World Applied Sciences Journal 21 (5): 774-777, 2013
ISSN 1818-4952
© IDOSI Publications, 2013
DOI: 10.5829/idosi.wasj.2013.21.5.1535

The Effect of Pain Rehabilitation Program in Reducing Depression

Simin Bemana

Psychology Group, Zahedshahr Branch Islamic Azad University, Zahedshahr, Iran

Abstract: Pain rehabilitation program involves a holistic approach, such as routine medical, psychological and physical intervention in an 8 hour-a-day, 21-30 treatment day programs. The efficacy of multidisciplinary pain management programs has been found helpful, particularly in a daily intensive approach, in decreasing pain and improving function. Treatment includes medication tapering of pain and muscle-relaxers, use of antidepressants, cognitive-behavioral psychotherapy (group and individual) …etc. Rehabilitation considers the biological, psychological social and occupational factors that contribute to the individual's wellbeing. The purpose of this study is to address the co morbidity between depression and chronic pain and to assess the impact of a multidisciplinary pain rehabilitation program on the level of depression and perceived pain. Changes in depression and pain are observed pre- and post- treatment using the BDI-II and a self-report measure of pain, at evaluation, day of admittance and at discharge. The archival clinical sample was comprised of 70 Iranian women the used service Shiraz Ebnesina Hospital patients who completed a multidisciplinary pain rehabilitation program, ranging from 21 to 30 day treatment. Results indicated significant reduction of depression at completion of program. Our findings support the effectiveness of efficacy of pain rehabilitation multidisciplinary pain rehabilitation and it's usefulness in reducing depression. Depression was hypothesized to decrease by the end of pain management treatment.

Key word: Multidisciplinary Pain Program · Clinical Depression · Chronic pain · Rehabilitation · Mental disorder · Major depression.

INTRODUCTION

Depression has affected millions of people in the Iran. There are many factors that can initiate the onset of depression, such as belonging to a minority group, economic and social stressors and histories of psychological distress. Depression is a serious medical illness. It is defined as persistent feelings of hopelessness, sadness, anxiousness, guilt and loss of interest in once pleasurable activities that can last for weeks at a time (National Institute of Mental Health). Nearly 20% of the adulthood, 25% women's, 23% staff women met the criteria for probable clinical depression in Iran. Clinical depression is a frequently associated mental health disorder found in patients with chronic pain. Studies have indicated that intensive daily multidisciplinary pain management programs are more effective than non-intensive or non-multidisciplinary approaches in improving pain and functional restoration. Such programs aid management of pain by facilitating increased physical activities to enhance endurance and conditioning, antidepressant use to lower pain perception, participation with other individuals with similar conditions, as well as coping strategies focused on active approaches in reducing pain intensity—all of which are also serve as traditional approaches in the treatment of depression. Therefore, the treatment of chronic pain can also function to reduce depression.

Literature Review

Chronicle Pain: Chronic pain is defined as pain last more than six months, is ongoing and may continue for the remainder of the person's life [1]. The estimated 62 percentage of individuals suffering from chronic pain, that also exhibit signs of depression, varies greatly from weak to significant results [2]. The projected rate of depression

Corresponding Athor: Simin Bemana, Psychology Group, Zahedshahr Branch Islamic Azad University, Zahedshahr, Iran

amongst this population is believed to be four times higher than that found in the general population [3]. Many of the symptoms associated with chronic pain mirror the diagnostic criteria for Major Depression. For example, chronic pain often results in social isolation, withdrawal, feelings of hopelessness, sleep difficulties, loss of interest in activities, financial strain and lack of energy -all of which are common symptoms of depression as defined by The Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV). If depression and chronic pain share similar symptomatologies will treatment in a pain management rehabilitation program additionally serve to treat depression.

Clinical Depression: Clinical depression is a medical similar to pneumonia that even the strongest person cannot overcome without treatment. Clinical depression is similar to heart disease and cancer in that all of us have a susceptibility to each. If we have family history of one of these illnesses our susceptibility increases. This explains how some develop a clinical depression only after extraordinary stressors and other develop clinical depression seemingly out of the blue. Clinical depression is a very common illness that affects approximately3-5% of the population at any one time. There is a 20% chance of having an episode of clinical depression at some point in one s life. The percentages are similar for the general population and college student [2].

Multidisciplinary Pain Program: The subjects of this study were treated through a nationally accredited, Commission on Accreditation of Rehabilitation Facilities (CARF), multidisciplinary rehabilitation program for managing chronic pain, that involves a holistic approach, such as routine medical, psychological and physical intervention in an 8 hour-a-day, 21-30 treatment day program. The efficacy of multidisciplinary pain management programs has been found helpful, particularly in a daily intensive approach, in decreasing pain and improving function [4]. Treatment includes medication tapering of pain and muscle-relaxers, use of antidepressants, cognitive-behavioral psychotherapy (group and individual), physical therapy, occupational therapy, vocational counseling, group education and biofeedback. Rehabilitation considers the biological, psychological social and occupational factors that contribute to the individual's wellbeing.

A great deal of research has been conducted on the relationship between depression and chronic pain (5). Handler hypothesized depression to be the result of the chronic pain patient's decrease of both physical and social activities. [6] Often the result of the chronic pain patient's decrease of both physical and social activities. Often the result of chronic pain is the fear and avoidance of activity due to re-injury or aggravation of pain. Such inactivity not only leads to muscle decay, loss of strength and energy and increased pain perception, but also has psychosocial ramifications that occur from social isolation, withdrawal and interpersonal conflict. Stressors and events that occur in the pain population may therefore account for the depression [7] and perhaps contribute to the predictive nature of chronic pain in forecasting future depression [8].

Hypothesis: The aim of this study is to show the effect of pain rehabilitation program on the level of depression in Iranian women. This present study hypothesizes depression and will significantly decrease by completion of the program.

MATERIALS AND METHODS

Participants: The archival clinical sample was comprised of 70, patients women 35, experimental group and 35 control group, who completed a CARF accredited, multidisciplinary pain management program through Progressive Rehabilitation Association in Shiraz Ebnesina Hospital. Treatment ranged from 21 to 30 program days, for 8 hours a day. All patients had identified chronic pain and were admitted due to work related injury.

Measure: The 21 item BDI-II, self report instrument, total score was used to measure depressive symptom logy [9]. A commonly used general measure of depression severity, the BDI-II is used over a wide-range of populations, including chronic pain [5]. The BDI-II assesses the degree of depressive symptoms on a scale of 0-63, yielding four categories: minimal, mild, moderate and severe. It has respectable psychometric properties, demonstrating good internal consistency (alpha =.91), decent test-retest reliability (r =.93) and strong construct validity [10].

Procedures: The Beck Depression Scale-II (BDI-II) was administered to patients at three separate intervals to measure pre and post treatment efficacy.

The first administration took place during the initial evaluation, when assessing whether the patient is to likely benefit from a multidisciplinary pain management program. Typically there is a one to two month delay between evaluations and the beginning of treatment. The second administration of the BDI-II was conducted on the first day of entering treatment. The final administration was completed on the day of discharge.

Data Analysis: The Statistical Package for the Social Sciences (SPSS) was utilized to analyze the data. Descriptive statistics were generated for each demographic variable. The descriptive statistics reported were frequencies, percentages, means and standard deviations.

A repeated-measures ANOVA was constructed to analyze the change in severity of depression using the BDI-II (dependent variable) and pain perception (dependent variable), over the course of treatment time (independent variable). The length of time of initial evaluation to admittance of treatment is co-varied to note possible discrepancies with the wait time for receiving treatment.

RESULT

The archival clinical sample was comprised of 70 patients, 59 women married (%84.3) and 11 women single (%15.7) who completed an 8 hour-a-day, 21to 30 treatment day, multidisciplinary pain rehabilitation program. The sample was obtained from Progressive Rehabilitation Associates, in Shiraz Ebnesina Hospital. A CARF accredited facility. The mean age of the married group was 36.8 (*SD* = 17/7). And single group was 28 (SD=9/5). The median time from evaluation to admission for this sample was 35 day. All patients had identified chronic pain and the large majority was admitted due to work related injury. (Table1).

Hypothesis 1

Depression: Depression, as measured by the Beck Depression Inventory II, was hypothesized to decrease by discharge of a chronic pain rehabilitation program. Results were analyzed using repeated measures ANOVA for the BDI-II at pre and post treatment. Consistent with the hypothesis, this analysis showed a significant main effect of time F (2, 13), p <.001.

Average depression at evaluation and day of admit placed participants in moderate category of depression. By discharge, average depression symptoms decreased to the minimal range. Mean BDI-II score for pre treatment evaluation and admit were 23.8 (*SD* = 9.9) and 21.42 (*SD* = 10.18), post treatment depression significantly declined (p <001) (Table 2).

Table 1: Characteristics of Respondents (N=70)

Chaacteristics	F	Percentage
Age		
20	11	%15/7
20-30	20	%28/6
30-45	39	%55/7
Marital Status		
Married	59	%84/3
Single	11	%15/7
Educational Level		
Under Diploma	46	%65/7
Diploma	15	%21/4
Some College	9	%12/9

Table 2: Mean Depression Levels (Bdi-ii) at Pre- and Post-treatment

Value	p-value	F-value	Pre-mean	Pre-SD	Post-mean	Post-SD
Depression	.<001	2.13	23.8	9.9	21.42	10.18

CONCLUSION

The major aim of this study was to evaluate the effects of a multidisciplinary pain management program in the reduction of depression in Iranian women suffering from chronic pain. The results support the hypothesis that depression decrease from pre- to post-multidisciplinary pain treatment. Depression was hypothesized to decrease by the end of pain management treatment. Results were measured using the BDI-II pre and post pain rehabilitation, during the initial evaluation, admission and discharge. By discharge, levels reduced significantly to minimal depression, indicating a main effect of time. Overall, outcome measures indicate this multidisciplinary, pain rehabilitation program has the ability to significantly reduce depression symptoms. In part, this study confirms previous research in supporting both the co morbidity of chronic pain and depression, as well as multidisciplinary pain rehabilitation in reducing depression. The significant decrease in depression may encourage patients to accept more active approaches to pain management, possibly increasing self-efficacy and motivation. Perhaps largely, the efficacy of such programs lies in their ability to reduce the interference of depressive symptoms in obstructing pain management tools. Therefore, the reduction of depression serves to promote active involvement in coping with pain, providing a greater sense of control and counteracting conceptions of hopelessness. Improvements in depressive symptoms will also decrease risk of

developing other health problems, aid patients in their return to functional activities and family roles. This will continue to guard against depressive episodes and increased pain cycles. Furthermore, the more successful the patient is in their return to roles as a parent, spouse, employee, etc. the better the effectiveness in restoring their self-identity.

Limitation: Limitations include a use the women's participants, therefore restricting the generalization of results to non-white samples. Increasing the overall participant pool would aid in broadening the application of this study.

Application: Further research and use the pain rehabilitation program in other samples, such another mental disorder and use pain rehabilitation program effect in another gender (male).

ACKNOWLEDGEMENTS

There are many people who have helped me throughout the process of completing this paper. First and foremost, I would like to thank the loves of my mother and my family Thank you for all of your patience, love, understanding and support this process. I LOVE YOU!

Thank you to all of the staff at the Shiraz Ebnesina Hospital in Iran for assisting me with my questionnaires. I would like to give a special thank you to the Iranian women who completed my questionnaire.

REFERENCES

1. Melzack, R. and P.D. Wall, 1965. Pain mechanisms: A new theory. Science, 150: 971-79.
2. Bemana, Simin. 2010. Depression and Treatment. Rahavrdhonar; 1: 23-30.
3. Sullivan, M.J. , K. Reesor, S. Mikhail and R. Fisher, 1992. The treatment of depression in low back pain: Review and recommendations. Pain, 50(1): 5-13.
4. Douglas, W., C. Graham, D. Anderson and K. Rogerson, 2004. Managing chronic pain through cognitive change and multidisciplinary treatment program. Australian Psychologist, 39(3): 201-07.
5. Romano, J.M. and J.A. Turner, 1985. Chronic pain and depression: Does the evidence support a relationship? Psychological Bulletin, 97: 18-34.
6. Hendler, N., 1984. Depression caused by chronic pain. Clinical Psychiatry, 45(3): 2.
7. Banks, S.M. and R.D. Kerns, 1996. Explaining high rates of depression in chronic pain: A diathesis stress framework. Psychological Bulletin, 119: 95-110.
8. Nicassio, P. and K. Wellston, 1992. Longitudinal relationship between pains, sleep problems and depression in rheumatoid arthritis. Journal of Abnormal Psychology, 101: 514-520 .
9. Beck, A., R.A. Steer, M.G. Garbin, 1988. Psychometric properties of the Beck Depression Inventory: Twenty five years of evaluation. Clinical Psychology Review, 8: 77-100.
10. Beck, A.T., R.A. Steer, R. Ball and W.F. Ranieri, 1996. Comparison of Beck Depression Inventories -IA and -II in Psychiatric Outpatients. Journal of Personality, 67(3): 588- 597.