Symptom Self-Treatment Among Community-Dwelling Older Adults With Heart Disease

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ABSTRACT

BACKGROUND: Among older adults, chronic illness is a common issue. More importantly, chronic illnesses can have an impact on factors such as sleep, pain, itch, and overall physical functioning. There is a limited amount of research describing and comparing self-reported treatment methods for heart disease to symptom control. **PURPOSE**: The purpose of this study is to explore self-treatment methods used by community-dwelling older adults with heart disease to control symptoms**. METHODS:** For this prospective study a convenience sample of 39 community-dwelling older adults ages 60 years and older were recruited from senior centers in urban, rural, and suburban areas in Southeastern Michigan. Participants completed a one-time paper and pencil survey. **RESULTS:** Thirty-nine community-dwelling older adults met inclusion criteria and stated they were diagnosed with heart disease. The mean number of symptoms reported by these older adults was 2.35 (SD=1.399) with symptom category frequencies as follows: pain (n=33), itch (n=6), sleep problems (n=14), anxiety (n= 8), depression (n=5), memory problems (n=9), and wounds/injuries (n=15). In terms of quality of life, significant differences were found in role limitation due to physical health, role limitation due to emotional problems, emotional well-being, and social functioning. **IMPLICATIONS:** The self-treatment methods of symptom control utilized by community-dwelling older adults resulted in improvements in their reported quality of life, specifically those related to the physical, emotional, and social functioning of community-dwelling older adults.

Key Words: Older Adults, Heart Disease, Self-Treatment Methods, Symptom Control

BACKGROUND

Among older adults, chronic illness is a common issue. It is estimated that over 100 million people live with chronic illness in the United States (Chung, 2010). The lifetime risk of developing heart disease is one in four (Olvera Lopez & Jan, 2014). More importantly, chronic illnesses can have an impact on factors such as sleep, pain, itch, and overall physical functioning. Long term, chronic health problems may cause a decrease in the quality of life and are responsible for almost 70% of health care expenditures (Lorig et al., 1999). According to the World Health Organization, heart disease is "the number one cause of death globally with an estimated 17.7 million deaths in 2015" (World Health Organization, 2017). Older adults find it difficult to get relief from the symptoms present due to heart disease. There is a limited amount of research describing and comparing self-reported treatment methods for heart disease symptom control. The importance of finding methods of controlling symptoms related to heart disease is clearly evident in order to prevent a diminished quality of life among older adults.

Symptoms of heart disease include issues with appetite, feelings of depression, anxiety, pain, fatigue, dyspnea, and reduced exercise tolerance (Butrous, 2016). "Symptoms are the patient's subjective perception of disease manifestations. Therefore, the identification and alleviation of symptoms are essential aspects of chronic disease management," (Walke, Gallo, Tinetti, & Fried, 2004, p. 2321). A major factor impacting the majority of older adults with heart disease is pain (A.D.A.M., 2020). Fatigue and decreased quality of life are associated with pain (Strand, 2019). A study done by Assari and colleagues (2015) found that in individuals with heart disease, younger age, and exercise were associated with lower limitation in their activities of daily living. Heart disease was found to be associated with higher odds of poor subjective health (Assari, 2015). It appears that combinations of physical and psychosocial factors can affect patients' health behavior (Komasi, Soroush & Saeidi, 2018).

In a study by Schopfer, Regans, Heidenrich & Whooley (2016) 1023 individuals with coronary artery disease were asked about both their depressive symptoms and objective measures of heart disease in combination with their perceived functional status (Schopfer, Regan, Heidenreich & Whooley, 2016). Participants completed health status questionnaires and underwent physical examination and a treadmill exercise test. Individuals who had depressive symptoms were more likely to report less functional status than those without depressive symptoms (Schopfer et al., 2016). Of 199 participants with depressive symptoms, 17% had minimal functional limitation, 39% had mild functional limitation, and 44% had moderate or severe limitation of functional status. Additionally, those who had depression were more likely to report worse cardiac symptoms and were more likely to have been hospitalized (Schopfer et al. 2016).

Self-treatment occurs when "a person uses unprescribed medications or other approaches to cope with illness conditions," (Jiang et al., 2015, p. 597). Examining self-treatment methods could assist in determining best practice for managing symptoms related to heart disease in older adults.

Lorig et al. (1999) conducted a six-month randomized, controlled trial at several community-based sites. There were 952 participants with a confirmed heart disease, lung disease, stroke, or arthritis. By administering questionnaires regarding health behaviors and status, they determined that self-treatment can improve health while also resulting in fewer and shorter hospitalizations (Lorig et al., 1999).

Self-treatment methods related to heart disease may include diet changes, medication administration, pain management, or respiratory therapies (Gallagher & Fong, 2009). Other self-treatment methods for heart disease may include obtaining daily weights, adhering to diet regimens, exercising, or restricting fluids (Toukhsati et al., 2015).

A study conducted in China examined self-treatment in individuals aged 45 years and older, specifically focusing on the reason for choosing self-treatment over hospitalization. The majority of participants chose self-treatment because they had experience with the disease and knew how to treat it (667 out of 1215). (Jiang et al., 2015). Out of the 1215 participants, an overwhelming number self-medicated (1177 out of 1215).

It has been shown that as many as 1 in 3 patients with cardiovascular disease use complementary alternative medicine (CAM) as a method of treating disease (Nieva, Safavynia, Lee Biship & Laurence, 2012). Another study had 235 participants in a university-based cardiac rehabilitation program with ages ranging from 55-84 years. Sixty-seven percent of the participants were taking vitamins or minerals and 38% were taking herbal or natural products. "A high proportion of patients using complementary alternative medicine (CAM) believe CAM has remedial benefits and were at least as safe or safer than their treatments" (Grant, Bin, Kiat & Chang, 2012, p. 306).

As heart disease is a disease that affects various parts of the body, minimizing symptoms will help to promote the well-being of individual. In a study done by Walke, Gallo, Tinetti and Fried (2004), symptoms among community-dwelling older adults were assessed. They focused on individuals with a diagnosis of COPD, cancer, or CHF who were receiving outpatient care in several practices in southern Connecticut. The Edmonton Symptom Assessment System (ESAS) was utilized for patients to rate their severity of symptoms in the past 24 hours, including fatigue, shortness of breath, pain, anxiety, limited activity, feelings of depression, lack of well-being, and nausea. It was found that 86% of participants experienced at least one symptom that they rated moderate or severe, and 69% of participants said they experienced two or more symptoms (Walke, Gallo, Tinetti, & Fried, 2004). Ideally, these peoples can achieve stability with heart disease. Stability would mean having no limitations in daily activities (Azad & Lemay, 2014).

However, Toukhsati, Driscoll and Hare (2015) found that in congestive heart failure patients, up to 60% do not adhere to prescribed medication regimens, and up to 80% do not adhere to lifestyle recommendations. Further studies are needed to determine the best self-treatment methods for controlling symptoms. The goal is to improve the quality of life among community-dwelling older adults, particularly those dealing with heart disease.

METHODS

Research Design

After obtaining Oakland University Institutional Review Board (IRB) approval to assure the rights of each participant were protected, an exploratory descriptive study design was initiated utilizing a sample of convenience.

Sampling Criteria

Approximately 39 community-dwelling older adults diagnosed with heart disease from senior centers in urban, rural, and suburban areas in southeastern Michigan were surveyed. The research was done as part of a larger research project on self-treatment of symptoms among older, community-dwelling adults. Older adults were informed of the opportunity to participate through distribution of information sheets by research assistants in the various facilities. Criteria for eligibility to participate included being 60 years of age or older, able to speak and read English, and experiencing at least one symptom in the past month. Criteria for exclusion included those that were receiving skilled nursing care.

Setting

Data collection was conducted within senior centers in the rural, urban, and suburban areas of Southeastern Michigan.

Instruments

Participant Health Information Sheet. Questions regarding demographics and health history were utilized to gain a basic understanding of the individual. These questions included items such as zip code, age, gender, race/ethnicity, income, education, illness, and symptoms.

Brief Pain Inventory: Short Form (BPI-SF). A nine-item questionnaire was utilized to measure pain intensity and interference with life activities, mood, and sleep. The instrument is used worldwide for numerous types of pain.

Pruritus Intensity Scale. A twelve-item questionnaire was used to measure pruritus intensity and interference with life activities, mood, and sleep.

Pittsburgh Sleep Quality Index (PSQI). The Pittsburg Sleep Quality Index is a ten-item questionnaire regarding sleep. It measures sleep variables, including duration, quality, and efficiency of sleep. It gives a global sleep quality score between 0-21.

Perceived Stress Scale. The Perceived Stress Scale is a ten-item questionnaire regarding stress. It measures variables regarding an individual's perception of stress.

Self-Treatment of Symptoms Report. The Self-Treatment of Symptoms Report is a checklist regarding medications, vitamins/supplements, herbs and hormones. It was used to determine why individuals use certain products, whether they work and how they work to improve patient symptoms.

Medical Outcomes Survey (SF-36). A 36-item questionnaire was utilized to examine an individual's health status and quality of life. The survey is comprised of eight sections and each

section is scaled from 0-100. A higher score indicates a more favorable health state. It includes items on physical, social, and emotional functioning.

Procedure

Data collection was conducted within senior centers in the rural, urban, and suburban areas of Southeastern Michigan. Participants were encouraged to participate as they passed by to attend other activities. Additionally, participants were informed that the survey was anonymous and were also given an information sheet upon recruitment to take home with them regarding details about the study. Participants completed a one-time paper and pencil survey. As a result of completing the seven-instrument survey, participants were given $10 to compensate them for their time.

Statistical Analysis

Descriptive statistics reported symptoms and self-treatment methods including herbal medications/treatments, vitamins/supplements, over the counter (OTC) meds, OTC products, and self-care practices. An independent sample t-test was utilized to analyze differences between the means of SF-36 subscores of participants with heart disease who reported the use of different kinds of self-treatment and those who did not with statistical significance set at $p \leq 0.05$. Statistical analysis was performed using the IBM Statistical Package for the Social Sciences (SPSS Statistics, Armonk, New York).

RESULTS

Demographics

Thirty-nine community-dwelling older adults met inclusion criteria and stated they were diagnosed with heart disease. The mean age of participants was 71.71 years (SD=6.60) with a range from 60-86. Ten participants were male (25.6%) and twenty-nine were female (74.4%). Twenty-four individuals were white (72.2%), nine were African American (27.3%), and six declined to fill out their race/ethnicity. Twenty individuals stated they were married (51.3%), five stated they were single (12.8%), eight stated they were divorced (20.5%), and six stated they were widowed (15.4%). Twenty individuals finished college (51.3%), fourteen finished high school (35.9%), and five had not completed high school (12.8%).

Symptom Frequency

The mean number of symptoms reported by the older adults was 2.35 symptoms (SD=1.399) with symptom category frequencies as follows: pain (n=33), itch (n=6), sleep problems (n=14), anxiety (n= 8), depression (n=5), memory problems (n=9), and wounds/injuries (n=15).

Self-Treatment

Self-treatment methods reported by the older adults included the following: herbal medications, vitamins/supplements, over-the-counter (OTC) medications, OTC products, and self-care practices. Herbal medications were used by 12 individuals (30.8%), while vitamins/supplements were used by 26 individuals (66.7%). The usage of OTC medications was reported by 18 (46.2%) individuals, with 21 (53.8%) individuals utilizing OTC products. Self-care practice usage was reported by 25 (64.5%) individuals.

Herbal Treatment Frequency

The mean number of herbal medications used by the older adults was 0.76 herbal medications (SD=1.618) with a range from 0-8. Herbal medications category frequencies were as follows: gingko (n=1), garlic (n=4), ginger (n=5), holy basil (n= 1), ashwaganda (n=1), liver cleanse herbs (n=1), licorice (n=2), cholesterol lowering herbs (n=4), red rice yeast/goggul (n=1), hibiscus (n=1), and chamomile (n=8).

Vitamin/Supplement Frequency

The mean number of vitamins/supplements used was 2.53 vitamins or supplements (SD=2.738) with a range from 0-13. Vitamin/mineral frequencies were as follows: vitamin A (n=2), vitamin B complex (n=6), vitamin B12 (n=8), vitamin C (n= 5), vitamin D (n=13), vitamin E (n=1), vitamin K (n=1), multivitamin (n=14), calcium (n=9), magnesium (n=8), potassium (n=6), multiminerals (n=2), and other (n=2). Supplement frequencies were as follows: protein drinks (n=5), melatonin (n=2), glucosamine (n=1), fish oil (n=3), essential oils (n=1), cannabis (n=1), and other (n=6).

OTC Pain Product Frequency

The mean number of OTC medications used by the older adults was 0.58 medications (SD=0.683) with a range from 0-2. The mean number of OTC products was 1.03 products (SD=1.127) with a range from 0-3. OTC pain product frequencies were as follows: Ibuprofen (n=6), Bengay (n=1), joint support products (n=1), Bio-freeze (n= 3), Benadryl (n=2), other medications (n=9), heating pads (n=11), kinesio-tape (n=1), hot packs (n=4), cold packs (n=9), braces (n=5), knee/ankle wrap (n=3), elbow/wrist wrap (n=2), Ace bandages (n=2), and other products (n=2).

Self-Care Practices Frequency

The mean number of self-care practices used was 1.50 self-care practices (SD=1.656) with a range from 0-8. Self-care practices frequencies were as follows: yoga (n=1), Tai Chi/Qigong (n=1), acupuncture (n=1), acupressure (n= 1), chiropractor (n=4), music (n=8), self-hypnosis (n=1), guided imagery (n=1), ice packs (n=5), warm soaks (n=4), Epsom salts (n=4), exercise (n=15), warm baths (n=5), sauna with heat (n=1), and other (n=5).

Correlation of SF-36 Quality of Life Scores with Herbal Supplement Self Treatment

An independent sample t-test was utilized to look for significant differences between means of SF-36 subscores of participants with heart disease who reported the use of different kinds of self-treatment and participants with heart disease who did not. A significant difference in role limitation due to physical health was found between those who used herbal supplements and those who did not. Twenty-five individuals who did not use herbal supplements had a mean subscore of 23.33 (SD=38.19) for role limitation due to physical health, while eleven individuals who use herbal supplements had a mean subscore of 59.09 (SD=45.10). A higher mean subscore indicates a higher quality of life. For equal variances assumed, the degrees of freedom were 34, the t-value was -2.450 with a p-value 0.020.

A significant difference in role limitation due to emotional health was found between those who used herbal supplements and those who did not. Twenty-five individuals who did not use herbal supplements had a mean subscore of 61.33 (SD=42.69) for role limitation due to emotional health, while eleven individuals who used herbal supplements had a mean subscore of 90.91 (SD=30.15). For equal variances assumed, the degrees of freedom were 34, and the t-value was -2074, with a p-value of 0.046. Results are shown below in Table 1.

Correlation of SF-36 Quality of Life Scores with Vitamin/Supplement Self Treatment

No significant differences were found between SF-36 subscores of those older adults who used vitamins/supplements and those who did not. Results are shown below in Table 2.

Correlation of SF-36 Quality of Life Scores with OTC Medications Self Treatment

A significant difference in emotional well-being was found between those who used OTC medications and those who did not. Nineteen individuals who did not use OTC medications had a mean subscore of 84.11 (SD=16.95) for emotional well-being, while eighteen individuals who used OTC medications had a mean subscore of 72.33 (SD=16.95). The independent sample t-test was conducted with equal variances assumed. For equal variances assumed, the degrees of freedom were 35, the t-value was 2.112, and resulted in a p-value of 0.042. Results are shown below in Table 3.

Correlation of SF-36 Quality of Life Scores with OTC Products Self Treatment

No significant differences were found between SF-36 subscores of those older adults who used OTC products and those who did not. Results are shown below in Table 4.

Correlation of SF-36 Quality of Life Scores with Self-Care Practices

A significant difference in social functioning was found between those who used self-care practices and those who did not. Twelve individuals who did not use self-care practices had a mean subscore of 64.58 (SD=20.53) for social functioning, while twenty-four individuals who used self-care practices had a mean subscore of 85.94 (SD=22.52). The independent sample t-test was conducted with equal variances assumed. For equal variances assumed, the degrees of

freedom were 34, the t-value was -2.759 and resulted in a p-value of 0.009. Results are shown below in Table 5.

DISCUSSION

The purpose of this study is to explore self-treatment methods used by community-dwelling older adults with heart disease to control symptoms**.** Additionally, the focus of the study was to compare quality of life scores between persons with heart disease who self-treated symptoms and those who did not. In this study, we identified thirty-nine community-dwelling older adults with heart disease. When comparing survey responses, participants had a mean of 2.35 symptoms, the predominant one being pain (85%). These results are similar to the results of a study done by Walke, Gallo, Tinetti and Fried (2004). They assessed symptoms among community-dwelling older adults, specifically focusing on individuals with a diagnosis of COPD, cancer, or CHF. Patients were asked to rate their severity of symptoms using the ESAS, including fatigue, shortness of breath, pain, anxiety, limited activity, feelings of depression, lack of well-being, and nausea. The results showed that 86% of participants experienced at least one symptom that they rated moderate or severe, and 69% of participants said they experienced two or more symptoms (Walke, Gallo, Tinetti, & Fried, 2004). As it is evident that individuals with heart disease have many symptoms, it is imperative to determine the best methods of managing those symptoms. The medical field has made numerous strides towards managing heart disease, including limiting risk factors and lifestyle modifications (Olvera & Jan, 2019).

A study was conducted in which 219 cardiac patients were asked to complete a brief pain inventory, pain discomfort scale, and an open single-item related to heart risk factors (Komasi et al. 2018). They found that pain intensity and discomfort were affected by nonphysical factors as well as physical factors. Identifying ways to self-treat psychological stressors using options such as yoga and music can contribute to the prevention of symptoms related to anxiety and

depression. This study showed that out of 39 individuals, several stated they had the symptom of anxiety (n= 8) and depression (n=5). The individuals' perception of their illness and how they self-treat it is linked to the actual risk factors and symptoms of the disease, so it is important to find ways for individuals with heart disease to self-treat both their physical and psychological symptoms (Komasi et al., 2018). With the lifetime risk of developing heart disease being one in four (Olvera Lopez & Jan, 2014), it is imperative that individuals with this chronic illness are able to develop ways to self-treat along with assistance from medical professionals.

This study examined practices that were utilized in participant self-treatment of heart disease, including herbal medications, vitamins/supplements, OTC medications, OTC products, and self-care practices. Herbal medications were used by 30.8% of participants, while vitamins/supplements were used by 66.7% of participants. The usage of OTC medications was reported by 46.2% of individuals, with 53.8% of individuals utilizing OTC products. Self-care practice usage was reported by 64.5% of individuals. It is evident that community-dwelling older adults are attempting to self-treat their symptoms to promote the highest quality of life. Our results are similar to the study done by Jiang et al. (2015) in which they examined self-treatment among individuals in China found that 1177 individuals out of 1215 self-medicated.

Similarly, the study done by Grant et al. (2012) found that 67% of individuals were taking vitamins/supplements and 38% were using herbal or natural products to self-treat their symptoms. It has been shown that 1 in 3 patients with cardiovascular disease use complementary alternative medicine as a method of treating disease (Nieva, Safavynia, Lee Biship & Laurence, 2012). Significant differences were found in role limitation due to physical and emotional health and social functioning.

Lorig et al. (1999) conducted a six-month randomized, controlled trial at several community-based sites. 952 participants with a confirmed heart disease, lung disease, stroke, or

arthritis were recruited. After administering questionnaires regarding health behaviors and status, results showed that self-treatment can help to improve health while also resulting in fewer and shorter hospitalizations (Lorig et al., 1999). This indicates that these methods of self-treatment are leading to an improved quality of life in community-dwelling older adults with heart disease. The study identifies the self-treatment methods that have proven to positively impact the quality of life in community-dwelling older adults with heart disease.

The self-treatment methods of symptom control utilized by community-dwelling older adults demonstrated improvements in their quality of life, specifically those related to the physical, emotional and social functioning of community-dwelling older adults. This supports the Chronic Disease Self-Management Program advertised by the Center for Disease Control, with topics including exercise, breathing techniques, and appropriate usage of medications (Managing Heart Disease, 2018). Health care providers should address self-treatment methods when discussing heart disease with a community-dwelling older adult.

Study Limitations

Limitations to this study include the self-reporting nature of the survey as utilization of a survey tool presents disadvantages including but not limited to a respondent's comfort level in providing accurate answers or those that present themselves in an unfavorable manner. Additionally, the usage of a convenience sample may have only included older adults that were available and limits generalizability to all older adults with heart disease.

Future Research

Further studies are needed to determine the best self-treatment methods for controlling symptoms. Additionally, conducting similar studies comparing other older adult demographics,

such as older adults with diabetes or older adults whom are receiving skilled nursing care would add to the generalizability to other populations of older adults. Finally, a study exploring the objective outcomes of self-treatment methods such as impact on weight and vitals would be beneficial in determining the impact in this population.

CONCLUSIONS

The self-treatment methods of symptom control utilized by community-dwelling older adults demonstrated improvements in their quality of life. These self-treatment methods demonstrated improvements related to role limitation due to physical and emotional health, and social functioning of community-dwelling older adults.

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Table 1

SF-36 QoL Scores and Herbal Treatment Status

Q of L Category	Herbal Self-Treatment Status	N	Mean	Standard Deviation
SF-36 physical functioning score	No	25	61.35	23.41
	Yes	11	62.05	23.63
SF-36 role limitation due to physical health score*	No	25	23.33	38.19
	Yes	11	59.09	45.10
SF-36 role limitation due to emotional problems score*	No	25	61.33	42.69
	Yes	11	90.91	30.15
SF-36 energy/fatigue score	No	25	54.33	22.64
	Yes	12	55.00	17.71
SF-36 emotional well-being score	No	25	77.60	19.38
	Yes	12	80.00	14.37
SF-36 social functioning score	No	25	75.00	24.21
	Yes	11	87.50	21.65
SF-36 pain score	No	25	53.20	25.85
	Yes	10	53.25	18.49
SF-36 general health score	No	26	58.01	18.48
	Yes	12	56.60	21.21

Note. Q of L=Quality of Life Category. N=number of individuals. SF-36 score=refers to the Medical Outcomes Survey score. * Indicates significant differences were found between the subscores of people who utilized herbal self-treatment and those who didn't.

Table 2

SF-36 QoL Scores and Vitamin/Supplement Treatment Status

Q of L Category	Vitamin/Supplement Use Status	N	Mean	Standard Deviation
SF-36 physical functioning score	No	10	65.76	18.95
	Yes	26	59.95	24.71
SF-36 role limitation due to physical health score	No	12	40.28	45.62
	Yes	24	31.25	42.51
SF-36 role limitation due to emotional problems score	No	12	75.00	40.51
	Yes	24	68.06	42.25
SF-36 energy/fatigue score	No	11	63.18	11.68
	Yes	26	50.90	23.00
SF-36 emotional well-being score	No	11	82.73	12.40
	Yes	26	76.54	19.49
SF-36 social functioning score	No	10	75.00	17.68
	Yes	26	80.29	26.02
SF-36 pain score	No	10	54.75	24.56
	Yes	25	52.60	23.83
SF-36 general health score	No	12	57.29	16.39
	Yes	26	57.69	20.54

Note. Q of L=Quality of Life Category. N=number of individuals. SF-36 score=refers to the Medical Outcomes Survey score.

Table 3

SF-36 QoL Scores and OTC Medication Use

Q of L Category	OTC Meds Use Status	N	Mean	Standard Deviation
SF-36 physical functioning score	No	19	61.94	21.64
	Yes	17	61.14	25.49
SF-36 role limitation due to physical health score	No	19	35.96	41.86
	Yes	17	32.35	45.73
SF-36 role limitation due to emotional problems score	No	19	66.67	44.44
	Yes	17	74.51	38.24
SF-36 energy/fatigue score	No	19	56.23	17.53
	Yes	18	52.78	24.39
SF-36 emotional well-being score *	No	19	84.11	16.95
	Yes	18	72.33	16.94
SF-36 social functioning score	No	19	84.21	19.47
	Yes	17	72.79	27.33
SF-36 pain score	No	19	54.08	23.44
	Yes	16	52.19	24.73
SF-36 general health score	No	20	59.38	15.11
	Yes	18	55.56	23.04

Note. Q of L=Quality of Life Category. N=number of individuals. SF-36 score=refers to the Medical Outcomes Survey score. * Indicates significant differences were found between the subscores of people who utilized OTC medications and those who didn't.

Table 4

QoL Scores and OTC Products Treatment Status

Q of L Category	OTC Products Use Status	N	Mean	Standard Deviation
SF-36 physical functioning score	No	16	61.88	25.71
	Yes	20	61.31	21.55
SF-36 role limitation due to physical health score	No	15	33.33	48.80
	Yes	21	34.92	39.85
SF-36 role limitation due to emotional problems score	No	15	55.56	46.58
	Yes	21	80.95	34.27
SF-36 energy/fatigue score	No	17	55.20	21.81
	Yes	20	54.00	20.69
SF-36 emotional well-being score	No	17	83.65	16.53
	Yes	20	73.90	17.91
SF-36 social functioning score	No	16	77.34	22.92
	Yes	20	80.00	25.13
SF-36 pain score	No	15	56.67	27.14
	Yes	20	50.63	21.12
SF-36 general health score	No	17	56.13	19.21
	Yes	21	58.73	19.41

Note. Q of L=Quality of Life Category. N=number of individuals. SF-36 score=refers to the Medical Outcomes Survey score.

Table 5

QoL Scores and Self-Care Practices Treatment Status

Q of L Category	Self-care practices use Status	N	Mean	Standard Deviation
SF-36 physical functioning score	No	12	61.94	20.56
	Yes	24	61.37	24.75
SF-36 role limitation due to physical health score	No	13	32.69	43.76
	Yes	23	35.14	43.73
SF-36 role limitation due to emotional problems score	No	13	58.97	45.44
	Yes	23	76.81	38.18
SF-36 energy/fatigue score	No	13	51.54	21.35
	Yes	24	56.18	20.96
SF-36 emotional well-being score	No	13	77.23	21.50
	Yes	24	79.00	15.83
SF-36 social functioning score*	No	12	64.58	20.53
	Yes	24	85.94	22.52
SF-36 pain score	No	12	57.08	24.91
	Yes	23	51.20	23.35
SF-36 general health score	No	13	51.28	20.72
	Yes	25	60.83	17.76

Note. Q of L=Quality of Life Category. N=number of individuals. SF-36 score=refers to the Medical Outcomes Survey score. * Indicates significant differences were found between the subscores of people who utilized self-care practices and those who didn't.