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Coping with chronic cardiovascular disease in Iran: A qualitative study

ABSTRACT

The effects of chronic cardiovascular disease can challenge the achievement of treatment goals and recovery outcomes. This study explores the ways in which patients cope with the effects of chronic cardiovascular disease, from the perspectives of patients, family caregivers and health professionals. The qualitative study was conducted from May 2019 to September 2020 in Isfahan, Iran. Thirteen people with chronic cardiovascular disease, 6 family caregivers, and 16 healthcare professionals participated in semi-structured individual interviews. Transcripts were analysed thematically. Findings suggest that people with chronic cardiovascular disease use a range of coping strategies, both positive and negative, to adjust to their conditions. The positive strategies include managing their health-related symptoms, drawing on religious or spiritual beliefs, and accessing social and relational supports. Negative strategies can include over-reliance on family members for support, leading to reduced activity and loss of independence. Understanding the nature of the strategies used by these patients provides an important means by which health service providers can support patients to further develop their positive coping strategies. This, in turn, will enable them to achieve higher levels of wellbeing.

Keywords: Coping, Chronic Disease, Cardiovascular diseases, Family caregivers, Qualitative study

Key points:

- People with chronic CVD use a range of coping strategies, both positive and negative, to adjust to their conditions.
- Understanding the nature of coping will better equip patients, family members and health professionals to support patients to live more meaningful lives for longer.
- Further research could explore how to support patients with chronic CVD to more effectively develop positive coping strategies and overcome negative coping strategies that affect their levels of wellbeing.

BACKGROUND

Chronic non-communicable diseases are the leading cause of mortality and disability in the world, accounting for a significant proportion of the global burden of diseases (World Health Organization, 2019). In Iran, cardiovascular disease (CVD) is one of the most prevalent non-communicable diseases and a leading cause of death (about 46%), accounting for 20 to 23% of the disease burden (Sarrafzadegan & Mohammadifard, 2019).

Patients with CVD can experience a range of physical, psychological and social consequences of their illness (Schjoedt, Sommer, & Bjerrum, 2016; Yu, Lee, Kwong, Thompson, & Woo, 2008). These consequences give rise to a need for the patients to make significant changes and modifications to their lifestyle (McLaughlin et al., 2005). The extent to which these changes and modifications occur will depend on the severity of the CVD and the presence of comorbid conditions. Specifically, people with chronic CVD are at risk of developing mood disorders, such as anxiety and depression, which may impact prognosis, adherence to therapy, duration of hospitalization (Celano, Villegas, Albanese, Gaggin, & Huffman, 2018; Hiriscau & Bodolea, 2019), and mortality rates (Suzuki et al., 2014),

Patients with strategies that support them to cope with their CVD may achieve better outcomes, including improved levels of wellbeing (Brannon, Feist, & Updegraff, 2013). Accordingly, absence or ineffective coping strategies, can compromise treatment adherence and impact outcomes (Mickelson & Holden, 2018). Questions remain, however, as to which coping strategies are the best for patients with chronic CVD (De Ridder, Geenen, Kuijter, & van Middendorp, 2008). For example, De Ridder et al. (2008) identified four strategies to support patients: first, to stay as active as possible; second, to manage symptoms of the illness; third, to express their feelings; and fourth, to focus on and hope for positive outcomes. Another study investigating lifestyle

adjustments of patients with long-term left ventricular assist devices, reported that patients used expressions of concern about the physical, psychological and environmental impacts of the condition, as their primary strategy for coping (Casida, Marcuccilli, Peters, & Wright, 2011). Even so, these strategies can be impacted by the context of the patients, including their personal, family, community, socio-economic, cultural, spiritual or religious, and environmental factors, suggesting the complexity of the issues involved (Dekker & de Groot, 2018; Stanton, Revenson, & Tennen, 2007; Trevino & McConnell, 2014). For this reason, it is important to understand how patients in different contexts cope with chronic illness (Bhattacharyya, Stevenson, & Walters, 2016; Stanton et al., 2007), including CVD. Such understanding will enable the development of tailored support and interventions for these patients (Weinert, Cudney, & Spring, 2008) and enable higher levels of well-being for this population group (Olano-Lizarraga et al, 2016).

This paper reports findings of a study that aimed to explore the ways in which patients cope with and adapt to the effects of chronic CVD, from the perspective of patients, family caregivers and health professionals. Also considered are the ways in which the patients' coping strategies could affect the goals and outcomes achieved by the patient

Findings from of the study provide a means by which health service providers can better support and develop appropriate services for patients with chronic CVD and their family members so that they can lead more meaningful lives, for longer.

METHODS

Study design

This study was conducted in Isfahan, Iran and approved by the Deputy Dean for Research Affairs (grant number 398426) and Ethics Committee (code: IR.MUI.RESEARCH.REC.1398.353) of

IUMS. The research reported in this paper forms part of a two phase (i.e. qualitative-quantitative) study that aims to develop a scale to measure the adaptation of patients, including their coping strategies, to chronic CVD.

Qualitative designs are common in nursing and healthcare research due to their inherent simplicity, flexibility and utility in diverse healthcare contexts (Doyle, McCabe, Keogh, Brady, & McCann, 2019). The qualitative phase of the larger study was undertaken to gain a deeper understanding (Sandelowski, 2008) of the coping strategies of the patients. This was achieved by exploring the perceptions and experiences of patients, family caregivers and health professionals of the ways in which patients cope with and adapt to the effects of chronic CVD.

Participants and setting

A purposive sampling technique was utilized. Participants included a) patients identified with chronic CVD who had been referred to the hospitals and health centers that had an affiliation with Isfahan University of Medical Sciences, Iran; b) family caregivers of these referred patients and c) the range of health professionals who work with chronic CVD patients in this setting (e.g., physicians, cardiologists, psychiatrists, general practitioners, psychologists, nurses).

There are several reasons for the inclusive nature of the sample. First, it supports the aim of the research, which was to gain a deeper understanding of the way patients with CVD cope with the disease. Second, variation in sampling has been identified as important to enable analysis of multiple perspectives of participants about a topic under study (Creswell & Poth, 2016). Third, while it is acknowledged that the perspective of the patients who is coping with the CVD is of prime importance. At the same time, the patients' family members and treating team are in close contact with the patient and may therefore have useful insights into the strategies utilized. Finally,

family members and health professionals were interviewed as sources of information to clarify or confirm patients' responses if they were ambiguous.

A criterion of inclusion for the patients was they had to be diagnosed at least one year prior to the study. They also needed to be willing to participate and share their experience. For family caregivers, inclusion criteria required them to be the primary caregiver. Health professionals were required to have a minimum of one-year experience working with the patient with CVD. Eligible participants were then invited to participate in the study. Participation was voluntary, with participants assured that their contribution would not be identifiable. Participants signed a consent form to demonstrate understanding that they could withdraw from the research study at any time.

Data collection

Individual face-to-face, in-depth interviews were conducted at a time and location convenient to the participants. Data collection occurred between May 2019 and September 2020. Interviews were between 30 to 90 minutes in length, and were audio recorded. Topics explored with patient participants included issues related to coping and wellbeing since the onset of their illness, and the strategies used to overcome the issues encountered.

Family caregivers were asked to describe their experiences of living with the family member they cared for and how the family member had coped with the disease. In addition, caregivers were asked about their role in assisting the patient cope.

Experiences and perceptions of the process of coping for patients with CVD were also explored with the health professional group. Health professionals were asked to describe their experiences of caring for patients with CVD with a focus on the strategies they had observed during their practice that assisted patients to cope with their circumstances. Follow-up questions in all three

group were informed by their initial answers and included exploratory questions, such as ‘Can you explain more?’

Interviews and data analysis were performed simultaneously, with recruitment and interviewing continuing in tandem with qualitative data analysis, until data saturation was reached (Cleary, Horsfall, & Hayter, 2014; Polit & Beck, 2016). During data collection and analysis, the reflections and points were recorded and informed subsequent interviews.

Data Analysis

Data analysis was guided by Graneheim and Lundman (2004) method of qualitative analysis. Transcribed interview transcripts were analyzed in combination. As noted in the previous section, the findings were combined because the aim of the study was to explore CVD patients’ coping strategies and how CVD patients could be supported to better manage the effects of their disease. Considering differences between the perceptions of the groups was not an aim of the study.

The process of thematic analysis involved reviewing transcribed transcripts to ensure a general and complete understanding of the text. The data were then divided into meaning units with the sentences and words relating to each other. These units of meaning were further condensed, coded and, based on similarities and differences identifying sub-categories, were grouped into major themes. Data management and analysis were performed using MAXQDA 10 (VERBI software, 2010).

To support the trustworthiness of the findings, application was also made of Lincoln and Guba's framework (Lincoln & Guba, 1985) of credibility, transferability, dependability, and confirmability. Credibility was supported by the in-depth nature of the interviews and immersion in the data by the researcher and team, including ongoing review and supervision. Codes and

categories were extracted from the data, with a team member checking by providing some parts of the interview texts, codes, and categories to the available participants to confirm congruence with their experiences. The transferability of the data to similar situations was examined by confirming the codes and categories by the patients who did not participate in the study. Thick description was provided in the research report for the transferability of the data to readers. The participants were selected with the maximum sampling variation and data saturation to help data transferability and confirmability. Direct quotations of the participants are used to increase the dependability of the data.

RESULTS

A total of 35 interviews was conducted with patients with CVD (n=13), family caregivers (n=6), and healthcare professionals (n=16). Descriptive statistics of the participants are provided in Table 1. Duration of disease for 3(23.07%), 4(30.77%) and 6(46.15%) patients were < 5 Years, 5–10 years and > 10 years, respectively. The underlying heart disease for 5(38.46%), 5(38.46%), 2(15.38%) and 1(7.69%) patient(s) were heart failure, coronary artery disease, valvular heart disease and cardiac arrhythmia, respectively.

As explained in previous sections, the transcripts were analyzed in combination, with no differentiation made between the perceptions of the patients, family members of health professionals, when deriving the themes. Reasons for this related to the aim of the study, which was to explore CVD patients' coping strategies, rather than differences in perceptions between the groups.

Three key themes were identified: first, managing health-related symptoms; second, coping through religion or spirituality; and third, accessing social and relational supports. These three themes are discussed in the next sections of the paper.

Theme 1 - Managing health-related symptoms

Study participants suggested that the patients' endeavors to manage their symptoms was a positive coping strategy. For example, those with good coping skills had adapted to and gained high levels of acceptance to the disease condition, adopted more self-management behaviors, and expressed higher levels of satisfactions with their life, than those who were less able to cope. This included coping with the more common symptoms reported by patient participants of the study, such as shortness of breath, fatigue and severe pain, with these symptoms described as impacting most on the patients' daily activities of living, including mobility.

Specifically, some patient participants maintained their independence by taking breaks between activities and dividing tasks into small steps, so that they could monitor symptoms and modify activities to the current situation:

I do my daily chores as much as possible and ... I don't want to be a burden ... I'd like to solve my illness-related problems myself ... and now, when I have an activity, and become short of breath and tired I slow down then. I sit down and take a rest and do my work step by step. I do not lift heavy objects. I try to follow the treatment recommendations as much as possible. (p.32. Patient)

However, some patients did not adhere to their treatment plan and stopped taking their medications for different reasons, including financial difficulties:

Some patients are accustomed to poor diet, some are re-hospitalized because of financial difficulties, lack of adherence to treatment and follow-up. (p.22. Cardiologist)

This finding indicates how the contribution of a range of variables, such as poor diet, lack of financial resources and a lack of treatment adherence, can negatively impact the coping strategies of the patient participants with the chronic CVD. Interestingly, to better manage health-related symptoms, the findings suggest that repeat hospitalizations led some patients modify their perceptions of their illness, together with their lifestyles, leading to them coping better with their situation:

I used to follow the instructions ...then, I got careless and I was hospitalized again. I was resuscitated and put on a pacemaker. Since then, I changed my lifestyle and take medicine ... I walk every day. I don't add salt to my food anymore. I cook with olive oil. I always control my blood pressure and blood sugar. I used to smoke two packs of cigarettes a day; now I have decreased it and decided to quit smoking. (p.1. Patient)

At the same time, patient participants who modified their lifestyle by adopting focused and constructive behaviors, described the importance of following the healthcare provider's advice:

This is my illness and I have to deal with it. I follow everything my doctor says. I have to maintain my health to survive. I have to achieve my goals in life. I have to change my diet, follow my treatment, and control my stress and anger. (p.11. Patient)

Other participants commonly sought health-related information and support from a range of sources, including health professionals, peers, and the internet:

Doctors told me I should have a heart transplant otherwise I will die in two or three years ... At first, I was upset thinking why should this happen to me? I got depressed; then I thought I will die one day so I decided to enjoy life I began to read about my disease ... I talked about it with my doctor, searched on the Internet about coping and talked with other patients to learn how I could cope with it better. (p.3. Patient)

On the other hand, some participants described how the lack of knowledge about the conditions and its consequences, prevented patients from managing their disease:

We (patient and family care giver) didn't think about the consequences of the disease and about the harms of high blood pressure. We didn't know. Unfortunately, we neglected our health and were not eager to get more information. (p.19. Patient's Spouse)

Most patient participants described experiencing anxiety, depression, and concerns about recurrence of symptoms, with some patients reporting that they had lost hope to live a normal life. To help them to cope positively with this situation, patient participants described using strategies such as positive thinking, talking about their feelings, engaging in favorite activities, walking, listening to music and undertaking daily home activities:

I was upset and worried when I was told that I have a weak heart; then I tried to cope ...by positive thinking. I sometimes get out of my own head and then I feel better. (p.10. Patient)

Health professional participants also deemed it important to provide patients with opportunities “to talk about themselves. They share their feelings and problems... and find it easier to cope”. (p. 23. Nurse). However, it was not uncommon for patients to express anger, avoid others, and isolate themselves. These symptoms are discussed more under the third theme, ‘Accessing social and relational support’.

Theme 2 – Coping through religion or spirituality

Analysis of the findings related to the theme ‘coping through religion or spirituality’, suggested that positive coping for patients included drawing strength from spiritual or religious beliefs. This included faith and trust in a higher being to achieve peace and hope which, in turn, helped the patient to better cope with their illness.

For example, many patient participants described their experiences of anxiety, depression, loss of hope, with some also expressing their fear of death. In addition, health professional participants described the patients’ fears for the future:

When the symptoms progress, they cannot do their normal life activities and feel helpless, frustrated and depressed which affect their adherence to the treatment process. They cannot communicate; counseling and rehabilitation can be helpful at times. (p.5. Psychiatrist)

Religious or spiritual beliefs were identified by patient participants as an important means of providing them with a means of making sense of and accepting the disease, and also allaying their fears for the future:

I'd like to be healthy; but the illness is part of my life and I have to cope with it. I make the most of opportunities I have left. Compared to some other diseases, mine

is a good one as it is curable. I trust in God and Imams and ask them to help me. I believe in miracles which motivates me to cope with my illness. (p.21. Patient)

For example, most patient participants reported religious rites (e.g., praying) as calming and hence used religion as a coping strategy:

When I was sick and anxious, I got up in the middle of the night to pray and talk to God which made me calm down. I did read the Qur'an to think less about my illness. (p.2. Patient).

In support of this coping strategy, health professional participants commented on how many patients relied on God, believing that he would help them. This suggests the importance of spiritual beliefs and the use of spiritual strategies to assist with coping in this particular setting.

Theme 3 – Accessing social and relational supports

One family member participant described how the patient's health-related symptoms had "affected [their] mood", with the patient feeling "anxious" and not "going out at all to see his friends or anyone. He's been cross for a while; he swears, becomes overly aggressive and impatient. He does not feel like doing anything due to his depression." (p.27. Patient's Spouse). Interestingly, the way patients interacted with their social environment was perceived as important to their meaningful participation in activities of daily life. Seeking out social support was also perceived as an indicator of positive coping with the disease. For example, most patients believed that their coping was supported by the quality of their social interactions. The better they coped, the better the social interactions and the more they interacted with family, friends, and peers which, in turn, could boost their mood:

He has a better relationship with me and our children. He likes to have more interaction with our relatives and goes out with his friends every day; he thinks less about his illness. He asks those with the same problem about their illness, experiences, and how they have dealt with their problems. (p.14. The Patient's Spouse)

Another group of participating patients had experienced social isolation due to their health limitations and reported that this isolation made it more challenging for them to adjust to the current circumstances.

I would prefer to stay home alone ... I didn't want anyone to see me in pain and less active ... I didn't want to go anywhere or let anyone come and see me in this situation. (p.25. Patient)

For many patient participants, emotional and practical support from healthcare staff, friends and family was also important:

My friends and family members cheer me up; I can rely on them. I'm so satisfied with the treatment team. All these supports help me to tolerate my illness and cope with it more easily. I am thankful to everyone. (p.4. Patient)

Similarly, one nurse participant described the importance of patients participating in rehabilitation because this provided opportunity to obtain much needed social support as well as improving their physical health.

Patients who attend rehabilitation sessions say they are much better physically and mentally as they undergo counseling, ask their questions, and use the positive experiences of other patients; their physical strength improves, and they return to

their work environment sooner. When they see the positive results of treatment, they are more eager to come and continue their treatment. (p.28. Nurse)

Family members were also perceived as being integral to recovery and provided assistance with everyday activities of daily living due to disabilities resulting from their health condition:

I used to do my work by myself; this time my heart condition is completely different. The power of my heart has decreased to 35% ... I have to have more help from my family. (p.30. Patient)

Despite the importance of open channels of communication with the family, one family member participant reported that it could be challenging to achieve the right balance with the patient with chronic CVD, with high levels of social interaction potentially impacting their health:

The disease has affected their life; some say that they cannot do some of their daily work. They believe that they are a burden to the family and so they are reluctant to ask their family to help them continue their treatment and follow-up. Some families tend to overdo it which may negatively impact their condition. Most of the patients need the advice and support of the treatment team. (p.20. Psychologist)

There is a need then, for health professionals to consider how they can support patients to interact socially while at the same time communicating with family members in relation to achieving the right balance.

DISCUSSION

The study identified the coping strategies used by patients with chronic CVD, to cope with, manage and overcome the issues they experience as a consequence of their disease. Findings showed patients coped with their chronic CVD by managing their health-related symptoms, drawing

strength from religious or spiritual beliefs, and accessing social and relational supports. The strategies identified provide a way forward for those with or who support those with chronic CVD in Iran or other countries with similar sociocultural characteristics.

Managing symptoms

Findings of the qualitative analysis show that patients who sought knowledge about CVD, including its symptoms, are likely to more effectively manage their health-related symptoms. An important way by which the patients achieve this, is by making lifestyle modifications and performing self-care activities that help them to cope with their limitations and thereby achieve a better life-style. These findings are supported by other studies, which found that coping strategies directed towards managing health-related symptoms, together with making lifestyle modifications to help people to remain engaged in their daily activities of daily living (Casida et al., 2011; De Ridder et al., 2008; Li, Chang, & Shun, 2019).

Findings of the current study also align with those of Abshire, Prichard, Cajita, DiGiacomo, and Dennison Himmelfarb (2016), who reported that engaging in the daily activities of living will enable a person to create a sense of control over situations in which they feel that they are dependent upon others. Likewise, Abshire et al. (2016) suggest that, when a person had more control over their health status, their life priorities will change as they become focused more on meeting their health needs.

Despite the importance of patients achieving proper management of health-related behaviors to facilitate coping, the results of some studies show that there are several barriers that can challenge this process including: lack of knowledge and self-confidence, socio-economic issues (Sedlar, Lainscak, & Farkas, 2020); physical limitations, personal habits and socio-cultural norms (Chew,

Sim, Cao, & Chair, 2019) and lack of proper disease management (Bhattacharyya, Stevenson, & Walters, 2016)

This suggests why Najafi Ghezeljeh and Emami (2014) highlight the importance of prioritizing health and self-care as a positive coping strategy for patients with CVD. This prioritization can include the search for information, which often reflects a positive and motivational attitude towards self-care in people with chronic illness and can lead to reductions in anxiety (Li et al., 2019).

Based on the responses of some participants in the present study, the expression of feelings about their situation, including the symptoms they are experiencing, may be viewed as a coping response. This view is supported by De Ridder et al. (2008), who suggest that patients who regulate their emotional responses as a coping strategy, when dealing with chronic illness, are able to better cope to their situation. Alternatively, deficits in patients' ability to self-regulate emotion are associated with adverse consequences, such as decreased cognitive ability, executive dysfunction and depression (Spitznagel et al., 2013).

Coping through religion or spirituality

Reliance on religion or religious beliefs, including spirituality, was a strong theme in this study and suggested an important means by which patients endured or coped with the conditions of chronic CVD. This finding is supported by Unantenne, Warren, Canaway, and Manderson (2013), who noted that spirituality served to increase the patients' sense of well-being when diagnosed with a chronic condition. Li et al. (2019) likewise reported that the process of re-evaluating the meaning of life, creating a new perspective about the disease, and discovering meaning, can be considered a coping strategy for chronic heart failure. Similarly, Abdoli, Ashktorab, Ahmadi, Parvizi and Dunning (2011) indicated that faith in God and religious beliefs, work to strengthens

the morale of patients with diabetes, helping them to endure, exhibit a positive attitude, and to accept the disease and the difficulties it engenders, as well as to consider themselves responsible for their health care and disease management.

Despite emphasis on the importance of spirituality in coping with the disease in the current study, some patients reported that they had lost hope and, consequently, their beliefs were challenged by the progression of the disease. These findings are consistent with those reported in other studies and cultural settings. As explained by Koenig (2004), in the case of enduring chronic illness and feelings of helplessness, patients often ask 'Why me?'. Accordingly, they feel that their prayers have gone unanswered, God has punished them, or that they are being captured a spiritual struggle, when the disease progresses. Regardless of this dispersion in adaptation strategies resulting from patients' socio-cultural contexts, they may affect patients' coping strategies. As an example, some patients with cardiovascular disease in Iran considered their disease as "divine destiny" and refused to change their lifestyle (Farahani et al., 2008). Therefore, for patients with different religious beliefs, appropriate spiritual counseling tailored to their socio-cultural context should be considered as a complementary strategy to help patients cope with the disease.

Relational Support

In the current study, changes in the cardiac patients' social function were both antecedent and a consequence of facing the issues that arise from the chronic CVD condition. For example, social interactions provided the participants with the opportunity to receive the practical and emotional support they needed, which paved the way for improved coping with the illness. Moreover, after accepting the illness, patients who sought more support seemed better able to cope with their condition. The positive results of developing social interactions as a coping strategy has been reported to reduce the patients' suffering and increase their hope by other researchers (Najafi

Ghezeljeh & Emami, 2014). Specifically, Irvine, Davidson, Hoy, and Lowe-Strong (2009) found that social interaction increased the ability of Multiple Sclerosis patients to cope with the disease and reduced their uncertainty about life. Despite the positive aspects of social interactions, the results of a study showed that the development of interactions may not be without problems because patients in some cases experienced feelings of misunderstanding, doubt and fear of sharing their problems. Similarly, Thornhill, Lyons, Nouwen, & Lip (2008) found that in their study although patients were satisfied with the support of family and friends, in some cases the support of others was seen as a threat to maintaining their independence. In a study of Iranian cardiac patients living in Denmark, the desire to maintain independence caused patients to use the strategy of normalization and to adopt passive behaviors (Shamali, Østergaard, & Konradsen, 2020). Therefore, maintaining a balance between providing adequate support and ensuring independence in patients with different ethnicities and cultures should be considered.

Findings of the current study suggest that there is the need to support patients to build and maintain strong and support social relationships. Such relationships can help them to more positively cope with their condition and experience a more fulfilling life, despite the chronic CVD. This finding highlights the importance of identifying and facilitating the patients' social relationships providing the support they need.

LIMITATIONS

This study had a number of limitations. Specifically, the patient participants were selected from a particular age and demographical range (i.e. relatively high level of education). This may have influenced the findings as various social factors could affect perceptions of the way in which patients cope with their chronic disease. Additionally, a limited number of health professionals

participated in the study, so their experiences are not representative of these health professions or the subcultures that exist in the study community.

FUTURE RESEARCH

As noted, findings of this preliminary phase of the study are being used to inform the development of a scale to measure the adaptation of patients to chronic CVD. This tool will be useful to enable CVD patients, their family members, and health professionals, to develop strategies to better cope with their chronic symptoms and live a more meaningful life. Based on findings of this research, it would also be useful to explore how to support patients with chronic CVD to more effectively develop positive coping strategies and to overcome negative coping strategies that affect their levels of wellbeing.

CONCLUSION

Findings of this study suggest that people with chronic CVD use a range of coping strategies to adjust to their conditions, including managing health-related symptoms, drawing on religious or spiritual beliefs, and depending on social and relational supports. Understanding the nature of coping with CVD will better equip patients, family members and health professionals to support patients with chronic CVD to live more meaningful lives for longer. In the future, understanding the nature of coping with chronic CVD in different socio-cultural contexts may assist with the development of tailored client centered health care services.

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AUTHOR CONTRIBUTIONS

Study design: M. K., M. A., H. Y., G. M.

Data collection: M. K., M. A.

Data analysis: M. K., M. A., H. Y., G. M., C. H., M. C.

Manuscript writing: M. K., M. A., H. Y., G. M., C. H., M. C.

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TABLE

Table 1. Characteristics of participants (N=35)

Variable		Patients (n=13)	Family caregivers (n=6)	Health professionals (n=16)	
		Frequency (%)	Frequency (%)		Frequency (%)
Sex	Male	8(61.54)	1(16.67)		6(37.5)
	Female	5(38.46)	5(83.33)		10(62.5)
Age (years)	20-29	1(7.69)			–
	30-39	2(15.38)	1(16.67)		2(12.5)
	40-49	3(23.07)	4(66.66)		8(50)
	50-59	3(23.07)	0(0)		6(37.5)
	>60	4(30.77)	1(16.67)		
Level of education	Unable to read/write	2(15.38)	0(0)	Cardiologists	3(18.75)
	< high school	3(23.07)	1(16.67)	Psychiatrist	1(6.25)
	Diploma	4(30.77)	2(33.33)	General Practitioner	1(6.25)
	University degree	4(30.77)	3(50)	Psychologists	3(18.75)
				Registered Nurses	8(50)