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# THE RELATIONSHIP BETWEEN PERCEIVED FAMILY SUPPORT, PAIN COMPREHENSION, CATASTROPHIZING AND PAIN INTENSITY AMONG CHRONIC PAIN PATIENTS IN SELAYANG HOSPITAL


**BY**

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**INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA**


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# ABSTRACT

The present research examined the relationship between perception, (i.e. perceived family support) components of cognition, (i.e. comprehension and catastrophizing) and pain intensity experienced by chronic pain patients. It was hypothesized that (a) the more support perceived the lesser pain and (b) the better comprehension on pain the lesser pain. Catastrophizing was hypothesized to moderate the relationship between perceived family support, pain comprehension and pain intensity. The study utilized the correlational design. The sample consisted of sixty chronic pain outpatients from Selayang Hospital, with a variety of pain condition i.e. low back pain, neck pain, and shoulder pain. Ten of these sixty patients were selected to undergo a one-to-one interview session, in order to provide qualitative information. Instruments used in this research were Medical Outcomes Study-Social Support Survey (MOS-SS); Patient Pain Questionnaire (P.P.Q.); Pain Catastrophizing Scale (PCS); and Short Form McGill Pain Questionnaire (SF-MPQ). The results of the study indicated that perceived family support was not related to pain intensity. However, pain comprehension was positively related to the experience of pain. Catastrophizing neither increased nor decreased the relationship between perceived family support, pain comprehension and pain intensity. Qualitative analysis revealed that perceived family support, pain comprehension and catastrophizing influenced patients' illness belief and pain perception. The findings of this study have some implications in the approach used in pain clinics as well as the design of pain management intervention programs in Malaysia.

**ملخص البحث**

يدرس هذا البحث العلاقة بين الإحساس (أي الإحساس بالدعم العائلي) و بين مكوّنات الإدراك (أي فهم المرض والمبالغة في خطورته) وبين شدة الألم الذي يعاني منه مرضى الألم المزمن. افترضت الدراسة أولاً: أنه كلما زاد إحساس المريض بالدعم العائلي كلما نقص الألم. ثانياً: كلما كان هناك فهم صحيح للألم كلما نقص الألم. وقد المبالغة في اتخذت هذه الدراسة المرض كافتراض لمعرفة العلاقة بين الإحساس بالدعم العائلي، وبين فهم المرض وشدة الألم. استخدمت الدراسة منهج المقارنة في مكونة وهي دراسة عينة من ستين مريض بألام مزمنة خارجية في مستشفى سيلايانغ، حالات ألم متنوعة مثل ألم أسفل الظهر، وألم الرقبة، وألم الكتف. تم اختيار عشرة من ضمن هؤلاء المرضى لاجراء المقابلة الفردية، وذلك للحصول على معلومات ذات معيار نوعي. وقد استُخدمت في هذه الدراسة الأدوات البحثية التالية: مسح الدراسة الاجتماعية لدعم النتائج الطبية(MOS-SS)، واستبانة ألم المرضى (P.P.Q.)، وميزان خطرالمرض (PCS)، وملخص استمارة المبالغة في استبيان ماكجيل للألم(SF-MPQ). كشفت نتائج الدراسة عن عدم وجود أي علاقة بين الإحساس بالدعم العائلي، وبين شدة الألم، غير أنه ظهرت علاقة إيجابية بين فهم الألم وبين تجربة الألم. أما خطرالمرض فلم يكن لها أي أثر في زيادة أو نقصان المبالغة في العلاقة بين الإحساس بالدعم العائلي، و فهم المرض، وشدة الألم. وكما دل التحليل النوعي على أن الإحساس بالدعم العائلي، وفهم المرض، وخطرالمرض يؤثر والمبالغة في المريض من ناحية الاعتقاد المرَضي وإدراك الألم. إن نتائج هذا البحث لها آثار إيجابية في تحسين المنهج المستخدَم للتعامل مع المستوصفات، وكذلك تصميم برامج إدراة تخفيف الألم في ماليزيا.

# APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Human Sciences in Psychology.

Hariyati Shahrima Abdul Majid
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Human Sciences in Psychology.

Rahmatullah Khan bin Abdul Wahab Khan
Examiner

This dissertation was submitted to the Department of Psychology and is accepted as a partial fulfilment of the requirements for the degree of Master of Human Sciences in Psychology.

Noraini Mohd. Noor
Head, Department of Psychology

This dissertation was submitted to Kulliyyah of Islamic Revealed Knowledge and Human Sciences and is accepted as a partial fulfilment of the requirements for the degree of Master of Human Sciences in Psychology.

Hazizan Md Noon
Dean, Kulliyyah of Islamic Revealed Knowledge and Human Sciences

# DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other Institutions.

Nur Aini A. Suñer

Signature:…… Date:…….....

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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**THE RELATIONSHIP BETWEEN PERCIEVED FAMILY SUPPORT, PAIN COMPREHENSION, CATASTROPHIZING AND PAIN INTENSITY AMONG CHRONIC PAIN PATIENTS IN SELAYANG HOSPITAL.**



Affirmed by Nur Aini A. Suñer

…….  ……

Signature  Date

To my parents, siblings,

and dearest husband,

for all your love and prayers,

To all my lecturers in the Department of Psychology IIUM,

for sharing the knowledge,

To all my friends,

for the undying support generously given,

Thank you.

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# INTRODUCTION

## 1.1 INTRODUCTION

Pain is a common experience for almost every individual. It usually happens in a short period of time due to various reasons. However, there are some people living in pain that persists, and stays for a long period of time with little or no relief. Living in pain is an unpleasant fact in life. Pain is something complex, intangible and it is a personal experience that involves sensory, emotional and social aspects. Basically, the “pain nerves” carries the pain signal to the brain through the spinal cord that could create sensations ranging from uneasiness to extreme distress or even torture (Loeser, 1991).

According to Nicholas et. al., (2001), pain is a sensation that hurts, which is mainly caused by damage to nerves or tissue. It can be characterized or described in many different ways, such as throbbing, burning, aching, or stabbing. The International Association for the Study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience associated with the actual or potential tissue damage or described in terms of such damage” (Merskey & Bogduk, 1994). In other words, pain includes both sensory and emotional components; which may be present with or without tissue damage. Loeser (1991) further explained that one’s perception of pain depends on the individual's prior expectations, beliefs, and on his/her cognitive and emotional state.

For instance, the nervous system may react to the pain through autonomic changes such as blood pressure. It is believed that the more a person feels pain; it is more likely that his/her blood pressure would increase. Besides autonomic changes, a

person in pain could also engage oneself either to adaptive or maladaptive behavioural responses. He or she could develop healthy ways such as maintaining daily activities and exercise or unhealthy ways like avoiding doing any activities, increasing bed rest and abusing medication; in order to deal with the experienced pain.

Basically, there are two types of pain, namely acute pain (short lived) and chronic pain (persistent or intractable). Acute pain is severe and lasts for a relatively short time. Grzesiak and Ciccone (1994) describes acute pain as "nociceptively" driven pain; it is pain for which there is a readily available biological explanation. Acute pain signal is useful and works as an adaptive warning to the individual who is in danger or in need to escape. Acute pain is direct outcome of noxious event and is reasonably classified as a symptom of underlying tissue damage or disease. This type of pain does not last very long as the pain disappears when the underlying cause has been treated, healed or removed. The intensity is usually greatest at the time of onset (Portenoy & Kanner, 1996). For example, when you touch a hot burner on the stove, a cut, broken arm, or post surgical pain).

Acute pain is a major problem after surgery and trauma. Even though major advances have improved in terms of treating acute pain, still almost 50% of the patients have severe intolerable pain even after repeated surgery (Perkins and Kehlet, 2000). In Quebec's Anesthesiology Department, a group of researchers recruited five hundred and forty four patients from eleven hospitals who have undergone different kinds of surgeries; such as knee replacement, knee arthroscopy, hip replacement, abdominal hysterectomy, laparoscopic cholecystectomy, and inguinal hernia repair. The findings of the study revealed that 19% of the patients experienced pain three months after surgery (Loeser, 1991).

A similar research has been conducted in Intensive Care Medicine and Pain Therapy Clinic, Germany. It was reported that out of one thousand seven hundred forty seven patients that have admitted to pain clinic; two hundred and ninety nine patients experienced persistent pain for several months after their surgery; i.e. phantom limb. The study concluded that surgery in fact could trigger the development of acute pain to chronic pain (Loeser, 1991).

If acute pain persist or recur for the following month, it will develop and transform into another type of pain, which is known as chronic pain. Chronic pain usually continues after the healing process is complete i.e. three months and above. The pain can be experienced in one or more areas of the body; as a result of physical injury, illness, disability or surgery (Deardorff, 2004).

Chronic pain does not only interfere with one's daily activities, but also can cause disability, sleep disturbances, anxiety, and even depression (Nicholas, et. al 2000). This type of pain also persists in spite of medical attention or treatment (operations, painkillers, physiotherapy, and traditional therapies). In this case, the cause of the pain is not always known or precisely located. In other words, pain messages were sent to the brain when there is no actual illness or injury at all. When the brain interprets the pain messages, the body could not respond by removing the source of pain. As a result, both the body and the brain could not control the pain effectively, thus leading to frustration, helplessness, depression, and continuous pain (Deardorff, 2004).

Pain, particularly chronic pain is major threat to the quality of life worldwide. This issue was the main focus of "The Global Day against Pain" that was held on October 11$^{th}$ 2004. The World Health Organization (WHO) emphasized on the fact that health is not simply the absence of disease, but rather a state of wellness. Since

the control of pain has been a relatively neglected area of governmental concern in the past, IASP, EFIC and WHO had joined hands to raise global awareness to a fundamental truth-"the relief of pain should be a human right" (Loeser, 1991). These organizations stresses that despite the fact that few people die in pain, there are more people who live in pain.

In the field of Pain Medicine, chronic pain is known as an epidemic disease. According to Gureje, et. al (1998), chronic pain is listed as one of the leading public health problems and major source of personal and family suffering across different cultures and geographical boundaries, and has been categorized as one of the most frequently encountered complaints in hospitals, pain clinics and nursing homes. It is also one of the factors that contribute to human suffering and an economical burden to society (Loeser, 1991).

WHO (World Health Organization), has revealed that the prevalence of chronic pain is approximately 22% among 26,000 primary care patients across 15 countries, and about 10 percent of the world population develops chronic pain condition per year (Gureje, et. al 1998). In developed countries, chronic pain afflicts about 20% of the adult population, particularly women and the elderly. Approximately, 1-2% of the adult population suffered from cancer, 30-40% had musculoskeletal and joint disorders, 30% neck and back pain, while 10% experienced headache and migraine (Loeser, 1991).

In US alone, pain management has been documented as one of the top 20 chronic medical problem (Adams & Corrigan, 2003). Surveys in Michigan and Canada using pain scales showed that 20% of adults experienced recurrent chronic pain, 21% were seen in the emergency room and 10% contemplated suicide. In Europe, 19% of the adult population had moderate to severe pain, and had been in

agony for 20 years. Whereas in Spain, pain was rated at 78.6%, 84% had pain over than six months, 24.6% had difficulties in handling daily and social activities, and 10% suffered from severe disability. Common pain complaint sites included back (50.9%) head (40.2%) and legs (36.8%) (Loeser, 1991).

Children also suffer from chronic pain. Several recent community-based surveys also found that nearly 50% of adults sampled suffered from one or more types of pain such as osteo-and rheumatoid arthritis, diabetic neuropathy and spinal problems (Loeser, 1991). In substantial proportion of those surveyed, the pain was both chronic and severe. It was found out that pain prevalence increases with age, and is higher in females and in those with physically strenuous work or less education (Loeser, 1991).

Chronic pain imposes severe burdens on many levels which include: immobility and consequent wasting muscle joints, increased susceptibility to disease, disturbed sleep, poor appetite and nutrition, over-dependence on medication, and caregivers, poor performance on the job or inability to work, frustration, depression, and even suicide. In other words, chronic pain patients may experience an impaired quality of life.

Schlenk, et. al. (1998) emphasized that no matter what pain, whether it is acute, cancer-related, or chronic pain, “pain” does impair health and the quality of life for both of the sufferer, and the sufferers’ family. This statement has been supported by the study conducted by the Pain-European and Department of Epidemiology and Social Medicine in Denmark. According to the findings of the study, 25% chronic pain patients reported strained family and friends relationship, 67% were unable to exercise, enjoy normal sleep, perform household chores, attend social activities, drive a car, walk or have sexual relations, 20% had depression due to pain, 17% had suicidal

ideation, 67% were unable to work, and 39% felt that their pain is unmanageable (Loeser, 1991).

Besides impairing patients' quality of life, chronic pain also has negative consequences for general health, (Becker, Bondegaard and Olsen, 1997) social and psychological well being, (Gureje, et. 1998) as well as the society's economic well being (Gureje, et. al 1998). In supporting this statement, Loeser (1991), mentioned that chronic pain treatment costs roughly as much as cancer or cardiovascular treatment. Low back pain alone is a major economic burden in developed countries in which most of the expenses are projected in health care and medication, job absenteeism, impaired job performance of the sufferer and disrupted performance of co-workers and financial burden on family, friends and employers (Elliot, et. al 1999).

IASP (International Association for the Study of Pain) stated that though there are major improvements in the management of chronic pain, yet there are still 50% of patients who suffer excruciating pain. Despite the development of new analgesics and various therapies/interventions with its documentation of success, medical treatment/physical interventions are still insufficient to treat chronic pain. In realizing the fact that consuming medicine is not the only means in dealing with chronic pain, most of the multidisciplinary pain clinics made an attempt to consider the psychological as well as the psychosocial aspects in dealing with pain (Holdcroft and Power, 2003). Until the latter half of the 20th century when the first psychological theory of pain gained acceptance, and basically, there were no mainstream psychological treatments for chronic pain.

The prevalence of chronic pain in numerous countries has shown the widespread burden of chronic pain on the nation, and this does not exclude Asian and South East Asian countries; such as Hong Kong, China, India, Australia and

Singapore. One type of chronic pain that has increased dramatically in Hong Kong and Singapore is “osteoporosis”. “Osteoporosis” which is also known as the "silent crippler" has been growing rapidly as the population increases. The findings of a survey on hip fracture incidence have shown that the prevalence has doubled since the late 1950’s, and continues to increase till the mid-80s. The disease has affected 200 million women over the world, and at least 33% of the women population over the age of fifty may suffer from an osteoporosis fracture in their lifetime (Prohighway, 2000).

Besides osteoporosis, “cancer” has emerged as the number one leading cause of death in China. Cancer has taken up to 42.8 % of death rates in both urban and rural areas. New cancer cases are estimated to be 2.8 million and cancer deaths up to 1.7 million per year. Moreover, findings from a nationwide survey showed that 85% of these cancer patients experienced moderate to severe pain. Being aware of this situation, a national workshop on cancer pain relief was held in Beijing, promoting cancer pain relief methods and palliative programmes. However, despite of these efforts; health care providers are still bothered whether it is sufficient to bear the country’s rapid development in its population (Kin, 2005).

India on the other hand, faces a different threat. In the country itself, ten million people are suffering from “rheumatoid arthritis”. This phenomenon worsens when local traditional healers start to give out alternative herbal cure to the patients without knowing the consequences; thus leading to more deaths (Bjerklie, 2003).

Other than the countries mentioned above, the epidemiology of pain prevalence has also been extensively studied in Australia. Strauss, Guthrie and Nicolosi (1986) investigated the pain prevalence through a telephone survey in a randomly selected sample of 265 households in the Central Brisbane. The study revealed that the majority of respondents reported suffering from back pain from the

period of three years or more. The estimated pain prevalence rate for households was 355 per 1000 head of population, and the individual pain prevalence rate was 191 per 1000 head of population. It is mentioned that the cause of pain for the majority of respondents was unknown.

In Sydney, a rather similar study was conducted. Biyth, March, Jorm, Williamson, and Cousins (1998) investigated the prevalence of chronic pain among the adult population of the state of New South Wales (NSW), and described variations in prevalence according to age, sex and area of residence. There were 17,541 chronic pain respondents. The study revealed that more than 60% of males and females suffering from a variety of chronic pain condition reported having pain-related interference with daily activities. Rates of chronic pain varied among areas of residence (10.7%-23.7% for males; 17.7%-23.2% for females) and was highest among 65-69 year of age for males and 80 years and above for females. This research was considered as one of the few researches which described geographical variations in pain prevalence.

On the other hand, Malaysia is still at its early stages in recognizing chronic pain as a major health threat. In Malaysia, the first Chronic Pain Relief Clinic was set up in February 1988 at the University Teaching Hospital, Department of Anaesthesiology, Kuala Lumpur (Delilkan, 2002). Delilkan (2002) mentioned that it took almost twenty years to convince the government, health practitioners and the nation that pain management clinic is an important, crucial step towards battling chronic pain. Constructing the clinic could prevent a misdiagnosis, and unwanted side effects of the traditional remedies which are mostly home made and invented. It could also aid chronic pain patients in regaining control of their lives through education and

training which incorporates the three important aspects; i.e. physical, emotional and social skills.

Later, in the year 2000, Selayang Hospital emerged as the first pain clinic in South East Asia, using cognitive behaviour therapy-based pain management programmes for patients who are distressed and disabled by chronic pain. According to the statistics, chronic pain sufferers in Malaysia continue to increase every year. From the year 2003 to 2005, approximately 1008 chronic pain patients have been referred to the Selayang Hospital Pain Clinic. According to Selayang Hospital's consultant anesthesiologist Dr Mary Cardosa, "It is estimated that up to 20% of the population are living with chronic pain, and out of 20 million patients, there are 4 million people who are suffering from chronic pain" (The Sun, 2004).

Looking at the statements above, these previous surveys have consistently shown a high prevalence of chronic pain in different countries, which undeniably a crucial issue to be addressed worldwide.

## 1.2 SIGNIFICANCE OF THE STUDY

In this section, the researcher will attempt to discuss the major reasons which triggered and contributed to the significance of the study.

With increasing recognition that in treating chronic pain, a multidisciplinary approach that includes psychological factors is an essential step as it could be one of the most effective methods in treating people with pain. Morley (1986) pointed out the importance of diagnosing psychological factors in an early stage, as it can give a better insight into general use of the combination of quality of life and psychological measuring instruments during the screening period.

The information above suggest that taking psychological factors such as cognition and perception into consideration in aiding health professionals and patients in managing their pain. Other than that, it also plays an important role in precipitating/exacerbating one's pain. In supporting the statement above, Hasenbring, Hallner, and Klasen (2001) analyzed 37 prospective studies regarding the role of psychological, biomedical, social and objective occupational factors in the process of chronicity of back pain. The findings of this study provided strong evidences that psychological variables especially pain-related cognitions such as catastrophizing and fear-avoidance-beliefs are the most highly associated aspect of cognition that affects the patient's management of pain, and were clearly linked to the transition from acute to chronic pain and disability.

With the increasing evidence of the role of cognition and perception in pain management and its impact on the experienced pain; the researcher will attempt to explore and investigate the possible relationship between perceived family support, pain comprehension, catastrophizing and pain intensity among chronic pain patients. Since little is known on the relationship between these variables, the current study will be done on an exploratory basis. Below are the major underlying principles for the current study:

First, previous studies that have examined the relationship between perceived support and health agreed that positive perception may have a direct effect to the patient's well being. Lechnyr (2001) investigated the relationship between patient's perception and recovery; and found that perception is a vital need to improve the patient's health. It is believed that the dynamics of the relationship between the patients and the social networks, specifically family was an important part in the patient's life.