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ORIGINAL PAPER

Being Hopeful and Continuing to Move Ahead: Religious Coping in Iranian Chemical Warfare Poisoned Veterans, a Qualitative Study

Hadi Hassankhani · Fariba Taleghani · Jane Mills · Melanie Birks · Karen Francis · Fazlolah Ahmadi

Abstract There is a substantial number of Iranian war veterans, exposed to sulfur mustard, who suffer from serious long term progressive health problems involving their respiratory organs, eyes, and skin. Little is known, however, about these casualties' experiences of living with the consequences of sulfur mustard poisoning. This qualitative study aims to provide greater insight into how war veterans live with the consequences of the poisoning and involved 17 Iranian war veterans who had been poisoned by sulfur mustard during the Iran–Iraq conflict. Each participant was interviewed using a semi-structured interview schedule and the data generated through this process was analyzed using constant comparative data analysis technique. Data analysis resulted in "religious beliefs and practices" as a main category, which included two sub-categories: religious value centered life and religious support. Findings suggest that religious belief assists veterans to accept the impact of poisoning on their lives and adapt their lifestyles accordingly, to participate in religious social activities and feel socially supported, and to be hopeful about the future and live their lives as fully as possible.

Keywords Chemical warfare agents · Chronic illness · Coping · Qualitative research · Religion

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H. Hassankhani (✉) · F. Taleghani
Nursing and Midwifery Faculty, Isfahan University of Medical Sciences, Isfahan, Iran
e-mail: hasankhani@nm.mui.ac.ir

J. Mills · M. Birks · K. Francis
School of Nursing and Midwifery, Monash University, Gippsland Campus, Northways Road, Churchill, VIC 3842, Australia

F. Ahmadi
Nursing Department, School of Medicine, Tarbiat Modares University, Tehran, Iran

Introduction

How and why people cope has been described in the literature over the last 30 years. Lazarus and Folkman have defined coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (1984, p. 141). For people living with chronic illnesses, the process of coping includes adapting to diseases and treatments and discovering and using strategies for dealing with possible problems (Nairn and Merluzzi 2003). Illness can be a source of stress for patients when it is perceived as threatening or devastating and, therefore, requires the recruitment of resources in order to adapt and cope (Roberts and Fitzpatrick 1994).

Globally, civilian and military populations have been affected by chemical and biological agents of war over the past century. Blistering chemicals were widely used during World War I (Smith 2002) and included sulfur mustard (SM). SM is the best known of these blistering chemical warfare agents with more than 1,200,000 soldiers experiencing exposure, of whom, about 400,000 went on to require prolonged medical management (Prentiss and Fisher 1937).

The majority of Iranian SM casualties who are still alive suffer from serious long-term progressive and disabling health affects that manifest in the respiratory organs, eyes, skin, and peripheral nerves. Survivors also suffer from significant psychological disorders including: progressive sense of alienation, depression, loss of family unit, post traumatic stress disorder (PTSD), and anxiety (Saladi et al. 2006; Brennan et al. 1999; Smith 2002). Complications are characterized by a progressive course and are often episodic, fluctuating between acute phases and phases in which the symptoms are less acute (Balali-Mood and Hefazi 2005).

The study of chronic illness is mainly disease-specific with textbooks overlooking the experiences of those who are living with chronicity (Gullickson 1993). Biomedical approaches have dominated research about chemical warfare poisoning. While not dismissing the importance of these studies, the experience of clients is significant and healthcare workers should be aware of clients' points of view and understand what it means to live with a chronic illness resulting from such trauma (Kralik et al. 2005). SM casualties are mainly middle aged men who struggle to live with the long-term effects of a range of chronic diseases (Attaran et al. 2006). Rather than assuming that professionals know best, researchers in this study aimed to gain greater insight and understanding of how people live with chemical warfare poisoning in order to inform nursing practice.

Methodology and Research Design

Qualitative, descriptive, exploratory research designs are valuable when investigating subjects about which little is known (Strauss and Corbin 1998). Using an interpretive lens, this study sought to understand how Iranian war veterans living with chronic illnesses acquired from SM poisoning cope with, and manage, the prolonged effects of toxicity. Methods typical of grounded theory were used in this research, including: concurrent data generation and analysis, constant comparison of data, and the identification of in vivo codes (Strauss and Corbin 1998) were used. Data generated with participants was transcribed, coded, and then thematically analyzed. Constant comparison of data occurred across the data set both within and between individual transcripts with the intention of integrating categories identified in this article.

Lincoln and Guba (2000) argue that the rigor of qualitative research can be judged using the following criteria: auditability, confirmability, authenticity, and transferability. In this study, the primary researcher used reflective memos to develop an audit trail of decisions made during the research process (Mills et al 2006) by which, the researcher's assumptions and ideas of social context, biases and prejudices to the collection, analysis and interpretation of data affecting the phenomena under investigation were made explicit. Using expert informants who considered the transcripts in relation to the analysis developed by the primary researcher confirmed the analysis presented in this article. The authenticity of the study is tied to the use of participants' words as evidence for the analysis that follows, while the transferability of findings lies with the reader's understanding of the analysis presented and the sense of fit with his/her own situation (Glaser 1978).

Participant Recruitment

Participants were recruited for the study using a purposive sampling technique that involved accessing Iranian chemical warfare poisoned veterans through the Foundation of Martyrs and Veterans Affairs, and veterans hospitals in various cities of Iran. To be eligible for inclusion in the study, participants had to have been exposed to SM during the war and subsequently registered by the Foundation of Martyrs and Veterans Affairs. Approval to recruit from a number of hospitals and via the Foundation of Martyrs and Veterans' Affairs was obtained from the relevant organizations following University ethics clearance. Eligible participants were retrospectively identified by the principle researcher from electronic medical records, or by respiratory nurses working in participating hospitals. Participants were selected according to maximum variation sampling technique (Strauss and Corbin 1998) to reflect different ages, range of disease severity, and years after initial exposure to SM gas. Altogether 17 war veterans consented to participate in the study. Their mean age was 46.6 years (range 38–55) and the mean duration since initial exposure was 20.8 (range 20–24) years. Participants had different levels of chronic disease severity: three participants had mild, eleven moderate, and three severe chronic diseases. Educational levels of participants included illiterate (one), primary school (seven), high school (eight), and university (two). The participants were all male and living in different regions: urban (ten), semi-urban (two), and rural areas (five).

Ethical Considerations

Isfahan University of Medical Sciences Ethics Committee approved the conduct of the study. Veterans who met the inclusion criteria were provided with an explanatory statement that outlined the aims of the research study and the option to withdraw from the study at any time without the need to provide a reason. Participants were also informed that the data generated would be included in the principle researcher's thesis and were assured of confidentiality and anonymity of all material. Participants received written and verbal explanation about the study in advance, with written consent obtained prior to interview.

Data Collection

The first researcher undertook face-to-face interviews with each participant, either in their home or workplace. Each interview lasted 1–3 h were audio-taped and subsequently transcribed verbatim. Each interview commenced with the researcher asking participants to relate their personal story from initial exposure to SM, through the manifestation of their symptoms, to the present day. Participants were then asked about how they had managed to adapt or deal with the problems and difficulties they faced in living with the complications of SM poisoning. A semi-structured interview schedule was drawn on and modified between interviews as a result of concurrent data analysis, in order to achieve additional clarification.

Data Analysis

Using the constant comparative data analysis method, comparing and grouping together process of different pieces of data based on similarities and differences, concurrent data generation and analysis was carried out using both overview analysis and line-by-line coding (Strauss and Corbin 1998). Although the generated codes and categories tended to be repetitious after the first 14 interviews, the three remaining interviews were also completed and analyzed for confirmation of the emerging themes. To further ensure the accuracy of the constructed categories, two additional researchers reviewed the data. Discrepancies between the analyses were discussed until consensus was reached. Prolonged engagement with the data set assisted in this process. Data generation and analysis was completed over a 12-month time frame. During this time, three faculty members not directly involved in the study but familiar with qualitative research methodologies reviewed preliminary results of the analysis. They commented on the interpretation of the interview transcripts and questioned points, which were unclear; from this process, additional questions were formulated to allow for probing of selected data in subsequent interviews. Additionally, to authenticate emerging codes and thematic categories, the findings were discussed with four of the interviewees. Participants acknowledged that findings reflected their experiences and were pleased with the use of their own words in the form of in vivo codes.

Results

Religious beliefs and practices was a main category identified in the data analysis, which included two main sub-categories: religious value centered life and religious support. Religious support comprised elements of emotional and social support (Fig. 1).

Religious beliefs and practices are important in the lives of the participants. Feeling connected to God and understanding God's presence in every moment of their lives was important to them. Participants spoke of their powerful spiritual beliefs that allowed them to rationalize fighting in the war as consistent with their beliefs, and made their illness

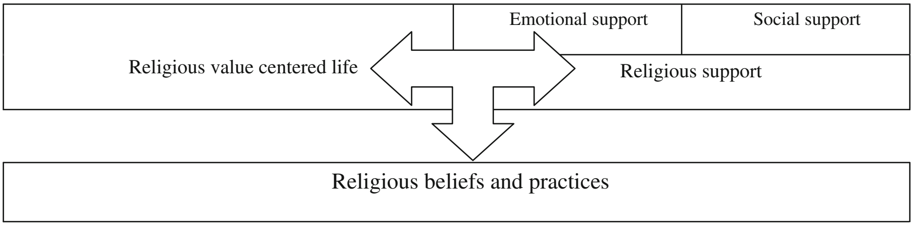

Fig. 1 Thematic category and characteristics

acceptable as it allows them to be humble in their devotion to God. Their beliefs provided a rationale for their suffering:

> I didn't go to war for making money or for ambitious of position, it was just for protecting my values and nation, I have transacted with God

Participants believed in an afterlife and assumed the difficulties they experienced now because of their illness were temporary and restricted to this physical life on earth. They are comforted by a belief that they will live for a short time and that once in the afterlife they will be well. They considered living with illness as a test by God:

> This world with all difficulties is passing and what I have done is little comparing the martyrs altruism that sacrificed their life, I want to be acquittal in afterlife while standing in front of God and my martyrs friends in the day of judgment

Emotional support indicates the perception that one is cared for and loved, appreciated, and able to rely on someone if required (Kinney et al. 2003). Participants believed that God is always looking after them and they can rely on Him, constantly:

> I follow the medical prescriptions but I do know that cure is only in hands of God and these things are just intermediate instruments for the love of God… I am satisfied with things God decide for me and ask Him for help alone

Participants were totally trusting of, and submitted to, the will of God, which reduces the negative impact of the threat of dying as a consequence of poisoning. Such submission does not mean sitting quietly; however, rather it means being optimistic and constantly moving and struggling to achieve a better life, resulting in the participants' sense of hope that they will live the same life as other people.

> Some people say that we maybe live only a couple of years but I believe that no one knows who will live even for seconds, just God knows it and I will benefit from my life until the time He keeps me live

Participants spoke of being comforted by prayer, and of involvement in religious rituals:

> All the time I am in memory of my martyr friends that offered their life in way of God, comparing them I haven't done anything and the illness is nothing to make me sad…Spirituality when is associated with life, solving the problems is easier… I feel relaxed by doing pilgrimage and prayer

Faith is an invisible energy that helped participants to modify their lifestyles to accommodate the limitations imposed by living with a chronic illness. Participants accepted that their diseases were progressive. Their religious beliefs allowed them to feel at peace and to continue living their lives:

> We are sick and imperfect with mundane view however we believe in holy Imams and Ahl al-Bayt (family of Prophet Muhammad) may Allah blessed them and to be sick is not very important by looking to the life by immaterial lenses….If I just sit down and think to the illness it will be worse, thanks God, I try to be happy by rosary to tolerate the difficulties better

Although the participants acknowledge that having a disease limited their functionality, they continued to work and provide for their families. Being able to achieve this aim was important to them:

> I suffer from different disease because of poisoning but thank God for other abilities still I have, sometimes I am annoyed a lot for the complications but I do my best for my family

Participants described social networks and emphasized how important these relationships were;

> I usually have interaction with friends and relatives that are religious and respect my beliefs

Social networks can be defined 'as a system of social bonds that combine individuals into a larger social structure' (Kinney et al. 2003 p. 1097). Participants were integrated into society by being involved in religious institutions' activities and benefited from the social support:

> I often go to the mosque and prayer with others …I act as a member of the mosque manager council…. When I can't go to mosque because of the illness, the friends from mosque come my home to visit me that it makes me happy

Discussion

Chronic illnesses impact on all aspects of individuals' lives, including physical, social, emotional, spiritual, and vocational components (Baldacchino and Draper 2001; Livneh 2001). Consequences experienced by people who have been exposed to chemical warfare poisoning are among the most devastating of illnesses, having multiple and intense effects. Veterans face the prospect of having major chronic illnesses that they must live with for the rest of their lives (Attaran et al. 2006).

Living with a chronic illness can result in pain, emotional distress, changes in self-identity, suffering, and decreased quality of life. Common challenges for health care professionals supporting people with a chronic illness include understanding symptoms and taking suitable actions, using medications effectively, managing complex self-management regimens, adjusting to difficult lifestyles, and developing strategies to deal with the psychological consequences of the illness. Religious coping studies have found that the majority of ill patients use religious beliefs when coping with illness (Thune-Boyle et al. 2006), and in this regard, a key factor is the cultural context of the country in which the patient lives (Weaver and Flannelly 2004; Whittemore and Dixon 2008).

The Iranian population is mainly Muslim (98%) and religion is intertwined with the Iranian culture (Demographics of Iran 2008), hence, religious beliefs play a significant role in Iranians' lives, especially when facing a crisis. Results of this present study indicate that veterans' lives are based on strong religious faith and beliefs. Iranian veterans in Zandipour's (2008) study declared that they accepted their problems easily because of their religious beliefs, findings that are similar to the experience of participants in this study who considered religious beliefs as a factor in coping with the consequences of poisoning.

Religion is defined as a structured system of beliefs, behaviors, symbols, ideological obligations, and institutional engagement for moving toward an ultimate power. Religiosity is a relative concept comprising the cognitive, emotive, behavioral, interpersonal, and physiological processes that bind religion and spirituality (Hill and Pargament 2003; Larson et al. 1998). Religiosity is associated with religious commitment that has been defined as 'the participation in, or endorsement of, practices, beliefs, attitudes, or sentiments that are associated with an organized community of faith' (Matthews et al. 1998, p. 119). Believing in a religion involves three main indicators:

(1) Organizational religious activity; attending a place of worship, that is, participating in communal prayer and other religious functions within a religious community. This is the social aspect of religiousness;
(2) Non-organizational religious activity: private and personal religious involvement that includes prayer and/or meditation, solitary reading from sacred scripture, and
(3) Intrinsic religiosity: living one's religious life is intrinsically meaningful as a primary motivational dynamic, a psychospiritual force which inspires the believer, drives his/her activities and deeply influences his/her decision-making (Levin et al. 1995; Koenig et al. 2004; Coyle 2002).

Spirituality is a broader concept than religiosity and involves both believers and non-believers (Baldacchino and Draper 2001; Clarke 2006). Spirituality is derived from the Latin word *spiritus*, spirit, the integral part of the person (Piles 1990) which 'controls the mind and the mind controls the body' (Neuman 1995, p. 48). Spirituality is a 'wellspring, an inner belief system' (Pendleton et al. 2002) grounded in the discovery of an ultimate structure of meaning in relation to which the events of ordinary life become suffused with deeper meaning and liveliness (Maugans 1996; Coyle 2002).

Religious belief in the literature is understood as having a spiritual dimension as well as a more explicitly religious dimension. In a large number of publications, meaning, expressed in religious belief, is a predictor of positive health outcomes, including enhancing the capacity of persons to face the disruptive impact of illness (Thune-Boyle et al. 2006; Koenig et al. 2004). Purported benefits from religious belief include health benefits with regard to prevention, improved mental and physical health status, recovery from illness, health-related quality of life, less distress and less depression, prolonged existence, increasing adjustment with illness (especially in patients with severe or chronic diseases who have stressful psychological and social changes), and existential striving for a greater sense of meaning and purpose (Büssing et al. 2005; Ironson et al. 2002; Strawbridge et al. 2001).

Our research shows that religious belief assists war veterans' adjustment to chronic disease as a type of meaning-based coping (Folkman 1997). Strategies people use to deal with disease and other stressors are classified into two broad styles: (1) active coping or problem solving, and (2) passive or avoidant coping. Current research regards religious belief as an active coping resource. Religious belief and coping are interwoven in recent research and create a new theoretical construct, defined as 'a search for significance in times of stress in ways related to the sacred' (Pargament 1997). Religious belief as a coping strategy is multidimensional with Tix and Frazier (1998) describing it as 'the use of cognitive and behavioral techniques, in the face of stressful life events, that arise out of one's religion or spirituality'. Religious coping is perceived as a support rather than an obstacle (Thune-Boyle et al. 2006), playing an adaptive, active and problem-focused role, especially when God is viewed as a compassionate or enthusiastic partner in life's struggles (Pargament et al. 1988).

Thune-Boyle et al. argue that there are five religious belief functions that can be seen in the process of coping:

1. To give meaning to an event,
2. To provide a framework to achieve a sense of control over a difficult situation,
3. To provide comfort during times of difficulty,
4. To provide intimacy with other likeminded people, and
5. To assist people in making major life transformations (2006, p. 161).

Meaning in a stressful situation can be sought in different ways. Some persons understand stressors as occasions for personal growth. For them, illness is constructed as a means of spiritual growth rather than a punishment from God (Thune-Boyle et al. 2006; Hafen et al. 1996).

Religious belief is concerned also with the meaning of death. Depending on sociocultural background, values, philosophy and attitudes toward life, persons' views of death and dying and the appropriate ways to face death will be different (Coyle 2002; Baldacchino and Draper 2001; Yeun 2005). Participants in this study believed in an afterlife and considered death both a transformation, and launching point toward another life. Participants shared their Islamic belief that the human journey is evolution toward life's final goal, Allah (God). 'On his way to Allah, man is not just 'to be' but he is 'to become' what he should be!'(Shariati 1992).

Supported by the literature, data analysis in this study demonstrated the potential benefits of religious beliefs for people living with chronic illness as a complication of chemical warfare poisoning. Participants spoke of their belief in God resulting in both emotional and social support. Participants felt physically better and relaxed by prayer and that a sense of spirituality was synonymous with religious practices. Spiritual patients often utilize worship and meditate as a coping mechanism (Weaver and Flannelly 2004). Believing in a source of power and strength that is greater than themselves can result in people who suffer overcoming feelings of helplessness while finding meaning and perspective in life (McIntosh et al. 1993; Coyle 2002). Persons decrease their levels of stress by behaving and thinking in specific ways, nurturing themselves with a sense of meaning, purpose, and hope, leading to a successful adaptation to stressful situations. Hence, when the person faces emotional stress, physical illness or death, a spiritual source is often brought into play to cope with the crisis (Baldacchino and Draper 2001; Ross 1996; Harris et al. 1995; McSherry and Draper 1998).

The most frequent coping strategies used by participants when managing their chronic illnesses were: hoping that things would get better, praying and trusting in God, keeping control over the situation, dealing with the problem objectively, worrying, accepting the situation, and trying different ways to deal with the situation resulting from chronic illness. However, believers in God or a higher power have additional coping resources which are derived from personal and/or communal religious practices, such as prayer and ritual (Baldacchino and Draper 2001; Weaver and Flannelly 2004).

Conclusion

This study identified the significance of religious values for chemical warfare poisoned war veterans who face stressful challenges in living with the consequences of SM poisoning and who use their religious beliefs as a coping resource. Religious belief assisted veterans to accept and integrate chronic disease as a reality in their lives, be hopeful about the future and continue to move ahead in their life course. Moreover, involvement in religious social activities enabled veterans to maintain their connection with society, and be considered as active members of society, thereupon, reaping the benefits of social support.

Supporting individuals living with the consequences of chemical warfare poisoning requires consideration of the whole person. Holism includes understanding the associations between biological, psychological, social, and spiritual dimensions of persons (Dossey and Dossey 1998). Thus, recognition of the links between belief systems, coping, and health behaviors is needed before health care workers can offer effective health care. Caring professionals need to regard religion and spiritual beliefs as an important factor in promoting patient health. By identifying and addressing religious beliefs as a strategy for coping in a culturally sensitive way, health care personnel can develop their appreciation of how patients conceptualize health, illness, and healing. There is lack of knowledge about this and much more research is needed to document potential influences of religious beliefs on health status, disease progression, and quality of life among victims with chemical warfare poisoning consequences.

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