University of Bridgeport College of Chiropractic

D.C. Thesis - Initial Proposal and Advisor Assignment Form

This form is for the preliminary approval of a thesis proposal to be submitted to the University of Bridgeport College of Chiropractic Research/Scholarship Committee prior to substantive work on the thesis. (Use computer. Handwritten forms will not be accepted.)

Student's name:	John R Doe		e-mail address	JRD@jrd.com	
Student ID#:	0999999	Date:	1/1/1	Graduation Date Month/Year	12/20
Check Choice of Paper Type	☐ Senior Paper	☒Research Thesis			
Three preferred advisors (R/SC will Assign Advisors Research Thesis Advisor Requests will be considered)	Dr. Smith Dr. Jones Dr. Smith-Jones				
Thesis Working Title:	Quantification of objective and subjective data obtained at the University of Bridgeport College of Chiropractic Health Center				

Research/Scholarship Committee

☐Approval	Pending Committee Acceptance	
	Signature of Research/Scholarship Committee Chair	Date
☐Deferred ☐Rejected		
	Signature of Research/Scholarship Committee Chair	Date
Reason:		
Advisor:		

Student Signature: Date

I understand that binding requirements will be determined by the Research / Scholarship Committee of UBCC and I may be required to Hard Bind my Paper or Thesis at a cost to ME of $12.00 / copy

Problem Addressed by the Study: (Include the research questions for which answers are sought.)

There is a lack of published data on the outcome of treatment in chiropractic college's teaching patient care facilities. Further the reliability and validity of appropriate outcome measures have not been determined in the population of patients treated in chiropractic college's teaching patient care facilities.

The purpose of this proposal is to:
1. Develop a prospective pilot study using different tools of subjective and objective patient evaluation to better categorize pain descriptions and treatment outcomes in a chiropractic health clinic.
2. Determine the test-retest reliability of the different questionnaires used to evaluate low-back pain patients.
3. Determine the concurrent validity of the questionnaires and the objective findings of patients with low-back pain.
4. To further develop and evaluate outcome measures of chiropractic care in a University College of Chiropractic Health Center.

Significance of Study and Theoretical Rationale (cite relevant research):

With the cost of health care crises prevailing in the United States and the advent of Health Care Management to combat the cost problem it becomes imperative that the chiropractic profession find a niche within the system. One avenue of entrance for the profession into the health care system is the conservative management of low back pain. The profession needs to scientifically evaluate procedures and techniques. Until recently there were few studies that evaluated manipulation and other forms of therapy for low back pain patients. [1]

Several questionnaires have been developed that attempt to quantify patient subjective disability improvement. Triano [2] compared several of these questionnaires and found that the Modified Zung, Oswestry disability questionnaires and the Visual Analog Scale (VAS) to be useful in randomized clinical trials. Co et al. [3] showed a moderate correlation between the scores from the St. Thomas (Roland-Morris) [4] and the Oswestry disability questionnaires ($r = .77$ $p<.0001$), but a low correlation score was found when comparing the St. Thomas and Oswestry disability score with pain severity ($r = 0.38$ $p<.0001$ and 0.47, $p<.0001$). The Oswestry Disability Questionnaire was developed by Fairbank et al [5] for clinical use. It is divided into 10 sections that were experimentally found to be aspects of daily living that patients with low back pain most often displayed some form of disability. The Revised Oswestry was first developed by Breen [6] at the Anglo-European College of Chiropractic. This questionnaire was developed to be more suitable to conservative care of patients with low back pain. It removed the medication section and supplemented pain intensity for sex in section 10 of the questionnaire. Statistical analysis of its test re-test reliability has shown it to have good reliability ($r = .88$ $p<.05$). Hsieh et al. [7] used the revised Oswestry Low Back Pain Questionnaire and the Roland-Morris Activity Scale to determine patient improvement with low back pain. In this randomized controlled trial they found that chiropractic manipulation had short-term benefit ($p<.05$) when compared to stroking massage and transcutaneous muscle stimulation. They also stated that the two questionnaires were reliable and showed good internal consistency with an alpha coefficient ranging from 0.77 to 0.93. They also determined that the Roland-Morris Activity Scale would be preferable to the Revised Oswestry in a clinical trial situation for subacute low back pain because it is more sensitive to detect patient changes.

The use of pain diagrams and the Visual Analog Scale (VAS) has been used in clinical evaluations of low back pain. [8] Mooney's pain diagram asks the patient to illustrate on the pain drawing where the pain is located and, by symbols, what type of pain they are suffering from. The VAS was found to be reliable by Co et al. [3]

The validity of these different tools is questionable. There is no gold standard to compare these questionnaires to. Therefore, concurrent validity (one question compared to another) has been used to validate these different questionnaires. To this date the Roland-Morris and Revised Oswestry has shown that they are valid tools to use in the subjective evaluation of patient care.

Methods and Techniques to be used: (include experimental design) population and sample, instrumentation and/or methodology, estimated cost) (N of 1, Time Series or Research Thesis only)

In this pilot study the Roland-Morris [4] and Oswestry [9] questionnaires, Mooney's pain diagram, Visual Analog Scale will be correlated with patients pain description (not diagnosis) described by McKenzie.[10] All patients presenting to the UBCC Health Center with low-back pain will be solicited for this pilot study. All patients suffering with low-back pain and any sequela are eligible for this pilot study. The patients will be classified according to pain location, type of pain (i.e., dull, achy, sharp) and orthopedic and neurological findings (patient pain description).

Each patient will read and sign a consent form. Each patient that presents to the University of Bridgeport Chiropractic Health Center with low-back pain will be given four forms that they will complete. They are the: Oswestry disability questionnaire, the Roland-Morris disability questionnaire, the Mooney pain diagram and the Visual Analog Scale. Before the patient is taken into the examination room they will be asked to again (5 minutes later) fill out the above named forms. Each following week (during one of the patients treatment visits to the Health Center), until the patient has been discharged, the patient will complete these forms. The forms take approximately 5 minutes to complete.

This pilot study proposal is the beginning of an ongoing study to quantify clinical presentations commonly seen in the UBCC Health Center.

Data Analysis (include statistical procedures.)(N of 1, Time Series or Research Thesis only)

Statistical analysis will be performed after 10 patients have filled out the forms. Scores on each disability questionnaire, pain diagram and visual analog scale will be evaluated for test re-test reliability by Intraclass Correlation Coefficient. After one week the scores will again be tallied and statistically evaluated. Comparisons of these scores will be evaluated to determine patient's progression. Physical examination of the patient's chief complaint will occur on the first visit. Proceeding visits will consist of a re-examination of the patient's positive findings every 2 weeks. This information will be statistically evaluated (dependent t test and Intraclass Correlation Coefficient) to determine progression of the patient's condition. This information will be compared (t test and Intraclass Correlation Coefficient) to other clinical findings and the disability questionnaires. The gathering of information should take approximately 6 months.

A minimum of 25 subjects for each variable will be required to evaluate statistical significance. Alpha for this study will be set at the 0.05 level.

Preliminary Bibliography of Ten Sources (use Vancouver format):

1. Meade T, Dyer S, Browne W, Townsend J, Frank A. Low back pain of mechanical origin: randomized comparison of chiropractic and hospital outpatient treatment. Br Med J 1990;300:1431-7.
2. Triano J, McGregor M, Cramer G, Emde D. A comparison of outcome measures for use with back pain patients: Results of a feasibility study. J Manipulative Physiol Ther 1993;16;(2):67-73
3. Co Y, Eaton S, Maxwell M. The relationship between the St. Thomas and Oswestry disability scores and the severity of low back pain. J Manipulative Physiol Ther 1993;16;(1):14-8
4. Roland M, Morris R. A study of the natural history of back pain. Part 2. Development of guidelines for trials of treatment in primary care. Spine 1983;8:145-50.
5. Fairbank J, Couper J, Davies J, O'Brien J. The Oswestry low back pain disability questionnaire. Physiotherapy 1980;66:271-3.
6. Roland M, Jennifer C. Back pain new application to rehabilitation and education. New York: Manchester University Press, 1989 pp197-204.
7. Hsieh, CJ, Phillips, R, Adams, A, Pope, M. Functional outcomes of low back pain: Comparison of four treatment groups in a randomized controlled trial. J Manipulative Physiol Ther 1992;15(1):3-7.
8. Jaeschke R, Singer J, Guyatt G. A comparison of seven-point and visual analogue scales: data from a randomized trial. Cont Clin Trial 1989;11:43-51.
9. Fairbank JC, Pynsent PB. The Oswestry Disability Index. Spine 2000;25(22):2940-53.
10. McKenzie R. The lumbar spine. Mechanical diagnosis and therapy. New Zealand: Spinal Publications, 1989.

Itemized list of projected expenses (Research Thesis only)

$0