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Do People Who Have Participated in a Work Hardening Program Perceive Benefits from Group Psychological Counseling in Controlling or Decreasing Chronic Low Back or Neck Pain?

Antonio Cofer

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BY

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Introduction

Work related injuries cost industry millions of dollars each year, 80% of those injuries are related to either the neck or back. Many back or neck injuries are treatable but often result in lasting chronic pain. Efforts to treat workers with chronic pain receive treatment from various sources, e.g., physicians, chiropractors, physical and occupational therapist, and other health care workers trained to treat pain. Traditional medical and surgical procedures have not proved to be completely satisfactory in relieving chronic pain. This has led to a reexamination of current treatment approaches and has resulted in the development of a multidimensional approach that includes a psychological component (Holzman, Rudy & Turk, 1985). It is the perceived benefit from psychological treatment efforts that this study will explore.

Cognitive coping strategies are often used by psychologist to achieve a control or decrease of chronic pain. Coping, in this context, refers to thoughts and behaviors people use to manage their

pain or their emotional reactions to pain so as to reduce emotional distress (Clancy & Turner, 1986).

> Cognitive behavioral therapies have also been used to treat chronic pain, with the rationale that pain problems involve affective, evaluative, sensory and behavioral dimensions and that manipulation of these variables can alter the pain experience. Relaxation training, imagery, stress management and other skills are taught, with the emphasis that patients can learn to control their pain and their reactions to pain. (Turner, 1982, p. 757)

Some people think that chronic pain is a function of psychological makeup. But the typical person demonstrating chronic pain behaviors usually rejects any suggestion that his or her pain is a result of psychological factors. However, recent studies have shown that cognitive strategies are effective in alleviating pain and support beneficial outcomes with treatment that involves cognitive modification (Walker, 1989).

It should be noted that although cognitive treatment has been found to be effective when

treating chronic pain, most studies fail to take into consideration patient characteristics. Counseling, group or individual, is usually the vehicle by which cognitive strategies are taught. It is in these settings that patient characteristics, e.g., demographics, pain duration, age, education becomes very important (Holzman et. al., 1985).

Some obvious questions present themselves when considering counseling and patient characteristics as they relate to chronic pain. The question that this study asks is: is there perceived benefit from group psychological counseling related to chronic low back or neck pain? Furthermore, will perceived benefits vary by demographic characteristics?

Significance

The last decade has witnessed a proliferation of centers created specifically to treat one of the health-care systems most costly problems - chronic pain (Holzman, et al., 1985). Current estimates of the number of pain clinics exceed 800 in the United States alone. Since chronic pain is a prevalent costly national health problem, it is important to know if cognitive techniques through psychological

counseling are effective in its treatment (Holzman, et. al. 1985).

If cognitive treatment that focuses on effective coping skills prove effective for patients with different characteristics, this can help decrease rising national health cost because of this noninvasive inexpensive treatment. This problem is usually treated with more costly and risky methods. However, if patients from particular subgroups do not perceive a benefit from counseling and the coping techniques that are taught, then the techniques or the presentation of the techniques are an unnecessary cost and their use should be examined (Turner, 1982).

Purpose

The purpose of this study was to see if people who have sustained a work related injury resulting in chronic pain, i.e., pain six months or more in duration, perceive a benefit from receiving group psychological counseling. It also explored four differences among the study's or subsamples regarding perceived benefits. This study, a survey of perceived benefit, was conducted in a outpatient work hardening center (treatment that is geared toward

work condition and work simulation to increase a person's ability to return to work) during the spring and summer months.

Research Question

Is there perceived benefit from group psychological counseling with chronic low back or neck pain for patients participating in a work hardening program? Does perception vary within the study's subsamples?

Definitions of terms

chronic pain - pain that exceeds six months in duration

chiropractor - person who uses a therapeutic system of manipulation of the spinal column to decrease pain and restore proper alignment

cognitive - the mental faculty or process by which knowledge is acquired

therapy - treatment of illness or injury

attenuating - to make slender, fine or small

physical modalities - a method of therapy that uses external noninvasive equipment to correct illness or injury

work - hardening	treatment that is geared toward work conditioning and work simulation to increase a person's ability to return to work

Assumptions

The first major assumption in this study was that the testing instrument would accurately measure perception of perceived benefit from group psychological counseling. The second major assumption was that the psychologist had been trained to counsel persons with diverse backgrounds. The final major assumption was that all participants would answer questions honestly and accurately.

Limitations

The first limitation in this study was that perceived benefit may not reflect actual physical benefit. The second limitation was that the instrument used had not been tested for reliability. The third limitation was that the results of this study could not be generalized to the general population. The fourth limitation was that persons may have a pre-existing bias to psychological counseling prior to receiving treatment. Those who

had previously participated in group or individual psychological counseling would be excluded from the study. This is the final limitation.

Review of Literature

Review of Related Literature

This literature review consists of research articles related to chronic pain, coping strategies, psychological counseling and methods used in other studies.

Studies in clinical settings have suggested the effectiveness of coping skills training in reducing pain and distress associated with medical and surgical procedures. Coping skills have also been demonstrated in several controlled studies to decrease pain ratings of chronic pain patients (Clancy & Turner, 1986). Furthermore, a patient's sense of control over pain has sometimes been shown to be related to coping efforts. However, patients that have been treated successfully can be differentiated from unsuccessfully treated patients by considering certain characteristics (Holzman, et. al., 1985). These characteristics include age, disability status, disability compensation and socioeconomic status.

"Recent reports suggest that cognitive strategies may also be effective in attenuating

clinical pain. For example, Rystein-Blincheck (1979) found that patients taught reinterpretative and attention diversion strategies showed greater attenuation of pain than control subjects. Brown (1984) found that migraineurs taught to use imaginal coping strategies reported decreased headache activity compared to placebo controls" (Brown & Chaves, 1987, p. 265). These reports together with other studies that deal with coping strategies in reducing pain suggest that there is potential clinical value in training patients to use these techniques (Brown & Chaves 1987).

"Moreover, postexperimental inquiries conducted with experimental pain subjects have revealed that some subjects asked to employ one type of cognitive strategy for reducing pain have sometimes indicated a preference for employing their own strategy" (Chaves and Barber, 1974, p. 356). This would suggest that some patients feel that they can cope on their own without the assistance of counseling that would teach coping strategies.

Counseling may be viewed legitimately as a process of interpersonal interaction and communication. For effective counseling to occur, the counselor and client must be able to

appropriately and accurately send and receive both verbal and nonverbal messages (Sue & Sue, 1977). A study by Padilla, Ruiz, and Alvarez (1975) identified three major factors that hinder the formation of a good counseling relationship: (a) language barriers that often exists between the counselor and client, (b) counselor conduct treatment within the values system of the middle class, (c) culture-bound values that are used to judge normality and abnormality.

In response to such observations, development of cross-cultural counseling training has been suggested and implemented for some counseling psychologists and mental health professional (Carney and Kahn, 1982). It has been suggested that counselors who are effective in cross-cultural training grow in three domains: (1) knowledge of cultural groups, (2) attitudinal awareness and cross-cultural sensitivity, and (3) specific cross-cultural counseling skills (Carney and Kahn, 1982). Counselors who do not have the benefit of cross-cultural training often possess little, if any, knowledge of the history of persons who are culturally or ethnically different from themselves. "The knowledge that they possess is more apt to be based upon social stereotypes and/or shared social economic status rather than an understanding

of the world views of particular cultural groups" (Carney and Kahn, 1982 p. 112).

Pederson and Marsella (1982) noted that the implementation of psychological services has been applied universally without taking into consideration diverse backgrounds. Clients often find themselves meeting on the counselor's turf (meeting at the counselor convenience, usually sometimes between Monday and Friday, from 9:00 to 5:00 to discuss treatment in a middle class Anglo-linquistical style) with no consideration to educational background of the client.

Schofield (1964) has noted that clients exhibiting the YAVIS syndrome (young, attractive, verbal, intelligent and successful) are preferred. This preference tends to discriminate against people from different minority groups or those from lower socioeconomic classes. People with less education usually have little experience with counseling, therefore success is rarely seen and is often blamed on the client. A study done in 1973 by Brabham and Thoreson that examined the preference of students on two different campuses, found that when given a choice between a counselor who was disabled and one was able-bodied the participants tended to select the

disabled counselor to discuss vocational and personal concerns. The results seem to suggest that a counselor would better understand another's problem when he or she could "relate" (Miller, 1991).

Mitchell and Allen in 1975 hypothesized that a counselor who suffered physically would be perceived as having higher levels of empathic understanding, positive regard and unconditionality of regard. The counselor was seen as more aware and activity reaching out to the client (Miller, 1991).

It has also been suggested that clients from special populations will perceive counselors from the same population as more credible and attractive simply because they belong to the same group (Atkinson, Maruyama, & Matusi, 1978).

It should be noted that persons who report high levels of depression have been found to develop maladaptive coping techniques to deal with pain but there have been no significant findings that suggest a relationship between adaptive cognitive coping strategies and level of depression. There also appears to be no relation between length of chronic pain and effective coping strategies (O'Eon & Sullivan, 1990).

Literature Related to Methodology

Most research concerning coping effects on pain, have usually gathered samples that were obtained from a population of patients who have or had participated in a multidisciplinary pain program. Chronic pain has been defined as pain that has lasted six months or more (Clancey and Turner, 1986). The majority of patients have been administered questionnaires or surveys developed from previous research to measure coping effects. The literature reviewed indicated patients were referred to pain programs by physicians, and the ages of the patients ranged from 20 to 60. Most patients tested, of either gender had completed high school, and the length of continuous daily pain they experienced was usually one year in duration.

Data analysis in a majority of the studies used descriptive and analytical statistics. Chi-square, ANOVAS, MANOVAS, and regression analysis were seen often.

Methodology

Organization/Statement of the Population

This descriptive study took place at an outpatient rehabilitation center located on the southside of Savannah, Georgia. The clinic is privately owned by a group of neurologist and neurosurgeons and is managed by a corporation (Healthcare Professionals) based in Ashville, North Carolina. All patients referred to this center have some type of neurological condition and payment is made through third party payers.

The sample for this study consisted of patients between the ages of 18-65 who were referred by physicians to the outpatient rehabilitation center to participate in a work hardening program. Male or female patients with a diagnosis of a back or neck condition (surgical or nonsurgical) that has resulted in chronic pain, i.e., pain that has lasted six months or more, was included in the sample.

Factors which excluded patients from this study included those had previously participated in

group or individual psychological counseling or those having had past experiences with physical modality treatment prior to referral to work hardening. This determination was made during the initial interview conducted by the occupational therapist.

The sample was obtained in the following manner: After a referral was written by a physician, the patient was scheduled for an evaluation to be performed by the occupational therapist (Director of Work Hardening). This evaluation starts in the conference room of the clinic where a medical, educational, social and vocational history was obtained. A functional capacity checklist was also given but did not ask perception of coping strategies. This checklist asks whether the patient had pain with certain activities. The evaluation then proceeded with an assessment of the patient's physical capacities. This included a musculoskeletal, material handling, non material handling and cardiovascular assessment.

On the following day the clinical psychologist evaluated a patient utilizing an interview and paper/pencil tests. Each patient who entered the Work Hardening Program received a psychological evaluation. The evaluation was completed by a

licensed psychologist. Each patient was interviewed by the psychologist and then completed the following tests: (1) Beck Depression Inventory, (2) Beck A Anxiety Inventory, and (3) Minnesota Multiphasic Personality Inventory-2 (MMPI-2). The psychologist provided relevant information regarding the patient's psychological and emotional adjustment and made treatment recommendations (which included participation in the psychoeducational groups and referral to a psychiatrist, if necessary, for evaluation of psychotropic medication).

The subjects' treatment began at 8:00am on a Monday with an orientation to the rehabilitation program. Warm-up, stretching and flexibility exercises followed. The subjects' participated in general strengthening and conditioning exercises utilizing hydrafitness and universal equipment as well.

The subjects' then received instructions and participated in work conditioning and work simulation activities. The treatment program also included two, one hour group psychological counseling sessions twice a week. These sessions covered topics concerning coping techniques to control or decrease

chronic pain. Each subject received eight treatment sessions during the four week work hardening program.

The subjects' received back/neck education. The education was in audio-visual form and included the following topics: a) body mechanics, b) proper posture, c) reinjury prevention and d) basic back anatomy. The subjects' then broke for lunch for an hour. After lunch, the subjects' warmed-up, then participated in more strengthening exercises, work conditioning and work simulation activities.

Instrumentation

The instrument used was a questionnaire (Appendix B). The instrument was reviewed by professionals in the work hardening field, i.e., psychologist and therapist to assure the questionnaire credibility.

Collection of Data

Sources of data collected included an initial evaluation by the occupational therapist, a data abstraction form which was used to collect demographic as well as historical information on the patient taken from the medical chart (Appendix D) and a psychological evaluation that was obtained by the

clinical psychologist. An initial functional capacity checklist and an informed consent form was obtained by the occupational therapists.

After the informed consent form (Appendix A) had been signed and the patients completed four weeks of treatment, an interview was conducted in the clinic's conference room on the patients last day of treatment. The occupational therapist presented each patient with the questionnaire (Appendix B). Then the instructions along with each question was read by the occupational therapist and the participant's response was marked on the questionnaire. This process was done the same way each time so that standardization could be maintained.

Analysis of Data

The scores on the questionnaires were tabulated and analysis was made on the perception of benefit from psychological counseling was analyzed. The questionnaire was administered on the morning of the last day of each participants' treatment. Patients were identified only by medical record number. All medical record numbers were removed from all identifying documents.

This study used descriptive statistics to summarize data. For the continuous variables,

measures of central tendency (mean, mode, median) and measures of dispersion (range, variance, and standard deviation) were calculated. The descriptive statistics also provided frequencies and percentages for the study's categorical variables.

Analytical statistics to test the hypothesis included ANOVAs, and linear regression analyses (Daniel, 1987). Univariate analysis was conducted to choose extraneous variables to be included in multivariate analysis. A multivariable ANOVA was used to control for the effects of extraneous variables. The level of significance for stratistical tests was set at p less than or equal to .05.

These statistics provided information on the overall population and compared perceived benefits in various subgroups: gender, education, race, age, type of injury and occupation.

Operational Definitions

perceived benefit	-	score on Functional Capacity Checklist
chronic low back neck pain	-	pain that exceeds six months.
Clinical Psychologist	-	Professional with doctoral degree in counseling psychology

cupational Therapist - specialist trained in the rehabilitation of people who have illness or injury that results in impaired independence with activities of daily living

Results

Descriptive Statistics

The sample in this study was primarily male (73.0%) caucasians (73.0%) with a mean age of 38 years (Std Dev = 7.95). A range of 25-56 years was reported. The most prominent occupation reported was that of Laborer (50.0%) with technical-sales accounting for the second most common occupation represented (25.0%).

A large majority (96.5%) of the sample in the study were receiving worker's compensation. Just under half (45.5%) of the sample had undergone a previous surgical procedure, 54.5% had not. High school graduates made up 31.8% of the sample, 36.4% of the sample did not have a high school diploma and 31.8% of the sample had some education beyond high school.

Table I

Descriptive Statistics

Categorical Variables

Variables	Frequency	Percentage
Gender		
a) male	32	72.7
b) female	12	27.3
Race		
a) black	12	27.3
b) white	32	72.7
Diagnosis		
a) cervical	9	20.5
b) lumbar	35	79.5
Occupation		
a) production	3	6.8
b) clerical	2	4.5
c) management	3	6.8
d) technical-sales	11	25.0
e) craftsman	3	6.8
f) laborer	22	50.0
Worker's Compensation		
a) yes	42	95.5
b) no	2	4.5
Previous Surgery		
a) yes	20	45.5
b) no	24	54.5
Education		
a) < high school grad.	16	36.4
b) high school grad.	14	31.8
c) > high school grad.	14	31.8

Research Question

The purpose of this study was to determine if there was a perception of benefit from psychological counseling for patients with chronic pain who were involved in a work hardening program. The overall mean perception score for the entire population was (.6472). A score of (0) would indicate no benefit, a score of (1) would indicate some benefit and a score of (2) would indicate much benefit.

Table II

Overall Mean Score

Variable	Mean	Std Dev	Cases
Entire Pop.	.6472	.6052	44

Further analysis was done to explore relationships of the variables to overall perception of benefit. Table III presents a linear regression analysis testing the relationship between age and perceived benefits. This analysis showed no significant relationship (beta = .010367, P = .3781).

Table III

Linear Regression Analysis

Variable	Beta	Standard Error	P-Value
Age	.010367	.011636	.3781

Table IV presents means, standard deviation, number of cases and p-values for the various demographic groups (education, previous surgery, race, gender and diagnosis). Of these variables, significant mean difference was found only for the variable education. This table shows that those with higher education perceive more benefit from counseling than those with less education.

Table IV

ANOVA for Mean Perceived Benefit Score

by Education, Previous Surgery, Race,

Gender and Diagnosis

Variables	Cases	Means	Std Dev	P-Value
Education				0.003*
< high school grad.	16	.3851	.5438	
high school grad.	14	.5246	.4984	
> high school grad.	14	1.0694	.5737	
Previous Surgery				0.292
a) yes	20	.5408	.5773	
b) no	24	.7359	.6256	
Race				0.879
a) black	12	.6240	.6826	
b) white	32	.6559	.5852	
Gender				0.924
a) male	32	.6418	.5746	
b) female	12	.6617	.6596	
Diagnosis				0.745
a) cervical	9	.7068	.8305	
b) lumbar	35	.6319	.5475	

*$p \leq .05$

Conclusions and Recommendations

The purpose of this study was to determine if group psychological counseling was perceived as beneficial to patients in controlling or decreasing chronic pain. These patients were participating in a work hardening program. Overall results showed that there was little to no perception of benefit from counseling; however, when variables were looked at independently education was found to be significantly related to perceived benefit.

Those patients with greater than a high school education reported that the counseling they received would help some in controlling or decreasing chronic pain. Those patients with a high school diploma or less in education reported very little to no benefit. No other variables were found to be significantly related to perceived benefit. These other variables included age, race, gender, diagnosis, occupation, patients who had undergone previous surgery.

These finding tend to support findings by Schofield (1964) who noted that people with less education usually have little experience with c

counseling; therefore, success is rarely seen with this group. The lack of success is often blamed on the client. It would appear that more needs to be done to make counseling more accepted as an effective form of treatment for all socioeconomic groups. The study by Padilla, Ruiz and Alvarez (1975) identified three major factors that hinder good counseling relationships: (a) language barriers that often exists between the counselor and client, (b) counselor conduct treatment within the values system of the middle class, (c) culture-bound values that are used to judge normality and abnormality.

Findings in this study would suggest that greater efforts need to be made in simplifying the presentation of the strategies and concepts. Perhaps the techniques or the actual coping strategies that are taught by psychologist need to be changed so that positive effects can be achieved by all. Further study should be done to explore the effectiveness of additional coping techniques.

References

Alvarez, R., Padilla, A. M. & Ruiz, R. A. (1975). Community mental health services for the spanish speaking population. American Psychologist, 30, 892-905.

Atkinson, D. R., Maruyama, M., & Matusi, S. (1978). Effective of counselor race and counseling approach on Asian Americans perceptions of counselor creditable and utility. Journal of Counseling Psychology, 25, 76-83.

Barber, T. X. & Chaves, J. F. (1974). Cognitive strategy, experimenter modeling and expectation in the attenuation of pain. Journal of Abnormal Psychology, 83, 356-363.

Brown, M. J., Chaves, J. F. (1987). Spontaneous cognitive strategies for the control of clinical pain and stress. Journal of Behavioral Medicine, 10 (3), 263-275.

Carney, G. B., Kahn, B. K. (1982). Building competencies for effective cross-cultural counseling; A developmental view. Counseling Psychologist, 12 (1), 111-117.

Clancy, S. & Turner, J. A. (1986). Strategies for coping with low back pain: Relationship to pain and disability. Pain, 24, 355-364.

Daniel, W. W. (1987). Biostatistics: A foundation for analysis in the health sciences 5th Ed. John Wiley & Sons, NY.

Holzman, D. A., Gerber, E. K., Kerns, D. R., Rudy, E. T., Sanders, H. S., Turk, C. D. & Zimmerman, J. (1985). Chronic pain: A multiple-setting comparison of patient characteristics. Journal of Behavioral Medicine, 8(4), 411-421.

Miller, J. M. (1991). Counselor with disability; A comment on the special feature. Journal of Counseling and Development, 70, 347-349.

O'Eon, J. L. & Sullivan, M. J. (1990). Relation between catastrophizing and depression in chronic pain patients. Journal of Abnormal Psychology, 99(3), 260- 263.

Pederson, P., & Marsella, A. (1982). The ethical crisis for cross-cultural counseling and therapy.

Sue, D. & Sue, W. D. (1977). Barriers to effective cross-cultural counseling. Journal of Counseling Psychology, 24(5), 420-429.

Turner, A. J. (1982). Comparison of group progressive-relaxation training and cognitive-behavioral group therapy for chronic low back pain. Journal of Consulting and Clinical Psychology, 50(5), 757-765.

Walker, C. S. (1989). The psychology of perpetual patients. Personal Journal, 68(14), 50-57.

Appendix A

Informed Consent Form

Informed Consent Form

I am a graduate student from Georgia Southern University conducting research on the work hardening program in which you are presently participating in. This research will in no way place you at any physical or emotional risk, and you will not incur any monetary costs. Your participation is completely voluntary and at any time you may remove yourself from this study without repercussion. You will be given an interview administered by your therapist at the end of your treatment. All answers are confidential. Your information will be added to a group of data and there will be no way to identify your individual responses.

I agree to participate in this research:

Date:_____ Patient's Signature:_____

Date:_____ Evaluator's Signature:_____

Appendix B

Questionnaire

Questionnaire

Functional Capacity Checklist

For each of the questions below choose one of the following responses that best describes how you think about coping strategies.

Responses: (0) coping strategies will not help at all

(1) coping strategies may help some

(2) coping strategies would help a lot

(3) not applicable

1. Walking short distances

_____ a. within your own residence.

_____ b. over smooth ground outdoors.

_____ c. over uneven ground.

2. Lifting relatively heavy objects

_____ a. from the floor.

_____ b. from waist level.

3. Bending from your waist while in a standing position to pick up something from the floor with your

_____ a. arms.

4. Ascending/Descending steps (5 or fewer)

_____ a. ascending steps.

_____ b. descending steps.

5. Reaching for an object above your head with your

_____ a. arms.

6. Lifting objects of moderate weight (like a sack of groceries, a tool kit, a full laundry basket or a stack of books)

_____ a. from the floor.

_____ b. from waist level.

7. Sitting comfortably for more than a few minutes in a room that is

_____ a. cold.

_____ b. very warm.

8. Ascending/Descending stairs (6 to 20) within a building

_____ a. going up.

_____ b. going down.

9. Sitting down in a

_____ a. firm chair.

_____ b. soft chair.

10. Climbing a ladder

_____ a. indoors (5 steps or less).

_____ b. outdoors (more than 5 steps).

11. Getting up from a

_____ a. firm chair.

_____ b. soft chair.

12. Bending from the waist

_____ a. while standing.

_____ b. while sitting

Developed by Leslie K. Burke, Ph.D., and Everett G. Dillman, Ph.D., 1984. Published by VSB, Inc., P. O. Box 1945, Athens, GA 30603.

Appendix C

Letter of Introductio

Letter of Introduction

A research study will be conducted during your participation in the work hardening program that will be assessing the quality of treatment you are receiving. Your participation is voluntary and you will in no way be exposed to any danger as a result of the study.

Antonio Cofer OTR/L

Work Hardening Coordinator

Appendix D

Data Abstraction Fc

Data Abstraction Form

Subject #_____

M.R.# _____ Age _____

Sex: Male _____ Female _____

Education: 1. Less than high school _____

2. High School _____

3. High School graduate _____

4. Some College _____

5. College graduate _____

6. Professional _____

Race: 1. Black _____

2. White _____

3. Asian _____

4. Hispanic _____

5. Other _____

Physician Name:_____ Diagnosis:_____

Date of injury: _____

Occupation: _____

Receiving workman's compensation: 1. Yes _____

2. No _____

Previous work related injury: 1. Yes _____

2. No _____

a. If yes, date of last injury _____

b. What was injured _____

Previous psychological counseling: 1. Yes _____

2. No _____

Previous Surgery: 1. Yes _____ 2. No _____

If yes, what part _____

Previous treatment via physical modalities (e.g. heat, ice, electrical stimulation, ultrasound, phonopharesis): 1. Yes ____

2. No _____