of gender differences in peer support in order to fully utilize its health benefits in peer support programs.

CHAPTER 3

METHODS

The purpose of this study was to explore gender differences in peer support in type 2 diabetes self-management from the perspective of the peer support program managers or key informants. This chapter details the research approach which includes the research design, sampling method, data collection methods, and analytic approach.

Design

Qualitative descriptive design was used in this study. Qualitative design was deemed appropriate because it allowed an opportunity to obtain the voiced experiences of those who had firsthand knowledge of encountering both men and women in peer support programs. The qualitative descriptive approach is one of the methods used in naturalistic inquiry. Typical of a naturalistic inquiry, no variables were identified in advance of data collection, no form of experiments were conducted, and nothing was stage-managed (Sandelowski, 2000; Sandelowski, 2010).

Qualitative descriptive approach is grounded in three underlying premises:

- 1) That humans are social beings who can interact within different types of social groups.

2) Human beings are able to recount their past, present, and future experiences within such groups, and

3) A thick description of the experiences with the group will lead to the discovery of central ideas about the issue of interest in the encounter and so discover the pattern (Parse, 2001).

Qualitative descriptive approach was employed in an attempt to reveal gender differences in peer support in Type 2 diabetes self-management from the point of view of the peer support program managers/key informants. In-depth exploration of gender differences in peer support in Type 2 diabetes and thick description was achieved by using, for the most part, the words of the research participants with very minimal interpretation. In other words, the description stayed close to the data by using quotes from the research participants to provide evidence of their point of view. Minimal interpretations of the words or statements of the research participants distinguish qualitative descriptive approach from the other qualitative methods like phenomenology, grounded theory or ethnography (Sandelowski, 2000).

Sampling of Peer Support Programs and the Key Informants

This study was undertaken with the cooperation of Peers for Progress. Peers for Progress is a program of American Academy of Family Physicians Foundations. Peers for Progress started in 2006 with a vision to promote peer support as a strategy to promote health, healthcare and preventive measures around the world. Some of the activities of Peers for Progress include demonstrating the value of peer support, helping establish peer support as an accepted, core component of health care, promoting peer support programs, and establishing networks on global scale.

Due to the global epidemic of type 2 diabetes, Peers for Progress began its promotion of peer support with establishing a global network of peer support programs for the disease in order to address the epidemic. Peers for Progress funded 14 projects globally: 6 short term projects (demonstration grants) and 8 long-term projects (evaluation grants). The projects were spread across 9 countries which include United States, Argentina, China, Thailand, Australia, England, South Africa, Cameroon, and Uganda. One of the goals of Peers for Progress is to establish best practices for peer support through research. In addition to these funded projects, Peers for Progress is collaborating with 60 peer support programs for diabetes self-management across the globe.

Purposive sampling was used to select 15 peer support programs that implemented the Community Health Worker model, essentially peer support programs that used trained peer supporters. Purposive sampling is the deliberate sampling of participants who will give rich information required for the phenomenon under investigation (Coyne, 1997; Sandelowski, 1993a; Sandelowski, 2000). Community Health Workers go by different names in different programs and in different countries. These names include peer educators, peer leaders, peer champions, and lay community health workers. The Community Health Worker model was chosen because it was the most widely used model in the peer support programs, and was most reported and described in the literature. The Community Health Worker peer supporters received training for the job. Using only programs that trained the peer supporters was necessary to ensure uniformity in the types of peer support sampled for the study. Programs that served different cultures were sampled to explore potential similarities and differences regarding culturally-based gender issues in peer support for type 2 diabetes self-management.

One participant from each identified program was contacted and invited to participate in the study. The participants have close ties with Peers for Progress and they were very knowledgeable about the peer support programs. Sampling in qualitative research is concerned with richness of information (Sandelowski, 1995). Furthermore, the focus in qualitative research is more on sampling adequacy and not on sample size because generalizability is not sought (Bowen, 2008). The programs selected for the study were the projects funded by Peers for Progress or programs that collaborate with Peers for Progress. The sampled peer support programs implemented the 4 key functions of peer support. The participants who responded to the survey questions personally agreed that they have very good knowledge of the subject matter.

Fifteen peer support programs were identified and contacted by the Global Director of Peers for Progress and they agreed to participate in the study. The participants were sent the survey questions in advance via email and were given the option of telephone/Skype interview or written response to the interview questions. Nine participants eventually responded to the survey questions: 3 in the United States (Alabama, California, and Chicago), 2 in Africa (Cameroon and Uganda) and 4 in Asia (Cambodia, Hong Kong, Thailand, and Vietnam). Out of the 9 peer support programs, 7 were funded by Peers for Progress (Birmingham Alabama, California, Cameroon, Chicago, Thailand, and Uganda). The program in Cambodia is a community based organization that is ongoing while the Vietnam program was an evaluation study. Both programs collaborate with Peers for Progress. Table 2 and Appendix C show the detailed description of the peer support programs included in this study.

Table 2: Description of the Peer Support Programs.

Country/City	Focus of the program	Population	Setting
Birmingham Alabama	A 6 month CHW-delivered diabetes management for African Americans with poorly controlled (A1c >7.5) type 2 diabetes; telephone intervention supplement with monthly support groups	Urban low-income African Americans with Type 2 diabetes	Community based/clinic. Participants were recruited from a local safety-net primary care clinic
California	Peer support for diabetes self-management of Latino adults with A1c levels>7	Latino adults > 18 years with Type 2 diabetes	Non-profit community clinic/Federally Qualified Health Center (Clinicas de Salud del Pueblo, Inc)
Cambodia	Diabetes self-management	Rural and urban adults over 18 years with Type 2 diabetes	Community based organization
Cameroon	Diabetes management for adults with poorly controlled diabetes (HbA1c >7)	Urban adults with Type 2 diabetes	Participants recruited from hospital but peer support activities within the community
Chicago	Peer support for Mexican adults with Type 2 diabetes	Mexican adults with type 2 diabetes	Federally Qualified Health Centers (FQHC)
Hong Kong	Frequent contacts via a telephone based PS program to improve cardiogenic risk and health outcomes by enhancing psychological well-being and self-care in patients	Adult patients with Type 2 diabetes	3 publicly funded hospital-based diabetes centers
Thailand	Diabetes conversation map	Urban adults with type 2 diabetes	Hospital
Uganda	Peer support for adults with diabetes to test the feasibility and short-term impact on perceptions of social support, psychological well-being and glycemic control through engaging participants in diabetes self-care behaviors and fostering linkages to healthcare providers	Adults in rural Uganda with Type 2 diabetes	Rural district hospital
Vietnam	To evaluate the effectiveness of a diabetes self-management support intervention for adults 30 years or older with poorly controlled diabetes (HbA1c>7 in most recent 3 months)	Urban adults with Type 2 diabetes	University research center

Data Collection Instrument

A structured questionnaire comprised of 20 open-ended interview questions was used to elicit data. Questions were based on the study aims and the investigator's conceptualization of peer support (Parse, 2001; Sandelowski, 2000). Using a structured, open-ended format made it possible to gather consistent data across respondents. Structured open-ended interview questions are consistent with the method of data analysis used in qualitative descriptive study (Parse, 2001; Patton, 1990; Sandelowski, 2000).

The conceptual underpinnings of the survey questions were the 4 key functions of peer support and the socio-ecology framework. Structured questions were drafted in advance based on the objectives of the study and the research questions. Peer support experts reviewed the survey questions to assess their content validity and suggested only minor revisions.

Data Collection

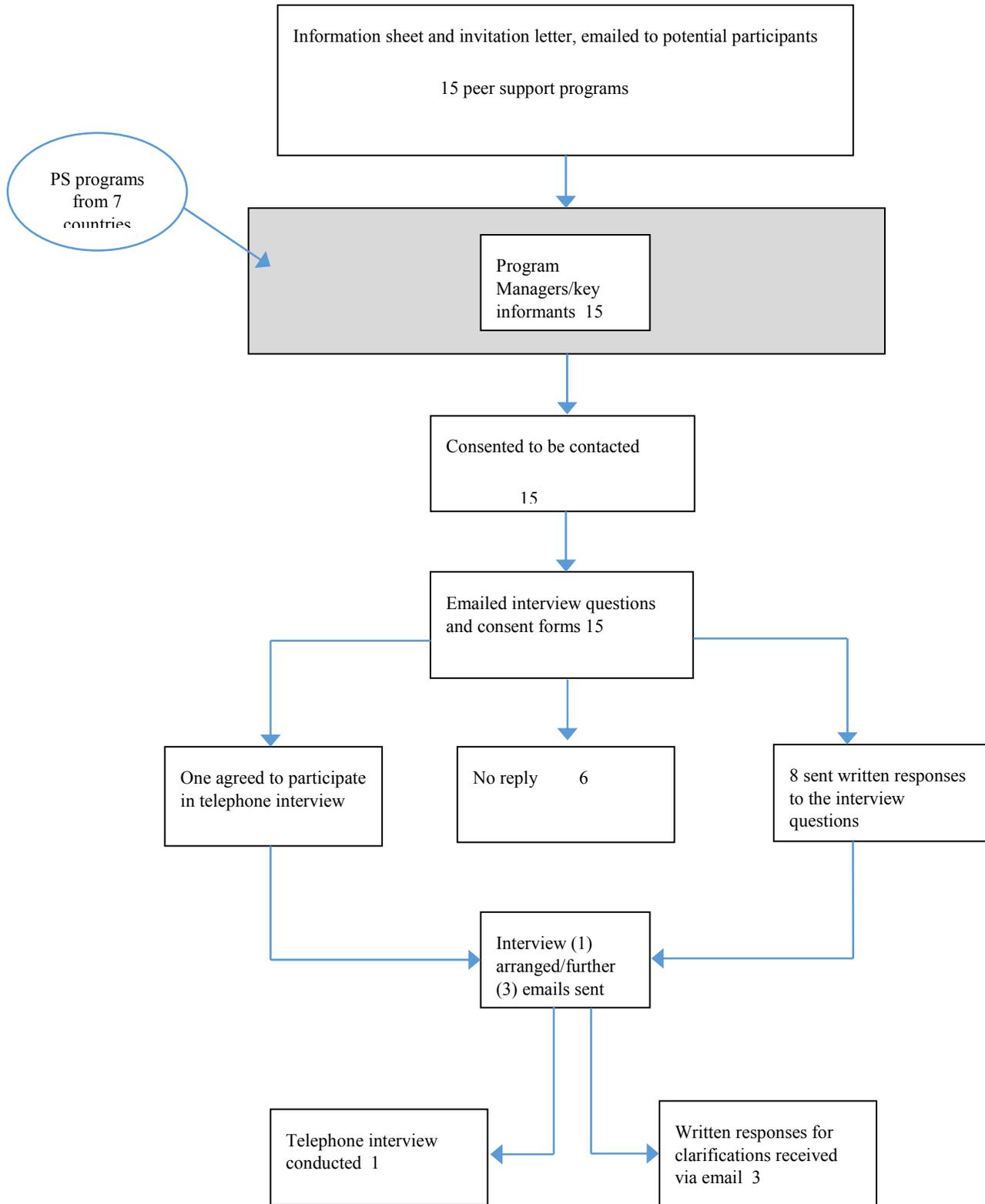
The respondents from the sampled peer support programs were sent information about the study and a letter of invitation by email. All the peer support programs contacted agreed to participate. Survey questions were sent to the designated key informants in 5 programs, followed by a second mailing to 6 additional programs one month later. Several follow-up email reminders were sent weekly to the key informants until they responded to the questionnaire. They were given the option of completing the questionnaire via telephone or Skype interview or providing written responses to the survey questions. A research assistant from the Peers for Progress research team was trained to conduct the interviews.

Six research participants initially responded. All but one of the research participants agreed to send a written response. One agreed to a telephone interview which was scheduled and was conducted by the trained research assistant. The interview was audio-taped and later

transcribed by a trained transcriber from the Peers for Progress research team. The transcripts of the interview and the written responses were securely stored and later analyzed. Because majority of the research participants chose to provide written response, the investigator did not have an opportunity to ask follow-up questions or for further clarification and elaboration of respondents' answers.

Responses from the first six interviews were reviewed by colleagues who were experts in peer support who confirmed that the questions were eliciting appropriate data for addressing the research aims. Following this confirmation, additional questionnaires were sent out to peer support programs already contacted. Three additional written responses were received in early March 2015. Several email reminders were sent to respondents who had not responded until the conclusion of the analysis. Respondents from 9 of the 15 peer support programs invited to participate in the study responded.

Figure 2: Flowchart of Recruitment and Retention of Participants.



Data Management and Analysis Strategy

Qualitative software, INVIVO 10, was used to store and organize the data. Comprehensive data management, which included coding, annotating the questionnaires, memoing and maintain a record of personal reflections, was supported through the use of the INVIVO 10 software. Respondent's from 8 peer support programs sent written responses to the survey questions by email attachment of a word document. The responses from each key informant (8 written responses, one interview transcript) were imported into INVIVO 10 software. The unit of analysis was the peer support program.

Qualitative content analysis was used to analyze the data as it is consistent with descriptive qualitative designs (Sandelowski, 2000). In content analysis the data are analyzed based on the interview questions and on the researcher's specific interest in the questions. In the current study, the researcher's interest was to use a socio-ecological framework and the key functions of peer support to better understand gender differences regarding engagement and participation in peer support program activities. Hence the data was analyzed to identify data that reflected this particular interest.

Content analysis in qualitative research is a step-wise data analysis approach that uses coding and identification of central ideas to interpret an interview transcript (Hsieh & Shannon, 2005). Also content analysis is useful in testing theoretical issues, which enhances understanding of the data and helps avoid repetition of categories (Elo & Kyngäs, 2008). The written responses and the interview transcript were coded and grouped into the categories or central ideas related to gender differences in providing the four key functions of peer support.

Data usually contain both manifest and latent content. Manifest content of data is the visibly obvious, plain language component of the data while the latent content involves

interpretation of the content and identification of relationships (Kondracki, Wellman, & Amundson, 2002). Using the manifest content of the data, a directed content analysis approach was employed in this study. Directed content analysis is used when there is a theory or framework guiding the study, with the same framework guiding the analysis (Hsieh & Shannon, 2005).

The theoretical framework guiding the study helped to identify the categories or concepts of interest and provided insights into how these concepts may be related to one another. The framework also helped to determine the initial coding scheme that was used to code data (Hsieh & Shannon, 2005).

Coding and Categorization

In line with the directed approach to content analysis, I started with pre-formed broad codes derived from the 4 key functions of peer support and my research questions. For instance, I had codes on:

- 1) *Four key functions of peer support and gender,*
- 2) *Participation in peer support, and*
- 3) *Gender, culture and peer support.*

After this initial coding, I reviewed the data for these broad codes and how they fit with the research questions. As I reflected on these codes, I dwelt on the data ensuring that my preconceptions and biases did not influence the analytic process. Next, I expanded the codes and created sub-codes based on my review of the data. For example in *participation in peer support*, I created subcategories of *male participation* and *female participation*; in *culture, gender and*

peer support I also created sub-codes of *male gender role and peer support*, *female gender role and peer support*. Under the code of *4 key functions of peer support and gender*, I listed the 4 key functions of peer support as sub-codes and under each key function I created subcategories of *male response and female response*. I tried to be as meticulous as possible when creating subcategories and evaluated carefully how each sub-category fit with the main category by reading the data and making tables. I also coded for the gender related issues that were reported in the data. The gender codes addressed both how gender issues were accommodated in existing programs and respondents' recommendations for addressing gender issues.

During the coding process two qualitative researchers from the Peers for Progress research team constantly reviewed the coding for consistency. The four key functions of peer support have standardized definitions which were applied in the coding. Participation in peer support was defined as the number/percentage of females and males who were enrolled/attended the peer support program activities.

Comparing Codes and Categories

Comparison between data, codes and categories took place throughout the data analysis. This process started early in the data and increased in intensity as the data analysis progressed. During reading and re-reading of the written responses and the interview transcripts, I recognized similar terms or phrases. I made notes on which program key informants said similar or different things and about various aspects of the programs. I used INVIVO 10 queries, and tables to visualize the data for its similarities and differences. Comparing, scrutinizing, thinking, and talking about the gender differences and similarities in the data with the Global Director of Peers for Progress and the Peers for Progress research team helped me to shape my ideas and understanding of the gender differences in peer support as they were manifested in my study.

The themes that emerged were based on the 4 key functions of peer support and the socio ecology framework.

Memo Writing

I started data analysis when I received the first written response. This was in accordance with qualitative data analysis which should start with the first interview (Creswell, 2013). I made a table of the countries/city, the interview questions and the responses. As I received the written responses, I posted the responses against the country/city and the question. In this format, I was able to see all the responses to each question from different programs at a glance. Through reading and re-reading of the responses, I wrote memos on the responses to each question. I focused my memo on the data and this helped me to reflect on what was significant in the data. The memo writing was also very helpful in making me understand the data. The memo was a useful guide in report writing.

Issues of Trustworthiness

Quality of qualitative research is about the trustworthiness and the credibility of the research process (Charmaz, 2006). To ensure credibility, I worked closely with the Global Director of Peers for Progress and the entire Peers for Progress team at the Gillings School of Global Public Health University of North Carolina at Chapel Hill throughout the research process. The research participants had strong ties with Peers for Progress and were nominated as key informants because of their vast knowledge and experience working with the peer support program in their settings. I also worked closely with my dissertation chair updating her weekly on the progress of the data collection. In addition, I maintained a detailed description of my data collection and analysis strategies and my rationale for decisions made regarding the study design.

Furthermore, to enhance trustworthiness and credibility, I analyzed the data systematically. I started with organizing the responses manually to note the patterns and write memos on my understanding of the data. I proceeded to use INVIVO 10 program to systematically code and categorize the data. During the analysis process, I consulted experts in qualitative research from the Peers for Progress research group, Odum Institute at University of North Carolina at Chapel Hill and a colleague who was experienced in the use of INVIVO 10.

Ethical Consideration

In qualitative descriptive research, ethical considerations are an integral part of the research process, just as is the case in every qualitative research study (Brinkmann & Kvale, 2005). Attention to ethical issues is required to protect the rights of the research participants. The peer support programs were contacted through Peers for Progress and they consented to participate in the study. The key informants were assured of confidentiality throughout the research process and during dissemination of the findings.

The Institutional Review Board (IRB) of the University of North Carolina Chapel Hill approved the study.

Participants were given letters of appreciation for participating in the study. No financial incentives were paid.

CHAPTER 4

FINDINGS

The purpose of this study was to explore gender differences regarding response and participation in peer support from the perspective of the peer support program managers or key informants. The findings reflect the integration of data from the telephone interview and the written responses to the survey questions.

The findings are organized to answer the research questions and to meet the objectives of the study.

Differences in Participation of Female and Male Peer Supporters and Support Recipients/Participants

Peer Supporters

Reports from 4 of the 9 peer support programs studied showed that females dominated as peer supporters. These peer support programs include Birmingham Alabama, California, Chicago and Thailand. The key informant from the Birmingham Alabama peer support program stated “we have not had any success recruiting a male peer supporter/Community Health Worker”. In California, the key informant said “27 of 28 peer supporters were women”. In Chicago, the program key informant stated “we only had 1 peer supporter that was a male out of a group of 8 or 9”. Thailand peer support program key informant stated that “females are more likely talkative than males and more likely to offer help before asking”. Some of the key

informants gave reasons why this occurred in their programs. For instance, one key informant stated “more women than men see themselves as the primary caregivers in this community and therefore are more likely to seek and offer support to others”. Another key informant stated “But traditionally Community Health Workers are women so you know”.

Two peer support programs, Cambodia and Hong Kong reported that males dominated as peer supporters. In Cambodia the program key informant reported that 71% of the peer supporters were male, while in Hong Kong peer support program, the key informant reported that 15 out of 23 peer supporters were males. The Cambodian peer support key informant gave reason for this saying “men by contrast, they have higher in education background and majority of them are used to work as local public servants such as village chief, community chief, police, etc. but now they are retired”. The Cambodian women, according to the key informant, were poorly educated, coupled with the traditional gender role expectation that discouraged women from seeking employment outside the home by saying “husbands want their wife to stay home, children want their mother to stay at home, members in the household can be unhappy when the mother is not paying as much attention to them, and is busy going around the area in order to care for other people”. In Hong Kong peer support program, it was reported that males were more confident and found it easier to talk to peers and this made it easier to convince males to take the role of peer supporter, by saying “male patients seem to be easier to motivate, while female patients always complain they have too much household duties to do, e.g. raising grandchildren, cooking for the family, etc. and male supporters (middle age) are more proactive and confidence in talking to peers, female supporters are more hesitated and less confident when talking to peers”

Ironically, in the peer support programs that served the Latino population in Chicago and California, being a caregiver/support provider in the family was one of the reasons the key informants gave for why females dominated as peer supporters while the same reason was given as a barrier for women not volunteering as peer supporters in Cambodia and Hong Kong peer support programs.

Cameroon, Uganda, and Vietnam did not report any difference in the male versus female participation in peer support. In the Vietnam peer support program, the key informant reported that participation of male and female as peer supporters were the same on the average by saying, “in my study, forty two participants with type 2 diabetes were met the criteria to become peer leaders, however twenty of them agreed to participate and out of the 20 participants, three were not completed the educational sessions (2 male and 1 female), finally, seventeen participants were assigned to match with participants in the intervention group, half of them were female (n=10)”. The Cameroon peer support program key informant described strategy the program instituted to prevent male dominance as peer supporters saying “it required some tact from project staff in order for the male participants not to want to take up the role in all groups”. On the other the Uganda program manager stated that gender was not a consideration in that program saying “there were no differences by gender other than more men dropped out early because of traveling out of the area for work”.

Support Recipients

The findings from the report of the peer support program managers/key informants in this study indicated that females dominated as support recipients in all the programs except for the peer support programs in Hong Kong and Vietnam. Hong Kong key informant reported that there were more male support recipients than females (55.6% versus 44.4%) while the Vietnam

program reported no difference in the number of male and female support recipients saying “of the participants in the intervention group (n=42), half of them were female (54.8%), in the control group (n=44) half of them were female (54.5%)”.

Peer support programs that reported more female support recipients than males were: Chicago, California, Cameroon, Cambodia, Thailand and Uganda, for examples, the Chicago program key informant stated “women I think tend to-Hispanic women, rather-tend to seek out health services much more readily than men do” and in addition she said “my observation is that once diagnosed with a chronic illness and this example is obviously diabetes-it’s easier to engage women in their care than it is men” while California peer support program manager stated “more women than men (63% vs 37%) participated in diabetes self-management support program”, and the Thailand program key informant stated “today we have conducted conversation group total of participants 10 people female 7 and male 3”. One program manager from a Latino peer support program suggested reasons for female dominance by saying “men in this community tend to think they need to deal with their health issues or other problems on their own (they are not used to asking for help or even going to the doctor) and they tend to be breadwinners, so a lot of our male patients don’t have 9-5 jobs, so that makes it even harder for them to engage in their care, let alone attend an evening class after working 12-13 hour day”.

One interesting finding in this study is the report from the Cambodian peer support program manager which indicated that females dominated as support recipients 69% and males dominated as peer supporters 71%. The female support recipients in Cambodian peer support program were also said to be more adherent in their diabetes self-care behaviors than the male support recipients by this saying “female members have a better tendency on adherence to diabetes care and more active”.

Differences in Type of Support Provided by and to Female and Male Participants

The four key functions of peer support are: 1) assistance with daily disease management 2) social and emotional support 3) linkage to clinic care and community resources 4) ongoing support. The peer support provided by peer supporters was expected to fulfill these functions.

Findings from this study showed that 8 of the 9 peer support programs interviewed reported differences in the type of support provided by male and female peer supporters and also differences in the type of support male and female support recipients sought.

Social and Emotional Support

Findings from this study revealed that across 8 study settings, 6 different countries, and 6 cultures, females sought, gave and received emotional support more than any other form of support. For examples, the key informant from Chicago peer support program stated, “but what I would observe when they would be on the phone is that I think they might have offered more social and emotional support to women than men”, Vietnam program manager stated, “female peer leaders provided the assistance with social and emotional support better than male peer leaders”. When asked to describe the support provided by male and female peer supporters or differences in the support they provide in relation to social and emotional support, the Cameroon key informant stated “the female peer supporters showed a greater sense of empathy probably due to the mother and caretaker role which they already occupied in normal day-to-day life”. Cambodian peer support program manager’s response to the same question was “I would say function number 2 social and emotional support, female peer educators provide in general a softer voice to educate other members in their peer group” and Hong Kong program key informant stated “female supporters might be more capable of providing emotional support, because they are more emotional themselves”.

Assistance with daily disease management

Four (Chicago, Cambodia, Hong Kong, and Uganda) of the 9 peer support program key informants interviewed reported no difference in daily disease management amongst male and female peer supporters and support recipients. In Chicago, the key informant stated “I don’t think there was gender differences specific to helping them with their daily disease management with regards to checking your glucose results, understanding side effects of insulin, what to eat/not eat, portion sizes, I don’t think so”.

However, the peer support program managers in Alabama, California and Cameroon reported that males engaged more in providing and receiving assistance with daily disease management than the females. In relation to assistance with daily disease management the key informant from Alabama peer support program stated “male participants are much more straightforward with diabetes strategies (e.g. go to the doctor, take your medicines, eat right, exercise)”while California program manager said “males didn’t spend much time as females in establishing rapport, they would get into sharing information more quickly- they wanted to offer something concrete like information”.

Conversely Thailand and Vietnam peer support programs reported that females engaged more in assistance with daily disease management than men by saying “for provide in relation to assistance with daily disease management, female are more likely to provide this support more than male, for example, female try to search the information about exercise (Thi CHI or swing are exercise for her friends and copy it to all participants” and also saying “more female peer leaders recorded that they discussed with their partners in various topics such as asking about health status of peer partner, self-care activities like diet, exercise, medicine, foot care and blood glucose testing, goal setting, barriers peer partners faced in daily life, or achievement peer partner gained”.

Linkage to Clinic Care and Community Resources

Across settings and programs, the peer support program managers reported differences in how male and female engaged in providing linkage to clinic care and community resources. In settings where either male or female were said to provide this peer support function, the activity they performed differ. For instance, in Hong Kong peer support, there was no difference in the provision of linkage to clinic care amongst male and female peer supporters but the female peer supporters were noted to have shared more information about community resources. In Thailand, females were said to provide this support function more than males because females had more social network and tend to invite their friends to support group activities by saying “females are more support this point than male because female invite the friend to participate in meditation group that she usually go”. In addition, peer support program in California reported that females provided assistance in linkage to clinic care more than the male saying “females seemed more likely to refer patients/peers/recipients to clinic care and community resources, they also seemed more likely to offer to meet with patients at the clinic and offer support during medical appointments and follow-through with it while male support recipients seemed less likely than females to take advantage of linkages to clinic care and community resources”.

Male peer supporters in Cambodia, Vietnam and Chicago peer support programs were reported to have provided assistance to linkage clinic care and community resources more than females by these sayings respectively, “male peer educator would provide better performance because male peer educator seem more independent in implementing activities regarding to linkage to clinic care and community resources, such as matching patient to the service consultation at public health servants or communication with public health service providers, or doing home visit, etc.”, “male leaders reminded their partners to go clinic for health check up on time”, “male peer supporters paid more attention to linkage to care”.

The peer support programs in Cameroon and Uganda reported no noticeable difference in the provision of assistance to linkage to clinic care and community resources amongst the male and female peer supporters and support recipients.

Ongoing Support

Eight out of the nine peer support program managers interviewed responded to the survey question on gender differences in providing or receiving ongoing support. Two program managers (Birmingham Alabama, and California) reported that females provided and received this support more than the males by this saying “because women seemed to take more time to establish a rapport, they seemed more willing to maintain communication, offered on-going support more often and many times even established a friendship with the patients” and this saying “female participants received more ongoing support by calling Community Health Workers for support regarding non-diabetes management related issues, in contrast, male participants did this with less frequency”. The peer support program in Chicago differed in the way they provided ongoing support as the program manager stated “more ongoing support was provided to patients described as “high need” because they have had uncontrolled diabetes for many years and have other comorbidities, gender differences was not considered or observed”.

Five peer support programs- Cameroon, Uganda, Hong Kong, Cambodia, and Vietnam did not observe any difference in male/female provision or receipt of ongoing support.

Cultural Context of Female and Male Participation and Response to Peer Support

Findings in this study suggest that culture and gender role affected male and female participation in peer support. Culture and gender role manifested in diverse ways in the peer support programs to either facilitate participation in the program or served as a barrier to participation in some other settings as reported by the peer support program managers.

Of the 3 peer support programs studied in the United States, 2 served the Latino community and one served African American community. In the Latino peer support programs, females were said to have dominated both peer supporters and support recipients because according to the program manager, women in that culture utilize health care services more than men, by saying “Hispanic women, rather-tend to seek out health services much more readily than men do and so I mean, that is something that I’ve observed and I’ve heard others also kind of communicate that in their observations as well” and another key informant from a Latino peer support program stated “more women than men see themselves as the primary caregivers in this community and therefore are more likely to seek and offer support to others”. The peer support program informant also said this about the Latino males “I think traditional gender roles where men are-I don’t know- I think maybe seeking out health services may be seen as a weakness and men are not supposed to appear weak”. Furthermore, male peer supporters were assigned only male partners but not the same for the female peer supporters. One of the key informants in the Latino peer support program stated “if a man is a peer supporter or educator, he would have to be accompanied by a woman if visiting a female patient in order for the female to feel comfortable and for her spouse/partner to not get suspicious of his intentions”.

In the peer support program at Birmingham Alabama that served low income African American, greater number of female participants were caregivers of the older family members and this affected the time they devoted to their personal diabetes self-care, as the key informant stated “many of our female participants are caregivers for parents, grandparents, and others that presents with challenge of time management in balancing all their duties and diabetes management”. In the same group, the key informant reported that male participants were observed to have problem with cooking for themselves especially if they live alone or if there

were no females in the household family, saying “male participants often seem to struggle in meal preparation especially when they live alone or in male only households”.

In the two African countries studied, more women participated in peer support programs. In Cameroon peer support program, the key informant reported that women were more health conscious and therefore were quicker to notice any adverse health condition than men as was stated, “women tend to use health care services more often than men so are more likely to become aware of their condition sooner than men”. It was also said that women were sensitive to issues of culture and socio economic status. The peer support staff took cognizance of this in the group formation, as the key informant stated “patients with similar social, professional or cultural affinity were put in the same group, this is relevant because women tend to be more sensitive to differences in these areas and would generally modify their behavior depending on whether they view the setting threatening or friendly”. The Ugandan peer support program manager reported that, in Uganda, married men and women do not associate closely, therefore the peer support participants were sex-matched by saying, “one cultural value in Uganda is that married men and women do not interact too closely with the opposite sex beyond their spouse and so we paired participants in dyads and triads and avoided male/female dyads”. The Ugandan peer support program manager also reported that men in Uganda were better educated than women, had better employment and may be employed in far places away from their homes. This led to men not participating as much as women did in peer support as she stated “one problem that arose was that men who had to travel were not available to participate as a peer supporter as consistently as others and several dropped out of the study for this reason”.

In Cambodia, the peer support program manager reported that culturally women are home-based workers, they are not expected to seek employment outside home. Society expects

the women to be available all the time at home taking care of their husbands and children. This cultural practice was a barrier to women participating as peer supporters as the program manager stated “many husbands do not want their wife to become a peer educator, members in the household can be unhappy when the mother is not paying as much attention to them, and is busy going around the area in order to care for other people, they demand the matriarch to be available 100% for them”. Women in Cambodia were said to be less educated than men and this was a barrier for female participation in peer support as was stated “some barriers such as family burden, low education background and social discouragement maybe has an effect to their involvement as peer educators”.

In Thailand, it was reported that men were quiet in group meetings while women were more vocal and active. The peer support key informant reported that women contributed in group discussions and freely asked questions in the group while men remained quiet and preferred to ask questions to someone they have close relationship with after the group discussion saying “as my observations, female are more likely talkative than male and more likely to offer help before asking, male are more likely to ask for help after the program to the one who are close to them, female, mostly if they need help, they usually ask in the group when the program is continued”.

In Hong Kong, traditional gender role was said to be a barrier to women engaging in peer support as much as men as the peer support program informant stated “male patients are easier to motivate, while female patients always complain they have too much household duties to do, e.g. raising grandchildren, cooking for the family, etc.” In addition, the male peer supporters were said to be more engaged, those who made commitment to the peer support program fulfilled their promises unlike the women who did not join the program due to family gender role as the key informant stated “the male supporters (middle age) are more proactive and confident in talking to

peers, female supporters (middle age) are more hesitant and less confident when talking to peers”.

Vietnam peer support program did not report any cultural or gender role barrier to male/female participation in peer support. Male and female participated equally. Peer supporters were matched with partners based on location of residence, age and interests. The key informant reported that, of the 42 support recipients, 54.8% were females, 78.6% were married and 59.5% were retired, of the 17 peer supporters, 10 were females, 14 were married and 10 were retired. Two gender related issues were reported in the Vietnam peer support program. One was that the husband of a female support recipient picked the call from the male support provider and challenged him to talk about his (the support provider’s) wife’s health problems with him (support recipient’s husband). This made the peer supporter uncomfortable and he stopped calling that female partner. Another case reported in the Vietnam peer support program was that a female peer supporter called her male peer partner several times and he did not pick up her calls. She stopped calling him because she felt embarrassed to keep calling someone who did not pick her many calls.

Key Points to Note

All peer support programs included in this study reported gender related issues. Most issues identified resulted in the program making some adjustments in program plan. Most gender issues were not resolved or were partially resolved. Some of the issues reported may require a long term solution as noted by the Cambodian peer support program key informant saying, “Traditionally, Cambodian families did not want their daughters to learn, that attitude has changed but the new generation of educated women is not yet diabetic”. Table 3 below shows the gender issues identified in this study.

Table 3: Gender Issues Identified and Solutions Implemented

Country	Gender Issues	Implemented Solutions	Outcome of implemented solution
Alabama	Problem recruiting Male peer supporter	Encouraged enrolled males to volunteer	Unable to recruit male peer supporter
California	Problem recruiting Male peer supporter	Encouraged enrolled males to volunteer Assigned only male patients to male peer supporters	1 male peer supporter
Chicago	Problem recruiting Male peer supporter	Encouragement	2 male peer supporters
Cambodia	Problem recruiting female Peer supporters	Motivation, networking and advocating female education	Anticipate change in a long term when more females will be educated
Thailand	Males not volunteering as Peer leaders	No intervention	-
Hong Kong	Difficulty motivating females to participate in PS both as peer supporters and support recipients	Motivation	No success
Vietnam	1) Spouse of a female support recipient objected. 2) Male support recipient refused to pick calls from a female peer supporter	No intervention	-
Cameroon	Male wanted to take role of peer supporter in all the groups	PS staff appointed female peer leaders	Issue resolved
Uganda	Married men and women do not associate closely	Dyads and triads were sex matched	Issue resolved

CHAPTER 5

DISCUSSION

The purpose of this qualitative study was to explore gender differences in peer support in Type 2 diabetes self-management using the peer support program managers/key informants from across different countries and cultures as research participants. I explored the program managers' perspective regarding differences in male and female participation in peer support, male and female provision and receipt of the 4 key functions of peer support and the cultural context of male and provision and receipt of peer support. This chapter discusses the major findings and conclusions drawn from the research data. Next, strengths and limitations of the study are discussed. Lastly, the implications for practice and for future research are highlighted.

Major Findings

The findings from this study confirm that there are gender differences in social support. Findings detail gender differences in the four key functions of peer support and how those differences may be influenced by factors at different levels of the socio-ecology framework. The socio-ecology framework emphasizes that factors influence health behavior at multiple levels namely; intrapersonal, interpersonal, community, and policy levels (Stokols, 1992). The four key functions of peer support are; assistance with daily disease management, social and emotional support, linkage to clinic care and community resources and ongoing support. In relation to diabetes self-management, these functions are designed to target problems at the multiple levels of influencing through peer support activities.

Differences in Female and Male Participation in Peer Support

According to the peer support program managers/key informants' reports, male and female participation in peer support were different across settings and cultures. In the four Asian countries included in this study, three, reported differences in male and female participation in peer support. In Hong Kong peer support program, males were reported to have engaged more than females in peer support both as peer supporters and support recipients. In this program, it was difficult to engage females both as peer supporters and support recipients. In Cambodia, it was reported that, there were more male peer supporters and more female support recipients. The Cambodian program had difficulty recruiting female volunteers as peer supporters. Males and females were reported to have participated equally in the Vietnam peer support program. The findings in this study do not support the generalization that peer support is a female activity. Each Asian country was unique in the way males and females participated in the peer support programs.

Three peer support programs in the United States participated in this study. Two of the programs served the Latino population and one program served urban low income African Americans. The key informants in all the three programs reported difficulty in recruiting male peer supporters. The Latino programs had more female support recipients than males while the African American program did not report any difference in the number of male and female support recipients.

Two peer support programs from African countries participated in this study. One was for rural dwellers and the other for urban dwellers. In both programs, men and women were said to have engaged equally as peer support activities though both programs had more female support recipients than male.

Differences in Male and Female Provision and Receipt of the Four Key Functions of Peer Support

Similar to other studies in the literature, this study found that females sought, received, and gave emotional support more than males (Hill, 1991; Reevy & Maslach, 2001). This study found that males and females gave and received assistance with daily disease management, linkage to clinic care and ongoing support equally, though the activities they performed to provide these functions differed. For instance, males provided information on daily disease management, while women also provided tangible support as was reported in the program in Uganda, where a female shared fresh vegetables from her farm to members of the peer group. This finding is similar to the literature which reported that males seek and provide more informational support than any other form of support (Coreil & Behal, 1999; Steging et al., 2007). Overall, the study found that male peer supporters provided more assistance with daily disease management, followed by linkage to clinic care and ongoing support in equal intensity while female peer supporters were said to have provided more emotional and social support followed by the other functions in no particular order.

Socio-ecological Factors that May Influence the Role of Gender in Peer Support

Traditional gender roles influenced difference between men and women's participation across programs. However, the way those differences manifested themselves differed across cultures. For instance, in the United States Latino peer support programs, the key informants reported that females dominated as peer supporters because females were regarded as family health gatekeepers and caregivers, therefore females would naturally want to take up this role for this community wherever such service is needed. On the other hand, it was reported that the Latino men were the family bread winners and so they worked long hours to make enough money to take care of their families. In addition, the key informants reported observing that the

Latino males in their program preferred dealing with their health issues by themselves to avoid being seen as weak. Thus it was not surprising that females in Latino programs were in the majority as both support recipients and peer supporters. Males in Cambodia and Hong Kong dominated as peer supporters because males were educated, the Cambodian males had worked as public servants, police officers, county chiefs, teachers and now retired, while the Hong Kong males were middle aged and employed. In Cambodia and Hong Kong, females were home based workers, engaged in domestic chores and the care of the family. They were also said to be less educated and timid. These affected their volunteering as peer supporters.

In Thailand, females in the peer support program were said to be more sociable, more verbally expressive in a group, while the males were quieter and therefore more females volunteered as peer leaders.

Furthermore, males in the United States African American peer support program were reported to have engaged in their personal diabetes self-care more than females because a lot of the female participants were caregivers of parents, grandparents and grandchildren and so did not have enough time for their diabetes self-care. The literature supports the assertion that female African American diabetes patients had little time for their personal diabetes self-care because of the time spent in the family care giving role (Samuel-Hodge, Skelly, Headen & Carter-Edwards, 2005). The key informants of the three programs in the US reported that the peer supporters were mainly females. One of the reasons for this trend according to the informants was that the peer supporters were called Community Health Workers. The Community Health Workers in the United States Health System were traditionally females (Cherrington et al., 2008). Peer support programs in the United States recruited most peer supporters from this group of quasi-health

workers and they used the same title. This may have made it difficult to convince a male to take on this job and title traditionally regarded as exclusive for females.

In the African program in Uganda, the key informant reported that the program had problem of male drop outs because the men who had to travel long distances outside the villages to go to work could not cope with their work and attendance in peer support activities though they showed willingness to participate in the program by enrolling. In Cameroon, it was reported that the peer support program staff made conscious effort to stop men from dominating as peer group leaders in all the groups. It could be that females needed the close involvement of the peer support program staff be able to fulfill their expected role in the program.

Limitations and Strengths of the Study

One limitation of the study was that majority of the data were written responses to the open ended interview questions. I believe that written responses did not give enough opportunity for an in-depth exploration of the topic under investigation. Telephone or Skype interview may have given more insight into the topic. In addition, a limitation may be that some participants whose primary language was not English were not able to write all the information they had because of their limited knowledge of English language. It was difficult to get some participants to do a follow up oral interview either by telephone or Skype. They still preferred to respond by email. Also, a limitation was that no Caucasian peer support program participated in the study. Therefore, it was not possible to study the gender differences in peer support in that culture and make comparisons with the other cultures. Another limitation was that the research participants were key informants of the peer support programs and their responses to the interview questions were their own perspectives, which may have been influenced by their personal gender biases.

Another important limitation was my inexperience in qualitative data analysis.

Throughout the data analysis I challenged myself with alternative ways of looking at the data. I started with organizing the data manually and writing memos on my understanding of the data. I then quickly settled with using the INVIVO 10 software after an initial tutoring and assistance from Odum Institute.

The strength of this study was that data was collected directly from informants who have experience with the peer support programs. An important strength of the study was that the sampling of the peer support programs and the data collection were done through the Global Director of Peers for Progress and the entire Peers for Progress research team. Through Peers for Progress, I sampled peer support programs from Asia, Africa and United States. With this sampling, it was possible to make comparisons across countries and cultures.

Implications for Practice

Peer support is gaining prominence globally as an efficient, cost effective means of providing self-management for people with diabetes. It is endorsed by World Health Organization as an effective means of health promotion and diabetes management (WHO, 2007). Peer support programs are increasing in number globally due to the evidence of its effectiveness (Dale, Williams & Bowyer, 2012). Evidence demonstrates that gender may have an influence in peer support. In a review of 16 peer support programs in the United States, peer support program managers expressed concern about gender issues in recruitment, retention and communication amongst participants (Cherrington et al., 2008) and these may affect the effectiveness of the program. Yet little is known about how gender might influence the effectiveness of peer support. The findings in this study suggest that there are substantial gender related issues and differences in peer support.

First, this study identified that there are gender issues in peer support in all the programs studied. There were obvious gaps in some programs due to the gender issues. For instance, a program had all female peer supporters but had male support recipients. Second, this study identified that it was difficult to recruit female peer supporters in some cultures and difficult to recruit male peer supporters in some other cultures. Third, this study identified that there were some similarities and some differences in the gender issues across settings and cultures. Therefore, there will be no “one size fits all” solution to the problems. Solutions to the problems will depend on the physical, social-cultural, socio-economic and political environment in which the program operates. The peer support programs need to understand their local cultures and context and adapt their programs to fit. For instance, peer supporters and support recipients could be sex-matched as was done in Ugandan program where culturally married men and women do not associate closely.

Implications for Future Research

To my knowledge, this is the first study where gender differences in peer support were explored qualitatively using the program key informants as research participants. This study is one step towards identifying gender issues that may impact on peer support programs. Similar studies should be conducted to confirm these findings by using the peer supporters and support recipients as research participants. It is only by conducting such additional studies that we recommend evidence based solutions to the identified gender issues.

This study drew attention to peer support programs that were unable to recruit either male or female peer supporters. Only the surface of this was explored. Future studies should investigate this more deeply in the individual peer support programs with a view to identifying the causes and finding solutions to the problem.

This study highlighted the gender differences in the provision and receipt of the 4 key functions of peer support. A future study is needed to investigate the activities the peer supporters are providing to determine how the peer supporters and support recipients define each key function. Lastly, future research should investigate the effects of gender on outcomes of peer support interventions.

Conclusion

The contributions of this study add to our knowledge of gender differences regarding participation and response to peer support in type 2 diabetes self-management. This new knowledge and further exploration of gender differences based on these findings is essential in planning future peer support programs.

Gender role and gender differences are a universal phenomenon but cultural differences apply and within similar cultures differences exist as dictated by the peculiar environmental situation. Peer Support programs for type 2 diabetes self-management have come to stay. Gender differences in peer support is a huge issue that needs further research to find solutions to gender problems that may affect the success of peer support programs globally.

APPENDIX 1

INTERVIEW GUIDE/SURVEY QUESTIONS

Title of Study: Gender Differences in Peer Support in Type 2 Diabetes Self-Management: A Qualitative Study

Introduction:

In many countries around the world, sex or gender is very much related to how people view and care for diseases like diabetes. It is also often related to how people provide help to each other and receive that help.

Just to be clear, by “gender” we mean not only sex differences but differences in the cultural and social roles of women and men, how those differences are related to activities of women and men, and how they are related to health and health care.

People developing peer support programs are often concerned about these issues, wondering how they need to deal with issues related to gender roles of peer supporters as well as gender of support recipients or program participants. The purpose of this interview is to gain the benefit of experiences of people like yourself in dealing with these issues. In addition to my doctoral dissertation research, I will also work with Peers for Progress to develop from this research, materials that may help programs around the world be more effective in dealing with gender issues in their settings.

Name:

Email:

Brief Description of the Peer Support Program with which you are affiliated:

Focus of program (e.g., diabetes management for older adults):

Population (e.g., rural adults over age 50)

Setting (e.g., hospital or clinic or community group)

Section 1: Attention to Gender in Program Planning

- a.** How is gender related to diabetes and its care in your setting?
- b.** How is gender related to giving and receiving help for things like diabetes management in your setting?
- c.** In what ways did you anticipate you would need to consider gender in planning your program?
- d.** What provisions did your program actually make for dealing with gender? Were there other characteristics – education, age, where people live – that you also needed to consider in planning how to deal with gender? How did they come into play?
- e.** How did the plans for dealing with gender work out? How were they effective? How did you change them?
- f.** Were you to start another peer support program, how might you deal with gender differently than in the current program?
- g.** What problems or challenges, if any, did gender pose in recruiting peer supporters?

Section 2: Differences in Participation of Female and Male Peer Supporters and Participants

- a.** Over the course of the program, were there differences in how the male and female peer supporters and male and female support recipients participated?
- b.** Were there trends in participation over time? If so, did they vary by gender? Did motivational techniques differ for males and females?
- c.** What, if anything, worked in dealing with these gender differences? Please tell me more about this?

Section 3: Differences in Type of Support Provided By and To Female and Male Participants

The key functions of peer support are: (1) assistance with daily disease management (2) social and emotional support (3) linkage to clinic care and community resources (4) ongoing support.

a. In your work with the peer supporters, how would you describe the support provided by male and female peer supporters or differences in the support they provide in relation to assistance with daily disease management?

b. How would you describe the support provided by male and female peer supporters or differences in the support they provide in relation to assistance with social and emotional support?

c. How would you describe the support provided by male and female peer supporters or differences in the support they provide in relation to linkage to clinic care and community resources?

d. What about ongoing support?

e. Were there differences among male and female support recipients in their response to any of the 4 key functions?

If so, please describe these.

f. Which of the four key functions of peer support did the male peer supporters pay more attention to?

g. Which did the female peer supporters pay more attention to?

h. In general, how did men and women differ in providing support?

What, if anything, affected how men and women provided support?

What if anything affected how men and women received or responded to support?

Section 4: Familiarity with Issues

a. How familiar would you say you are with the details of the issues talked about in this interview? Please write in a number from the scale, below _____

1....2....3....4....5

Not at all

Very Familiar

b. Is there anything else you'd like to add that we haven't talked about?

APPENDIX 2

LIST OF CODES USED FOR DATA ANALYSIS

MAIN CODE: FOUR KEY FUNCTIONS OF PEER SUPPORT

Sub-code: Assistance with daily disease management

Sub-categories: a) Male response

b) Female response

Sub-code: Social and emotional support

Sub-categories: a) Male response

b) Female response

Sub-code: Linkage to clinic care and community resources

Sub-categories: a) Male response

b) Female response

Sub-codes: Ongoing Support

Sub-categories: a) Male response

b) Female response

MAIN CODE: PARTICIPATION IN PEER SUPPORT

Sub-code: a) Male participation

b) Female Participation

MAIN CODE: GENDER, CULTURE AND PEER SUPPORT

Sub-code: a) Male gender role and peer support

b) Female gender role and peer support

MAIN CODE: GENDER ISSUES

MAIN CODE: SOLUTIONS OR SUGGESTIONS

APPENDIX 3

BRIEF SUMMARY OF PEER SUPPORT PROGRAMS INCLUDED IN THE STUDY

Country	Project	Study Design/Participants	Results/Outcomes
Hong Kong SAR, China	Examining peer support, empowerment and remote communication linked by telephone information technology	Participants randomized to usual care (n=316) and usual care plus peer support (312). Peers= 33	Reduction in HbA1c was the same for both groups. Both groups improved similarly in most psychological and behavioral measures. The usual care plus peer support had fewer re-hospitalizations
Cameroon	Pilot testing a community-based peer support intervention	Non-randomized controlled trial carried out for a period of 6 months. Intervention group (n=96). Control group (n=96). Peers =10	More significant reduction in HbA1c in the intervention group than in the control group. Reduction in BMI and systolic blood pressure
Southern California	Examining peer support intervention, with emphasis on volunteer model and navigating family, community, and clinical environments, among Mexican/Mexican American adults along US-Mexico border	336 participants randomly assigned to intervention group (n=196) and usual care group (n=196) Peers 28	On going
Birmingham Alabama	Examining community peer advisors linked to rural health centers serving African-Americans	Cluster randomized trial. Control group (n=53). Intervention group (n=80) Peers n=13	Improvement in HbA1c, blood pressure, LDL-cholesterol, health related quality of life, and healthcare utilization
Uganda	Pilot testing peer champions program using cell phones and face-to-face visits	Pre-post quasi experimental study to test the feasibility of a peer intervention to improve 1) diabetes self-care behavior 2) glycemic control 3) social and emotional well-being 4) linkages to health care providers 5) to assess the sustainability of the	Improvement with HbA1c, diastolic blood pressure and eating behaviors

		intervention 18 months later Participants were adults with Type 2 diabetes (n=27) Peer champions n=19	
Thailand	A community/clinic based group	-	-
Cambodia	MoPoTsyo is a community based organization	-	-
Vietnam	A study to evaluate the effectiveness of a diabetes self-management support intervention in Vietnamese adults	Randomized controlled trial. Control group (n=51) Intervention group (n=51) Peers n=17 Duration of study 6 months	There were significant improvements in HbA1c level, diabetes social support, diabetes self-efficacy, and diabetes self-care behaviors in the intervention group than in the control group
Chicago	To develop and evaluate effective strategies for integrating peer support, community based services and primary care PCMH resources	2 year demonstration project 8/2012 to 7/2014	In progress

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