DESCRIPTIVE CORRELATIONAL STUDY BETWEEN COPING AND SELF-MANAGEMENT SKILLS, AND BIOLOGICAL FACTORS IN FILIPINO CHRONIC PAIN PATIENTS

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ABSTRACT

The management of chronic pain patients is intellectually and emotionally challenging, as the problems encountered by patients are often difficult or impossible to diagnose with certainty. Traditional medical approach of seeking an unclear organic pathology is usually unhelpful. It has been found that psychological evaluation and behaviorally based treatment are frequently helpful, particularly in the setting of a multidisciplinary pain-management center. This approach is believed to be effective, but remains largely underused in the current medical practice. Coping and self-management strategies come in different forms and can influence the perception and response to pain experiences. The significance of the study in determining the relationship between the variables was to incorporate the Filipino coping and self-management skills in the pain management program being developed. It would also support the possible strengthening of coping and self-management skills of patients as part of pain management. The study utilized a descriptive correlational research design that was administered to 129 Filipino participants with chronic pain. The outcome measures utilized the CPAQ, PSMSC, PSEQ, MPI, RMDQ, and EuroQOL. Data were analyzed using the Pearson Correlation Coefficient. There was strong indirect correlation between biological factors and coping and self-management skills. Although it is not so important to take into account the unique way the Filipinos are coping and managing their pain, the pain management program must still be implemented considering the cultural factors that could affect how they perceive and give meaning to the pain they are experiencing.

Keywords: Self-management Skills, Chronic Pain, Coping, Biological Factors, Filipino

INTRODUCTION

The International Association for the Study of Pain (IASP) defines chronic pain as “an ongoing or recurrent pain, lasting beyond the usual course of acute illness or injury for more than 3-6 months, and which adversely affects the individual’s well-being”. (American Chronic Pain Association Website, n.d.) This condition may affect patients’ occupational performance or one’s ability to fulfill occupational roles by completing the tasks that are expected of him. Coping and self-management skills are widely examined psychological influences on chronic pain and related outcomes such as functional impairment, affective distress, and pain level. (Jackson, Wang, Wang , & Fan, 2014) The Uniform Terminology of Occupational Therapy III, defines coping skills as “identifying and managing stress and related factors”. (AOTA, 1994) Self-management, on the other hand, is defined as the “ability to manage symptoms, treatment, physical, and psychosocial consequences and lifestyle changes inherent in living with a chronic condition.” (Meng, Musekamp, Seekatz, &

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et al, 2013) Coping and self-management strategies may come in different forms and be used to influence the perception and response to pain that patients experience. The management of chronic pain patients is intellectually and emotionally challenging, as the problems encountered are often difficult or impossible to diagnose with certainty. Traditional medical approach of seeking an unclear organic pathology is usually unhelpful. Although some medications can reduce the pain, there are disadvantages in using them. To date, there are no drugs shown to completely cure persisting pain. Also, medicines usually have side effects such as nausea, light-headedness, and constipation. (Ballantyne & Shin, 2008) It has been found that psychological evaluation and behaviorally based treatment are frequently helpful, particularly in the setting of a multidisciplinary pain-management center. This approach is believed to be effective, but remains largely underused in the current medical practice. (Pain: Pathophysiology and Management, 2012) The objective of this study seeks to determine the relationship of the coping and self-management skills to the biological factors of the Filipino chronic pain patients. The significance of the study in determining the relationship between the variables is to incorporate the Filipino coping skills and self-management skills in the pain management program being developed. It would also support the possible strengthening of coping and self-management skills of patients as part of management to promote better occupational performance.

METHODOLOGY

The study utilized a descriptive correlational study design to measure the relationship between two variables, which are coping and self-management skills, and biological factors of chronic pain. Quantitative data from actual pain scores of patients with chronic pain were gathered through various questionnaires such as Chronic Pain Acceptance Questionnaire (CPAQ), the Pain Self-Management Checklist (PSMC), Pain Self-Efficacy Questionnaire (PSEQ), Multidimensional Pain Inventory (MPI), Roland-Morris Disability Questionnaire (RMDQ), Pain Intensity Questionnaire (PIQ), and European Quality of Life Questionnaire (EuroQoL). The study had been approved by both the University of Santo Tomas, College of Rehabilitation Sciences - Ethics Review Committee and the University of Santo Tomas Hospital – Internal Review Board. Amendment was submitted to CRS ERC for the change of venue of data collection. A total of 129 participants were able to complete the set of questionnaires. The study initially acquired data from patients in the University of Santo Tomas Hospital. In addition to this, participants from different barangays in Metro Manila were also selected through a combination of different sampling techniques. To ensure proper representation of the overall population in Metro Manila, the study used the combination of fish bowl sampling and stratified random sampling.

Outcome measures used for coping and self-management skills were Chronic Pain Acceptance Questionnaire that looked into the level of pain and how it affects the patient's quality of life, Pain Self-Management Checklist that explores on the patient's use of unhelpful coping strategies, and Pain Self-Efficacy Questionnaire which measures the patient's level of confidence to perform various activities despite the experience of pain. For biological factors, the Pain Intensity Questionnaire was utilized to measure the highest and lowest level of pain that the patient is experiencing at the moment and over the last week. The Multidimensional Pain Inventory, on the other hand, explored several dimensions and impact of pain to the patient's lives. The Disability Questionnaire was also included to look into the level of disability of the patient brought about by the pain they are experiencing. Lastly, the European Quality of Life measured the different dimensions of quality of life that had been affected by pain, as well as, the perceived overall health status of the patient.

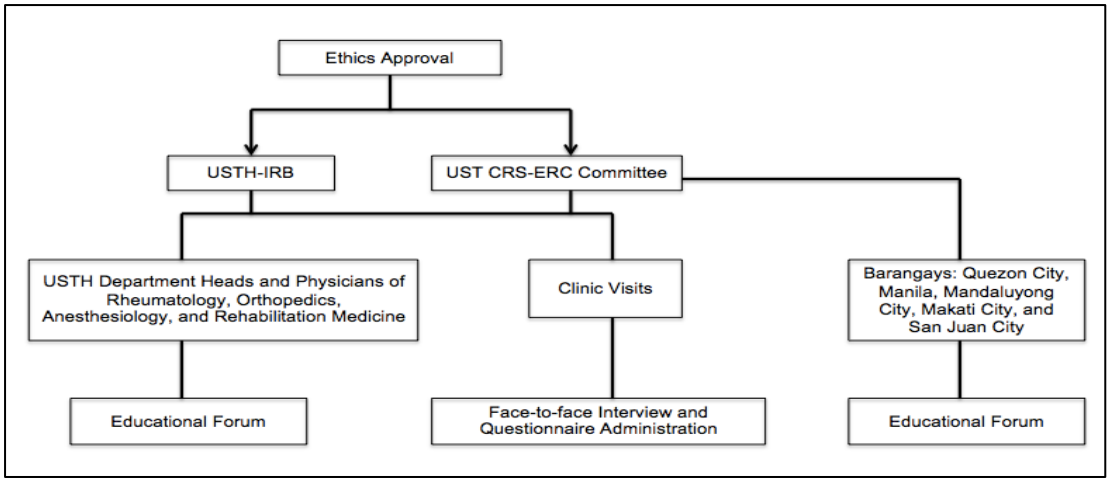

Figure 1: Data Gathering Diagram

RESULTS AND DISCUSSION

Table 1. Demographics

Age (n, %)	
• 17 – 22 years	3 (2.32)
• 22 – 40 years	20 (15.50)
• 40 – 45 years	11 (8.53)
• 45 – 60 years	50 (38.76)
• 60 – 65 years	25 (19.38)
• 65 years onwards	35 (27.13)
Sex (n, %)	
• Male	28 (21.71)
• Female	101 (78.29)
Pain Duration in months (mean + SD, range)	65.60 ± 91.47 (3-480)

Table 2. Biological Fators

MULTIDIMENSIONAL PAIN INVENTORY (mean + SD, range)		**Norms**
Pain Impact		
• Scale 1: Pain Severity	2.87 ± 1.34 (0-6)	4.257 ± 1.253
• Scale 2: Interference	2.71 ±1.11 (0-5.91)	4.079 ± 1.479
• Scale 3: Life Control	3.65 ±1.22 (0.50-6)	3.020 ± 1.349
• Scale 4: Affective Distress	2.52 ±1.04 (0.33-6)	3.419 ± 1.344
• Scale 5: Support	3.77 ±1.66 (0-6)	4.373 ± 1.603
ROLAND–MORRIS DISABILITY QUESTIONNAIRE (mean + SD, range)	8.05 ± 5.90 (0-24)	12.3 ± 5.7
PAIN INTENSITY QUESTIONNAIRE (mean + SD, range)		
• Present Pain Intensity	3.25 ± 2.63 (0-10)	4.2 ± 1.1
• Highest Pain Intensity – Past Week	5.54 ± 2.30 (0-10)	8.3 ± 1.7
• Lowest Pain Intensity – Past Week	1.95 ± 1.73 (0-10)	4.0 ± 2.5
EUROQOL GROUP (n,%)		
• With problem in mobility	64 (49.61)	
• With problem in self-care	33 (25.58)	
• With problem in usual activities	58 (44.96)	
• With problem in pain/discomfort	98 (75.97)	
• With problem in anxiety/depression	57 (44.19)	
EuroQOL Intensity (mean + SD, range)	70.86 ±18.14 (5-100)	

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Table 1 summarizes the demographics of the participants' age, sex, and pain duration. A total number of 129 participants were gathered with ages between 19 to 88 years. Majority of the total participants (38.76%) came from the 45-60 age group.

Table 2 summarizes the results of the 129 participants who answered three questionnaires in identifying the biological factors of chronic pain. The results of MPI were based from the section of Pain Impact that is divided into 5 scales: Pain Severity, Interference, Life Control, Affective Distress and Support. Scores were compared to the normative data of heterogeneous chronic pain samples. (Nicholas, Asghari, & Blyth, 2009) The results of Scale 1 (Pain Severity) obtained a mean score of 2.87, indicating that Filipinos had reported lower perceived severity of pain. Scale 2 (Interference) had obtained a mean score of 2.71, indicating that there is a lesser degree of perceived change in the activity engagement of Filipino chronic pain participants despite their experienced pain. Scale 3 (Life Control) obtained a mean of 3.65, indicating a relatively higher control of their lives despite the presence of their pain. Scale 4 (Affective Distress) obtained a mean score of 2.54, indicating that Filipinos perceive lower levels of stress when experiencing pain. Scale 5 (Support) obtained a mean score of 3.77 indicates that the reported level of support received from the special persons in the participants' lives are perceived to be lower than the norms. In the RMDQ, results acquired a mean score of 8.05. This is lower than the normative data, which signifies that the scores reported of lower levels of disability caused by their experienced pain. The results of the PQI reported of lower levels experienced pain intensity experienced during the present and past week. Comparing to the norms, Filipinos presently experience lesser pain. In a spectrum of lowest and highest experienced pain in the past week, they both also reported of lower levels than the norm. The results of the EuroQOL was based from the five dimensions (mobility, self-care, usual activities, pain/ discomfort and anxiety/ depression). Chronic pain patients reported that majority (75.97%) have problems in pain or discomfort. Their second most common problem (49.61%) is having difficulties in mobility. This is followed by problems in their usual activities (44.96%). The least reported difficulties of the participants are: problems in anxiety/depression (44.19%) and in self-care (25.58%). The present health state of the participants was reported with lowest score of 30 to the best imaginable health state of 100, and a mean score of 70.86. These results shows that the majority of Filipinos experienced and perceived of "some problems" in the presence of their pain, with relatively higher levels of their perceived overall health.

Table 3. Filipino Self-Management and Coping Skills

Chronic Pain Acceptance Questionnaire	(mean + SD, range)	Norms
• Activities Engagement	39.20 ± 11.01 (5-59)	36.43 ± 13.39 (0-64)
• Pain Willingness	37.71 ± 10.43 (1-60)	15.87 ± 11.07 (0-44)
• Total Score	76.91 ± 19.04 (6-117)	52.61 ± 21.74 (0-108)
Pain Self-Management Checklist – Self Rated	32.84 ± 13.27 (0-62)	34.35 ± 10.25 (0-72)
Pain Self-Efficacy Questionnaire	41.16 ± 14.22 (0-60)	25.5 ± 13.6 (0-60)

Table 3 shows the results of three questionnaires in identifying the coping and self-management skills of the Filipino chronic pain respondents The results of the CPAQ is analyzed based on Activity Engagement, Pain Willingness and their total scores reflecting Pain Acceptance; and were compared to the normative data (Nicholas, Asghari, & Blyth, 2009). In the activities engagement subscale, the mean score obtained is 39.20 which reported that Filipino chronic pain participants would still perform and engage in their day-to-day activities despite experiencing pain. In the pain willingness subscale, the mean score obtained

is 37.71, showing that Filipinos aslo prioritize in addressing their pain prior to engaging in their life activities. In the total score of Pain Acceptance, the mean score is 76.91 indicating that Filipinos have a higher reported acceptance of their pain. The results of the PSMC-SR1 obtained a mean score of 32.84 which is lower than the norm. The results indicate that Filipinos from Metro Manila generally use helpful strategies in coping with pain. The results of the PSEQ acquired a mean score of 41.16, which is higher than the norm. This shows that Filipinos have a high confidence in performing activities while in pain; such activities include household chores, social interaction, work, and coping with medications. The attained mean of 41.16 among Filipino also has a closely similar result to a Chinese study on the PSEQ which reported a mean of 40.1, (Vong, Cheing, & Chan, 2009) as compared a non-Asian data with a mean of 25.5.

Table 4. Association of Biological Factors with Self-Management

	Activity Engagement (CPAQ)	Pain Willingness (CPAQ)	Pain Acceptance (CPAQ)	Use of Unhelpful Strategies (PSMC-SR1)	Self-Efficacy (PSEQ)
Pain Impact	Correlation Coefficient (P value)	Correlation Coefficient (P value)	Correlation Coefficient (P value)	Correlation Coefficient (P value)	Correlation Coefficient (P value)
• Scale 1: Pain Severity	-0.03 (0.78)	0.17 (0.05)	0.08 (0.36)	0.55 (<0.01*)	-0.32 (<0.01*)
• Scale 2: Interference	-0.23 (0.01*)	0.07 (0.46)	-0.10 (0.27)	0.46 (<0.01*)	-0.33 (<0.01*)
• Scale 3: Life Control	0.18 (0.04*)	0.01* (0.91)	0.11 (0.23)	0.16 (0.04*)	0.17 (0.16)
• Scale 4: Affective Distress	-0.04 (0.67)	0.02 (0.83)	-0.01 (0.90)	0.13 (0.14)	-0.30 (<0.01*)
• Scale 5: Support	0.11 (0.24)	0.12 (0.17)	0.13 (0.14)	0.10 (0.24)	0.05 (0.61)
Level of Disability (RMDQ)	-0.04 (0.67)	-0.06 (0.48)	-0.06 (0.52)	0.01 (0.88)	-0.13 (0.14)
Pain intensity Questionnaire Scores					
Present Pain Intensity	-0.17 (0.06)	-0.08 (0.42)	-0.14 (0.12)	0.04 (0.67)	-0.27 (<0.01*)
Highest Pain Intensity (past week)	-0.20 (0.02*)	-0.14 (0.11)	-0.19 (0.03*)	0.02 (0.87)	-0.19 (0.03*)
Lowest Pain Intensity (past week)	-0.14 (0.11)	-0.14 (0.75)	-0.16 (0.08)	0.03 (0.77)	-0.18 (0.04*)
EuroQOL (n,%)					
• With problem in mobility	-0.01 (0.87)	0.03 (0.75)	0.01 (0.93)	0.02 (0.84)	-0.18 (0.04*)
• With problem in self-care	-0.13 (0.14)	-0.18 (0.03*)	-0.18 (0.04*)	0.03 (0.70)	-0.16 (0.07)
• With problem in usual activities	-0.02 (0.84)	0.002 (0.99)	-0.01 (0.91)	0.17 (0.06)	-0.18 (0.04*)
• With problem in pain/discomfort	-0.005 (0.96)	0.03 (0.76)	0.01 (0.89)	-0.01 (0.94)	-0.08 (0.39)
• With problem in anxiety/depression	0.09 (0.32)	-0.07 (0.45)	0.01 (0.87)	-0.13 (0.13)	0.13 (0.15)
Perceived Health State (EuroQol)	0.18 (0.04*)	0.04 (0.67)	0.12 (0.16)	-0.05 (0.58)	0.06 (0.51)

Table 4 shows the correlation of the two variables. Generally, when the patient experiences pain, they do not prioritize to seek medical consult immediately. Instead, they continue their engagement to their usual activities despite the pain. This is due to the fact that most of the Filipinos affected by chronic pain are within the working age group. So they need to focus more on earning for their families. However, when the individual experiences their highest pain intensity they have the tendency to slow down and stop engaging to their activities since it is hard to ignore the pain if it is beyond the normal level of intensity. Adults with rheumatoid arthritis take 46 days off per year compared to the average population with reported 8.5 days off per year. 23% of the total number of participants reportedly stopped from work 3 years after the diagnosis of RA. This number increases to 35% after 10 years and further increases to more than half after more than 25 years. It was also reported that once they are out of work, most individuals with rheumatoid arthritis no longer return to work. (Wilkie, 2012) Based on the result of the study, the average pain duration of Filipino patients is approximately 5 years and it means lesser productivity which is consistent with the literature. This finding reflects the decline in activity engagement of chronic pain patients who reach their highest pain intensity.

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Filipino patients tend to cope with illness using some strategies which are not always effective. Because medical treatments and over the counter medicine are costly, they usually prefer traditional ways such as going to faith healers or folk healers, and doing home remedies. (de Torres, 2002) (Yang-ed, Samaniego, & Minger, 2009) When they resort to these traditional treatments, they are able to comprehend and have a perceived sense of control over their condition. However, the time that may have been used for early intervention is lost. (de Torres, 2002) Often, it is too late when they realize that the strategies that they utilize are unhelpful. Over a long period of time, they usually report with greater pain severity, which in turn lead to feeling that the pain is interfering with their daily activities including work. Reduced work participation affects the quality of life of patients and their families. Thus, there are major financial consequences not only to the individual, but to the society as well. (Wilkie, 2012)

Self-efficacy measures the level of confidence the patient has to continue with various activities, it is consistent with the findings that Filipino patients usually rely their level of confidence in performing activities based on the intensity level of their pain. When the pain is severe and it is at its highest, Filipino patients will usually lose their confidence in their ability to function. They also lose their level of confidence most especially when they observe many problems with their mobility and if they can also note several problems with their usual daily routine. This also reflects the results of the most affected activities with mobility, home management, functional mobility activities as the second, first, and third most affected, respectively. When they lose their level of confidence this is in turn will result to the feeling that the pain is interfering with their lives, leading to increased levels of stress. These results are consistent based from a meta-analysis study by Jackson, et al., that discusses patients who report higher self-efficacy levels, they experience less functional impairments, affective distress and pain severity. (Jackson, Wang, Wang , & Fan, 2014)

CONCLUSION

There was a significant correlation between the biological factors of chronic pain and the coping and self-management skills. Based on the findings, it is recommended that the pain management program should strengthen its educational component which usually teaches the difference of acute and chronic pain, the physiology of pain and the treatment types of pain medications. In addition, a topic on the proper utilization of alternative treatment is recommended where the use of such are guided by healthcare professionals to become helpful strategies, since this is inherent in the Filipino culture. Another component to strengthen is the topic on pacing as the Filipino have tendencies to function beyond their limit despite their pain.

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