FACTORS RELATED TO THE FUNCTIONAL STATUS AMONG PATIENTS WITH RHEUMATOID ARTHRITIS

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ABSTRACT

The number of people with Rheumatoid Arthritis (RA) disease in Vietnam has been increasing in the past decade. The treatment of RA aims at improving the patients' functional status including daily life activities, resuming previous work and social activities. The aim of this descriptive correlational research was to study the relationship among self-efficacy, pain level, depression, social support, and functional status among patients with RA. Self- efficacy theory was utilized as a framework for this study.Sample of this study included 126 patients with RA admitted to the Rheumatology department, of Bach Mai hospital, Hanoi, Vietnam. Data collection were conducted by using 6 instruments including the demographic data questionnaire, Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID), Arthritis self-efficacy Scale (ASES), Pain Numeric Scale (PNS), Health Questionnaire Depression Scale 9 Items (PHQ-9) and Multidimensional Scale of Perceived Social Support (MSPSS). Spearman's rho was employed to examine the relationship among all variables. The results revealed that majority of the patients (88.9%) were female with average age of 55.62 years (SD±10.29 years). Almost all of them experienced disability or poor functional status while minimal disability accounted for 13.49 %), mild disability was 50.79%, moderate disability was 27.78% and severe disability was 7.94 %. The mean of HAQ8-ID was 1.3± 0.80. The correlation coefficient for functional status was negatively correlated with self-efficacy and social support ($r = -0.349$, $p=.01$; $r = -0.215$, $p=.01$ respectively). The pain level and depression was fairly positively correlated with functional status ($r = 0.561$, $p=.01$; $r=0.679$, $p=.01$ respectively). From the findings of this study, it is recommended that nurses should assess functional status in patients with RA during their hospital stay and before discharge using HAQ 8-ID. In order to improve their functional recovery, nurses should enhance patients' self-efficacy by providing information support and resource allocation. Pain control protocol should be developed and used. Patients with depression should be identified early and properly managed. Further multi sites research should be conducted to reveal the comprehensive picture of patients with RA in Vietnam.

KEY WORDS: RHEUMATOID ARTHRITIS/FUNCTIONAL STATUS/SELF EFFICACY / PAIN/SOCIAL SUPPORT

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LIST OF ABBREVIATION

RA	Rheumatoid Arthrtis
ACR	American College Rheumatology
DMARDs	disease-modifying antirheumatic drugs
WHO	World Health Organization
IASP	International Association for the Study of Pain
VAS	Visual Analogue Scale
PVN	Pain Visual Numeric
HAQ8-ID	Health Assessment Questionnaire 8-Item Disability Scale
ASES	Arthritis Self-Efficacy Scale
PHQ-9	Personal Health Questionnaire Depression Scale- 9 items
MSPSS	The Multidimensional Scale of Perceived Social Support
BMI	Body Mass Index

CHAPTER I
INTRODUCTION

1.1 Background and significance of the study

Rheumatoid Arthritis (RA) is a chronic autoimmune systemic disease that affects the joints, connective tissues, muscle, tendons, and fibrous tissue. Its symptom symmetrical persistent such as tender swelling, pain, morning stiff, limitation motion of joints and other symptoms including fatigue, weakness, loss of weight and fever. It is a chronic disabling condition that is the reason for pain and deformity joints (Creemers, 2004; Sacks et al., 2010). The target of treatment RA includes reduction joint pain and swelling. Preventing damage and deformation joint which helps the functional status of RA is preserved (Amy, 2001). The American College Rheumatology (ACR) guide RA treatment which was identified to treat RA early by disease-modifying anti-rheumatic drugs (DMARDs), Biologics, Tofacitinib, Glucocorticoids (ACR, 2015). Nurses may use the knowledge to consult and support RA patients improve the quality of life, reduce pain and protect functional (Vickie, 2007). The global prevalence was 1% rheumatoid arthritis (Chopra & Abdel–Nasser, 2008) was ranked 42nd highest in global disability (Cross et al., 2010). The RA prevalence rates were 0.40% for Southeast Asian, 0.37% for Eastern Mediterranean, 0.62% for European, 1.25% for American and 0.42% for Western Pacific regions (Igor Rudan at al., 2015). Rheumatic Disease is very common in Vietnam, which estimated at 47.6% of the population aged 60 years or older. At Bach Mai Hospital, the biggest national hospital in Northern Vietnam, rheumatic patients accounted for 4.5% of all patients admitted to hospital in the period from 1979 to 1988 (Tran & Nguyen, 1996). RA has not identified the causes nowadays, what possibly an infection age autoimmune response or gene products. But it is believed to result from an infection, an effect of environment or lifestyle factors. The fist, RA pathology happens while the immune response changes in synovial tissue. The lymphocytes (T, B cell, macrophages) are activated by unknown antigen trigger. B cells products RF

antibodies against immunoglobulin G (IgG) that form the immune complex. These cells into synovial and produce an extensive array inflammatory, metalloproteinase, other mediators (Lee & Jacquelyn, 2010). Environmental factors could contribute to RA including infection, smoking, pollution, and diet. Especial, Smoking is the main environmental factors relate to RA (Tobon, 2009). Rheumatoid arthritis impact on capacity to work defined as a total cessation of employment, in between 51% and 59% of all patients. A large number of the patients with rheumatoid arthritis have struggle on working less than five years when they have disease diagnosis (WHO, 2003). The adults incidence mortality rates of rheumatoid arthritis was 2.7 % people per years in the global (Dadoun et al., 2013). Rheumatoid arthritis effects on morbidity, quality of life, rate mortality and medical costs (Scott et al., 2010).

Functional status of RA patient is related to outcomes including mortality (Michaud, 2003; Farragher, 2007), loss of work capacity (Croon, 2004; Allaire, 2009). The study identified factors related to the functional status which is important for RA patient from attaining disability (Katz et al., 2006). The functional status of RA patients is affected by the pain, emotion, social support (Hale, Hekim, Baloglu, Ayhan & Mahmut, 2015). According to the literature review of Primdahl et al. (2011) , there are many studies containing reported associations between self- efficacy and function status highly among RA patient (Primdahl et al., 2011). The World Health Organize (2002) states that pain level influences to the functional status of RA patient and it leads disability functional of Rheumatoid arthritis patients (WHO, 2012). The study of Benka (2014) found that depression was related to function status of RA patients (Benka et al., 2014). The evidence of Peeters and colleges (2014) showed that significantly relation between social supports with physical activity of status (Peeters, Brown & Burton,2014). In Vietnam, the research about this topic is not popular whereas the topic related to functional status among patients with RA are caught a great deal of interest from the researchers.

1.2 Research questions

What are factors relate to functional status among patients with Rheumatoid Arthritis?

1.3 Purpose of the study

To study factors related to functional status among patients with RA

1.4 Hypothesis

1.4.1. Pain level is negative related to functional status with among RA patients during hospital stays.

1.4.2. Self-efficacy is positive related to functional status among RA patients during hospital stays

1.4.3 Depression is negative related to functional status among RA patients during hospital stays

1.4.4 Social support is positive related to functional status with among RA patients during hospital stays

1.5 Conceptual framework

Behavior change is a critical element for all specialties nurses. The self-efficacy theory is necessary for the nursing profession because it provides a framework for general hypothesis and direction behavioral change in experimental intervention research (Sandra & Timothy, 2013). Bandura (1986) identified self-efficacy as one of the sufficient self-confidence in one's ability to succeed in specific situations. The central concepts of theory include self-efficacy, self-efficacy expectation and outcomes expectation. Self- efficacy is defined as an individual’s being easy to fudge of his/her capability to organize and execute the course of action. The Self-efficacy expectation is a judgment about personal ability to accomplish a given task (Brandura, 1986). This theory is used to intervention for improving adherence behavior as well as promoting bone health system and functional status in adults (Aree-Ue et al., 2010; Resnich et al., 2009). According to self-efficacy theory, a person who suffers from Rheumatoid Arthritis needs to define judgment on his/her capability to perform desired behaviors to control the advancement of the disease (Taal et al., 1993). The self- efficacy has a direct effect and significant influence on

the functional status of RA (Brekke, Mette, Per& Tore, 2003). Also, pain and depression which occur in this group of the patient will have negative effects on functional status (Anderson, 1992; Ahlstrand, 2012). The social support also effects on functional status in Rheumatoid arthritis group (Peeters, Brown, & Burton, 2014).

The relationship among independent variable and dependent variable is illustrated in the following conceptual framework and they are presented in figure 1.

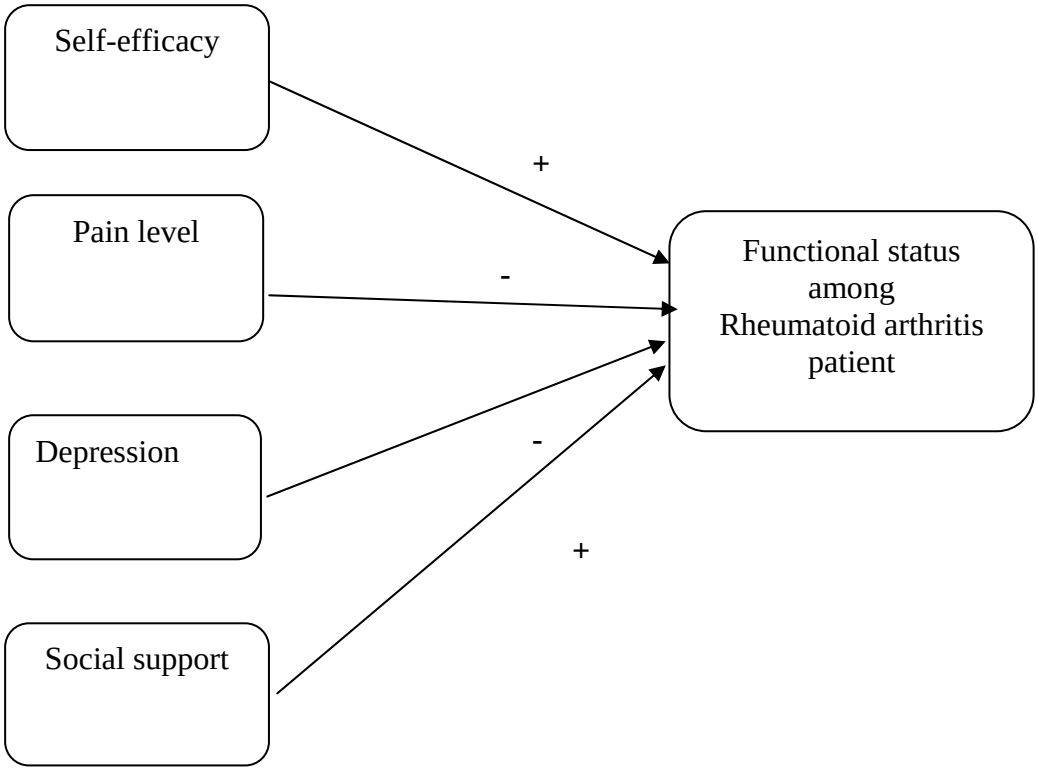

Figure 1.1 The framework of research study show correlations between self-efficacy, pain level, depressions and social support to functional status among patients with Rheumatoid Arthritis (Bandura, 1986)

1.6 Scope of the study

This study identifies factors related to functional status among 105 patients with rheumatoid arthritis during hospital stays. The patients are 18 years old or over being treated as inpatients at the Rheumatology Department, Bach Mai Hospital during January 2016 to April 2016.

1.7 Expected outcomes and benefits

1.7.1 Nurses can use this research's result to improve knowledge and understand factors related to functional status among RA patients.

1.7.2 This findings will be used as basic knowledge developing program to enhance functional status among patient with RA

1.7.3 This research can be utilized as necessary to another research question among Rheumatoid Arthritis Studies

1.8 Definition of terms

1.8.1 Leidy (1994), Wilson and Cleary (1995) defined that functional status was an individual's ability to perform normal daily activities required to meet basic needs, fulfill usual roles, and maintain health and well-being. Functional status includes functional capacity (Ability perform daily activities to include domains as physical, psychological, social, and spiritual) and functional performance (The activities that people did during their everyday lives). In this study, the functional status will be measured by using the Health Assessment Questionnaire 8-Item Disability Scale (HAQ8-ID) is one short scale in full HAQ that was originally developed in 1978 by James F. Fries and colleagues at Stanford University. It is related closely to Activity Daily Living of person but is not an ADL scale but rather an instrument measures disability (Lorig et al., 2001).

1.8.2 Self-efficacy is defined as an individual's judgment of his/her capability to organize and execute the course of action. The Self-efficacy expectation is a judgment about personal ability to accomplish a given task. Bradual (1986)

showed that self-efficacy as one of the effective self-confidence in one's ability to succeed in specific situations (Bradual, 1986). Outcome expectation is judgment about what will happen if a given task is successfully accomplished (Sandra & Timothy, 2013). In this study, self-efficacy will be measured by Arthritis Self-Efficacy Scale (ASES). The RSES was developed by Lorig et al (1989) at Stanford University. The pain is defined by International Association for the Study of Pain (IASP) and WHO that include the psychological, emotional, cultural and social The International Association for the Study of Pain (IASP) defined pain as, “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (Loeser et al., 2008). IASP classified pain according to characteristics: region of the body, disorder of the system, duration and pattern of occurrence, time onset and cause (Merskey & Bogduk, 1994). Characterize of pain base on the pain level, nociceptive pain, inflammatory pain and pathological pain (Svendsen et al., 2005; Woolf, 2010 In this study, pain will be measured by Pain Visual Numeric (PVN) that is developed from Visual Analogue Scale (VAS) and base on pain assessment experience by Philip and colleagues at Stanford University School of Medicine, USA (Philip, Virginia, Diana & Kate, 2006).

1.8.3 WHO (2012) identified that depression is a common mental disorder with symptoms such as decreased energy, disorder feelings, low self-worth, disorder sleep or appetite, and loss focus. Depression reduces people’s functioning as the leading cause of lost disability. The depression was ranked as the third leading cause of the global burden of disease in 2004 (WHO, 2012). In this study, depression will be measured by Personal Health Questionnaire Depression Scale- 9 items (PHQ-9). This instrument is developed by Kroenke and colleges (2001) with consists of the actual nine items (Kroenke et al., 2001).

1.8.4 Weiss (1974) defined social support as was interpersonal interaction with others and may produce positive feelings such as being loved, attachment, security, belonging to a group, availability of emotional, physical and informational support (Weiss, 1974). The social support help individuals implement activity daily role and the higher social support correlated with lower functional disability.(Greengglass, Fiksenbaum& Eatoton, 2006). In this study, social support will be measured by Multidimensional Scale of Perceived Social Support (MSPSS).

This instrument is developed by Zimet and colleagues (1990). The MSPS has good internal and test reliability as moderate construct validity. The MSPS has values to be as research instrument measure social support and it is discussed to use significantly in the future (Zimet, 1990).

CHAPTER II
LITERATURE REVIEW

This chapter provides a literature review of factors related with functional status among patients with rheumatoid arthritis. The contents enhance the understanding of phenomena of functional status among patients with rheumatoid arthritis based on self-efficacy theory as following 4 issues including the conclusion part:

2.1 Problems among patients with Rheumatoid Arthritis

2.1.1 Incidence of rheumatoid arthritis

2.1.2 Pathophysiology of rheumatoid arthritis

2.1.3 Impact of rheumatoid arthritis

2.2 Functional status among patients with Rheumatoid arthritis

2.2.1 The concept of functional status

2.2.2 Functional status among patients with rheumatoid arthritis

2.3 Self-efficacy theory as a conceptual framework to explain functional status among patients with rheumatoid arthritis

2.3.1 Self efficacy theory

2.3.2 Self efficacy theory and the patients with rheumatoid arthritis

2.4 Factors related with functional status among patients with rheumatoid arthritis

2.4.1 Self efficacy and its related to functional status among patients with rheumatoid arthritis

2.4.2 Pain level and its related to functional status among patients with rheumatoid arthritis

2.4.3 Depression and its related to functional status among patients with rheumatoid arthritis

2.4.4 Social support and its related to functional status among patients with rheumatoid arthritis

2.5 Conclusion

2.1 Problems among patients with rheumatoid arthritis

2.1.1 Incidence of rheumatoid arthritis

Rheumatoid arthritis (RA) is a chronic systemic disease that affects the joints, connective tissues, muscle, tendons, and fibrous tissue. Its characteristic is symmetry (Sacks, Luo& Helmick, 2010).The global prevalence in 2008 was 1% (Chopra & Abdel–Nasser, 2008) rheumatoid arthritis (was ranked 42nd highest in global disability (Cross et al., 2014). Recently, RA prevalence rates were 0.40% for Southeast Asian, 0.37% for Eastern Mediterranean, 0.62% for European, 1.25% for American and 0.42% for Western Pacific regions (Igor et al., 2015).

Rheumatic arthritis are very common in Vietnam which a developing tropical country (WHO, 2006). The prevalence of rheumatic diseases was estimated at 47.6% of the population aged 60 years or older. At Bach Mai Hospital, the biggest national hospital in Northern Vietnam, in the period from 1979 to 1988, patients with rheumatic accounted for 4.5% of all patients admitted to hospital (Tran & Nguyen, 1996). Among them, rheumatoid arthritis was the most common rheumatic disease. According to epidemiological researches in some Vietnam areas estimated RA rheumatoid arthritis 0.28% and functional disability was reported in 6.04% of the survey population in Vietnam (Tran et al., 2003) and 4-6/1000 (8-9/1000 in women and 2.8/1000 in men) (Tran & Nguyen, 1996).

Annually report of Bach Mai hospital (2014) rheumatoid arthritis is accounted for 20 % in total of patient with rheumatic who were admitted in to Rheumatology department (Bachmai Hospital report, 2014).

2.1.2 Pathophysiology of Rheumatoid Arthritis

The cause of RA is not identified in recent years. It may be infection agent, autoimmune response, gene products and effect of environment or lifestyle factors. Infectious agents have long been suspected as the casuse but evidence of a particular bacteria and virus which couldn’t be found. More theory showed that RA is caused by abnormal autoimmune response (possibly threat by bacterial or viral antigen). Current studies suggested that the cause of RA is determined by gene production. There are 60-70 % RA adult patient who had HLA- DR4, although it is as well as several genes

that are involved. These genes possibly control humoral and cell mediated immunity mechanism that was believed to contribute RA pathology. The first, RA pathology happens while the immune response changes in synovial tissue .The lymphocytes (T, B cell, macrophages) are activated by unknown antigen trigger. B cells product RF antibodies against immunoglobulin G (IgG) that form immune complex. These cells into synovial and produce an extensive array inflammatory, metalloproteinase, other mediators (Lee & Jacquelyn, 2010). HLA-DRB1 and PTPN22 is the key genetic factors involved the development of RA. RA patients have these genes likely citrullinated peptide that produced antibodies against cyclic. Various environmental factors have also been implicated in RA. These include exposures to smoking, exposure to pollutants and life-style factors, such as diet and exercise. In recent years, the effect of smoking on the increased risk and severity of RA has emerged as a major story (Tobón, Youniou, & Sauraux, 2009). The risk factor effects to development of RA strongest that is HLA-DRB1 genetic. These factors are estimated 50% to 60% in total risk factor of RA (Gregersen, Silver, & Winchester, 1978)

RA tends to threat during the adult hood, ages from 20 to 40. It is a chronic disabling condition that is reason of pain and deformity joints (Sacks et al., 2010). Scott and college (2010) stated that rheumatoid arthritis is one of the most important chronic inflammatory disorders with an autoimmune basis. The Rheumatoid Arthritis disease is mainly localized to diarthrodial joints which is characterized by florid inflammation of the synovial membrane (synovitis) that leads to tissue destruction and joint damage through cartilage degradation and the formation of sub chondral bone erosions (Scott et al., 2010; McInnes et al., 2011). Rheumatoid arthritis symptoms develop gradually and may include joint pain, stiffness, and swelling. Besides, they have body symptoms of fatigue, weight loss, and low-grade fever may occur with active disease. The target of treatment RA includes reduction joint pain and swelling, preventing damage and deformation joint. Moreover, functional status of RA is preserved, patients work and personal activities continually. Joint replacement is indicated for patients with severe joint damage that poorly controlled symptoms of medical management (Amy, 2001). The American college Rheumatology (ACR) (2015) is guideline RA treatment which identified to treat RA early by disease-modifying antirheumatic drugs (DMARDs), biologics, to facitinib, glucocorticoids.

The important in RA nursing care is non- pharmacologic therapy including physical functional, occupational, support instrument (Jasvinder et al., 2015). Intensive nursing care is a great approach to specialized medical care for people with serious illnesses to enhance their lives, relieve their pain. The target is to meet self - care needs, incorporating joint protection, energy conservation, and work with the patients to educate them about rheumatoid arthritis. The functional status of RA patient is important thus nurses have to encourage keeping and protecting joint functional via assessment, recode, exercise, habitation and supporting emotion (Vickie, 2007).

2.1.3 Impact of rheumatoid arthritis

RA is disability autoimmune disease that immune system threat body tissues including joints as well as the other organs of body. The main impacting is make serious deformity joints, especial of small joints at hands and toes (Australian Institute of Health and Welfare, 2009). It is accounted to effect on the body of 580,000 persons in England. RA is estimated 80 % of total patient who have risk developing one or more comorbidities such as heart disease , stroke , lung disease, Osteoporosis, Cancer, Depression, Infection, imflamation eyes, skin problem, Sjögren's syndrome etc (National Rheumatoid Arthritis Society, 2012). RA patient with chronic pain and high limitation functional status that lead change individual's perception, bursting family life, reduced capacity and interaction with social network. This disease is strongly effect on social life, impacting industrial production, increasing disability rate in the community and influencing to health service system (AIHW, 2009). Results of study demonstrate that RA effects on society economic during last 10 years of patient. It lead to increase morbidity, quality of life, rate mortality and medical costs (Scott et al., 2010). Medical cost is accounted average 5720 USD to 5822 USD per patient. There are from 8 to 24 % for medication, 8 to 21 % for visit physical and 18-88 % for stay hospital (Cooper, 2000). The cost is 119. 525. 000 USD per year which have to be paid by the patients for treatment and caring in Portugal (Luis et al., 2014). The study of Mancuso described that 96% rheumatoid arthritis women patient with age of 50 years and 84% had college graduates. It means the majority of the patients have high physical job demands and high autonomy level overload with their work and hours work everyday. All most patients have suffer many

diverse challenges such as fatigue, pain, hold, physical requirements, outcome a pleasant disposition, working overload, commuting, relax, and environmental issues. RA patients weren't confident in their capability to continue working because RA patient were perceived the following threats to continued working. Threat are fatigue (45%), not being able to use hands (45%), not being able to relax (27%), and commuting issue (18%) (Mancuso, Paget, & Charlson, 2000). Rheumatoid arthritis was within a decade of its onset, leads to work disability defined as a total cessation of employment in between 51% and 59% of patient (WHO, 2003). It means the majority of the patients have high physical job demand and high autonomy level overload with their work and working hours in daily life (Cross et al, 2010). All most patient is effected on their work capacity less than five years (WHO, 2003) approximately 1% of adults. Incidence mortality rates of rheumatoid arthritis was 2.7 % person-years of follow-up and ranged from 1.0 to 5.2 % person-years according many research from 1955 to 1995 (Dadoun et al., 2013).

2.2 Functional status among patients with rheumatoid arthritis

2.2.1 The concept of functional status

Leidy (1994), Wilson and Cleary (1995) defined that functional status was an individual's ability to perform normal daily activities required to meet basic needs, fulfil usual roles, and maintain health and well-being. Functional status includes functional capacity (Ability perform daily activities including domains as physical, psychological, social, and spiritual) and functional performance (The activities that people actually did during their daily lives) (Leidym, 1994 ; Wilson & Cleary, 1995)

2.2.2 Functional status among patients with rheumatoid arthritis

Functional status of RA is related to outcomes including mortality (Wolfe, 2003; Farragher, Lunt, Bunn, Silman & Symmons, 2007), loss of work capacity (Croon et al, 2004; Allaire et al, 2009). There are 95% of 548 individuals reported that disability of function status which has server impact to RA patients. Thus, the study was identified factors related to functional status that important to protect disability for

RA patient (Katz et al., 2006). Zhao and colleges (2015) showed that 58.48 % of 607 outpatients after discharge who had functional status with disability (Zhao et al., 2015). According 42 studies reported that there are 50% RA patient had different functional status with later disability; this condition had association with baseline damage of joints (Bombardieret al., 2012).Wolfe and others (2000) identified that function disability scores are high what was still increased slowly over time (Wolfe, 2000). There are factors related to functional status including depression, pain severity, self-efficacy (Claudia et al., 2001). The overall RA patient, there are 67% of disability functional which was predicted by the self-efficacy, pain level and depression (Orengo et al., 2001). Greene et al. (2006) showed that self- efficacy, pain, social support were correlated to the physical activity behaviour of RA patients in African-American. Baruth et al. (2013) also stated that higher pain, higher depressive symptoms, and lower arthritis self-efficacy were related to the greater disability functional among RA adult patient (Baruth, Wilcox, Schoffman, & Becofsky, 2013)
In this study, functional status will be measured by using the Health Assessment Questionnaire 8-Item Disability Scale (HAQ8-ID) is one short scale in full HAQ that was originally developed in 1978 by James F. Fries and colleagues at Stanford University. It is related closely to Activity Daily Living of person but is not an ADL scale but rather an instrument measures disability (Lorig et al., 2001).It was one of the first self-report functional status (disability) measures and it is the free dominant instrument for many disease areas, including arthritis. It is used very common and widely to measures outcome for rheumatoid arthritis in the world (James, 1978).

2.3 Self - efficacy theory as a conceptual framework to explain functional status among patients with rheumatoid arthritis

2. 3.1. Self-efficacy theory

Bandura (1986) stated that self-efficacy is one of the effective self-confidence in one's ability to succeed in specific situations. Outcome expectation is judgment about what will happen if a give task is successfully accomplished. The type

out-come people anticipate generally depend on their judgment and able to perform the behavior. There are 4 components including: Mastery experience, modeling (vicarious experience), Verbal persuasion, Physiological feedback. They increase the patients' self-efficacy, which enable patient to be more successful at the disease control (Sandra & Timothy, 2013).

2.3.2 Self efficacy theory and the patients with rheumatoid arthritis

According to self- efficacy theory, a person who suffers with Rheumatoid arthritis needs to have positive judgment on his/her own capability to perform desired behaviors to control the advancement of disease (Taal et al., 1993). RA patients who have low levels of self-efficacy may utility from a referral for psychosocial intervention that can increase arthritis individual self-efficacy. The samples of arthritis patients also has demonstrated that psychosocial therapy treatments can lead to increased self-efficacy of arthritic patient (Somers et al., 2010). The reason for selecting self- efficacy theory to analyze that is interesting topic among self- efficacy in patients with Rheumatoid Arthritis. This theory can be applied as a conceptual framework in research topic and in clinical practice to improve patients' level of self-efficacy. The RA patients who are supported by nurses can increased their self-efficacy, confidence and satisfaction (Primdahl et al., 2014). Nurses should tailor nursing care to assess and improving social support contains emotional support, informational support, and guidance to families (Fallatah et al., 2015).

2.4 Factors related with functional status among patients with rheumatoid arthritis

2.4.1 Self efficacy and it related with functional status among patients with rheumatoid arthritis

Some study showed that self-efficacy level correlates to outcome of health status among RA patient for 2 years (Brekke, Hjordahl & Kvien, 2001).The evidence showed that it related to physical disability, pain, fatigue among RA patients

(Primdahl et al., 2011). There are three main domain of self-efficacy that related to RA including control pain, perform functional task and management other symptoms as activities daily living. RA patients has higher self-efficacy levels that lead lower disability functional, pain and depression(Somers et al., 2010; Pells et al., 2008; Pariser &Hanlon, 2005). Somers and colleges (2012) demonstrated that examine self-efficacy for managing pain and other symptoms as an outcome measure of RA patient (Somers et al., 2012). The self-efficacy was a significant independent predictor of self-report function status on RA patient (Somers et al., 2014). The self-efficacy is measured by ASES scale that is response patients' arthritis-specific self-efficacy. The patients' beliefs that they could perform specific tasks or behaviours to cope with the consequences of arthritis across three dimensions including pain scale, functional scale and other symptom. This instrument has total 20 items in which but this study, ASES with 8 items that is used because it takes less burden for patients. Moreover, it has high correlation with function scale and this study also use the HAQ so researcher haven't use function items (Lorig, Chastain, Ung, Shoor , & Holman , 1989)

2.4.2. Pain level and its related functional status among patients with rheumatoid arthritis

The International Association for the Study of Pain (IASP) defines pain as, "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (Loeser et al., 2008). Classification of pain by WHO (2007) are acute pain, chronic malignant pain and chronic non- malignant pain. Rheumatoid arthritis is one of none-malignant chronic pain. The main management these pain is focus to control functional than symptom and the best way is using apply multidimensional (WHO, 2007). IASP classified pain according to specific characteristics: region of the body, disorder of system, duration and pattern of occurrence, time onset and cause (Merskey & Bogduk, 1994). Characterize of pain base on the pain level, nociceptive pain, inflammatory pain and pathological pain (Svendse et al., 2005; Woolf, 2010). Characterize severity of pain will increase above normal level (Svendse et al., 2005). According literature review of Jakobsson and colleagues identified that there are 97.1% moderate or severe pain and 40.0% had severe or worse pain on RA patient (Jakobsson, 2002). The pain

influences to the quality of life, functional status and emotion of individual. The Pain leads disability functional in Rheumatoid arthritis patient is estimated 4.866.000 per 2002 year (WHO, 2012).The prevalence of musculoskeletal pain was 14.9% in Vietnam (Hoa et al., 2003). Overall pain intensity increased and the relationship between affective and sensory components of the pain experience did not change on disease duration of RA (Bushnell, 1986). Patients with arthritis have high pain levels may be lead to increased disability functional and depression suffering (Somers et al., 2009). Hakkinen and colleges (2005) showed that pain joints have higher pain score and it was the greatest impact on individual RA patient sub dimensions of the function status scale (HAQ) (Hakkinen, Kautiainen, Hannonen, Ylinen, Arkela-Kautiainen, & Sokka, 2005). Pain effected as barrier to perform activities among RA patient (Ahlstrand, Björk, Thyberg, Börsbo, & Falkmer, 2012). Study's results of Evers and colleges (2003) indicated that pain coping was assessed very simple and it can be affect functional status (disability) in RA. Moreover, the researchers also suggested that interventions focusing on pain as well as prevent risk factor related to long-term outcomes in RA (Evers, Kraaimaat, Geenen, Jacobs, & Johannes, 2003). Strahl and colleges (2000) study supports the hypothesized role of pain contributions role function status in chronic RA patients (Strahl, Kleinknecht, & Dinnel, 2000).

In this study, pain will be measured by Pain Visual Numeric (VNS) that is developed from Visual Analogue Scale (VAS) by Philip and colleagues (Philip, Virginia, Diana & Kate, 2005). The VAS was developed by Huskisson (1983) as a gold standard measures to using widely for pain intensity in clinical setting and medical research on the world (Scott & Huskisson, 1979; Mick, Roger, Frederick, Conrad & Eleanor, 2006). However, Pain Visual Numeric scale (PVN) is used effectively to measure for self- report pain because patients understand and answer easier than VAS. Moreover, it is lager number so user can interview patients via paper questionnaires that are coded result easy and less missing (Philip, Virginia, Diana & Kate, 2006).

2.4.3 Depression and it related to functional status among patients with rheumatoid arthritis

WHO (2012) identified that depression is a common mental with symptom such as depression, un pleasure, decreased energy, disorder feelings, low self-worth, disorder sleep or appetite, and loss focusing. Depression reduces people's functioning as the leading cause of lost disability. The depression was ranked as the third leading cause of the global burden of disease in 2004 (WHO, 2012). The optimal care of RA patients should include the detection and management of depression (Matcham, 2013). RA patients were depressed because they must adapt to negative work-role (Mancuso, Paget, & Charlson, 2000). They have pain which is the cause of low activity of daily living. Evidence shows that 65 % of patients RA with depression (in which 37.5% moderate or severe) and correlate strongly with functional status (Zyrianova et al., 2006). Depression is highly prevalent which are 34.2% patients associated with poorer outcomes on patient with Rheumatoid arthritis (Matcham, 2015). In the study of Benka, anxiety and depression were observed to be strongest related to function status of RA patients (Benka et al., 2014). Depression was independent predictors and significant relationship with RA functional status (Anderson, 1992). The functional disability, emotional support, pain and initial psychological distress which important significant, it was explained 36% of the variance depression among rheumatoid arthritis (Fallatah, 2015).

In this study, depression will be measured by Personal Health Questionnaire Depression Scale (PHQ-9). This instrument is developed by Kroenke and colleges (2001) with consists of the actual nine items (Kroenke et al., 2001). The PHQ-9 is used very commonly and widely for clinical practice and research in the world. The PHQ-9 has construction brief and high validity that is an attractive instrument to measure depressive disorders. It is comparable sensitivity and specificity in the clinical practice setting (Kroenke et al., 2002).

2.4.4 Social support and it related to functional status among patients with rheumatoid arthritis

Weiss (1974) explained social support that was interpersonal interaction with others and may produce positive feelings such as being loved, attachment,

security, belonging to a group, availability of emotional, physical and informational support (Weiss, 1974). The research of Peeters and colleges (2014) showed that there was significantly relation between social support, physical activity of RA patients and function status (Peeters, Brown, & Burton, 2014). The social support is kind of benefit and specific support providers to RA patient. According social supports, family members had achieves balance and suffering disability of RA (Abraido-Lanza, 2004). The study of Jozef et al. showed that social support impacted to functional disability on depressive feelings in individual with RA. Emotional support is from social that may be beneficial with severe disability. Thus, the interventions with providing social support to the functional status that might help reduction mental health problems among RA patients (Jozef et al., 2004). In this study,social support will be measured by Multidimensional Scale of Perceived Social Support (MSPSS). This instrument is developed by Zimet and colleagues (1990). The MSPS has good internal and test reliability as moderate construct validity. The MSPS has values that is as research instrument measure social support. It is discussed to use significant in the future (Zimet, 1990).

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2.5 Conclusion

Rheumatoid Arthritis is a chronic immunity systemic disease which effects joints and area tissue around joint with characteristic is symmetry. Diagnosis is based on symptoms including pain, morning stiffness, swelling in multiple joints. The target of treatment and nursing care that reduction joint pain and swelling, preventing damage and deformation joint. The most purpose of management RA is protection functional status of RA that is presented patients work and personal activities.

Rheumatoid Arthritis is common in the global disease and its effect is changing functional status among RA patient. Rheumatic diseases are very common in Vietnam including RA, especial, there are 20 % RA in total inpatient with rheumatic at Bachmai hospital. RA is not identified the causes nowadays, but may be gene, infection, effect of environment or lifestyle factor. RA pathology happens while the immune response changes in synovial tissue. Environmental factors play a role in RA has potential investigation include infection, smoking, pollution, and diet.

Rheumatoid arthritis leads to disability, morbidity, quality of life, rate mortality and medical costs. Functional status is related to outcomes of RA. There are high score with disability of function status which has server impact to RA patients. Proportion is approximated 50% RA patient had functional status with later disability.

From literature reviews, there are many studies in UK, China, researcher identified that function status among RA patient. There are factors related to function status such as self-efficacy, pain level, depression and social support. The self-efficacy theory can be applied as a conceptual framework in this research

In Vietnam, There are a little knowledge about these factors especially pain, self- efficacy, depression, social support. So, the researcher needs to study factors related to function status among patients with rheumatoid arthritis.

CHAPTER III
METHODOLOGY

In this chapter, research design, population and sample, research setting, data collection procedure, protection of human subject was described. In addition, the instruments and their validity as well as their reliability, data analysis and the procedure to test assumption were explained.

3.1 Research design:

The study was a descriptive correlational research aiming to study factors relationship among self-efficacy, pain level, depression, social support and functional status among patient with Rheumatoid Arthritis

3.2 Population and sample of the study

3.2.1 The population of this study

The population of this study included both male and female in-patients with the age of 18 years and above who had been diagnosis rheumatoid arthritis and admitted to Rheumatology department, Bach Mai hospital, Hanoi, Vietnam.

3.2.2 The sample of the study

Sample was selected from the population according to the following criteria**:**

The inclusion criteria are as follow:

1) Patients with 18 years or older who diagnosed Rheumatoid Arthritis

2) Able to verbally communicate with the researcher in Vietnam language

The exclusion criteria are as follow:

1) The patients had severe pain

2) The sample incomplete fill out questionnaire

Sample size: The researcher tested the relationship between self- efficacy, pain level, depression, social support and functional status in RA patients. Four parameters required including 1) the level of significance $\alpha = 0.05$, 2) the power of the statistical test (Power 1- $\beta = 0.8$), 3) four independence variables and 4) the effect size. Because there was limited study about these variables, the researcher will select medium effect size for this study ($f^2 = .099$). The sample size in this study was calculated by using G*power version 3.1.9.2 program to determine the minimum number of participants needed for co-relational design (Faul, Erdfelder, Buchner, & Lang, 2009). Based on G*power, sample size was at least 126 RA patients.

3.3 Setting

The research conducted at the Rheumatology ward. It is a center specializing in Bach Mai hospital, Vietnam in 2015-2016. Bach Mai is a special national hospital in Vietnam with 1900 beds. This hospital is responsible to treat and take care of the patients who came from Hanoi and all of Vietnams' areas. Rheumatology department was unit where treat and care for patients with Arthritis such as Rheumatoid arthritis, Osteoporosis, Osteoarthritis, Low back pain, etc. There were 70 beds with the number of patients from 100 to 150 patients. Every day, this department received about 30 new cases including RA patients and other Arthritis patients. Annually, this department received more than one hundred thousand patients with Arthritis which RA patients were accounted about 20% of the total (Report of hospital, 2014). Healthcare services were provided by the rheumatologist every day from 8:00 A.M – 5:00 P.M at the inpatients Rheumatology Department. Health care services were given by 3 nurses and a physician at the patient room. Their services include taking care, taking medicine, control pain, management depression and promoting social support. Thus, the researcher collected data on Monday – Friday, 8.00 AM – 5.00 PM

3.4 Instruments

The instruments used for data collection included 6 parts with 61 items as follows:

Part I Characteristic of patients:

The Characteristic of patients consisted of two domains with 24 items including general and illness information. The patient information included gender, age, weight, height, BMI, marital status, education, occupation, income, health insurance, family number, illness history of family, habits. The illness information included admit date, diagnosis, co-morbidity, illness times, working capacity, treatment method presents and previous, trauma and surgery.

Part II Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID)

In this study, functional status was measured by using the Health Assessment Questionnaire 8-Item Disability Scale (HAQ8-ID), which was one short scale of the Health Assessment Questionnaire (HAQ). The HAQ was originally developed in 1978 by James and colleagues at Stanford University (James F. Fries et al., 1978). It was used freely and commonly to measure functional status and for many diseases including rheumatoid arthritis in the world. There were 1995 RA review in more than 200 publications demonstrated the high reliability, validity, and applicability in multiple settings and languages. There were four domains: 1) disability, 2) discomfort and pain, 3) drug side effects (toxicity) and 4) dollar costs. But the first domains, which comprise the HAQ Disability Index can be used independently and frequently for RA. The domain of disability was assessed by the eight categories of dressing, arising, eating, walking, hygiene, reach, grip, and common activities (James F. Fries et al., 1978). It was related closely to Activity Daily Living of person but is not an ADL scale but rather an instrument measures disability (Lorig et al 2001). The stem of each item assesses patient's functional ability using their usual equipment during the past week. For each item, range score is from 0 to 3 (0 =without any difficulty; 1 = with some difficulty; 2 = with much difficulty; and 3 = unable to do) and higher scores reflect higher disability functional. The separate disability level based on the score mean of the eight items. There were three functional

statuses which were mild to moderate difficulty that reflected functional none minimal and mild with 0 to 1, moderate to severe disability with 1 to 2; severe to very severe disability with 2 to 3. The method of administration was interviewed and it took time complete full 8 items for five minutes and scored in less than one minute. (Bruce & Fries, 2005). The Cronbach's α assessed at the baseline was 0.80 (Jozef Benka et al.,2012).

Part III. **Arthritis self-efficacy scale** (**ASES**)

The self-efficacy was measured by ASES scale, a free-of-charge instrument that responds patients' arthritis-specific self-efficacy. The patients believed that they could perform specific tasks or behaviours to cope with the consequences of arthritis across three dimensions included pain scale, functional scale and other symptom. The ASES and the three subscales of the ASES, 'pain' (5 questions), 'function' (9 questions) and 'other symptoms' (6 questions), focus on the persons' belief in their own ability to manage pain, different specific functional abilities and other symptoms such as fatigue. This study used ASES with 8 items in total 20 items because it took fewer burdens for patients. Moreover, it had high correlation with function scale and this study also used the HAQ so researcher haven't use function items (Lorig, Chastain, Ung, Shoor , & Holman, 1989). The ASES-8 included 8 items response 4 domains of self- efficacy for pain (2 items), other symptoms (4 items), preventing pain and fatigue (2 items). Each question has score ranging from 1–10 and the total score for separate self- efficacy level through the mean of the eight items. The total score reflecting self- efficacy level is ranged from 1 = very uncertain, 5 - 6 = moderately uncertain and 10 = very certain. The higher score means higher self-efficacy. The researcher used questionnaires to interview patients and it took 5 minutes to complete instrument. The patients circled the number that reflected their belief at the present time. Reliability of ASES was high with Cronbach's alpha =0.96. (Teresa, J**.** B, 2011**).**

Part IV: **Visual Numeric Scale** (**VNS**)

In this study, pain was measured by Visual Numeric Scale (VNS), a free domain that was developed from Visual Analogue Scale (VAS) and based on pain

assessment experience by Philip and colleagues at Stanford University School of Medicine, USA (Philip, Virginia, Diana & Kate, 2006). The VAS was developed by Huskisson (1983) as a gold standard measured to using widely for pain intensity in clinical setting and medical research on the world (Scott & Huskisson, 1979; Mick, Roger, Frederick, Conrad & Eleanor, 2006). However, Pain Visual Numeric (PVN) was real valid to measure for self- reporting pain because patients understood and answered easier than VAS. The subject could use this scale to modify for suitable with time context including assessment pain at that time or ago time. Moreover, it was lager number so user could interview patients via paper questionnaires that were coded result easy and less missing. This scale was designed as well as both visual shapes and numeric scale (from 1 to 10 scores). It included columns with high level relate with each numeral level below. The patient self- reported about pain perception through circle shape above or number below. The higher score was showed higher pain level and if there were 2 circles continuously, the researcher will choice higher score.The PVN had high correlation with r = 0.92, this result demonstrated strongly reliability in test-retest (Philip, Virginia, Diana & Kate, 2006).

Part V. **Health Questionnaire Depression Scale** (**PHQ-9**)

In this study, depression was measured by Health Questionnaire Depression Scale **(**PHQ-9**).** This instrument is developed by Kroenke and colleges (2001) with consisting of the actual nine items (Kroenke et al., 2001). The PHQ-9 was free and using very commonly for clinical practice and research in the world. The PHQ-9 had construction brief and high validity that is an attractive instrument to measure depressive disorders. It was comparable sensitivity and specificity in the clinical practice setting (Kroenke et al, 2002). Each item was responded by scores of 0, 1, 2, and 3 which reflect content assessment “not at all,” “several days,” “more than half the days,” and “nearly every day,” respectively. PHQ-9 total score was the sum all of 9 items and ranges from 0 to 27. Total scores with 5 depression levels include none minimal (0- 4), mild (5-9), moderate (10-14), moderately severe (15-19), and severe 20. The reliability of this instrument was excellent with Cronbach’s alpha 0.96 (Kroenke, Spitzer, & Williams, 2001).

Part IV. **Multidimensional Scale of Perceived Social Support** (**MSPSS**)

In this study, social support was measured by Multidimensional Scale of Perceived Social Support **(**MSPSS**).** It is used for research with authors**'** permission**.** This instrument was developed by Zimet and colleagues (1990). The MSPSS had good internal and test reliability as moderate construct validity**.** The MSPSS had values as well as research instrument measure social support and it was discussed to use significant in the future**. (**Zimet, 1990). The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO). There are 12 items for interview patients by researcher**.** Questionnaire content was how patient feel about the following statements in scale**.** Researcher guided patient read each statement carefully**.** The patient indicated how they felt about each statement and circle the score from 1 to 7 up to their self-perception **(**Zimet et al., 1988). Total sore based on score mean of 12 items**.** Level supporting included three rates: low support (1 to 2.9), moderate support (3 to 5), high support (5.1 to 7). Lisa (2004) demonstrated that of MSPSS had high reliability with a cronbach's alpha was 0.86 (Lisa, 2004).

3.5 Instrument Validity and Reliability

3.5.1 Instrument Validity

The Health Assessment Questionnaire (HAQ8-ID), Arthritis Self-Efficacy Scale (ASES-8), Visual Numeric Scale **(**VNS**)**, Health Questionnaire Depression Scale (PHQ-9**)**, Multidimensional Scale of Perceived Social Support **(** MSPSS**)** were translated by 2 linguistic experts at international school. One person translated from English to Vietnamese version, and the other translated from Vietnamese to English. Then, they discussed and compared between finally English vision and original English. This result was used as evidence for conclusion about contents of Vietnamese vision that was considered by languages experts. Both versions were verified by 5 experts who were the head of Specialized at Rheumatology department, Bach Mai hospital, Vietnam. Scales' contents validity was inspected and suggestions very clearly and Vietnamese languages changes were performed. All information of scales was

clearly understood and answered fully from these samples before implemented research process.

3.5.2 Instrument Reliability

After the questionnaires were translated in to Vietnamese by the language center of Bach Mai Hospital, they were tested for their clarity by asking the participants if they clearly understood the contents and language used in the questionnaires. Then they were test for their reliability using Cronbach' s alpha coefficient in patients with RA.

The Cronbach's alpha coefficient of HAQ 8-ID, ASES, PHQ-9 and MSPSS were 0.93, 0.96, 0.87 and 0.89 respectively.

3.6 Data collection

The process of data collection was as follow:

3.6.1 Preparation of research assistant

1) Two research assistants in this project were three year experienced nurses in the Rheumatology department of Bach Mai hospital. The researcher trained them about objective and details of project focusing on their roles for approaching voluntary subjects, how to included and excluded by inclusion and exclusion criteria, describing to participants with simple word for understanding including the process of signing consent form.

2) After signing consent form research assistant introduced researcher to voluntary subjects. To collect data, researcher met the patient at his/her bed, introduced herself, and established a relationship with the patient and also verbally explained the objective of study, data collection procedure, participant's role and rights.

3) The researcher used the questionnaire and assessment form for data collection after patient admitted at data resource including questionnaire demographic data of the patients and instruments measure function status, pain level, self-efficacy, depression, social support. The researchers organized private room to interview the patients or do questionnaire by themselves. Then, researcher used six questionnaires

for data collection. Questionnaires are: 1) The questionnaire part demographic data of the patients has 2 domain including patient information (14 items) and illness information (10 items) 2) Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID) 3) Arthritis self-efficacy scale (ASES) has 8 items, 4) Pain Visual Numeric (PVN) was as well as both visual shapes and numeric scale, 5) Patient Health Questionnaire- 9 (PHQ-9) has 9 items and 6) Multidimensional Scale of Perceived Social Support **(**MSPSS**)** has 12 items. Total questionnaire had 62 items and the time used for complete this data collection was about 30-40 minutes per patient.

During interviewed or used questionnaire, if patients did not want to participate in this study they could stop in any conditions. The patients got the same standard care after withdraw from the study. There no any effect for caring.

3.7 Protection of human rights

This study was conducted to base on the protection human rights. The participants were asked to participate in this study by volunteer. The researcher explained the purpose of the study, the research procedure, benefit, risks, types of questionnaire, length of time for completing questionnaire, and right to refuse participation in study anytime. The participants who agreed to participate were informed and assured that the data would be kept confidentially and would be reported only as a group data. Informed consent was signed by all participants. During interview or usage questionnaire, if patients did not want to participate in this study they could stop in any conditions. The subject was permitted to change their mind and without penalty. They were provided new information regarding the study. The patients got the same standard care after withdrawing from the study. There was not any effecting for caring. If the patients had unstable conditions for example dyspnea, the researcher stopped to interview. The research assistant immediately contacted with doctors who had responsibility to take care the patients. The research assistant took care and monitor until patients already stable. The data from withdraw or termination was excluded. Information of subjects was managed in accordance by confidentiality. The participant data were kept in confidentially by using code. If relevant information arisen about benefits and risks of the research project, the researcher informed the

participant immediately and without concealment. The learned from the research was informed to subject.

3.8 Data analysis

Data research was analyzed using SPSS software computer program version 22 as follows. The significant level statistic test was set up at $\alpha = .05$.

Frequency, percentage, mean and standard deviation were used to describe the general characteristic and medical of the sample

Descriptive statistics in term of Frequency, percentage, mean and standard and range was used describe study variable including self-efficacy, pain level, depression , social support with rheumatoid arthritis.

Spearman's rho statistic was used to examine association between function status and self-efficacy, pain level, depression, social support with rheumatoid arthritis

3.9 Assumption for statistic test

Researcher examined distribution of data by testing normality such as Kolmogorov- Smirnov and Shapiro –Wilkes Normality test for these variables. For the Speaman 's correlation coefficient the assumptions were as follows (Garson, 2012):

Assumption will be tested and result of data showed that only ASES scale and SPSS had normal distribution (P=0.197) and (P=0.06); score three variables including HAQ (P=0.03), Pain level (P=0.00), depression (P=0.003) that didn't have normal distribution ($P < 0.05$. So that, the relationship between self-efficacy, pain level, depression, social support and functional status will be test by Spearman's orh.

CHAPTER IV
RESULTS

This research aimed to study the factors related to study factors relationship among self-efficacy, pain level, depression, social support and functional status in patient with Rheumatoid Arthritis. The results are presented in the following topics.

4.1 Demographic characteristics

Total sample include 126 patients with Rheumatoid Arthritis. The majority of patients were female (88.89%) with the age ranged from 23 to 76 years. The average age was 55.62 years (SD= 10.29 years). The majority of the samples had normal BMI (76.99 %), married (89.68 %), and high school education (33.33%).In regard to the sample socioeconomic status, 37.31 % of them were farmer that was biggest of prevalence, 66.67% in total who lived in rural. There were 50 % earned monthly incomes less than 100 USD. There were 74.6 % sample who had more than two family members, 21.4 % had only one family members who took care them at hospital. The majority of them had government insurance with from 40% to 100% cost of payment.

Table 4.1 Demographic characteristics (n= 126)

Characteristics	Number (n = 126)	Percentage (%)
Gender		
Male	14	11.11
Female	112	88.89
Age (years)		
18-30	3	2.38
31-40	6	4.76
41-60	75	59.52
Over 60	42	33.34
Min:	23	
Max	76	
Mean ± SD:	55.62 ± 10.29	
BMI		
Under weight	19	15.07
Normal	97	76.99
Overweight	9	7.14
Obese	1	0.80
Marries		
Married	113	89.68
Single	3	2.38
Separated	1	0.80
Widowed	9	7.14
Educational Level		
Primary school	11	8.73
Secondary school	38	30.16
High school	42	33.33
Range school	14	11.11

Table 4.1 Demographic characteristics (cont.)

Characteristics	**Number (n = 126)**	**Percentage (%)**
College	9	7.14
Bachelor	11	8.73
Other	1	0.80
Occupation		
Professional	9	7.14
Famer	47	37.31
Worker	11	8.73
Sales person	10	7.94
Homework	12	9.52
Retirement	25	19.84
Other job	12	9.52
Location of residence		
City	30	23.81
Rural	84	66.67
Mountain	12	9.52
Income (USD)		
Less than 100	63	50
More than 300	63	50
Min:	0	
Max:	444	
Mean ± SD:	1.11± 8.342	
Insurance		
Yes	125	99.2
No	1	0.80

Table 4.1 Demographic characteristics (cont.)

Characteristics	**Number (n = 126)**	**Percentage (%)**
Percent of government Insurance		
100%	53	42.06
85%	46	36.50
70%	8	6.35
40%	18	14.29
0	1	0.8
Number of family members		
Alone	5	3.97
1 person	27	21.43
>=2 person	94	74.60
How many close person who has disease		
No person	119	94.44
1 person	6	4.76
>=2 person	1	0.8
Habit		
No	48	38.09
Smoking	3	2.38
Beer/wine	3	2.38
Doing exercise	72	57.14

4.2 Participants' characteristic of illness

There were 67.46 % of participants diagnosed RA. Time of diagnosed were less than 2 years around 50 % and mean score was 4.57 (SD: ± 5.50). Length of stay 7 days or less was around 92.06 %. There were 32.5 % of the samples had comorbidities with hypertension (7.14%), Diabetes (6.35%), Osteoporosis (79.37%).There were 100 % painful patients, 38.89 % morning stiff , 21.43% inflame joint. 57.1% had pain more than 2 joints. There were employed 64. 29 %. Majority of them were treated more than two methods (pre-treatment 62.69% and present treatment 65.87)

Table 4.2 Characteristic of illness (n = 126)

Characteristics	Number (n = 126)	Percentage (%)
Diagnosis		
RA	85	67.46
RA/other	41	32.54
Time diagnosed RA		
Less than 2 year	63	50
2-5 years	30	23.81
More than 5 years	33	26.19
Min:	0.01	
Max:	30	
Mean ± SD:	4.57 ± 5.50	
Length of stay		
<=7 days	116	92.06
>7 days	10	7.94
Hypertension		
No	117	92.86
Yes	9	7.14

Table 4.2 Characteristic of illness (cont.)

Characteristics	Number (n = 126)	Percentage (%)
Peptic ulcer		
No	126	100
Diabetes		
No	118	93.65
Yes	8	6.35
Osteoporosis		
No	26	20.63
Yes	100	79.37
Degeneration		
No	27	21.43
Yes	99	78.57
Symptoms		
(can answer more than one)		
Pain	126	100
Morning stiff	49	38.89
Deformity	93	73.81
Inflame	27	21.43
Pain site		
Small joint	22	17.46
Middle joint	19	15.08
Big joint	12	9.52

Table 4.2 Characteristic of illness (cont.)

Characteristics	Number (n = 126)	Percentage (%)
>=2 kind of joint	73	57.94
Loss working		
No	45	35.71
Yes	81	64.29
Method pre-treatment		
DMARDs	32	25.40
NSAID	5	3.97
Corticoid	3	2.38
Pain killer	6	4.76
Traditional medicine	1	0.8
>=2 methods	79	62.69
Present treatment		
DMARDs	30	23.81
NSAID	3	2.38
Corticoid	2	1.59
Pain killer	6	4.76
Traditional medicine	2	1.59
>=2 methods	83	65.87
Rheumatology status		
Normal	116	92.06
Trauma	7	5.56
Surgery	3	2.38

4.3 Functional status

The mean of disability functional scale was 1.3 (SD: 0.80) with range from 0.00 to 3.00 The result showed that functional status was none to moderate difficulty including none minimal (13.49 %) and mild (50.79%), moderate (27.78%) to severe disability(7.94 %).

Table 4.3 Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID)

Valid	Number	Percentage
None disability (=0)	17	13.49
Mild disability (0.1-1)	64	50.79
Moderate disability (1.01-2)	35	27.78
Severe disability (2.01- 3)	10	7.94
Min:	0.00	
Max:	3.00	
Mean ± SD:	1.3±0.80	

4.4 Self- efficacy

The mean of RA self- efficacy scale was 4.88(1.87) with the total score mean reflected self- efficacy level is ranged from 1.13 to 10. The score reflected self-efficacy level is ranged from 55.56 % very uncertain, 17.46 % moderately uncertain and 26.98 % very certain.

Table 4.4 Score of Arthritis Self-Efficacy Scale (ASES)

Valid	Number	Percentage
Very uncertain (1-4.99)	70	55.56
Moderately uncertain (5-6)	22	17.46
Very certain (6.01-10)	34	26.98
Min:	1.13	
Max:	10	
Mean ± SD:	4.88 ± 1.87	

4.5 Pain level

From Table 4.5, There were 39.68% severe pain, 29.37 % moderately pain, 21.43% very severe pain, only were 9.52 % mild pain. The mean of RA pain was 4.88 (SD: 1.87) with range from 1 to 10 score. Marjory of sample was 100 % patients had painful with scores range from 1 to 10, with the higher score indicating more pain.

Table 4.5 Score of pain visual numeric (PVN)

Valid	**Number**	**Percentage**
None pain	0	0
Mild pain (1-3)	12	9.52
Moderately pain (4-5)	37	29.37
Severe pain (6-7)	50	39.68
Very severe pain (8-10)	27	21.43
Min:	1	
Max:	10	
Mean ± SD:	4.88 ± 1.87	

4.6 Depression

This result showed that mean of score depression was 8.65 (±6.58) and PHQ-9 total score was the sum all of 9 items and ranges from 0 to 25.Total scores with 5 depression level include 33.33.% none minimal (0- 4), 30.95 % mild (5-9), 12.70 % moderate (10-14), 14.29 % moderately severe (15-19), and 8.73 severe depression (20- 27).

Table 4.6 Score of Health Questionnaire Depression Scale **(**PHQ-9**)** (n= 126)

Valid	Number	Percentage
None minimal (<=4)	42	33.33
Mild depression (5-9)	39	30.95
Moderate depression (10- 14)	16	12.70
Moderate severe depression (15- 19)	18	14.29
Severe depression (20- 27)	11	8.73
Min:	0	
Max:	25	
Mean ± SD:	8.65±6.58	

4.7 Social support

Table 4.7 showed that mean score of 12 items was 4.10 (±0.93), arrange from 1.33 to 6.08**.** Level supporting included three rates, 11.1 % low support (1 to 2.9), 75.40 % moderate support (3 to 5), 13.49 % high support (score 5.01 to 7). There were 126 subjects of studying had moderate social support to be higher than individuals with low support and high support.

Table 4.7 Score of Multidimensional Scale of Perceived Social Support (MSPSS) (n= 126)

Valid	Number	Percentage
Low support (1-2.9)	14	11.11
Moderate support (3-5)	95	75.40
High support (5.01- 7)	17	13.49
Min:	1.33	
Max:	6.08	
Mean ± SD:	4.10±0.93	

4.8 Correlate between self- efficacy, pain level, depression, social support and functional status

In the table 4.8 showed the correlation coefficient between self- efficacy score, pain level, depression score, and social support score and functional status score. The correlation coefficient for functional status with disability was negative correlation with ASES (r =- 0.349, p =0.01) and SMSSP (r = -0.215, p =0.01), positive correlation with PVN (r = 0. 561, p =0.01) and PHQ-9(0.679, p =0.01). However, functional status was reflected by disability score, higher score of disability was referred lower functional status and, in a position, lower score of disability was referred higher functional status. So that, functional status was positive correlation with ASES,and SMSSP, negative correlation with PVN and PHQ-9.

Table 4.8 Correlations between self- efficacy, pain level, depression, social support and functional status

	1	**2**	**3**	**4**	**5**
1.HAQ-8	1.00				
2.ASES-8	- .349**	1.00			
3.PVN	.561**	- .283**	1.00		
4.PHQ-9	.679**	-.424**	.577**	1.00	
5.SMSSP	- .215**	.361**		-.227**	1.00

** Correlation is significant at p =0.01 level

CHAPTER V
DISCUSSION

The researcher will present the discussion of this research findings relevance to the studied objectives.

5.1 Demographic characteristic of the sample

The patients in this study composed of 126 patients with Rheumatoid arthritis at Bach Mai Hospital. All of them were treated as inpatients and almost of them were female. During data collection, there was no adverse event so that all of them participated throughout the study with no attrition. The results are presented in the following topics; general characteristics of the sample, sample's health status, characteristics of functional status, self-efficacy, pain level, depression, social support and the correlation among patients' self-efficacy, pain level, depression, social support and functional status.

The majority of patients were female (88.89 %) with the age ranged from 23 to 76 years old. The average age was 55.62 years (SD= 10.29 years). Their education was 33.33% high school education. In regard to the sample socioeconomic status included 37.31 % of them were famer, 19.84% retirement, 9.52 % housework, worker 8.73% and only 7.14% professional which was smallest rate. Half of them (50 %) is low - income class earning less than 100 USD monthly which was compared with basic salary classes in Vietnam. All of patients had to depend on governmental insurance (100 %) with from 40% to 100% cost of payment. There were 74.60 % sample had more than two family member, 21.43 % had only one family member who took care of them at hospital. This result was consistent with research of Mancuso (2000) described that 96% rheumatoid arthritis women patients with age of 50 years old. We are able to find some similarity to the study result of Sokka, T., Krishnan, E., Häkkinen & Hannonen, P (2003) indicated 72% were female with the mean age of the

respondents was 55.4 years (Sokka, T., Krishnan, E., Häkkinen & Hannonen, P, 2003). Education of RA patients at Bachmai hospital lower than once of Mancuso (2000) research that showed 84% colleague graduates. These job majorities of our patients were similar research result of María & Juan (2010) reflected that RA patients had a low-level occupation and they came from low economic classes (María & Juan, 2010).

The half of the samples had duration of illness from less than 2 years (50 %), duration of illness means score was 4.57 (SD: ± 5.50). Length of stay 7 days or less was around 92.06 %. There were 32.5 % of the samples had comorbidities with hypertension (7.14%), Diabetes (6.35%), Osteoporosis. This result was the same with WHO (2003) which indicated all most patient to affected on their work capacity less than five years (WHO, 2003). María & Juan (2010) indicated similar that there were 66% referred being unemployed because of the disease among patients with RA (María & Juan, 2010). However, this rate was higher once of WHO (2003) reporting defined as a total cessation of employment in between 51% and 59% of patients. This result was similar reporting of National Rheumatoid Arthritis Society (2012) that RA is estimated 80 % of total patients who tend to develop one or more comorbidities.

There were 100 % painful patients , 57.1% samples had pain more than 2 joints, 17.46 % small joint, 15.08 % middle joint and 9.52 % big joint, 38.89 % morning stiff, 21.43% inflame joint . This pain prevalence was similar of S Dahaghin et al (2005) showed 97.2% of the study population had suffered from pain. This was pain percentage greater than other symptoms that were reported their joints (S Dahaghin et al, 2005). In our study, the RA patient who suffered inflame joint to be lower than result of AHa¨kkinen et al (2005) with 64 % similar condition (AHa¨kkinen et al, 2005). This deformity joint rate was consistent with report of Australian Institute of Health and Welfare (2009) that RA was main impacting to make serious deformity joints. It also was c with confirm result of research that 67% of the patients had deformities including erosions on their hand or foot radiographs (46% in the hands and 59% in the feet) (AHa¨kkinen et al, 2005). Those characteristic of patients such as high painful, deformity level, morning stiff and swollen joint that effected to living daily activity of RA patients.

The mean of disability functional scale was 1.3 (SD: 0.80) with range from 0.00 to 3.00 The result showed that functional status was none to moderate difficulty

including none minimal (13.49 %) and mild (50.79%), moderate (27.78%) to severe disability(7.94 %).

This result was consistent with Wolfe and others (2000). They identified that function disability was high. In addition, Katz et al (2006) presents 95% patients to be disability functional status. It was also consistent with result of Orengo et al (2001) that reported 67% of disability functional and María & Juan(2010) showed more than 70% of the patients had HAQ rates indicating moderate to severe disability (María & Juan, 2010). However, this rate was higher with reporting of Bombardier et al (2012) that were 50% RA patients with later disability functional status according to 42 studies. In this research, we found almost RA patients to be female who had comorbidities high level with Osteoporosis and Degeneration. Special, they had to deal severe symptoms as painful, deformity, morning stiff and inflammation joint. This result may be demonstrated high patients prevalence with RA who had functional status with the disability.

The majority of RA patients who had self -efficacy level with 55.6 % in total ,mean of RA self- efficacy scale was 4.88 (±1.87), level was ranged from 1.13 to 10. Each question was range score 1–10 and the total score for separate self -efficacy level through the mean of the eight items. The total score reflected self -efficacy level is ranged from 55.6 % very uncertain, 17.46 % moderately uncertain and 26.98 % very certain. The score for the scale is the mean of the eight items with higher score responded higher self -efficacy. It means that patients with low self- efficacy level more than moderately one and high one over the last 2 weeks. This result was appropriate with study of Somers et al (2010) reflected that RA patients had low levels of self-efficacy may utility from a referral for psychosocial intervention that can increase arthritis individual self-efficacy. According on our study, we found that our patients almost were female and they had low education as well as working losing. Besides, they had higher levels of pain, deformity and functional status with disability. Those results may be explained for lower levels of self-efficacy among RA patients at Bachmai hospital, Vietnam.

Marjory of sample that we found was 100 % patients had painful with scores range from 1 to 10, with the higher score indicating more pain. These were samples with 50 (39.68%) severe pain, 37 (29.37 %) moderately pain, 27 (21.43%)

very severe pain, only was 12 (9.52%) mild pain. The mean pain that was 5.99 (SD: 1.78) with range from 1 to 10 score. It means that patients total 38.89 % patients with arrange from mild to moderate pain level and 61.11 % severe or very severe pain over the last 2 weeks. This result was consistent with according literature review of Jakobsson and colleagues (2002) identified that there were 97.1% moderate or severe pain and 40.0% had severe or very severe pain on RA patient (Jakobsson, 2002). In our research determinate that all of samples had painful at all joint and over half had pain more than 2 joints including mix small, middle and big joint. This characteristic pain site may explain for high pain level with from moderate to very severe.

This result showed that majority of RA patients with 66.67% who had depression, mean of score of depression was 8.65 (±6.58) and PHQ-9 total score was the sum all of 9 items and ranges from 0 to 25. Total scores with 5 depression level include 33.33.% none minimal (0- 4), 30.95 % mild (5-9), 12.70 % moderate (10-14), 14.29 % moderately severe (15-19), and severe 8.73% (20- 27). This result was consistent with research evidence of Zyrianova et al (2006) showed that 65 % of patients RA with depression (in which 37.5% moderate or severe) and correlate strongly with functional status (Zyrianova et al., 2006). It was also similar to study result of Muhammad et al (2015) that indicated 71.5% of RA patients to be depression. The moderate and severe depression were refer 22.5% and 18.6% patients respectively (Muhammad et al , 2015). In the study, almost patients have poor living standard and come from lower-status class. Moreover, they had to suffer many symptoms including painful, morning stiff, swollen joint and deformity joint which leaded to reduce functional status. Those conditions may have influenced the number of patients with depression.

The result indicated that total sore of social support based on score mean of 12 items was 4.10 (±0.93), arrange from 1.33 to 6.08**.** Level supporting included three rates,11.11 % low support(1 to 2.99), 75.40 % moderate support(3 to 5), 13.49 % high support (score 5.01 to 7). It is mean that 126 subjects of studying had moderate social support to be higher than individuals with low support and high support. According study result of Minnock, P., Fitzgerald, O. & Bresnihan (2003) also showed similarity that RA patients' satisfaction with the moderate levels social support. There were 64% patients who expressed satisfaction with both emotional and practical of

social support. (Minnock, P., Fitzgerald, O. & Bresnihan, B,(2003). Our result was similar finding of ROGERS, Heather L. et al (2015) that 85 % RA participants reported moderate social support. Following our result about characteristic of the participants which showed all most of RA patients had more than one family member to take care of them during their stay at hospital. For that, they may explain for moderate social support on patients.

5.2 The relationship between self- efficacy, pain level, depression, social support and functional status.

Assumption will be tested and result of data showed that only ASES scale and MSPSS had normal distribution (P=0.197) and (P=0.06); score three variables including HAQ (P=0.03), Pain level (P=0.00), depression (P=0.003) that didn't have normal distribution (P <0.05). So that, the relationship between self-efficacy, pain level, depression, social support and functional status will be test by Spearman's orh. In the table 4.7 showed the correlation coefficient between self- efficacy score, pain level, depression score and social support score and functional status score. The correlation coefficient for functional status with disability was negative correlated with self-efficacy (r = - 0.349, p= 0.01) and social support (r = - 0.215, p= 0.01), positive correlation with pain level (r = 0. 561, p=.01) and depression (r=0.716, p=.01). However, functional status was reflected by disability score, higher score of disability was referred lower functional status, lower score of disability was referred higher functional status. Those results were consistent with another study of authors such as Claudia et al (2001), Orengo et al (2001), Greene et al. 2006 and Baruth et al (2013). There were factors related to functional status including depression, pain severity, self-efficacy (Claudia et al., 2001). The overall RA patients, there are 67% of disability functional which was predicted by the self-efficacy, pain level and depression (Orengo et al., 2001). Greene et al. 2006 showed that self- efficacy, pain, social support were correlated to the physical activity behaviour of RA patients in African-American (Greene et al. 2006). Baruth et al. 2013 also stated that higher pain, higher depressive symptoms, and lower arthritis self-efficacy were related to the greater disability functional among RA adult patient (Baruth, Wilcox, Schoffman, & Becofsky, 2013).

5.3 The relationship between self-efficacy and functional status

The correlation coefficient for functional status with disability was negative correlation with self-efficacy ($r = - 0.349$, $p = 0.01$). Our result was consistent with pre-study of Brekke, Hjordahl & Kvien (2001), Primdahl et al (2011) which showed that self-efficacy level correlates with outcome of health status (Brekke, Hjordahl & Kvien, 2001) including disability functional status (Primdahl et al., 2011). Similarly, research results of Somers et al (2010), Pells et al (2008) and Pariser & Hanlon (2005) showed that there were self-efficacy in relation with functional status such as performing functional tasks and managing other symptoms as activities daily living. The self-efficacy correlated negative disability functional which means self-efficacy correlated positive with functional status. The RA patients had lower self-efficacy levels that lead higher disability functional. In other words, the RA patients had lower self-efficacy levels that lead lower functional status (Somers et al., 2010; Pells et al., 2008; Pariser &Hanlon, 2005). Similarly, Claudia et al (2001) determinate that factors self-efficacy related to functional status among patients with RA (Claudia et al., 2001). Our result showed that RA participates had lower self -efficacy and higher functional status with the disability. This content demonstrated the relationship between self-efficacy and functional status.

5.4 The relationship between pain level and functional status

The correlation coefficient for functional status with disability was positive correlation with pain level ($r = 0. 561$, $p=0.01$). Our study indicated that characteristic pain was high pain level with from moderate to very severe. Besides, functional of patients were referred to high incidence of functional statuses with disability. Our research result was similar with report of WHO (2012) that the pain influences to the functional status, quality of life and emotion of individual. The Pain leads disability functional in Rheumatoid arthritis patient is estimated 4.866.000 per 2002 year (WHO, 2012). The relationship between pain level and functional status which we found to be consistent with study of Somers et al (2009), Hakkinen and colleges (2005), Ahlstrand, Björk, Thyberg, Börsbo, & Falkmer (2012) and Evers and colleges (2003). The patients with arthritis including RA had high pain levels may be

lead to increased disability functional (Somers et al., 2009). Hakkinen and colleges (2005) showed that pain joints have higher pain score and it was the greatest impact on individual RA patient sub dimensions of the function status scale (HAQ) (Hakkinen, Kautiainen, Hannonen, Ylinen, Arkela-Kautiainen, & Sokka, 2005). Pain effected as barrier to perform activities among RA patient (Ahlstrand, Björk, Thyberg, Börsbo, & Falkmer, 2012). Study's results of Evers and colleges (2003) indicated that pain coping was assessed very simple and it can be affect functional status (disability) in RA. Summary, our research showed that pain level correlated with functional status among patients with RA. The RA patients had pain higher level, the functional status was lower.

5.5 The relationship between depression and functional status

The correlation coefficient was positive relationship between depression and functional status with disability. It reflected on PHQ-9 scale ($r=0.679$, $p=0.01$). On other words, it was mean depression was strongest negative correlation with functional status. This result shared the same findings with the study of Benka et al. (2014). Depression were observed to be strongest related to function status of RA patients (Benka et al., 2014). Depression was independent predictors and significant relationship with RA functional status (Anderson, 1992). Fallujah (2015) also showed that the variance depression was significantly important explained by the functional disability among rheumatoid arthritis (Fallatah, 2015). Similarly, Claudia et al (2001) indicated that factor depression related to functional among patients with RA (Claudia et al., 2001). The overall RA patients, there are 67% of disability functional which was predicted by the self-efficacy, pain level and depression (Orengo et al., 2001). Our result showed that RA participates had higher depression that lead to lower of functional status. This content demonstrated the relationship between depression and functional status among RA patients.

5.6 The relationship between social support and functional status

The correlation coefficient for functional status with disability was negative correlation with social support (r = - 0.215, p=.016). It presented social support was correlation with functional status. Peeters and colleges (2014) showed that there is significantly relation between social support, physical activity of RA patients and function status (Peeters, Brown, & Burton, 2014). The social support is a good benefit and support to RA patients. In term of social supports, family members had achieves balance and suffering disability of RA (Abraido-Lanza, 2004). The study of Jozef et al. (2004) showed that social support has great impact to functional disability on depressive feelings in individual with RA. Emotional support is from social that may be beneficial with severe disability. Thus, the interventions with providing social support to the functional status that might help reduce mental health problems among RA patient. (Jozef et al., 2004). Research of Fallatah (2015) also showed that the variance social support including emotional support was enormous influence explained by the functional disability among rheumatoid arthritis (Fallatah, 2015). We found that RA patients had higher social support that lead higher functional status. This content demonstrated the relationship between social support and functional status.

In conclusion, self-efficacy theory can apply as conceptual frame work of this study. It can explain correlation between self-efficacy, pain level, depressions and social support to functional status among patients with Rheumatoid Arthritis

CHAPTER VI
CONCLUSION

6.1 Conclusion of the study

This descriptive correlational study aimed to examine the relationship among self - efficacy, pain, depression, social support and functional status in patients with Rheumatoid arthritis (RA) who were age ranged from 23 to 76 years old in Rheumatology unit from August to October, 2016. Self- efficacy theory was utilized as a framework of this study. The sample size in this study was 126. The research setting was the Rheumatology ward, a center specializing in Bach Mai hospital, Hanoi, Viet Nam.

After obtained approval from Institutional Review Board of Nursing faculty, Mahidol University and Institutional of Review Board of SMP, Vietnam National University, Hanoi, Vietnam, the researcher used 6 instruments including the demographic data questionnaire,Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID), Arthritis self-efficacy Scale (ASES), Pain Visual Numeric (PVN)**,** Health Questionnaire Depression Scale 9 Items (PHQ-9) and Multidimensional Scale of Perceived Social Support (MSPSS) to collect data. All instruments were tested for their validity and reliability as clearly explained in chapter 3. The Cronbach's alpha coefficient of HAQ 8-ID, ASES, PHQ-9 and MSPSS were 0.93, 0.96, 0.87 and 0.89 respectively. The 126 sample were selected according to the inclusion criteria. The researcher collected data by herself from 8.00 am to 4.00 pm every day until the sample reached the target of the studied sample size. For each sample the researcher spent about 30-40 minutes per patient on interviewing and collected some data from their patients' records. During data collection, there was no adverse event among the sample. All sample recruited in the study remained throughout the study process with no attrition.

Data analysis was conducted by using SPSS computer program. The descriptive statistics were used to describe general information and study variables,

including self – efficacy, pain, depression, social support and functional status. The assumption of Pearson' Product Moment Correlation was tested and it was found that all variables were not in normal distribution. Accordingly, Spearman's rho was used to examine correlation between including self – efficacy, pain, depression, social support and functional status among patients with RA.

The findings are summarized as follows:

There were 126 RA patients. Most of them were female (88.89%) with the age ranged from 23 to 76 years. The mean was 55.62 years (SD= 10.29 years). The majority of them had normal BMI (76.99 %), married (89.68 %), and high school education (33.33%). 37.31 % of them were farmer and live in rural area (66.67%). There were 50 % earned monthly incomes less than 100 USD. 74.6 % had more than two family members, 21.4 % had only one family member who took care them at hospital. Most of them had government insurance with from 40% to 100% cost of payment.

Most of samples were diagnosed with RA less than two year. 92.06% had length of stay 7 days or less. There were 32.5 % of the samples had comorbidities with hypertension (7.14%), Diabetes (6.35%), Osteoporosis (79.37%).There were 100 % painful patients, 38.89 % morning stiff , 21.43% inflame joint. 57.1% had pain more than 2 joints. There were employed 64. 29 %. Majority of them were treated more than two methods (pre-treatment 62.69% and present treatment 65.87)

The average of disability functional scale was 1.3 (SD ± 0.80) with range from 0.00 to 3. The data showed that functional statuses were none to moderate difficulty including none minimal (13.49 %) and mild (50.79%), moderate (27.78%) to severe disability (7.94 %).

The mean of RA self- efficacy scale was 4.88(1.87) with the total score mean reflected self- efficacy level is ranged from 1.13 to 10. The Self- efficacy level is ranged from 55.56 % very uncertain, 17.46 % moderately uncertain and 26.98 % very certain.

Marjory of sample that we found was 100 % patients had painful with scores range from 1 to 10, with the higher score indicating more pain. These were 50 (39.68%) severe pain , 37 (29.37 %) moderately pain , 27(21.43%) very severe pain,

only were 12 (9.52%) mild pain. The mean of RA pain was 4.88 (SD: 1.87) with range from 1 to 10 score.

This result showed that majority of RA patients with 66.7% who had depression, mean of score of depression was 8.65 (±6.58), and PHQ-9 total score was the sum all of 9 items and ranges from 0 to 25. Total scores with 5 depression level included 33.33 % none minimal**,** 30.95 % mild, 12.70 % moderate, 14.29 % moderately severe , and r severe 8.73%

The result indicated that total sore of social support based on score mean of 12 items was 4.10 (±0.93), arrange from 1.33 to 6.08**.** Level supporting included three rates, 11.1 % low support (1 to 2.99), 75.4 % moderate support (3 to 5), 13.5 % high support (score 5.01 to 7). It is mean that subjects of studying had moderate social support were highest.

The correlation coefficient for functional status with disability was negative correlation with ASES (r =- 0.349, p =0.01) and MSPSS (r = -0.215, p =0.01), positive correlation with PVN (r = 0. 561, p =0.01) and PHQ-9(0.679, p =0.01). However, functional status was reflected by disability score, higher score of disability was referred lower functional status and, in a position, lower score of disability was referred higher functional status. So that, functional status was positive correlation with ASES, and MSPSS, negative correlation with PVN and PHQ-9.

The results of this study complied with the concept of self -efficacy theory in that when patients with RA perceived in their own self efficacy, they owned the confidence and able to obtain their functional status such as perform functional task and management other symptoms as activities daily living.

6.2 Implications of Research Findings

6.2.1 Implications for nursing practice

In order to enhance patients with RA to obtain their full functional status the following measures have to be performed by nurses;

1) Improve patients' self-efficacy by providing them with Knowledge preventing deformity to avoid inappropriate position leading to more disability.

2) Improve patients' self-efficacy by encouraging them with empowered feedback toward their performance during their hospital follow up visit. The empowering interaction between nurses and patients will increase patients' self - confidence as well as increase self-efficacy.

3) Develop guidelines to decrease and control patients' pain in particular, pain during movement in Vietnamese people.

4) Provide routine assessment on patients' depression by Health Questionnaire Depression Scale 9 Items (PHQ-9) during patients' follow up visit to identify level of depression. Patients whose scores show that their experience depression have to be referred to the specialist practitioners for proper management.

5) Assess patients' functional status by using the Health Assessment Questionnaire 8 Items-Disability (HAQ 8-ID) during patients' follow up. Nurses should identify and manage ones who have problems with functional status progress while maintain ones who have good progress.

6) Among patients with RA, nurses should explain about the important social role to family caregivers who will encourage, empower and support them with tangible and intangible resources.

6.2.2 Implications for further study

1) Clinical practice guidelines to improve functional status among patients with RA should be developed and tested for its effectiveness by using quasi experimental research.

2) The Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID) in Vietnamese version should be tested in its psychometric property by using in adequate numbers of patients, advanced statistic-factor analysis should be employed to test the psychometric property of HAQ 8-ID in Vietnamese context.

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APPENDICES

APPENDIX A
LIST OF THE EXPERT

1. Prof Dr. Truong Viet Dung, MD, PhD
   Chairman of Independent Ethic Committee, Ministry of Health, Vietnam
   Dean of School of Medicine and Pharmacy, Vietnam National University, Vietnam.
2. Prof Dr Nguyen Mai Hong, MD, PhD
   Head of Rheumatology department, Bach Mai hospital
3. Prof Dr Tran Thi Minh Hoa, MD, PhD
   Rheumatology department, Bach Mai hospital
4. Dr Tran Thi To Chau. MD
   Vice head of Rheumatology department, Bach Mai hospital
5. Dr Hoang Van Dung
   Rheumatology department, Bach Mai hospital

APPENDIX B

CERTIFICATE OF APPROVAL

MAHIDOL UNIVERSITY
Since 1888

The Institutional Review Board
Faculty of Nursing, Mahidol University
Tel 0-2441-5333 Ext 2531-32

Document No. 0517.0510/IRB-NS 455
Date May 3, 2016
Subject Result of research project considerations after the revision
Dear Chair, Master of Nursing Science Program in Adult Nursing (for Vietnamese Nurses)

According to the student named Mrs. Tran Thi Ngoc Xuyen has submitted the research project entitled Factors related to the functional status among patients with rheumatoid arthritis protocol no. IRB-NS2016/23.0703 at the Institutional Review Board, Faculty of Nursing, Mahidol University on the (date) May 2, 2016 the IRB committee have examined and found the research protocol and all the research documents are revised according to the suggestions of the IRB. The IRB committee have made the decision and the results are as follows:

☒ Approve.
On the date May 2, 2016
Please look at the guideline for the research conduct post approval.
The document is attached together with the COA

Fongcum Tilokskul

(Associate Professor Dr. Fongcum Tilokskulchai)
Chair, Institutional Review Board

Copy to Associate Professor Dr. Wimolrat Puwarawuttipanit
Mrs. Tran Thi Ngoc Xuyen

APPENDIX C
PARTICIPANT INFORMATION SHEET

(ENGLISH VERSION)

- 2 MAY 2016
23-0703

IRB-NS Form No. 3.1

Participant Information Sheet

In this document, there may be some statements that you do not understand. Please ask the principal investigator or his/her representative to give you explanations until they are well understood. To help your decision making in participating the research, you may bring this document home to read and consult your relatives, intimates, personal doctor or other doctor.

Title of Research Project: Factors related to the functional status among patients with rheumatoid arthritis

Name of Researcher: Tran Thi Ngoc Xuyen

Research Site-Office and its telephone number available for contact both in and out of the office hours: this program cooperation between Mahidol and VNU:

Rheumatology department, Bach Mai hospital, 78 Giai Phong streets, Dong Da districts, Hanoi city, Vietnam.

Code: 100000. Phone number : (+84) 346290484

Source of Fund: No research of Funding:

This research project aims to study factors related to Functional status in patients with Rheumatoid Arthritis.

Which expects the following benefits:

1) Providing basic data about factors related to quality of life in RA patients
2) In the future, developing program by using this data to promote function status among patients Rheumatoid Arthritis.

However, this study the sample doesn't get any benefit directly but RA patient will get benefit in the future.

You are invited to participate in this research project because you have been diagnosis in RA patient and being 18 years old above.

There will be 126 participants, and the research will last for answer question 30-40 minutes.

*To participate in this research is completely VOLUNTARY.

Participant Information Sheet for version 5 date 16 January 2016

Approved by Institutional Review Board
Faculty of Nursing, Mahidol University
Project Number IRB-NS. 2016/23.0703
Date of Approval - 2 MAY 2016

IRB-NS Form No. 3.1

If you decide to participation the research project, you will go through the following procedure:

1) The researcher will ask you to sign consent form.
2) The researcher will collect some demographic data from medication record form

3) You will ask to do five questionnaires for data collection. Questionnaires are: 1) The questionnaire part demographic data of the patients has 2 domain including patient information (14 items) and illness information (10 items) 2) Health Assessment Questionnaire 8 Items - Disability (HAQ 8-ID) 3) Arthritis self-efficacy scale (ASES) has 8 items, 4) Visual Numeric Pain scale (VNP) is as well as both visual shapes and numeric scale, 5)Patient Health Questionnaire- 9 (PHQ-9) has 9 items and 6) Multidimensional Scale of Perceived Social Support (MSPSS) has 12 items. Total questionnaire has 62 items and the time used for complete this data collection is about 30-40 minutes per patient

4) During interviewing or doing questionnaire, you may feel discomfort. You can stop and rest for a while until you feel comfort to continue. If you want to stop participation to this study, you can withdraw from the study at any time.

5) During data collection, you may have unexpected conditions like pain. If you have pain which you can't tolerate. The researcher will stop conduct research, take care you and contact doctors who have response to take care you until your condition stable. .

If you do not participate in this research project, I will receive a standard assessment and treatment.

If you have any questions about this research please feel free to contact with Mrs Tran Thi Ngoc Xuyen mobile phone: (+84) 0988493721

You don't get any money or payment for participant in this research.

If relevant information arises about benefits and risks of the research project, the researcher will inform the participant immediately and without concealment.

IRB-NS Form No. 3.1

My information will be kept confidential, it will not be subject to an individual disclosure, but will be included in the research report as part of the overall results. Individual information may be examined by a researcher, the ethics committee, etc.

You have the right to withdraw from the project at anytime without prior notice. And the refusal to participate or the withdrawal from the research project will not at all affect the proper service or treatment that you will receive.

This research project is approved by The Institutional Reviews Boards, Faculty of Nursing (IRB-NS) at the office of IRB-NS room 503 5th floor, Faculty of Nursing, Mahidol University, 999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom 73170 Thailand Tel: 66 2 441 5333 ext 2531, 2532 Fax: 0066 2 441 5333 ext 2531

Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com

On the condition that I am not treated as indicated in the information sheet distributed to the subjects, I can contact the Chair, or the representative of the IRB-NS at the contact address presenting above.

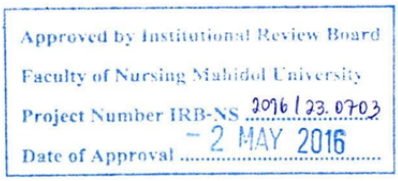
I thoroughly read the details in this document.

Signature.....

Participant

(.....)

Date.....



Participant information sheet (Vietnames version)

THÔNG TIN DÀNH CHO ĐỐI TƯỢNG THAM GIA NGHIÊN CỨU

Tài liệu này sẽ có một số vấn đề Ông/bà có thể không hiểu. Hãy hỏi người nghiên cứu hoặc người đại diện của cô ấy để đưa cho Ông/Bà lời giải thích cho đến khi Ông/Bà hiểu rõ ràng vấn đề. Để giúp cho việc quyết định có tham gia vào chương trình nghiên cứu hay không, Ông/Bà có thể mang tài liệu này về nhà để đọc hoặc hỏi ý kiến người thân và các bác sĩ.

Tên đề tài nghiên cứu: Các yếu tố liên quan đến tình trạng chức năng của bệnh nhân viêm khớp dạng thấp

Người thực hiện nghiên cứu: Trần Thị Ngọc Xuyến

Địa chỉ và điện thoại liên hệ trong và ngoài giờ hành chính (Đại diện của người nghiên cứu): Bệnh viện Bạch Mai: 78 đường Giải Phóng, Quận Đống Đa, Hà Nội, Việt Nam. Mã bưu chính: 100000. Số điện thoại: (+84) 438683731 Fax: (+84). 438691607

Nguồn kinh phí: tự túc

Mục đích của nghiên cứu: nhằm đánh giá các yếu tố liên quan đến trạng thái chức năng của bệnh nhân Viêm khớp dạng thấp, với các lợi ích được kì vọng, bao gồm:

1) Việc nghiên cứu này cung cấp dữ liệu cơ bản về các yếu tố liên quan đến trạng thái chức năng của bệnh nhân Viêm khớp dạng thấp
2) Trong tương lai, chương trình này phát triển để cải thiện trạng thái chức năng của bệnh nhân Viêm khớp dạng thấp.

Tuy nhiên, trong nghiên cứu này, người tham gia nghiên cứu có thể không thu được các lợi ích trực tiếp, nhưng những người bệnh mắc bệnh phổi tắc nghẽn mạn tính sẽ thu được các lợi ích trong tương lai.

Ông/Bà được mời tham gia chương trình nghiên cứu này bởi vì Ông/Bà đã trên 18 tuổi và được chẩn đoán mắc Viêm khớp dạng thấp.

Sẽ có 126 người tham gia, và cuộc phỏng vấn kéo dài tổng khoảng từ 30-40 phút

Việc tham gia nghiên cứu này của Ông/Bà là hoàn toàn TỰ NGUYỆN.

Nếu Ông/Bà quyết định tham gia nghiên cứu này, Ông/Bà sẽ trải qua các bước sau:

1) Người nghiên cứu sẽ yêu cầu Ông/Bà ký tên vào bản chấp thuận tham gia nghiên cứu
2) Người nghiên cứu sẽ thu thập một số thông tin của Ông/Bà từ hồ sơ bệnh án.
3) Nghiên cứu viên sẽ chuẩn bị phòng riêng để phỏng vấn Ông/bà hoặc Ông/bà có thể tự trả lời các câu hỏi. Sau đó nghiên cứu viên sẽ sử dụng bộ câu hỏi bao gồm 6 phần: 1) thông tin chung với 24 câu hỏi. 2) Thang đánh giá chức năng với 8 câu hỏi 3) Thang đánh giá sự tự tin của người bệnh khớp với 8 câu hỏi. 4) Thang đánh giá đau 5) Thang đánh giá trạng thái tâm thần với 9 câu hỏi 6) Thang đánh giá hỗ trợ xã hội với 12 câu hỏi. Tổng số 62 câu hỏi được hoàn thành trong khoảng 30 – 40 phút. Trong suốt quá trình trả lời câu hỏi, nếu có câu hỏi nào Ông/ Bà không hài lòng hoặc khó trả lời Ông/ Bà có thể không trả lời.

Trong quá trình phỏng vấn, nếu Ông/bà cảm thấy khó chịu, Ông/bà có thể yêu cầu dừng lại và nghỉ ngơi cho đến khi Ông/bà cảm thấy dễ chịu trở lại và có thể tiếp tục phỏng vấn. Nếu Ông/bà không muốn tham gia nghiên cứu nữa, Ông/bà có thể rút khỏi nghiên cứu bất kỳ lúc nào.

Trong quá trình phỏng vấn, Ông/ Bà có thể gặp phải những tình huống không mong đợi do giai đoạn bệnh của bệnh như khó thở, dấu hiệu sinh tồn không ổn định. Nghiên cứu viên sẽ dừng cuộc phỏng vấn và liên lạc với Bác sỹ điều trị cho Ông/ Bà ngay lập tức để chăm sóc Ông/ Bà. Nghiên cứu viên sẽ chăm sóc Ông/bà cho đến khi Ông/bà ổn định.

Nếu Ông/Bà không muốn tham gia vào nghiên cứu này, Ông/Bà vẫn được điều trị và chăm sóc theo đúng quy trình chuẩn của bệnh viện mà không có bất cứ trở ngại nào sau khi rút khỏi nghiên cứu.

Nếu Ông/Bà có bất cứ thắc mắc nào, vui lòng liên hệ người thực hiện nghiên cứu này là Bà Trần Thị Ngọc Xuyến. Số điện thoại: (+84) 988493721

Ông/Bà không được nhận và cũng không phải trả bất cứ một khoản chi phí nào khi tham gia nghiên cứu này.

Nếu có thêm thông tin gì về các lợi ích và rủi ro của nghiên cứu, nghiên cứu viên sẽ thông báo cho Ông/Bà ngay lập tức.

Thông tin của Ông/Bà sẽ được bảo mật tuyệt đối và không được tiết lộ dưới dạng thông tin cá nhân, tuy nhiên nó sẽ được thể hiện trong báo cáo tổng thể như là kết quả của một đề tài nghiên cứu khoa học. Thông tin cá nhân của Ông/Bà sẽ được kiểm tra bởi người nghiên cứu và Hội đồng đạo đức trong nghiên cứu y sinh học.

Ông/Bà có quyền rút khỏi nghiên cứu bất cứ khi nào mà không cần thông báo trước. Việc Ông/Bà rút khỏi chương trình nghiên cứu sẽ không ảnh hưởng đến chất lượng dịch vụ y tế mà Ông/Bà thụ hưởng.

Đề tài nghiên cứu này được chấp thuận bởi Hội đồng Đạo đức trong nghiên cứu Y sinh học, Khoa Điều Dưỡng, Đại học Mahidol, tầng 5 phòng 504, số 999/4 đường Phuttamonthon 4, Salaya, Nakhon Pathom 73170 Thái Lan. Điện thoại 0066 2 441 5333 số máy lẻ 2531, 2532. Fax 0066 2 441 5333 số máy lẻ 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com.

Đề tài nghiên cứu này cũng được chấp thuận bởi Hội đồng Đạo đức trong nghiên cứu Y sinh học, Đại học Quốc gia Hà Nội, tòa nhà Y1, 144 đường Xuân Thủy, quận Cầu Giấy, thành phố Hà Nội, Việt Nam. Mã bưu chính: 100000, số điện thoại liên lạc: +84437450118, Fax: +84-4-37450146. Email: smp@vnu.edu.vn.

Nếu tôi không được hưởng sự điều trị như trong bản thông tin đưa ra, tôi có thể liên lạc với Hội đồng đạo đức, Khoa Điều dưỡng, Đại học Mahidol hoặc Hội đồng đạo đức trong nghiên cứu Y sinh học, Khoa Y dược, Đại học Quốc Gia Hà Nội với các thông tin liên lạc như đã nêu trên.

Tôi đã đọc kỹ và hiểu toàn bộ chi tiết nêu trong bản thông này.

Ngày.....

Họ tên, chữ ký người tham gia nghiên cứu

....

APPENDIX D
INFORMENTS CONSENT

(English version)

- 2 MAY 2016

IRB-NS Form No. 4

23.0703

Consent Form for Informed and Voluntary Participation in Research

Date...../...../.....

My name is....., aged.....years old, now living at the address no.....road/street.....sub-district/tambon..... District/amphur.....province.....Postal code.....Tell.No.....

I give my consent to participate as a subject in the research project entitled: Factor related to functional status among patient with rheumatoid arthritis. In so doing, I am informed of the background and purpose of research project; its procedural details to carry out or to be carried out; its expected benefits and risks that may occur to the subjects, including methods to prevent and handle harmful consequences; and payment/ incentives, and expense. I thoroughly read the detailed statements in the information sheet given to the research subjects, I was also given explanations and my questions were answered by the head of the research project.

I consent to participate as a subject in this research project.

On the condition that I have any questions about the research procedures, or on the condition that I suffer from an undesirable side effect from this research, I can contact with Mrs Tran Thi Ngoc Xuyen mobile phone: (+84) 0988493721 email: ngocxuyen80@gmail.com

(Indicate the name of the person in charge who is 24-hour ready for contact by phone).

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/23.0703
Date of Approval - 2 MAY 2016

IRB-NS Form No. 4

On the condition that I am not treated as indicated in the information sheet distributed to the subjects, I can contact the Chair, or the representative of the IRB-NS at the office of IRB-NS room 503 5th floor, Faculty of Nursing, Mahidol University, 999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom 73170 Thailand Tel 66 2 441 5333 ext 2531, 2532 Fax 66 2 441 5333 ext 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com

I am aware of my right to further information concerning benefits and risks from the participation in the research project and my right to withdraw or refrain from the participation anytime without any consequence on the service or health care I am to receive in the future, I consent to the researcher's use of my private information obtained in this research, but do not consent to an individual disclosure of private information. The information must be presented as part of the research results as a whole.

I thoroughly understand the statement in the information sheet for the research subjects and in this consent form. I thereby give my signature.

Signature.....Participants/Proxy/

(.....) Date.....

Signature.....Person in Charge of Informing and Requesting a Consent/Head of (Tran Thi ngoc Xuyen)

Research Project/Date.....

In case that the participant is not literate, the reader of all the statements for the participant is (Mr./Mrs./Ms.....), who gives his/her signature as a witness.

Signature.....Witness

(.....) Date.....

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/23.0702
Date of Approval 2 MAY 2016

Version 5 date 16 January 2016

Informents consent (Vietnamese version)

BẢN CHẤP THUẬN THAM GIA NGHIÊN CỨU

Ngày...../...../.....

Tên tôi là ....., Tuổi: .....

Mã ID (Người nghiên cứu ghi):.....

Địa chỉ: .....

Mã vùng: ..... Số điện thoại: .....

Trước tiên, tôi xin bày tỏ sự đồng ý tham gia vào đề tài nghiên cứu có tên là: **Các yếu tố liên quan đến tình trạng chức năng của bệnh nhân viêm khớp dạng thấp.**

Trước khi tham gia nghiên cứu tôi đã được thông báo về mục đích của nghiên cứu này, chi tiết quá trình thực hiện nghiên cứu, các lợi ích và rủi ro có thể xảy ra đối với người tham gia nghiên cứu, các biện pháp ngăn ngừa và giải quyết các tác dụng không mong muốn có thể xảy ra đối với người tham gia nghiên cứu, cả về chi phí tham gia nghiên cứu. Tôi đã đọc kỹ toàn bộ thông tin trong bản thông tin dành cho đối tượng nghiên cứu. Bên cạnh đó, các câu hỏi của tôi cũng được giải đáp bởi người thực hiện nghiên cứu.

Tôi đồng ý tham gia vào nghiên cứu này như một đối tượng nghiên cứu.

Trong trường hợp có bất cứ câu hỏi nào hoặc có vấn đề mới phát sinh trong quá trình nghiên cứu, tôi có thể liên hệ với chị Trần Thị Ngọc Xuyến. Số điện thoại: +84 988493721 email: ngocxuyen80@gmail.com (Số điện thoại liên lạc trên được kết nối 24/24 h).

Nếu tôi không được điều trị và chăm sóc như những gì đề cập đến trong bản thông tin dành cho đối tượng nghiên cứu, tôi có thể liên hệ với Hội đồng đạo đức, Khoa Điều Dưỡng, Đại học Mahidol Thái Lan, đặt văn phòng tại tầng 5 phòng 504, Đại học Mahidol, đường Phuttamonthon 4, Salaya, Nakhon Pathom 73170, Thái Lan. Điện thoại: 66 2 441 5333 số máy lẻ 2531, 2532. Fax 0066 2 441 5333 số máy kẻ 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com

Tôi cũng có thể liên lạc với Hội đồng đạo đức trong nghiên cứu Y sinh học, Khoa Y Dược, Đại học Quốc Gia Hà Nội. Địa chỉ: tòa nhà Y1, số 144 phố Xuân Thủy, quận Cầu Giấy, Hà Nội, Việt Nam; điện thoại: 04-37450188; fax: +84437450146; email: smp@vnu.edu.vn.

Tôi nhận thức được quyền thông tin liên quan tới lợi ích và rủi ro của người tham gia nghiên cứu và quyền được rút khỏi nghiên cứu bất cứ lúc nào mà không gặp vấn đề gì về dịch vụ cũng như việc chăm sóc sức khỏe mà tôi sẽ nhận được trong tương lai. Tôi đồng ý cho bên nghiên cứu sử dụng thông tin cá nhân cho việc nghiên cứu, nhưng không đồng ý việc tiết lộ thông tin cá nhân. Các thông tin phải được trình bày như là một phần của kết quả nghiên cứu.

Tôi hoàn toàn hiểu được tuyên bố trong bản thông tin dành cho đối tượng nghiên cứu và trong phiếu chấp thuận tham gia nghiên cứu này. Sau đây là chữ ký của tôi.

Chủ nhiệm đề tài	**Người tham gia nghiên cứu**
(Ký và ghi rõ họ tên)	*(Ký và ghi rõ họ tên)*

APPENDIX E
INSTRUMENTS

(English version)

Fac of Grad. Studies, Mahidol Univ. M.N.S.(Adult Nursing)/37

- 2 MAY 2016
23.0703

INSTRUMENTS

I. ENGLISH VERSION

Part 1.CHARACTERISTIC PATIENT

A. Patient general information

The following questions related to your personal information.

1. Gender: ☐ Male ☐ Female

2. Age: ..... years old (current age in Western calendar)

3. Weight (Kg):..... Height (m):.....BMI (kg/m^2):.....

4. Marital status:

☐ Married ☐ Single

☐ Separated ☐Divorced ☐ Widowed

7. Education:

☐ Primary school (level 1 to 5) ☐ Secondary school (level 6 to 9)

☐ High school (level 10 to 12) ☐ Two years certificate

☐ College (3 years) ☐ Bachelor (University)

☐Others (please specify) .....

8. Occupation:

☐ Professional ☐ Farmer

☐ Industrial worker ☐ Salesperson

☐ Home worker ☐ Retired

☐Other jobs (please specify).....

9. Adress:.....

10. Income:

Your income per month: .....VND

11. Health insurance: Yes ☐ No ☐

If yes, please indicate how much it covers for your treatment? ..... (percent)

12. How many people are living with you? .....(in number)

13. How many love person in your family who had RA similar you?.

Number.....Who (please specify).....

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/23.0703
Date of Approval - 2 MAY 2016

Part 2.HEALTH ASESSEMENT QUESIONNAIRE- 8 ITEM DISABILITY

The Health Assessment Questionnaire 8-Item Disability Scale (HAQ8-ID) is one short scale that measure functional status. The HAQ-ID was originally developed in 1978 by James and colleagues at Stanford University. It was used free and commonly to measure functional status and for many diseases including rheumatoid arthritis in the world. The domain of disability is assessed by the eight categories of dressing, arising, eating, walking, hygiene, reach, grip, and common activities.

Please check (√) the one best answer for your abilities.

STT	At this moment, are you able to:	ANY difficulty	SOME difficulty	MUCH difficulty	UNABLE to do
1.	Dress yourself, including tying Shoelaces and doing buttons?	0	1	2	3
2.	Get in and out of bed?	0	1	2	3
3.	Lift a full cup or glass to your mouth?	0	1	2	3
4.	Walk outdoors on flat ground?	0	1	2	3
5.	Wash and dry your entire body?	0	1	2	3
6.	Bend down to pick up clothing from the floor?	0	1	2	3
7.	Turn faucets on and off?	0	1	2	3
8.	Get in and out of a car?	0	1	2	3

Part 3.ARTHRITIS SELF- EFFICACY

The ASES was developed by Lorig et al at Stanford University (1989). The ASES-8 includes 8 items response 4 domain of self- efficacy for pain (2 items), other symptoms (4 items), preventing pain and fatigue (2 items).For each of the following questions, please circle the number that corresponds to how certain you are that you can do the following tasks regularly at the present time.

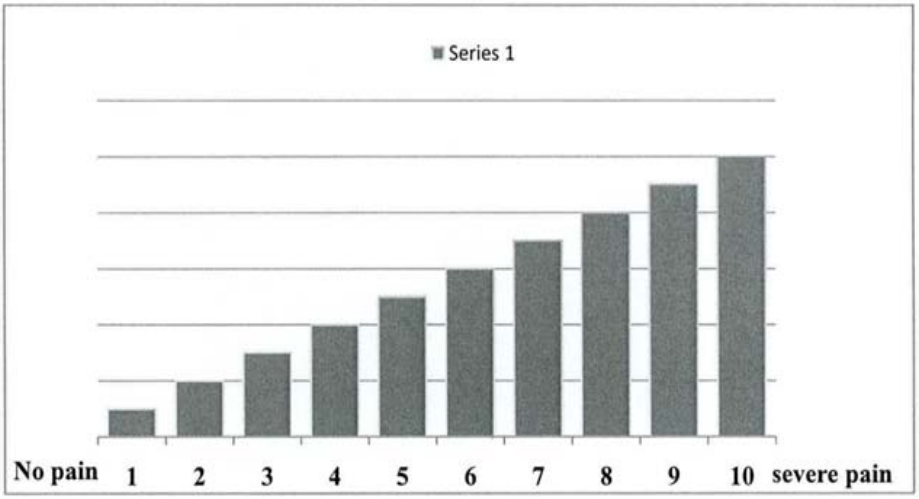
Very uncertain to very certain

1.	How certain are you that you can decrease your pain quite a bit?	1	2	3	4	5	6	7	8	9	10
2.	How certain are you that you can keep your arthritis or fibromyalgia pain from interfering with your sleep?	1	2	3	4	5	6	7	8	9	10
3.	How certain are you that you can keep your arthritis or fibromyalgia pain from interfering with the things you want to do?	1	2	3	4	5	6	7	8	9	10
4.	How certain are you that you can regulate your activity so as to be active without aggravating your arthritis or fibromyalgia?	1	2	3	4	5	6	7	8	9	10
5.	How certain are you that you can keep the fatigue caused by your arthritis or fibromyalgia from interfering with the things you want to do?	1	2	3	4	5	6	7	8	9	10
6.	How certain are you that you can do something to help yourself feel better if you are feeling blue?	1	2	3	4	5	6	7	8	9	10
7.	As compared with other people with arthritis or fibromyalgia like yours, how certain are you that you can manage pain during your daily activities?	1	2	3	4	5	6	7	8	9	10
8.	How certain are you that you can deal with the frustration of arthritis or fibromyalgia?	1	2	3	4	5	6	7	8	9	10

Part 4. PAIN VISUAL NUMERIC (PVN)

Pain Visual Numeric (PVN) scale measure pain, a free domain that is developed from Visual Analogue Scale (VAS) and base on pain assessment experience by Philip and colleagues at Stanford University School of Medicine, USA (Philip, Virginia, Diana & Kate, 2006). This scale was designed as well as both visual shapes and numeric scale (from 1 to 10 scores). It include columns with high level relate with each numeral level below. The patient self- reported about pain perception through circle shape above or number below.

We are interested in learning whether or not you are affected by PAIN. Please circle the number below that describes your pain in the past 2 weeks:



Part 5. PERSONNAL HEALTH QUESIONNAIRE DPRESSION(PHQ-9)

This instrument is developed by Kroenke and colleges (2001) with consists of the actual nine items (Kroenke et al., 2001). The PHQ-9 includes nine items for screening major depressive disorder in primary care.Over the **last 2 weeks**, how often have you been bothered by any of the following problem?(circle one number on each line)

List	How often during the past 2 week were you bothered by...	Not at all	Several days	More than half the days	Nearly Every day
1.	Little interest or pleasure in doing things	0	1	2	3
2.	Feeling down, depressed, or hopeless	0	1	2	3
3.	Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4.	Feeling tired or having little energy	0	1	2	3
5.	Poor appetite or overeating	0	1	2	3
6.	Feeling bad about yourself, or that you are a failure, or have let yourself or your family down.	0	1	2	3
7.	Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8.	Moving or speaking so slowly that other people could have noticed. Or the opposite –being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9.	Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3

Part 6.MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

This instrument is developed by Zimet and colleagues (1990). There are 12 items for interview and the items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree

Circle the "2" if you Strongly Disagree

Circle the "3" if you Mildly Disagree

Circle the "4" if you are Neutral

Circle the "5" if you Mildly Agree

Circle the "6" if you Strongly Agree

Circle the "7" if you Very Strongly Agree

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7

Instruments (Version Vietnamese)

BỘ CÂU HỎI NGHIÊN CỨU

1.Thông tin chung của người bệnh

Số thứ tự:..... Mã bệnh án: .....

Mã ID:.....

Dưới đây là các câu hỏi liên quan đến thông tin cá nhân của người bệnh. Làm ơn hãy sử dấu ✓ để điền vào ô trống

1. Giới ☐ Nam ☐ Nữ

2. Tuổi .....

3. Cân nặng ..... (Kg) Chiều cao ..... (m) BMI (kg/m^2)

4. Địa chỉ.....

5. Tuyến trước:

6. Tình trạng hôn nhân

☐ Đã lập gia đình ☐ Độc thân

☐ Ly thân ☐Ly hôn ☐ Góa (chồng hoặc vợ)

7. Trình độ học vấn

☐ Tiểu học ☐ Trung học cở sở ☐ Trung học phổ thông

☐ Trung cấp

☐ Cao đẳng (3 năm) ☐ Cử nhân Đại học

☐ Khác (ghi cụ thể) .....

8. Nghề nghiệp

☐ Trí thức ☐ Nông dân

☐ Công nhân ☐ Buôn bán ☐ Nội trợ

☐ Nghỉ hưu

☐ Công việc khác (ghi cụ thể).....

9. Địa chỉ:.....

10. Thu nhập của bản thân là bao nhiêu trong một tháng:

- Thu nhập của bản thân trên một tháng:.....VND

11. Bản thân có thẻ bảo hiểm y tế không? Có ☐ Không ☐

Nếu có, Bảo hiểm sẽ chi trả cho việc điều trị là bao nhiêu phần trăm?..... (%)

12. Có bao nhiêu người sống cùng với bạn? .....

13. Có bao nhiêu người nhà có bệnh viêm khớp dạng thấp giống bạn? Ai:.....

14. Thói quen của bản thân : Hút thuốc: ☐ Uống rượu(bia) : ☐ Tập thể dục : ☐

Phần 2: Những thông tin liên quan đến bệnh và điều trị.

1. Ngày vào viện:

2. Chẩn đoán: .....

3. Những bệnh lý kèm theo:.....

4. Dấu hiệu : Đau: ☐ Cứng khớp buổi sáng: ☐ Sưng:☐

Biến dạng khớp: ☐ Khác: .....

5. Vị trí đau:.....

6. Bạn được chẩn đoán bệnh Viêm Khớp Dạng Thấp bao lâu:.....tháng.....ngày

7. Bạn mất khả năng lao động do bệnh này không ? Có☐ Không: ☐

8. Phương pháp điều trị trước đây:

Thuốc điều trị cơ bản: ☐ Thuốc chống viêm không steroid (NSAID) ☐ Corticoid ☐

Thuốc giảm đau: ☐ Vật lý trị liệu: ☐ Thuốc đông y:☐

9. Phương pháp điều trị hiện tại :

Thuốc điều trị cơ bản: ☐ Thuốc chống viêm không steroid (NSAID) ☐ Corticoid ☐

Thuốc giảm đau: ☐ Vật lý trị liệu: ☐ Thuốc đông y:☐

10.Trước đây hệ thống cơ xương khớp của bạn đã từng bị:

Chấn thương☐ Phẫu Thuật: ☐

Phần 3. Thang đánh giá trạng thái chức năng (HAQ8-ID)

Bảng câu hỏi (HAQ8-ID) là một trong những bộ câu hỏi ngắn đánh giá trạng thái chức năng của người bệnh. Bộ câu hỏi ban đầu được phát triển vào năm 1978 bởi James và các đồng nghiệp tại Đại học Stanford. Bảng câu hỏi này sử dụng miễn phí và phổ biến để đo lường tình trạng chức năng của người bệnh viêm khớp dạng thấp trên thế giới. Các chức năng được đánh giá qua tám hoạt động: mặc quần áo, vào và ra khỏi giường nâng cốc chén, tắm và lau người, cúi và nhặt quần áo, mở và đóng vòi nước, bước vào và ra khỏi ô tô. Hãy đánh dấu ô tương ứng với một câu trả lời tốt nhất cho khả năng của mình:

STT	Tại thời điểm này bạn có thể:	Làm được bình thường	Hơi khó khăn	Rất khó khăn	Không thể làm được
1.	Tự mặc quần áo cho mình, bao gồm cả buộc dây và cài nút giày?	0	1	2	3
2.	Vào và ra khỏi giường?	0	1	2	3
3.	Nâng một cái chén hoặc cốc đầy đến miệng của bạn không?	0	1	2	3
4.	Đi bộ ngoài trời trên mặt đất bằng phẳng không ?	0	1	2	3
5.	Tắm và lau khô toàn bộ cơ thể của bạn không?	0	1	2	3
6.	Cúi xuống và nhặt quần áo lên từ sàn nhà không?	0	1	2	3
7.	Mở và đóng vòi nước không ?	0	1	2	3
8.	Bước vào và bước ra từ xe ô tô	0	1	2	3

.

Phần 4. Thang đánh giá niềm tin của người bệnh

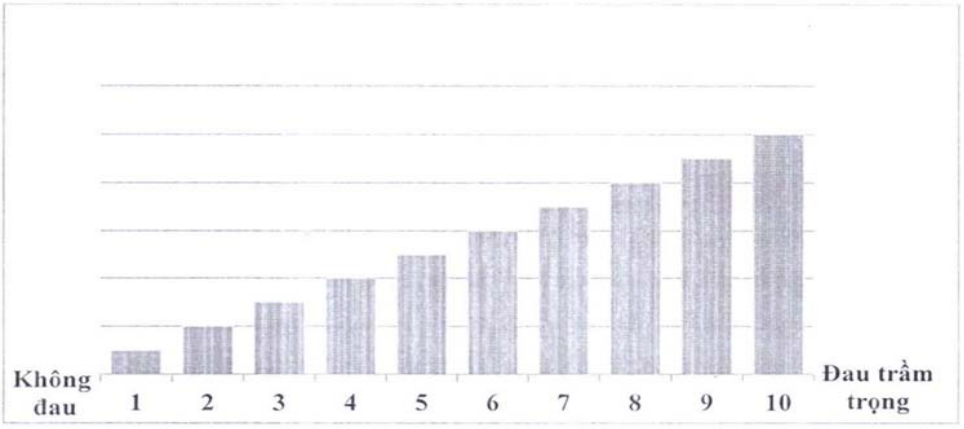
Các bộ câu hỏi này được phát triển bởi Lorig và đồng nghiệp tại Đại học Stanford (Lorig, Chastain, Ứng, Shoor, & Holman, 1989). Nó gồm 8 nội dung về niềm tin tương ứng 4 lĩnh vực sau: Đau (2 câu), các triệu chứng khác (4 câu), kiểm soát đau và mệt mỏi (2 câu). Đối với mỗi câu hỏi sau, hãy khoanh tròn các số điểm tương ứng với niềm tin của bạn về khả năng có thể làm các công việc sau đây tại thời điểm hiện tại.

		1: Rất không chắc chắn → 10: rất chắc chắn									
1.	Bạn chắc chắn như thế nào rằng bạn có thể giảm một chút cơn đau của bạn?	1	2	3	4	5	6	7	8	9	10
2.	Bạn chắc chắn như thế nào rằng bạn có thể kiểm soát viêm khớp hoặc đau cơ gây trở ngại với giấc ngủ của bạn?	1	2	3	4	5	6	7	8	9	10
3.	Bạn chắc chắn như thế nào rằng bạn có thể kiểm soát viêm khớp hoặc đau cơ gây trở ngại tới công việc của mình muốn làm ?	1	2	3	4	5	6	7	8	9	10
4.	Bạn chắc chắn như thế nào rằng bạn có thể điều chỉnh hoạt động của mình cũng như là hoạt động không trầm trọng thêm tình trạng viêm khớp hoặc cơ của bạn?	1	2	3	4	5	6	7	8	9	10
5.	Bạn chắc chắn như thế nào rằng bạn có thể kiểm soát được sự mệt mỏi do viêm khớp hoặc cơ gây trở ngại tới công việc của mình muốn làm?	1	2	3	4	5	6	7	8	9	10
6.	Bạn chắc chắn như thế nào rằng bạn có thể làm một số việc để giúp mình cảm thấy tốt hơn nếu bạn đang cảm thấy buồn?	1	2	3	4	5	6	7	8	9	10
7.	Hãy so sánh với các bệnh nhân những người có viêm khớp hoặc cơ giống bạn, bạn chắc chắn như thế nào rằng bạn có thể quản lý đau trong hoạt động hằng ngày?	1	2	3	4	5	6	7	8	9	10
8.	Bạn chắc chắn như thế nào rằng bạn có thể chịu đựng sự suy yếu của khớp hoặc cơ?	1	2	3	4	5	6	7	8	9	10

Phần 5. Thang đánh giá đau (PVN)

PVN là thang đánh giá về mức độ đau, đây là thang đo miễn phí được phát triển từ Visual Analogue Scale (VAS) và căn cứ vào kinh nghiệm đau bởi Philip và các đồng nghiệp tại Đại học Stanford University School of Medicine, USA (Philip, Virginia, Diana & Kate, 2006). Thang này được thiết kế bao gồm cả hai: hình ảnh và số (1-10 điểm). Nó bao gồm các cột có độ cao tương ứng với mỗi số dưới đây. Các tự bệnh nhân báo cáo về nhận biết đau thông qua hình ảnh của cột biểu đồ ở trên hoặc số ở dưới.

Chúng tôi quan tâm đến việc anh/chị có hay không bị ảnh hưởng bởi ĐAU. Hãy khoanh tròn các số dưới đây mô tả nỗi đau của Ông /bà trong 2 tuần qua:



Phần 6. Thông tin về sức khỏ tâm thần (PHQ – 9)

Đây là 9 câu hỏi để khảo sát về trạng thái sức khoẻ tâm thần của anh/chị. Trong hai tuần qua, những vấn đề sau đây gây phiền phức cho Ông /bà thường xuyên đến mức độ nào?

STT	Nội dung	Không ngày nào	Vài ngày	Hơn một nửa số ngày	Gần như mọi ngày
1	Ít muốn làm điều gì hoặc ít có cảm giác thích thú khi làm bất cứ điều gì.	0	1	2	3
2	Cảm thấy nản chí, trầm buồn hoặc tuyệt vọng.	0	1	2	3
3	Khó đi vào giấc ngủ hoặc khó ngủ thẳng giấc hoặc ngủ quá nhiều .	0	1	2	3
4	Cảm thấy mệt mỏi hoặc có ít sinh lực.	0	1	2	3
5	Chán ăn hoặc ăn quá nhiều.	0	1	2	3
6	Có suy nghĩ tiêu cực về bản thân mình - hoặc cảm thấy mình là người thất bại hoặc cảm thấy mình đã làm cho gia đình và chính bản thân thất vọng.	0	1	2	3
7	Khó tập trung vào công việc, như đọc báo hoặc xem ti vi.	0	1	2	3
8	Vận động hoặc nói quá chậm đến mức người khác có thể nhận thấy được. Hoặc quá bồn chồn hoặc đứng ngồi không yên đến mức đi đi lại lại nhiều hơn thông thường.	0	1	2	3
9	Có các suy nghĩ cho rằng chết là điều tốt hơn cho bản thân hoặc bản thân tính đến chuyện tự gây tổn hại cơ thể mình.	0	1	2	3

Phần 7. THANG ĐO ĐA KHÍA CẠNH VỀ NHẬN THỨC HỖ TRỢ XÃ HỘI (MSPSS)

Bộ câu hỏi này gồm 12 câu hỏi phỏng vấn và các câu có xu hướng phân chia thành các nhóm yếu tố liên quan đến nguồn gốc của sự hỗ trợ xã hội, cụ thể là gia đình, bạn bè hoặc người thân. Chúng tôi quan tâm đến cảm nhận của anh /chị về các câu sau đây. Đọc từng câu một cách cẩn thận. Chỉ ra cảm nhận của anh/chị về mỗi câu:

Khoanh tròn "1" nếu bạn hoàn toàn không đồng ý
Khoanh tròn "2" nếu bạn rất không đồng ý
Khoanh tròn "3" nếu bạn không đồng ý
Khoanh tròn "4" nếu bạn đồng ý
Khoanh tròn "5" nếu bạn rất đồng ý
Khoanh tròn "6" nếu bạn hoàn toàn đồng ý
Khoanh tròn "7" nếu bạn hoàn toàn rất đồng ý

1.	Luôn có một người đặc biệt ở bên cạnh tôi mỗi khi tôi cần.	1	2	3	4	5	6	7
2.	Luôn có một người đặc biệt ở bên cạnh tôi, người tôi có thể chia sẻ buồn vui.	1	2	3	4	5	6	7
3.	Gia đình tôi luôn cố gắng giúp tôi	1	2	3	4	5	6	7
4.	Tôi nhận được sự giúp đỡ và hỗ trợ về mặt tinh cảm từ gia đình tôi mỗi khi tôi cần.	1	2	3	4	5	6	7
5.	Luôn có một người đặc biệt làm cho tôi thấy thoải mái.	1	2	3	4	5	6	7
6.	Những người bạn của tôi luôn cố gắng giúp tôi.	1	2	3	4	5	6	7
7.	Tôi có thể tin tưởng vào những người bạn của tôi khi tôi có những hướng đi sai lầm	1	2	3	4	5	6	7
8.	Tôi có thể nói chuyện với gia đình về các vấn đề của tôi.	1	2	3	4	5	6	7
9.	Luôn có những người bạn ở bên cạnh tôi, người tôi có thể chia sẻ buồn vui.	1	2	3	4	5	6	7
10.	Luôn có một người đặc biệt trong cuộc đời tôi, luôn quan tâm đến cảm xúc của tôi.	1	2	3	4	5	6	7
11.	Gia đình tôi luôn sẵn sàng giúp tôi đưa ra quyết định.	1	2	3	4	5	6	7
12.	Tôi có thể tâm sự với bạn bè về các vấn đề của tôi.	1	2	3	4	5	6	7

APPENDIX F

PERMISSION FOR USING INSTRUMENTS

from: Zimet, Gregory D <gzimet@iu.edu>
to: Xuyen Tran <ngocxuyen80@gmail.com>
date: Fri, Dec 18, 2015 at 11:04 PM
subject: RE: Ask your permission about using the MSPSS

Dear Ngoc Xuyen,

You have my permission to use the MSPSS in your research on patients with arthritis. I have attached a copy of the original English language version of the scale (with scoring information on the 2nd page) and a document listing several of the articles that have reported on the reliability and validity of the MSPSS.

I hope your research goes well.

Best regards,

Greg Zime

==========

Gregory D. Zimet, PhD, FSAHM

Professor of Pediatrics & Clinical Psychology

Section of Adolescent Medicine

Indiana University School of Medicine

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http://pediatrics.iu.edu/center-hpv-research/about-us/

http://pediatrics.iu.edu/sections-and-faculty/adolescent-medicine/our-team/faculty/bio-zimet/

from: Xuyen Tran <ngocxuyen80@gmail.com>
to: gzimet@iu.edu
date: Fri, Dec 18, 2015 at 3:31 PM
subject: Ask your permission about using the MSPSS
mailed-by: gmail.com

Dear Dr Zimet,

My name is Ngoc Xuyen. I'm working at Rheumatology department in Bach Mai Hospital, Hanoi, Vietnam. I am participating second year Master nursing at Mahidol, Thailan. I'm going to do a study about "factors related to the functional status among patient with rheumatoid arthritis". Social support is one of factors that I want to focus among patient with RA. I just read about your MSPSS scale that measure social support very effectively and I am really exciting its content. So, I want to ask your permission about using this instrument. Please, help me! I promise that I only use it for reference, not for any commercial purposes.

Extremely grateful for your support! Wish you have a happy time!

Best regards,

Ngoc Xuyen

APPENDIX G
ADDITIONAL STATISTICAL ANALYSIS

Table 1 Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
HAQ	.101	126	.003	.947	126	.000
ASES	.071	126	.197	.983	126	.129
PHQ	.204	126	.000	.897	126	.000
SPSS	.071	126	.060	.959	126	.001
PVN1	.130	126	.000	.964	126	.002

a. Lilliefors Significance Correction

BIOGRAPHY

NAME	Tran Thi Ngoc Xuyen
DATE OF BIRTH	9th January 1980
PLACE OF BIRTH	Hanoi
INSTITUTIONS ATTENDED	Bach Mai Medical high shool, 1999 - 2002 School of Nursing, Certificate of Nursing Ha Noi Medical university, 2008- 2010 Hanoi Medical school, 1993 – 1996 Bachelor of Nursing Mahidol University, 2015-2016 Master of Nursing Science (Adult Nursing)
POSITION AND OFFICE	Head of Nursing ,Rheumatology Department, Bach Mai hospital, Vietnam
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