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OTHER PAIN (N VADIVELU AND AD KAYE, SECTION EDITORS)

The Impact of the Quantity and Quality of Social Support on Patients with Chronic Pain

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Abstract

Purpose of Review Social support is an important yet often overlooked aspect of chronic pain management. Understanding the impact of social support on patients with chronic pain and determining if a relationship exists between a patient's perceived social support and their perceived quality of life is a crucial component to completely treating a pain patient. We sought to develop an intervention for patients with chronic pain that addresses the different types of social support, barriers to using social support, and ways to improve the quality of their social support.

Recent Findings A retrospective review of a prospectively collected database was utilized in an Outpatient Chronic Pain Rehabilitation Program with 23 patients with a chronic pain diagnosis who participated in a 3-week comprehensive pain rehabilitation program. Evaluation, intervention, and discharge were evaluated utilizing The American Chronic Pain Association's Quality of Life Scale and The Canadian Occupational Performance Measure (COPM). The intervention phase comprised a 45-min group session. At discharge, the occupational therapist followed up with the patient regarding the results of their social survey.

Summary Overall, the results indicated an underutilization of social support among patients with chronic pain. Out of the four questions asked on the social support survey, patients scored their use of tangible support (Q2) as the lowest. No significant positive correlation (0.27) was found between social support and quality of life which can be attributed to the wide variety of patients seen at the PRC. Social support is an essential part of chronic pain treatment and should be addressed throughout all stages of pain management.

Keywords Social support · Chronic pain · Depression · Psychology · Counseling

Introduction

Chronic pain affects the quality of life (QoL) of approximately 100 million Americans, more than diabetes, cancer, and heart disease combined [4]. It can impact both the amount and the utilization of existing social support in a person's life. The National Cancer Institute defines social support as "A network of family, friends, neighbors, and community members that is available in times of need to give psychological, physical, and financial help." [10] People with chronic pain may experience

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more barriers to using social support, such as withdrawal from others, which can eventually lead to isolation. A systematic review found that social isolation is associated with increased mortality and decreased health outcomes, whereas high levels of social support have been found to buffer against the impact of physical and mental illnesses [9••].

Given the significant benefits that social support provides; it is a key element in the treatment of chronic pain. Higher levels of perceived social support can decrease pain intensity, depression, and passive coping strategies in patients with chronic pain [8]. Patients with chronic low back pain with a sense of social and emotional support have a higher level of participation in daily activities [11]. A person's participation in daily activities is the primary focus in the field of occupational therapy which makes this topic an ideal subject for a pain rehabilitation program.

Additionally, greater self-perceived quality of social support increases psychological well-being and self-efficacy for function and symptom management for those with fibromyalgia, while decreasing the impact of fibromyalgia symptoms. Quantity of social support has less of an impact on people's physical, emotional, and mental well-being, indicating that the quality of a person's social support is more important than quantity [3].

To ensure that the quality of social support in a person's life is reaching every area of their overall quality of life, the person should identify social support in each area including emotional/esteem, tangible, informational, and network. Emotional/esteem support includes gaining compassion, empathy, or positivity about one's self worth. This may include a family member or friend listening or giving reassurance. Tangible support includes gaining physical assistance or materials when needed. Informational support includes gaining advice or information to help solve a problem. Finally, network support includes gaining a sense of belonging to a specific, like-minded group of people such as support groups or community organizations [5].

Depression is a common co-morbidity seen in people with chronic pain. Wang et al. looked at the relationship between depression and social support and found that stress had a larger impact on depression for people with low social support compared with people with high social support [12••]. The study found that social support is an important environmental resource for those with depression and that social support can actually moderate the effects of stress on depression.

The goal of this study, therefore, was three-fold. The study sought to understand the impact of social support on patients with chronic pain, to determine if a relationship exists between a patient's perceived social support and their perceived quality of life, and finally to develop an intervention for patients with chronic pain that addresses the different types of social support, barriers to using social support, and ways to improve the quality of their social support.

Methods

Participants of the study were patients recruited from Mayo Clinic Arizona's Pain Rehabilitation Center which is a 3-week multidisciplinary program that includes clinical health psychology, occupational therapy, physical therapy, nursing, and Pain Medicine physicians. A similar pain rehabilitation program at Mayo Clinic Florida found that using an interdisciplinary approach to chronic pain management increased patients' overall functional capacity and occupational performance [6••]. Participants all had a diagnosis of chronic pain, with a variety of different etiologies including central sensitization syndrome, fibromyalgia, low back pain, and headache. The final sample size included 23 patients including 74% females and 26% males with an average age of 49 years old.

Two case studies (Table 1) were compared to illustrate the implementation of the program and the individual results of the study. The program that was developed had three different components: evaluation, intervention, and discharge.

During the evaluation phase, patients with chronic pain were given a four-question survey that assessed their current social support. Responses were given on a 5-point Likert scale with the options of "almost never," "seldom," "sometimes," "often," and "almost always." The total score was determined by averaging the responses to the four questions. The survey was designed to ask about the patient's utilization of social support as well as the quantity of their social support. Survey questions 1, 2, and 4 looked at utilization, while question 3 looked at the quantity of social support.

The overall quality of life (QoL) was determined using the American Chronic Pain Association's Quality of Life Scale which is scored on a 10-point scale. This scale gives a general idea of the impact that chronic pain has had on their daily functioning, including their participation in daily activities [2••].

The Canadian Occupational Performance Measure (COPM) was used during the evaluation phase to identify areas of occupation that have been impacted by the patient's diagnosis of chronic pain and that they would like to improve during their time in the program. The COPM is a client-centered assessment which has been found to increase patient's self-awareness and facilitate the collaboration of goal setting which are essential components to the pain rehabilitation program [7]. When used in a pain rehabilitation setting, the COPM showed good evidence of concurrent criterion validity when compared with similar assessments of psychological functioning and had good sensitivity to change. In addition, the COPM served to enhance the therapeutic relationship between the patient and clinician, as well as, provided a good platform for discussing issues of occupational functioning and goal setting [1••].

Upon receiving the COPM, patients were asked to rank their current performance (how well they were able to have

Table 1 Case studies

31 year-old female	80-year-old female
Single	Married
Employed full-time	Retired, part-time work
Etiology of pain:	Etiology of pain:
• MVA in 2014	• Pain began in 1970s
• Major Depressive Disorder	• Complex medical history stroke, Rheumatoid Arthritis, myocardial infarction, melanoma, hip replacement
Evaluation	Evaluation
Identified limiting factors:	Identified limiting factors:
• Chronic fatigue	• Chronic fatigue
• Poor pacing	• Poor pacing
• Hides pain and needs from others	• Hides pain and needs from others
• Poor delegation	• Complex medical history
Social support survey: 2.75/5	• Advanced age
Quality of life scale: 9/10	Social support survey: 2.50/5
COPM goal:	Quality of life scale: 5/10
Pt would like to increase her socialization.	COPM Goal:
• Performance: 3/10	Pt would like to increase her socialization.
• Satisfaction: 2/10	• Performance: 10/10
	• Satisfaction: 10/10
Intervention	Intervention
SMART goal:	SMART goal:
• Pt planned to join a support group to increase network support	• Pt planned to join a group at church to increase network support
Barriers to using social support:	Barriers to using social support:
• Poor work-life balance	• Self-perception of others' stigma of her physical limitations
• Limited energy for activities outside of work	• Self-reports "using her cane as a crutch to not use social support"
Discharge	Discharge
Takeaways:	Takeaways:
• Pt began to delegate and use her family as tangible support	• Pt planned to increase her network support by volunteering and joining a church group.
• Pt identified the need for a mental health professional to help increase her emotional support	• Pt began to plan social opportunities into her daily life once again, indicating that she overcame some of her barriers.
COPM at discharge:	COPM at discharge:
• Performance: 9/10	• Performance: 10/10
• Satisfaction: 9/10	• Satisfaction: 10/10

and participate in a social support network) and satisfaction (how satisfied they are) with their social support network. Patient performance was ranked on a scale from 1 ("extremely poor/cannot do") to 10 ("do extremely well"). Satisfaction was ranked from 1 ("not satisfied at all") to 10 ("extremely satisfied"). The patients were given this assessment at discharge as well to compare differences in scores after completing the intervention phase of the program.

The intervention phase comprised a 45-min group session that included education on the different types of social support (emotional/esteem, tangible, informational, and network), identification of current social support, identification of strengths and growth areas and identification of potential barriers to using social support. Patients were also encouraged to develop a SMART goal to enhance their social support, meaning that the goal had to be specific, measurable, achievable, relevant, and time-bound.

At discharge, the occupational therapist followed up with the patient regarding the results of their social survey and asked the patient about their need for additional resources.

Using the COPM, the patient gave updated scores for performance and satisfaction regarding the socialization goal they established at evaluation.

Additionally, the following patient demographic information was recorded: age, gender, and marital status.

Results

From the 23 patients surveyed, the average social support score was 2.8 and the average quality of life score was 4.7, indicating low scores for each measure overall. The social support scores ranged from 1 to 5, with scores above 3 indicating adequate social support and scores below 3 indicating inadequate social support. The average age was 49 years old and the majority of the patients were married (70%) and female (74%).

On average, patients reported the following scores for each individual survey question:

- Question 1: 2.6
- *I seek support from others when faced with stress or pain*
- Question 2: 2.3
- *When I am sick, I find someone to help me with my daily chores*
- Question 3*:* 3.6
- *I get invitations to go out and do things with other people*
- Question 4: 2.8
- *I turn to people for advice or to help solve a problem*

Overall, the results of the survey indicate underutilization of social support among patients with chronic pain. Questions 1, 2, and 4, which asked whether the patient was actively using their current SS, had scores that were all below a 3, indicating poor social support. However, for question 3, which asked a passive question regarding the patients' social support, scores for this question were above 3. This finding reinforces the theory that patients with chronic pain may have a social support network but are not using it. Of all four questions asked, patients scored their use of tangible support (Q2) as the lowest.

No significant positive correlation (0.27) was found between SS and QoL which can be attributed to the wide variety of patients seen at the PRC. Patients may devote the majority of their energy to work tasks and neglect other areas of occupation, resulting in higher levels of QoL and lower levels of SS. Others isolate themselves completely and have low SS and low QoL (Fig. 1).

Discussion

The findings of this study have many implications for the treatment of patients with chronic pain. Healthcare practitioners are trained to identify barriers to engagement in all aspects of a patient's life including physical, mental, emotional, and social functioning. If practitioners took the time to assist their patients with establishing a strong and varied social support network during treatment, there might be an increase in adherence to program concepts post-discharge. Better quality social support at discharge serves as a protective factor to prevent old pain behaviors from re-emerging, such as withdrawal and isolation. It is important to address not only the quantity of a patient's social support but also the quality. It is the role of healthcare practitioners to help patients identify barriers to using social support and how to improve it. Discussing social support can be a feasible part of the pain management plan as the patients in our study underwent a single 45-min intervention.

A limitation of the present investigation is that a standard reliable validated measure of social support was not utilized even though there are many described in the literature. Another limitation of this study was that depression was acknowledged as important but not measured. In addition, the

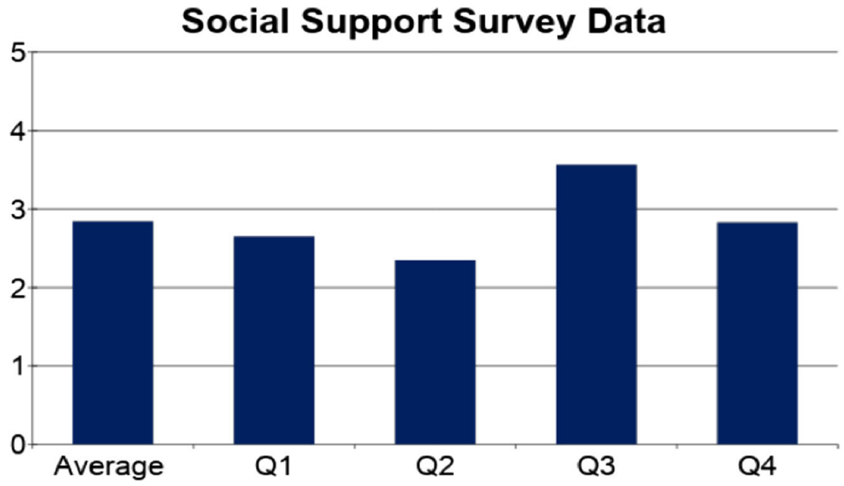

Fig. 1 Survey data

authors acknowledge that a 1-h intervention is extremely limited.

The two case studies presented in the methods section illustrate two common types of patients seen at the chronic pain rehabilitation center. One patient devoted all of her time and energy to work, creating an imbalance in her work and personal life, and sacrificed all other aspects of her life in order to maintain a career. The other was self-conscious of her limitations and the stigma surrounding chronic pain which caused her to stop attending social events. Both patients were self-limiting and had difficulty asking for help from others which are common traits seen among patients with chronic pain.

In summary, social support should be an important component of any treatment program for patients with chronic pain. Not only is it essential to find out the quantity of social support a patient has, but also the quality of the social support and if there are any barriers to the patient using it.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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