FACTORS RELATED TO QUALITY OF LIFE AMONG PATIENTS WITH BRAIN TUMORS

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ABSTRACT

Numbers of patients with brain tumors in Vietnam have been increasing in the past decade. New treatment modalities of these patients have been improved leading to huge numbers of patients receiving health services in tertiary care hospital. However, patients still got access to health care service in the late stage leading to poor Quality of Life (QOL). This descriptive correlational research aimed to study the relationship among body mass index (BMI), symptom distress, anxiety and QOL among patients with brain tumors during hospital stay. Health related quality of life theory was used as a framework for this study. Data collection was conducted using FACT – Br scale measure QOL and other standard scale to measure other variables. Spearman's Rho was employed to test the relationship among all studied variables. The sample included 115 adult patients with brain tumors during their hospital stay. The results revealed that the majority of the patients were male (60.9%), ages ranged from 41 to 60 years with the average age of 51.88 years (SD ± 13.5 years). The majority of the patients (95.6%) paid their medical expenses by governmental insurance, about a half of them (50.4%) had metastatic brain tumors and the average scores of the QOL was 129.47 (SD ± 18.85) which referred to relatively poor QOL. Anxiety and symptom distress were negatively correlated with QOL ($r = -.702, p < 0.01$; $r = -.665, p < 0.01$) while BMI was not correlated with the QOL. From this study, it was recommended that nurses who take care of patients with brain tumor should pay more attention to the patients' QOL by conducting routine assessment and early identify the ones with poor QOL. Strategies to improve QOL have to be taken into serious consideration. Symptom management protocol has to be developed and implemented. Patients' anxiety has to be carefully assessed and properly managed. Further study showed be conducted on a larger sample and in multi sites to reveal the broader picture of QOL among patients with brain tumor.

KEY WORDS: QUALITY OF LIFE / BRAIN TUMORS/ BMI/ ANXIETY/ SYMPTOMS

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LIST OF ABBREVIATIONS

BMI	Body mass index
CNS	Central Nervous System
FACT- Br	Functional Assessment of Cancer Therapy Brain
HAM -A	Hamilton Anxiety Rating Scale
HRQOL	Health related quality of life
MDASI BT	M. D. Anderson Symptom Inventory Brain tumor
QOL	Quality of life
WHO	World Health Origination

CHAPTER I
INTRODUCTION

1.1 Background and significance of the study

Brain tumors are known as serious disease with high mortality rate, especially in people from 15 to 34 years old (Zhang et al., 2010).The number of new cases of Brain tumors were found increasing during a decades in global viewed. Take years 2012 as an example. This year reported that each 100,000 people have 3.4 new cases diagnosed brain tumor. In overall, incidence rates over 100,000 were 3.0 among female and 3.9 among male. These figures reveal that malignant brain tumors was identified to be in nearly 140,000 male and 120,000 female all over the world. More interesting, according to Ostrom and colleges (2015), the ratios of brain tumors in developed countries were significantly higher than underdeveloped countries (5.1 per 100,000 and 3.0 per 100,000 respectively). The International Agency for Research on Cancer (IARC) reported that in 2007, United States recorded incidence of both malignant and benign brain tumors was roughly 15 per 100,000 and male patients had higher rate. This figure illustrated that 20,500 individuals (inside over 11,000 male and far from 9,000 females) were newly classified with this top diseases. Over an five years period from 2008 to 2012 , an average incidence figures in intracerebral and extracerebral brain tumors pointed that the age most dramatically age group was group of 20 years old with 192.83 cases per 100,000 population among male and 172.01 cases per 100,000 among female Ostrom and colleges (2015).

Among Asian countries, in China, these were a diverse growth rates of abnormal cells in brain tissue and related organ are also very worthy of consideration. Currently, in the country with highest population, the number of people were newly diagnosis with brain neoplasm increasing rapidly to highest speed compare to others malignant tumors, and the fastest growing in tumor type was the lymphomas, also, the most malignant tumors was ranked by meaning, germ cell tumors and Lymphoma (Zhang et al., 2010). Conversely, environmental factors are suggested to be one modality of sprout cell tumors which classified by geographical variation from the incidence of brain tumors. For instance, 3-15% was the range of all primary pediatric intracranial neoplasms (Jorsal & Rorth, 2012). In Vietnam, the prevalence of brain tumors was 1.3 cases over 100,000 populations (Globocan, 2012). Brain tumors in Vietnam had high morbidity rate and had considerable burden for relatives. More detail, the mortality rate was placed in the fifth after liver tumors, lung tumors, GI tumors and esophagus tumors.

Brain tumors would be various ranging from benign or malignant, primary or metastatic, and intracerebral or extracerebral. Secondary brain tumors could be metastasis from breast, lung, colon or other organs. For selecting the proper treatment, some variables would be considered such as the sized and located, the type of tumor, related symptoms, and patient’s overall condition. Recently, treatment for a brain tumor may involve chemotherapy, radiation therapy with or without Gramma knife, surgery, or any combination of these. In other hand, the level of grade glioma and treatment therapy could bring several complications which had negative affect to health (Martin, 2012).

The abnormal finding in physical, mental, cognitive and emotional are fluctuated greatly and depend on the brain tumor's characteristics (Wilson & Cleary, 1995). Diagnosis Primary tumor, central nervous tissue tumors are more challenging cause of difficult to predicting for any individual patient. Some of more common manifestations include changes in anxiety level, increasing stress, and fatigue that is usually worst in morning, seizures and change in gastrointestinal function. All of above signs had bad effect on QOL in brain neoplasm patients (Anders et al., 2014). In other words, anxiety and depression are defined as early symptom of emotional disorders. More detail, anxiety is apprehension feeling, unstable, uneasiness or dread resulting from a real or being threaten while patients could not know or not recognized whereas actual source of anxiety. Anxiety is basic emotion of human classified into four difference levels: mild, moderate, severe, and panic anxiety. Likewise, in brain tumors patients, one in three cases suffered from anxiety and people before radiotherapy had strong relationship between level distress and anxiety score (Cordes, 2014).

The Body Mass Index (BMI) is calculated by the measurement relating to the mass (weight) and height of a person. The higher weight patients has, the higher risk of this malignancy glioma in adulthood and higher risk of negative influence to quality of life (Cari et al., 2014). Similarly, researchers point out that some indicator symptoms could affect quality of life (QOL) in patients suffered brain neoplasm. Besides symptom, anxiety, problem with BMI, knowledge, information support were opinions that had influence to quality of life (Mary, 2007). There is a strong connection among pre-illness, brain neoplasm manifestation, psychosocial variables and quality of life globally.

Nowadays**,** the patient's quality of life is becoming important aspects in clinical care, especially reflecting to patient's health as health-related quality of life (HRQOL). This HRQOL concept was defined to concentrating more focus on impacting of health, illness, treatment and sociocultural situation to life (Weitzner, 1995). There are 4 major domains that relate to overall quality of life dimensions such as "biological factors, symptoms, functional being, general perception of health." The goals of study are increasingly with survivorship in people experienced treatments therapy, as radiotherapy, and also reduce bad affect to physical, psychological health. Thus, quality of life is the primary end point for cancer therapy, need to be evaluated at the same time of their symptoms (Liu et al., 2009).

Better understanding in relationship among symptoms of anxiety level, distress and patients' BMI with brain tumors supplying better comprehensive treatment, better life quality and better results as well. According to all above review, the predictor factors for quality of life are symptoms, anxiety level, BMI, poor outcome and high mortality rate (Liu et al., 2009). Unfortunately, Viet Nam witnessed a limitation in the quality and quantity research on factors affecting to QOL in tumors patients, particularly brain tumors. Therefore, studies would like to figure out which factors relating to the quality of life among the brain tumors patients in Vietnam. In addition, the research result can be used in nursing care planning to manage symptoms and to improve quality of care for patient with brain tumor during and after treatment.

1.2 Research questions

1) What are quality of life levels of brain tumors patients during hospital stay?

2) Do the symptoms of distress, anxiety and BMI correlate with quality of life of brain tumors patients received radiotherapy during hospital stay?

1.3 Purpose of the study

1) To assess the quality of life with brain tumors patients during hospitalization.

2) To study the relationship among symptom distress, anxiety, BMI and life quality of brain tumors patients during hospital stay.

1.4 Hypothesis

1) Symptom distress is negatively correlated with QOL.

2) Anxiety is negatively correlated with QOL.

3) BMI is negatively correlated with QOL.

1.5 Conceptual framework

Wilson and Cleary’s (1995) model for health-related quality of life encompasses several constructs as variable. Ferrans and nursing colleagues offered and were used to guide this research to investigate the connection between the quality of life and patients’ symptom, depression and anxiety, and self-efficacy (Ferrans et al., 2005).

Wilson and Cleary define HRQOL as those “aspects of quality of life that relate specifically to a person’s health” and may be affected by intervention. Health-related quality of life contains 5 conceptually distinct aspects of health outcomes: biological factors, symptom status, functional status, general health perception and overall QOL. Characteristics of the individual and environment influence all of these conceptual (Church, 2004). HRQOL is an outcome reported, measured and defined by patient.

Many authors determined QOL by the “health-related quality of life” concept. This concept was planned to limit the concentration on the impact of health, impact of illness, treatment and sociocultural on quality of life. On one hand both tumor and treatments can cause a negative effect on patient’s physical and psychology, but on the other hand the patients were treated with chemotherapy, surgery, radiotherapy, and supportive treatment may also improve patients’ HRQoL, then extend their survival. Hence, HRQoL among patients with brain tumor are essential to be followed (Dirven, 2014) and focused on affected of healthcare interventions. Brain tumor can be measured by standard: SF36, The European Organization for Research and Treatment of Cancer (EORTC QLQ –LC30), Functional Assessment of Cancer Therapy-General (FACT – Br) and so on pragmatically because HRQOL model can be used to understand the impact of a condition on their patients or to judge the effectiveness of the treatment. Compared to the EORTC questionnaires, the FACT modules are more focused on psychosocial aspects and less focused on symptoms. Measurement of the factors is affected by physical (headache, dizziness, nausea, vomiting), cognitive as well as emotional functioning (sad, worry, stress, anxiety, depression) (Church, 2004). Measurement of HRQL is important to gain a better comprehension of disease burden and the specific tumor treatment’s effects. There are three phenomena in the theory, such as physical, psychological, and social phenomena which are increasingly important to clinical oncology of any phase. Accordingly, HRQOL plays an explicit role that affect survival time of the patients. (IsHak et al., 2011).

Biological function is a physiological process that supports life (Ferrans et al., 2005) and is the foundation to determine health status (Higginson & Carr, 2001). Medical interventions improve outcomes in this domain. Symptom status can involve psychological as abnormal emotion until anxiety, depression or abnormal physical and cognitive status (Wilson & Cleary, 1995; Janz et al., 2001). Functional status has four domains of physical, social, role, and psychological that can be affected by biological function and symptoms (Wilson & Cleary, 1995). BMI measure mass body and recount physical domains of human.

Most of brain tumor patient's life quality change after being diagnosed. According to literature review, the study on life quality in the division of patient with brain tumor during treatment is impacted by many factors such as environment, treatments method, physical condition and motivation. In addition, some research studies reported the connection among quality of life and symptom distress, anxiety and BMI. (Yang et al., 2014; Jalali & Dutta, 2012; Kristina, 2006). Especially, the disease and adverse effect from therapy could affect negatively with cancer patients' QOL (Yucel et al., 2014). When assessing their health status, brain tumor patients exhibited slightly lower BMI and quality of life (Kristina, 2006). However, there were very few studies in Vietnam, Therefore, it is essential to explore the factors associated patient's HRQOL. Accordingly, HRQOL theory is proper to be the conceptual framework of this study. In this study, the outcome is the quality of life. Symptom distress, anxiety, and BMI are all the elements which affect the quality of life.

Symptom status includes individual's characteristic like age and self-efficacy of patients. Researchers study the relationship between quality of life and anxiety as well as BMI. The study conceptual framework is presented in figure 1.

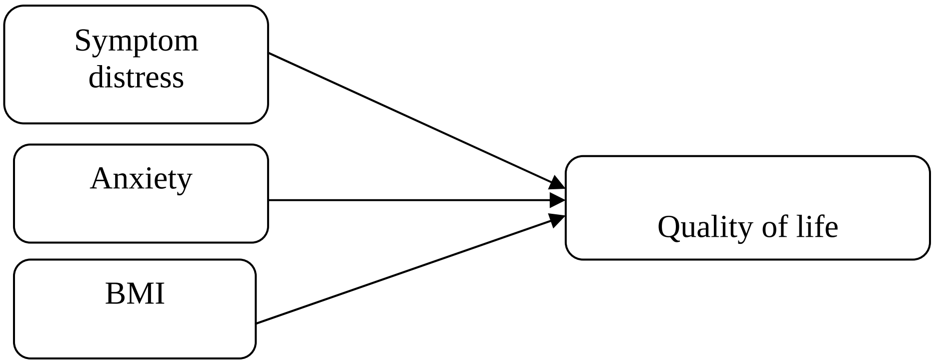

Figure 1.1 The research framework modified from Health Related Quality of Life Theory (Wilson & Cleary, 1995)

1.6 Scope of the study

This study examines the factors related to quality of life among 115 patients with brain tumors. The patients are 18 years old or over being treated at Nuclear Medicine and Oncology Center in Bach Mai hospital, Hanoi, Vietnam, from August to December 2016.

1.7 Expected outcomes and benefits

1) Nurses can use this study result to improve nursing assessment and understand factors related to quality of life.

2) Health care teams can evaluate and develop effective clinical nursing practice guidelines, use scale for the management of the symptom, anxiety of among patients with brain tumor.

3) This study result can be used as references for other researchers of brain tumor in their new researches.

1.8 Definition of terms

Quality of life refers to individuals' perceptions of their situation in life in the context of culture and value systems related to their goals, expectations, standards and concerns of daily life (Dirven et al., 2014). This study focuses on brain tumor patient’s health. Health-related quality of life refers to aspects of quality of life that relate specifically to a person’s health (Higginson & Carr, 2001). HRQOL of brain tumor patient will be measured by Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. This instrument has 50 items to assess 5 dimensions of a patient physical well-being, social/family well-being, emotional well-being, and functional well-being and disease- specific concerns. Score to assess is from 0-4. Face 0 is enough of energy, he has no lack of energy. Face 1 shows a lack of energy in a small amount. Face 2 shows a lack of energy in a greater amount than in face 1’s. Face 3 shows a lack of energy in an even greater amount than in face 2’s. Face 4 shows an extremely lack of energy (Weitzner, 1995).

Symptom distress refers to abnormal physical, emotional, or cognitive state that interfere the patients (Wilson & Cleary, 1995). The symptom experience is difficult to predict for any individual patient with brain tumors. Symptoms associated with primary or metastatic may differ by to the biology of infiltrative invasive disease in systemic disease in the latter. The M. D. Anderson Symptom Inventory (MDASI) is a scale developed to allow patients to self-report symptoms, also known as MDASI-Core. It uses from 0 being (not present) to10 (as bad as you can imagine) rating scale measuring patients' health status throughout the 24 hours prior to evaluation and 6 items measure symptoms with patient daily life) . 6 items also are source on a 0 to10 scale, with 0 being "did not interfere" and 10 being "interfered completely." (Armstrong, 2008). In this study, MD Anderson Symptom Inventory- Brain tumor (MDASI - BT) Scale measures symptom distress in patients with brain tumor. This scale was recently validated by the MDASI-Core and developed to allow patients to self-report symptoms related specifically to the tumor in patients with primary and metastatic brain tumors. The MDASI-BT includes nine symptoms common to patients with brain tumors.

Anxiety refers to a feeling of apprehension, uncertainty, uneasiness or dread resulted from a real or perceived threat that whose actual source is unknown or unrecognized. Anxiety can be classified into four levels: mild, moderate, severe, and panic anxiety (Elizabeth et al., 2006). In this study, the researcher used The Hamilton Anxiety Rating Scale (HAM-A) to measure anxiety variables. This scale is considered a "clinical rating" of the extensiveness of anxiety, and is intended for individuals that are "diagnosed with anxiety neurosis." The scale ingredient of 14 items was designed to assess the severity of a patient's anxiety. Each of the 14 items assesses a number of symptoms, and each group of symptoms is rated on a scale of zero to four, with four being the most severe. The higher total scores indicate a higher anxiety (Renehan et al., 2008).

The body mass index (BMI) refers to value derived from the mass (weight) and height of an individual. The BMI is calculated using the formula: The body mass divided by the square of the body height, and is universally expressed in unit of kg/m2, resulting from mass in kilograms and height in meters (Cari et al., 2014). BMI is a person's weight in kilograms divided by the square of height in meters. The BMI classifications used in the South Asian Countries presenting as follow: BMI below 18.50 means underweight, from 18.50 to 22.99 means normal or healthy weight, from 23.0 to 24.99 means overweight, 25.0-30.0 and above means pre-obese (WHO expert consultation, 2004).

CHAPTER II
LITERATURE REVIEW

This chapter provides a literature review of factors associated with quality of life among patients with brain tumor. The contents adverts the understanding quality of life of brain tumor patients by theory health relation quality of life following 4 issues including the conclusion part.

2.1 Problems among patients with Brain tumors
    2.1.1 Incidence of Brain tumors
    2.1.2 Pathophysiology of Brain tumors
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2.1 Problems among patients with Brain tumors

When patients have a diagnosis of brain tumor, in general, they undergo a multitude of psychosomatic, psychological and physical symptoms. This results in a determination of the psychosomatic, psychological and physical condition of patients. Prognosis of brain tumors patients are often very poor and reduces quality of life, which impacts vastly to patients. Accordingly, many symptoms affect to the physical (headache, dizziness, nausea, vomiting, etc), cognitive as well as emotional functioning (sad, stress, anxiety, depression, etc) that influence their patient quality of life (Jalali & Dutta, 2012). Moreover, the symptoms of patient rise up their family and society obligations. However, the evidence of other factors' effects on quality of life is limited. So, the researcher need to conduct this study to find out factors which affect quality of life of brain tumor patients in Vietnam.

2.1.1 Incidence of Brain tumors

There are a few established risk factors for brain tumors. In countries with cancer registries, the annual age-standardized incidence rate of primary malignant tumors of the brain and nervous system is predicted about 3 to 4 per 100,000. This rate is a little higher among males than females and in developed than developing countries. A slight increase in the incidence of some types of brain tumors has been observed over recent decades, due to changes in diagnosis, classification, and coding (Turner et al., 2014)

The incidence kind of tumor this was found increasing over time since World Health Origination (WHO) in 2000. In 2010, the incidence rate of all primary malignant and non-malignant brain and CNS tumors is 21.42 cases/ 100,000 per 343,175 cases. The rate is smaller in males (19.42/ 100,000 per 144,963) than in females (23.26 / 100,000 per 198,212 patients brain tumors) (Globocan, 2012).

In 2012, the world incidence rate of primary malignant brain and CNS tumors was adjusted to age rate at 3.4 / 100,000. Incidence rates by gender were 3.0 /100,000 in females and 3.9 / 100,000 in males. These rates brain tumors were higher more in developed countries (5.1 / 100,000) than in less developed countries (3.0 / 100,000) (Quinn et al., 2015).

Distributions of tumor types and age groups have differences. Data from several national cancer registries support the epidemiology differences between brain tumors in children and adults. Incidence with Pediatric ages from 0 to14 years is 5.37 cases per 100,000 for a total count of 16,366 incident tumors. The rate is higher in males (5.61 per 100,000) than females (5.11 per 100,000). Incidence rate of ages from 15 to 39 years is 10.47 cases per 100,000 for total counts of 53,083 tumors. The rate is higher for non-malignant tumors (6.17 per 100,000) than malignant tumors (3.26 per 100,000) (Quinn et al., 2015). In Sweden, low-grade glioma (31.7%) and medulloblastoma (23.5%) are the most common kinds of tumors in pediatric age from 15 years and younger. For primary brain tumors, high-grade glioma (30.5%) and meningioma (29.4%) are common in adult (Globocan, 2012).

In the United States, in 2007, The primary malignant and non-malignant brain tumors was found 14.8 per 100,000 per year and white males had the highest rate. It means that there were 20,500 patients, 11,170 males and 9,330 females, being diagnosed. From 2008 to 2012, the average annual age of primary brain and central nervous system tumors was common by age group of over 20 years; and its incidence rates were 192.83 per 100,000 population (males only) and 172.01 per 100,000 (females only), with (0-19 years) incidence average annual age-adjusted rate of 5.57 per 100,000 population. Mortality rate of brain and central nervous system tumors patients were higher in males (5.28 per 100,000 population) than in females (3.48 per 100,000 population) (Quinn et al., 2015). The 5 years and 10 years survival rates are 29,1%, and 25.3%. Histology and age have different significantly: Glioblastoma multiforme has 5-year survival rate of 3.3%, with lower grade gliomas, such as ependymoma and pilocytic astrocytoma; oligodendroglioma has the 5-year survival rate of over 70%. Malignant glioma, astrocytoma, anaplastic astrocytoma and lymphoma have the 5-year survival rate of less than 40% (Ostrom et al., 2015).

In the United Kingdom alone, approximately 4500 new primary brain tumors are diagnosed each year (Hamilton & Kernick, 2007). In Brazil, the incidence of brain tumors was in the range of 5.8 to 8.4 cases per 100,000 inhabitants (Siegel. Naishadham & Jemals, 2015).

In Vietnam, according to the statistics in 2000, the incidence of brain tumors accounted for 1.3/100,000 population (Health, 2008). Brain tumors patients are the essential cause of morbidity to patients and the mortality rate is also high. In general, brain tumors is the fifth leading cause of death after liver cancer, lung cancer, gastric cancer and esophageal cancer (Phong & Truong, 2002).

2.1.2 Pathophysiology of Brain tumors

Cancer is a result of an abnormal process of altered cell differentiation in with growth exceeds in uncoordinated of normal tissues. That process is not normally cellular adjusted processes such as grow fat and hyperplasia. Neoplasms do not conform to laws of normal cell growth. They do not serve useful purposes. These are abnormal processes cell proliferation and differentiation is adjusted.

The mechanisms of tumor cell present in these details: Tumors can invade, enter or supplant normal parenchyma cells and interrupt normal function. As a result, specific neural pathways traversing the brain may be damaged. When tumors grow, banquet the brain limits the volume of the cranial vault can cause increased intracranial pressure. In addition, the obstructive hydrocephalus occurs when the flow of cerebrospinal fluid from the third through the fourth ventricles are blocked (Mc Cance & Huether, 2010). There is a few brain tumor related to inherited genetic syndromes.

For a tumor to grow abnormally, it must develop a blood supply. The vascular endothelial growth factor (VEGF) is most important in angiogenesis of blood. Factors usually manifest overexpressed in brain tumor. Many researchers find out increasing vascular endothelial growth factor correlated with increasing malignant level in oligodendrogliomas, ependymomas and astrocytomas. Besides vascular endothelial growth factor, there are many growth factors such as TGF-β, PDGF, basic fibroblast growth factor, placenta growth factor role in angiogenesis in gliomas (Murray & Robert, 2009). Oncogenes cause cell to develop out of control range. EGFR is a growth of factor which had studied in many researches and had augmented in brain tumors. Those produce with very fast abnormally and genes was restored by proteins DNA. So, the process would encounter the lost DNA that get rid of the toxin within the body (Furlan, 2014).

The Cancer Genome Atlas (TCGA) research project, which was carried on different cancers in order to find out four strong gene diction based molecular subtypes of Genes Brain metastatic (GBm): classical, proneural, neural, and mesenchymal subtypes 25). Proneural and mesenchymal subtypes are identical to those ones reported in other author studies. The proneural GBm is the most common in young adults, corresponds to secondary GBm and relate to the outcome (Furlan, 2014).

The classification: Brain tumors are divided into two kinds: primary and metastatic brain tumors. Primary tumors commence and reside within brain included ependymoma, astrocytoma, glioblastoma multiforme and medulloblastoma, which are grouped into two kinds, benign tumors and malignant tumors. Metastatic brain tumors were tumors that come from in the other organ of the body to the brain. Benign brain tumors include very inactive growing cells, normally has plain borders and rarely expansion. **(**Louis et al, 2016**)** Surgery can be an available treatment for kind of tumor. However, benign tumors located in a vital area are reflected as life threatens in spite of this tumors would not malignancy (Hickey, 2013).

Malignant brain tumors which are growing, invading and life-threatening are provisionally brain cancer. Nevertheless, they do not realize a common definition of cancer when primary brain tumors spread uncommonly outside the brain and spinal cord. WHO classified brain tumor into papillary glioneuronal, rosette-forming glioneuronal tumor of the fourth ventricle, angiocentric glioma, spindle cell oncocytoma of the adenohypophysis, papillary tumor of the pineal region and pituicytoma (Lannering et al., 2009). All malignant and metastatic brain tumors are defined as “brain cancer”.

The adult metastasis brain tumors (BM) can be found more than 25%. Metastatic brain tumor is most frequently originated from cancers of the lung, kidney, colon and breast as well as from cancers of unaware primary and melanomas. (Samer et al., 2014). Stage of disease or the severity of the tumor can be defined via grading in order to design the treatments or estimate the outcomes. Following WHO, there are 4 grades of tumors and the higher grades represent the degree of malignancy (Louis et al., 2007, 2016).

1. WHO grade I: The inactive tumor growth cell with clear appearance under microscope are rarely malignant cell resulted long-term survival of patient. These tumors compose of meningioma, neurofibroma, craniopharyngioma, pilocytic astrocytoma and many tumors be were entirely cured by only surgery for example ganglioglioma and gangliocytoma.

2. WHO grade II: Those are relatively slow growing and can be differentiated as abnormal cell under microscope and protrude normal tissue. Sometimes these tumors proceed as a higher grade of cancer. For instance, diffuse astrocytomas, low grade, changed to anaplastic astrocytoma and glioblastoma.

3. WHO grade III: There are cancer cells which quickly grow and generate into normal brain tissue. Tumors are inclined to recurrence, frequently as the upper grade and need adjuvant radiation/ chemotherapy treatment.

4. WHO grade IV: All most tumors, cytologically malignant, are a grade of IV. They multiply aggressively and easily grow into surrounding normal brain tissue. Malignant cell have a strange looking and undifferentiated when saw under the microscope These tumors form new blood vessels so that they can keep their rapid growth. They also have areas of dead cells in their core. The grade IV tumor is most common with glioblastoma, gliosarcoma, meduloblastoma, pinoblastoma (Louis et al., 2016).

Brain tissue injury caused by the enlarge mass can produce edema, and hydrocephalus. The result of mass effect and cerebral edema may elevate the intracranial pressure (ICP) and decrease cerebral perfusion. Moreover, Increasing ICP stimulates deviating or brain herniation under the flax cerebra, through the tantrum cerebella, or foramen magnum. The primary brain tumors is rarely metastasis, whenever happen, it go beyond intracranium (Samer et al ., 2014).

2.1.3 Impact of Brain tumor

When patients have the diagnosis of cancer, they experience a huge change in life and feel anxiety or depression (Lucas, 2010) because the brain is the control vital center and emotion for the body and mind of the patient. The consequences of Brain tumor on physical health, psychological and sociological health (economic, family, work, hospital expense) then effect on the economic growth of the country.

2.1.3.1 Impact on physiology

Pain in patients with cancer results firstly from the growth of the disease process which penetrate nerves and tissues. Cancer can induce necrosis of solid organs or urge the blockage of blood vessels. An important kind of pain in patients with cancer are acute pain. Pain is related to cancer treatment, diagnostic and therapeutic procedures like acute postoperative pain **(**Sha et al., 2013**).** Especially, headache is a common symptom of patient with brain tumors found after and during treatment. Increased intracranial pressure can be the outcome of headaches and a consequence of intracranial hemorrhage, tumor growth or cerebral edema. Including, patients have recently undergone radiation therapy got headache because of cerebral edema. Moreover, brain pathology can cause nausea and vomiting during treatment so nurses need to have plan to monitor and manage these symptoms (Lucas, 2010).

2.1.3.2 Impact on psychology

Patient's emotion is affected when they receive a diagnosis of brain tumor bring to the sense of lost security and lost control. For some patients, having a close relationship with friend, they feel that share story with friend about problems are difficult. For others, they need more than friends and family member. Since, they feel that caring member family member, health care team, friends, a social worker or a clinical psychologist can be useful (Baumgartner, 2004). However, many studies revealed that 30-40 % of patients experience serious symptoms such as depression and/or anxiety after receiving a diagnosis. Psychological distress can affect them response to treatment. Uncomforted symptoms can increased affect their relationship with social, friend, family members and doctors deteriorate them overall QOL (Yang et al., 2014).

2.1.3.4 Impact on society and family

Families of patients need to spend time to look after them. Because some patients can be were seizures any time. Therefore, patients' family should remain by their side all the time. They were distress, pain, fatigue and disturbed sleep. This physical brain injury is exacerbated by psychological influence of the diagnosis (Packer & Reddy, 2004). Today, psychologists have an important of neuron oncology treatment. The range of psychosocial problems were presented as general behavioral problems, depressive symptoms and maladjustment. According to the locations, meningiomas at the frontal convexity, basifrontal and sphenoid wing usually came with anxiety and depression and/or mania (Bommakanti et al., 2016). For long time caregivers, they carry out duties that often involve emotionally, physically, financially and socially of the patients. They were trying to overcome problems and make decisions as care needs changed. Actually, they could not adjust to new roles and responsibilities and found that therapy affected negatively with cancer patients' QOL (Yucel et al., 2014).

After receiving treatments, family members and friends are so relieved by their parent recovery experienced. Because of their love and compassion, they wish for them to return to their prior state of behavior and activity. However, this places a huge burden of expectation on the patient. The family devoted an enormous amount of energy trying to act and appear normal. Family becomes isolated for not wanting to leave the patient alone. (Reimer et al., 2004). Thus, they became rarely joy the activity with friends and colleagues. The increased burden form caring the patients might cause family to be fatigue, anger, and anxiety, therefore, they withdraw further any social function (Andreas et al., 2015).

Economic status: Patients with brain tumor are young. They are the main source of earning money in the family. Patients had diagnosis cancer, they had not earned enough money or did not implement financial plans for long and short term care. Even when they are the best of planning and earn income reduced, who spouse or caregiver have to off their work to care for the patient.

2.2 Quality of life among patients with Brain tumors

2.2.1 The concept of quality of life (theoretical concept of QOL)

Quality of Life is a multidimensional concept consisting of physical, psychological and social phenomena. In this study, researchers use health-related quality of life theory and life domain as research frame work.

WHO provided definition in 1948-1978: “Health is physical, psychological, and social well-being, not just the absence of illness or infirmity (1948) and individuals have the right “to psychosocial care and adequate Quality of life (QOL) in addition to physiologic care” (1978). A revised version of Wilson and Cleary’s (1995) model for health-related quality of life (Ferrans et al., 2005) was used to guide this study to examine the relationship between quality of life and patients’ age, depression anxiety and self- efficacy. We use Wilson and Cleary’s model for health-related quality of life (the revised version) as guideline for this study to investigate the relationship between patients’ age, depression, anxiety, self-efficacy and their quality of life.

Wilson and Cleary defined health related quality of life (HRQOL) as those “aspects of quality of life that relate specifically to a person’s health” and may be influenced by clinical intervention. Health-related quality of life is included 5 conceptually distinct “levels” of health outcomes: biological factors, symptom status, functional status, general health perception and overall quality of life (QOL). Characteristics of both the individual and the environment influence all levels of this concept (Wilson & Cleary, 1995).

A patient’s perception of an abnormal physical emotional or mental state is known as symptoms status (Wilson & Cleary, 1995). Sometimes symptoms are related to biological function, however biological changes do not produce symptoms which are sometimes perceived without a biological cause. This feature makes symptoms may be different between people who are experiencing the same disease process. Anxiety and depression were defined as symptom status (Janz et al., 2001). In this study, depression and anxiety are independent variables that have strong association with QOL (Tsiligianni et al., 2011).

Quality of life refers to individuals' perceptions of their position in life in the context of culture and value systems related to their goals, expectations, standards and concerns of daily life (Dirven et al., 2014). This study focuses on brain tumor patient’s health. Health-related quality of life refers to aspects of quality of life that relate specifically to a person’s health (Higginson & Carr, 2001).

The four health outcomes that constitute HRQOL are organized along a causal pathway. Each of these concepts affects QOL a person’s feeling of well-being that derived from happiness or unhappiness with his/her important areas. (Ferrans et al., 2005). Characteristic, development, mental and biologic is the component of the individual person, although this is not described by Wilson and Cleary (Ferrans et al., 2005). The model suggests that "symptom amplification or an appraisal of symptom burden influences symptom status; personality and motivation influence functional status; and value preferences influence general health perception and QOL". A general factors as age, sex, value, belief, self-efficacy even ethnicity can impact to the patient's health (Bandura, 1996; Tsiligianni et al., 2011).

The environment include social and economic supports and psychological supports. Social and economic supports influence functional status; Social characteristics include marriage partners, the social environment, and the specific culture of a health care setting, can affect on health behavior. Moreover, the symptom status, general health perception and QOL can be influenced by psychological supports. So, settings are thought to be one psychological feature that may have impact on health outcomes. For example, polluted living area or sport facilities in a workplace can influence the health outcome of residents there. (Ferrans et al., 2005).

In general, QOL is an individual's sense of well-being. It has a wide range of contexts, such as employment, healthcare, education and so on. The concept of QOL should not be mixed up with the term of health related QOL. HRQOL is viewed in the relationship with health.

2.2.2 Quality of life among patients with Brain tumor

Brain tumor patient's Quality of life is a very important area in clinical setting because patients have experience with many methods of treatments and which will affect to physical, psychological health. Most of the quality of life studies have been focused on sleep disorders as well as some symptom clusters and the particular symptoms such as cognitive impairment and fatigue. (Liu et al., 2009**).** For cancer therapy, quality of life is a primary end point that needs to frame interventions for controlling the patients' symptoms (Liu et al., 2009). In conclusion, growing evidence confirms brain tumor patient's poor quality of life is due to brain tumor symptom burden from the diseases and treatments. (Taphoorn, Sizoo, & Bottomley, 2010).

Quality of life is an important outcome in clinical among patients with brain tumor because they have an incurable disease.

2.2.3 Measuring QOL

For brain tumor patients, the normal tool used in QOL measurement was developed by the European Organization for Research and Treatment of Cancer (EORTC) -EORTC QLQ-C30 – Br, Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. In this study, the researcher assesses quality of life using Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. This scale has 5 dimensions of physical well-being, social/family well-being, emotional well-being, functional well-being and disease- specific concerns. This scale was conducted by Weitzner and Coworkers (1995). Score to assess is from 0-4. Face 0 is enough of energy, he has no lack of energy. Face 1 shows a lack of energy in a small amount. Face 2 shows a lack of energy in a greater amount than in face 1's. Face 3 shows a lack of energy in an even greater amount than in face 2's. Face 4 shows an extremely lack of energy. (Weitzner, 1995).

2.3 HRQOL theory as a conceptual framework to explain quality of life among patients with Brain tumor

2.3.1 HRQOL theory: An overview of the concept

In a middle range theory, it is considered a multidimensional concept and encompasses physical, psychological, emotional and social domains. HRQOL is a patient reported outcome (PRO), measured, defined and completed by patients themselves. Although many types of PROs have been developed, from one dimensional of HRQOL (such as fatigue) to multidimensional measures QOL, The researcher chose the HRQOL of brain tumor patients as it focused on the aspects of quality of life that are affected by healthcare interventions.

Health-related quality of life consists of five levels of health status including biological element, symptom condition, functional situation, common health awareness and general quality of life. The individual and environment characteristics influence all of this concept seen in figure 1 (Wilson & Cleary, 1995).

The theory about HRQOL among brain tumor patients focuses on the aspects of Quality of life that are affected by healthcare interventions. This study use HRQOL Theory because it can explain the impact of a condition on their patients or judge the effectiveness of the treatment. Measurement of HRQOL is important for the comprehension of disease concern and for the impact of specific tumor treatment.

2.3.2 HRQOL theory and the patients with Brain tumor.

The theory about HRQOL can explain the impact of a condition on their patients, judge the effectiveness of the treatment, measure many factors affecting the function of physical health (headache, dizziness, nausea, vomiting), cognitive as well as emotion (sad, worry, stress, anxiety, depression) **(**Feeny et al., 2013**).** Measurement of HRQL is essential for the impact of tumor treatment. Quality of Life composes of many phenomena as physical, psychological and social phenomena. This study aims to find the factors which impact patient's QOL in my study. It is also the outcome of this study.

For the characteristics of the individual, there are categorized as "demographic, developmental, psychological and biological factors that influence health outcomes". Biological function is the physiological processes that support life (Ferrans et al., 2005) and is the foundation to determine health status (Wilson & Cleary, 1995).

Brain tumor patient‘s Quality of life is a very important area in clinical setting to reach the goal to increase patient survivorship. In this study, QOL of patient with brain tumor will be measured by Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. This scale has 4 aspects of well-being: physical, social/family, emotional, and a disease-specific concerns". The questionnaire was developed and checked by Weitzner and Coworkers (Weitzner, 1995) in 1995. Score to assess is from 0-4. Face 0 is enough of energy, they have no lack of energy. Face 1 shows a lack of energy in a small degree. Face 2 is a lack of energy in a greater than in face of 1. Face

3 shows a lack of energy in an even greater than in face of 2. Face 4 shows a very great degree lack of energy (Weitzner, 1995).

2.4 Factors associated with quality of life among patients with Brain tumors

2.4.1 Symptom distress and its association with QOL among patients with brain tumors.

The significant depressive symptom is frequent found in patients with brain tumors. In medicine, interventions improve outcomes in this domain. They come from self-diseased and treatment complications such as chemotherapy, radio therapy and so on. Symptoms from primary and metastatic brain tumors are may be different. Symptoms include abnormal physical, emotional, or cognitive status (Wilson & Cleary, 1995).

The symptom experience is difficult to predict for any individual patient with primary brain tumors, central nervous tissue and from the more prevalent metastatic brain tumors. Symptoms associated with primary or metastatic tumors may differ by the biology of infiltrative invasive disease in systemic disease. Moreover, treatments and symptoms vary on tumor categories, location, grade, size and histology (Lovely, 2004). The symptoms of brain tumor may be general, localizing, or falsely localizing and general symptoms include headache, nausea and vomiting lethargy, and unstable or difficulty in movement.

MD Anderson Symptom Inventory (MDASI - BT) scale measures symptoms of patients with tumors. This scale was recently validated by the MDASI-Core and developed to allow patients to self-report symptoms related specifically to patients with primary and metastatic brain tumors. The MDASI-BT includes nine common symptoms to patients with brain tumors. This module includes a total of 22 symptoms (13 core, 9 brain tumor items) and six interference items measure symptoms with patient daily life. The M. D. Anderson Symptom Inventory (MDASI) is a scale developed to allow patients to self-report symptoms, also known as MDASI-Core. It uses from 0 (being not present) to 10 (as bad as you can imagine) rating scale measuring patients' health status throughout the 24 hours prior to evaluation and 6 items measure symptoms with patient daily life. 6 items are also sorted on a 0 to10 scale, with 0 being 'did not interfere' and 10 being 'interfered completely' (Armstrong, 2008).

2.4.2 Anxiety association with QOL among patients with brain tumors

Anxiety and depression are frequent in brain tumor patients associated with adverse effects on tumor location, medications or only the diagnosis of a brain tumor. Anxiety and depression symptoms have significant correlation with quality of life (Jalali & Dutta, 2012). A meta-study showed that depression and anxiety as a high prevalence among patients with brain tumor was one of the strongest correlations with self-reported health status. Brain tumor patients' anxiety and depression are perceived poorer than population. Many authors indicate the relationship between quality of life and depression; and it is predicted that quality of life can have negative on survival (Reilly, 2009). Brain tumor patients' anxiety and depression are perceived poorer than population and impact quality of life.

In this study, the Hamilton Anxiety Rating Scale (HAM-A) was used to measure anxiety variable. This is a psychological scale questionnaire used in clinical to rate the severity of a patient's anxiety. Ham-A was developed in 1959 by Max R Hamilton and the first edition of the Hamilton Anxiety Rating Scale. He included a difference "between anxiety as a normal reaction to danger, anxiety as a pathological condition not related to stress, and anxiety as a state or broad syndrome". The original version used a 7 "five-point scale" for rating the groups of symptoms. For clinical goal, only severe or improper anxiety is attended to. According to Elizabeth et al., it can be classified into four levels: mild, moderate, severe, and panic anxiety (Elizabeth el al., 2006). In this study, the researcher used The Hamilton Anxiety Rating Scale (HAM-A) to measure anxiety variables. This scale is considered a "clinical rating" of the extensiveness of anxiety, and is intended for individuals that are "diagnosed with anxiety neurosis." The scale ingredient of 14 items was designed to assess the severity of a patient's anxiety. Each of the 14 items assesses a number of symptoms, and each group of symptoms is rated on a scale of zero to four, with four being the most severe.

All of these scores are used to compute an overarching score that indicates a person's anxiety severity (Renehan et al., 2008).

2.4.3 BMI and its association with QOL among patients with brain tumor.

With cancer patients, weight loss can be the first sign of malnutrition. It can be associated with and influence both mortality and morbidity. Besides that, it is important for cancer patient during a series of radiotherapy. It can severely affect quality of life (Gobbo et al., 2014). The BMI is calculated by using the formula: The body mass divided by the square of the body height, and is universally expressed in unit of kg/m2, resulting from mass in kilograms and height in meters (Cari et al., 2014). The standard BMI of Asia when BMI below 17.50 is underweight, from 17.50 - 22.99 is normal or healthy weight, from 23.0 to 27.99 is overweight, 28 and above is obese (Cari, 2014). BMI of patients with brain tumors is lower than of other patients. When assessing their quality of life, brain tumor patients exhibited slightly lower quality of life than liver cirrhosis patients did. This was significant in the scales concerning bodily pain ($p<0.001$), general health ($p < 0.001$), mental health ($p = 0.031$) and social functioning ($p = 0.016$) (Kristina, 2006). The research shows that QOL is impaired in benign tumor patients and becomes further compromised in malnutrition (Kristina, 2006). So that, improving the status nutritional is the first step for the success in enhancing QOL of these patients.

2.5 Conclusion

In this research, we identify the factors associated quality of life and use health-related quality of life theory. The theory can point out aspects of quality of life that are affected by healthcare interventions. With 5 domains of theory, we can find factors including symptom distress in physical domain, anxiety in psychological domain and BMI domain and level quality of life in brain tumours patients. The incidence of brain tumor will be decreased and QOL can be influenced by many factors. Nurses can manage symptom, stress, BMI and improve QOL for their patients.

Because nurses are important persons in educating, counselling patients and their family, describing the scale to measure each factor.

Patient can understand how to control symptom, improve BMI when they lose weight, identify the scale to measure QOL and symptom distress.

CHAPTER III
METHODOLOGY

3.1 Research design

The study was a descriptive and correlation research aimed to study the correlation between symptom distress, anxiety, BMI and quality of life among brain tumor patients.

3.2 Population and sample of the study

3.2.1 The population of the study

Population of the study included patient who had been diagnosis of primary brain tumor or metastatic brain, being age 18 years old and older, both males and females. Patients were admitted for treatment at Medical Nuclear and Oncology Centre in Bach Mai Hospital.

3.2.2 The sample of the study

The sample was selected from the population according to the following criteria:

The inclusion criteria:

1) Able to verbally communicate with the researcher
2) Patients who had diagnosed with brain tumor and metastatic brain

The exclusion criteria:

1) Unconscious.

2) Bleeding after surgery

3) Blood pressure > 140/90 mmHg or < 90/60 mmHg

Termination criteria:

1) Patients had abnormal vital signs: Respiratory rate > 30 times/minute, SpO_2 < 80 %, purple on the lip, finger or body, heart rate > 100 beats/ minute

2) Patients had severe pain

Sample size:

The researcher tested the relationship symptom distress, anxiety, BMI and quality of life among patient with brain tumor. Four parameters required including I) the level of significance a= 0.05, 2) the power of the statistical test (Power 1-13= 0.8), 3) There are three independence variables in this study and 4) effect size for this study (f=.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 should be 115 patients with brain tumors

3.3 Setting

The study was conducted at the Nuclear medicine and Oncology center in Bach Mai hospital in Hanoi city, Vietnam. Center receives about 3 to 4 patients with brain primary and metastasis brain tumors. Healthcare services are provided by medical staff every day from 7:30 am to 4:30 pm at the Inpatients center. The researcher collected data from Monday to Friday, 8.00 AM – 5 PM. At the patient room, there was a nurse and a physician. The healthcare services included taking care, giving medicine, controlling pain, managing depression and promoting social support. Therefore, the researcher was able to make plan to collect data every day.

Data collection

1. The researcher submitted research proposal and received ethical approval to Institutional Review Board of Nursing faculty, Mahidol University and Vietnam National University. After getting the approval and receiving permission to data collection, the researcher met the director of hospital, head of center and head nurse of Nuclear medicine and Oncology center in order to explain the purposes for data collection. Head nurse introduced the researcher to target population.

2. To prepare research assistant to prevent coercion, the researcher selected two year experience register nurses who had knowledge in the area of research, great communication skill, ability to solve problem flexible and work hard. After that, the researcher introduced the objective of the study, questionnaire, all documents that used in the study and explained to ensure that the research assistant understood all of them. Besides, researcher also explained process of data collection to them.

3. The research assistant self-introduced and made a relationship with the patients. The research assistant introduced the patients about the objective of study, data collection procedure and asked for the research cooperation. In addition, research assistant asked patient to sign consent form. The patients were volunteer to participate in the study. The research assistant collected some demographic data from medical record form.

The research assistant organized private room to interview the patients or did questionnaire by themselves. Then, researcher used five questionnaires for data collection. Questionnaires were Questionnaires are 1) demographic data questionnaire 2) MD Anderson Symptom Inventory – Brain tumor, 3) Hamilton Anxiety Rating Scale (HAM-A and 4) Functional Assessment of Cancer Therapy-Brain (FACT-Br). The used time was about 30-45 minutes.

3.4 Instruments

The instruments used for data collection included some parts as follows:

Part 1: General information of the patients and related to illness and treatment: Questionnaire contained demographic data of the patients, illness history and previous treatment information. The researcher developed this questionnaire by herself. The general information of patients included: Age (years), gender, and education level, income, married status, number of tumors, size of tumors, location, weigh in the past and so on.

Part 2: MD Anderson Symptom Inventory – Brain tumor:

MD Anderson Symptom Inventory – brain tumor (MDASI - BT) scale measured the distress symptoms and the interference of patient life with 28 items. This scale was validated by the MDASI-Core and developed to allow patients to self-report symptoms related specifically to patients with primary and metastatic brain tumors. The MDASI-BT included the symptoms were frequently found in the patients. This module included a total of 22 symptoms (13 core symptoms and 9 brain tumor items) and 6 of items were measured to the symptoms interfered with patient daily life. It used from 0 (being not present) to 10 (as bad as you can imagine) rating scale measuring patients' health status throughout the 24 hours prior to evaluation and 6 items measure symptoms with patient daily life. 6 items also were sorted on a 0 to10 scale, with 0 being "did not interfere" and 10 being "interfered completely" (Armstrong, 2008).

Part 3: Hamilton Anxiety Rating Scale (HAM-A)

This was a psychological scale questionnaire used in clinical to rate the severity of a patient's anxiety. Ham-A was developed in 1959 by Max R Hamilton. The scale ingredient of 14 items was designed to assess the severity of a patient's anxiety. Each of the 14 items assessed a number of symptoms, and each group of symptoms was rated on a scale of zero to four, with four being the most severe. All of these scores were used to compute an overarching score that indicates a person's anxiety severity (Vaccarino & Kalali, 2008). In 2012, Joseph and colleges

(2012) reported this assessment scale had Cronbach's alpha reliability ranging from 0.90 to 0.94.

Part 4: Functional Assessment of Cancer Therapy-Brain (FACT-Br)

For this study, the researcher assessed quality of life using Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. This scale had 5 dimensions of physical well-being, social/family well-being, emotional well-being, functional well-being and disease- specific concerns. The questionnaire was developed by Weitzner and Coworkers (Weitzner, 1995) in 1995. Score to assess is from 0-4. Each panel member separately scored each item and sub-item between 1 to 4 for relevance (1 = not relevant, 2 = major change to be relevant, 3 = minor change to be relevant, 4 = very relevant), clarity (1 = not clear, 2 = major change to be clear, 3 = minor change to be clear, 4 = very clear), and appropriateness and adequacy (1 = not appropriate, 2 = major change to be appropriate, 3 = minor change to be appropriate, 4 = very appropriate). Face 0 is enough of energy, he has no lack of energy. Face 1 shows a lack of energy in a small amount. Face 2 shows a lack of energy in a greater amount than in face 1's. Face 3 shows a lack of energy in an even greater amount than in face 2's. Face 4 shows an extremely lack of energy. (Weitzner, 1995).

3.5 Instrument Reliability and Validity

3.5.1 Instrument Reliability:

All of the instruments were translated into Vietnamese version using back translation technique then tested by Cronbach's alpha statistics with 16 patients and used with 115 brain tumors at cancer center. These Cronbach's alpha results were as follow:

Part 2: MD Anderson Symptom Inventory – Brain tumor had Cronbach's alpha of 0.96 and .89.

Part 3: The Hamilton Anxiety Rating Scale (HAM-A) had Cronbach's alpha of 0.94 and .78.

Part 4: Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale had Cronbach's alpha of .87 and .89, respectively.

3.5.2. Instrument Validity

The Functional assessment of cancer therapy Brain (FACT-Br) scale, MD Anderson symptom inventory scale, Hospital anxiety and Depression scale were verified by 8 experts. Their content validities were inspected and suggestions were made. Linguistic changes were made to them before being tested on 16 samples to assure their understanding of the contents. All scales were tried out on 16 patients with brain tumor receiving treatment at Bach Mai hospital, Hanoi, Vietnam. Researchers were taught to read out the questionnaire slowly and clearly.

3.6 Data collection

3.6.1 In this study, the researcher conducted in the following sequences. The researcher submitted research proposal for ethic approval to Institutional Review Board of Faculty of Nursing, Mahidol University and School of Medicine and Pharmacy, Vietnam National University's Institutional Review Board.

3.6.2 The researcher met the director of hospital, the manager and head nurse of Oncology Centre in order to explain the purpose for data collection. The head nurse introduced the researcher to targeted population.

3.6.3 The researcher self–introduced, made a relationship with the patients, for the patient with low ability to communicate, the researcher made relationship with direct caregiver and then informed sample about the objective of the study, data collection procedure and asked for the research cooperation. In addition, researcher asked patients to sign consent form.

3.6.4 Then, researcher used the questionnaire and assessment form for data collection. Questionnaires included: 1) demographic data, 2) MD Anderson Symptom

Inventory – Brain tumor have mean 3) Hamilton Anxiety Rating Scale (HAM-A) and 4) Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale. Participants could be free to withdraw from the study at any time without explain; confidentiality was maintained by not collecting data that could identify any one individual and also through employing unique study codes. First, the researcher selected information of patients in record such as: age, gender, diagnosis, kind of brain (metastatic or primary), kind of treatment. And then the patients answered the questions in the context of an interview, the researcher examined for patients which lasted for about 45 minute.

3.6.5 The patients could cancel to participate in the research all the time wherever they wanted to quit without any consequences to their treatment and caring services. All data must be deleted from the database and was not used as any part of the research.

3.6.6 Every information details were confidential and any content related to data that was presented in the thesis or any publication was anonymous.

3.7 Protection of human rights

In this research, the researcher strictly concerned on human rights and ethical issues throughout the research process by:

3.7.1. By submitting the research proposal, the researcher received approval by the Ethical Committee of Mahidol University, Thai Lan and IRB of Vietnam National University, Vietnam and started the data collection process after getting approval from director of Bach Mai hospital, head of the Nuclear medicine and Oncology center.

3.7.2. The researcher introduced herself to the participants, informed the patients about the research objective and all data collection process. The patients were informed that they have right to refuse to join in the research process. During anytime throughout the research process, patients had their own right to with draw from the research project at anytime that did not affect their treatment or caring process. If patients agree to join in the research process, they would be invited to sign their name in the consent form.

3.7.3 This research was not harmful to the patient's physical health. The data collection process might take time about 30- 40 minutes.

3.7.4 The data of patients in research was useful for other patients who have the same health care problem as the sample instead of benefit for patients who join the study. Private of patients was kept secretly, only the researcher and the research team were able to get access to the data. Any content related to data that were presented in the thesis or any publication were anonymous. In case of ones who with drawn themselves from the research, all data were deleted from the database were not used as any part of the research.

3.7.5 If the participants had further questions or require more explanation in regard to the research, they were informed to feel free to ask the researcher at anytime throughout the research process.

3.7.6 After the participants were clearly understand the research process and agree to join in the research, they were invited to sign their name in the consent form.

3.7.8 The researcher collected the data after receiving approval from Institutional Review Board of Faculty of Nursing, Mahidol University and School of Medicine and Pharmacy, Vietnam National University's Institutional Review Board.

3.8 Data analysis

- Data will be analyzed by using computer program. The significant level of statistic test was set up at $\alpha = 0.05$.

- Frequency, percentage, mean, standard deviation, and range were used to describe the general characteristics and medical data of samples.

- The descriptive statics in terms of frequency, percentage, mean and standard deviation, and range were used to describe study variables, including: symptom distress, anxiety, IBM and quality of life in patient with brain tumor.

- After testing for variable distribution, all variables were not normal distribution. So, Spearman's Rho correlation coefficient was used to examine association between variable including: symptom distress, anxiety, IBM and quality of life in patient with brain tumors

CHAPTER IV
RESULT

This descriptive correlational study was conducted to assess the correlation between BMI, symptom distress, and anxiety and quality of life among patients with brain tumors. The sample was 115 patients recruited from oncology department of Bach Mai hospital from August to November, 2016. The findings were presented in descriptive statistic as follows:

1. The demographic data of brain tumor patients.
2. Characteristic of illness and treatments.
3. BMI, Symptom, anxiety in brain tumors patients.
4. The correlation between BMI, symptom severity, anxiety level and QOL in patients with brain tumors.

4.1 The demographic data of brain tumor patients.

The demographic data were collected including age, gender, region, marital status, educational level, occupation, payment method, personal income and family' monthly income.

The table 4.1 show that the majority of patients were married male in middle age group with average age 51.88 ± 13.5. In detail, 57.4 % of patients were in middle age range from 41 - 60 years old, followed by the percentage of people over 60 years old with 24.3 %. In term of location of resident, there were no significant differences between two urban (52.2%) and rural (47.8%), cases in ethnic or mountain resident are comprise to zero percent.

The highest number of job accounted for self- payments at 37.4% and the lowest make up to counter 0.9%. Likewise, colleague degree of education ranked the peak level with 40.9 % and primary school got the smallest position with exactly 3 %. The patients with medium income and paid the health care fee by insurances. To specify, the range among patient's turnover were not dramatically (range 13.9 - 35.7 %), almost family paid the hospital cost by insurance (95.7 %) with takings over just 300 USD per months (81.7 %).

Table 4.1: The characteristic of patients with brain tumors (n=115)

Characteristics	Number	Percentage
Age (years)		
Under 20 years old	2	1.7
From 21 to 40 years old	19	16.5
From 41 to 60 years old	66	57.4
Over 60 years old	28	24.3
Median = 54.55		
Min = 17		
Max = 76		
Mean ± SD = 51.88 ± 13.5		
Gender		
Male	70	60.9
Female	45	39.1
Location of resident		
Urban	60	52.2
Rural	55	47.8
Mountain	0	0
Marital status		
Married	100	87.0
Single	12	10.4
Divorced	1	0.9
Separated	1	0.9
Widow	1	0.9

Table 4.1: The characteristic of patients with brain tumors (n=115) (cont.)

Characteristics	Number	Percentage
Occupation		
Staff government	7	6.1
Farmer	30	26.1
Worker	3	2.6
House worker	5	4.3
Retired	24	20.9
Self –employer	43	37.4
Counter	1	.9
Educational Level		
Primary school	3	2.6
Secondary school	10	8.7
High school	3	2.6
Two years certificate	23	20.0
College	47	40.9
Bachelor	29	25.2
Payment method		
Insurance	110	95.7
Self-payment	4	3.5
Organization	1	.9
Income per month		
Under 100 USD	33	28.7
From 101 to 200 USD	41	35.7
From 201 to 300 USD	24	20.9
Over 300 USD	16	13.9
Family’s income per month		
Under 100 USD	1	.9
From 101 to 200 USD	0	0
From 201 to 300 USD	20	17.4
Over 300 USD	94	81.7

4.2 Characteristic of illness and treatments.

In this study, researcher conducted six characteristic of brain tumors and treatment in sample size, which were reasons of admitted, comorbidity, stage, primary or metastatic, tumor located, treatments.

Regarding to the reasons of admission, main symptom pushed roughly half of cases to screen are easy to discover as headache 44.3%, motor dysfunction or deficits 47.0%. Subsequently, recheck appointments hold a share of just fewer than 30% cases come back to hospital.

As far as tumor's stage is concernedly, approximately 65 % of patients reached to stage 3 or 4 which mean that the tumors growth severely. Similarly, 50.4% of cases were primary tumors and other half reached to metastasis stage.

For the comorbidity, tumor located, treatments, firstly, around 50.4% of patients suffering from primary brain tumors, while lung cancer comorbidity with brain tumors accounted for other somewhere in vicinity of 35 %.

Secondly others tumors located was not dramatically high in any places. Next, even the diversity in tumor location, the chief complains seem limited in headache (44.3%), motor /sensory deficits (47%). Whilst, express aphasia or psychomotor seizures, which were thought as severe and common symptoms, were not highly distribute in this population.

Lastly, caused of late stage and high malignant level of tumors in this study, radiation therapy, Gamma knife and chemotherapy experienced a highest number of treatment therapy (over 40 %), followed by using radiation therapy only, whilst, surgery key point for tumor in early begin stage 6,1% (table 4.2)

Table 4.2: The characteristics of illness and treatment (n=115)

Characteristics	Number	Percentage
Reasons of admission		
Recently memory loss	4	3.5
Personal change/ inappropriate behavior	1	0.9
Headache	51	44.3
Inability to concentrate	1	0.9
Express aphasia	2	1.7
Motor dysfunction/ Sensory deficits	54	47.0
Psychomotor seizures	6	5.2
Endocrine dysfunction	4	3.5
Follow up (Recheck appointments)	31	27.0
Diagnosis/ Comorbidity		
Brain tumors	58	50.4
Brain tumors and stomach cancer	1	.9
Brain tumors and esophagus cancer	2	1.7
Brain tumors and breast tumors	6	5.2
Brain tumors and lung cancer	40	34.8
Brain tumors, lung and bone tumors	3	2.6
Brain tumors and colon cancers	2	1.7
Brain tumors, lung and liver tumors	1	.9
Could not remember	2	1.7
Stage		
The least malignant	9	7.8
Slow-growing	16	13.9
Actively reproducing abnormal cells	31	27.0
Reproduce rapidly	35	30.4
Not clear	24	20.9
Primary or metastatic		
Primary	57	49.6
Metastasis	58	50.4

Table 4.2: The characteristics of illness and treatment (n=115) (cont.)

Characteristics	Number	Percentage
Tumor Located		
Frontal lobe tumors	11	9.6
Parietal lobe tumors	9	7.8
Temporal lobe tumors	13	11.3
Occipital lobe tumors	4	3.5
Cerebellum Tumors	8	7.0
Pituitary tumors	3	2.6
Pons	6	5.2
Medulla	3	2.6
Cerebral cortex	14	12.2
Could not clear	40	34.8
Over 2 places	4	3.5
Treatment		
Surgery	4	3.5
Radiation therapy	13	11.3
Chemotherapy	15	13.0
Gamma knife	21	18.3
Radition therapy and Surgery	6	5.2
Chemotherapy and Surgery	2	1.7
Radition therapy and Chemotherapy	24	20.9
Radition therapy and Gamma knife	20	17.4
Sugery, Radition therapy, and Chemotherapy	10	8.7

4.3 Quality of life, BMI, symptom severity, and anxiety in brain tumors patients.

4.3.1. Quality of life in Brain tumors patients

For the table 4.3, we could see two others scale as BrC (special questions about brain cancer), FACT – G (General question for patient suffered any type of cancer, including four part: physical, emotional, functional, social aspect), sum FACT – Br (defined as sum of FACT- G and BrC)

Regarding to the table 4.3 the mean and for quality of life (FACT- Br) in this study was 129.47 (SD = 18.8) and average score 0.34, mean of social score 3.9 and average about 0.16. Mean of FACT - G at 69.7 (SD= 8.7) were lower than a BrC concern section 55.93 with average (0.35). Physical well being and functional well being were average (0.37) and (0.42).

Table 4.3: QOL in brain tumors Patients

Domains	**Mean**	**SD**
1.Physical well – being	17.50	3.60
2.Social/ Family well - being	20.17	2.10
3.Emotional well being	15.80	2.80
4.Functional well being	16.11	4.10
Total score general QOL (FACT – G)	69.70	8.70
Min: 51 **Max: 90**		
Brain tumor specific concern (BrC)	59.77	11.60
Min: 37 **Max: 82**		
Total scores of QOL (FACT-Br)	129.47	18.85
Min: 88 **Max: 172**		

For physical well being in scale from 0-4, lack of energy witnessed the most common sign with mean 2.28 follow by having the trouble to meet needs of patients' family ranked the second common sign with mean 1.63. By contrast, nausea the lowest position at mean 1.1

In stark contrast, seven issues in social domain were insignificantly problem in 115 respondents with those results mean range from 0.56 to 0.83 score.

If we look at functional and emotional sections, the trend went in the same pattern with physical domain. According to emotional parts, worrying in low level of satisfy with the way themselves coping with diseases (mean 1.84) pushed more harder than others issues to decreased QOL in those patients. Similarly, had problem with sleeping out weight others problems in functional sections (2.17 to sleeping well, less than 2 in six others questions).

4.3.2. BMI of brain tumors patients.

For body mass index, the majority of normal weight was highest at 80.9% with the mean BMI of 20.6 (SD ± 2.5). (table 4.4)

Table 4.4: BMI of brain tumors patients.

Scale	**Number**	**Percentage**	**Asian BMI**
Underweight	16	13.9	< 18.5
Normal	93	80.9	18.5 - 22.9
Overweight	6	5.2	23.0 - 24.9
Pre-Obese	-	-	25.0 - 29.9

Min: 8.89

Max: 26.1

Mean ± SD: 20.6 ± 2.5

4.3.3. Symptom severity of brain tumors patients.

The table 4.6 illustrates symptoms in some different categorizes but the common thing was the percentages of symptoms had score higher than 5 were around 10 % of cases, and mild of symptom were around 90%. 13 cancer symptoms with mean 1.7 (SE =0.08). Brain tumor specific symptom were 9 items at mean 1.2 (SE = 0.08), 6 symptom interfered were mean 1.9 (SE =0.1) and symptom severity at mean 1.6 (SE =0.07). Patients fatigue highest were around 10.4%.

Table 4.5: Symptom severity of brain tumors patients.

Symptom	**Mean ± SD**	**Moderate to Severe Rating (≥ 5) No.**	**Moderate to Severe Rating (≥ 5) %**
General Symptoms			
1. Pain	2.18 ± 0.17	11	9.5
2. Fatigue	2.97 ± 0.12	12	10.4
3. Nausea	1.49 ± 0.14	3	2.6
4. Disturber Sleep	1.76 ± 0.16	11	9.5
5. Distressed	1.67 ± 0.12	3	2.6
6. Shortness of breath	1.02 ± 0.17	2	1.7
7. Difficulty remembering	1.49 ± 0.16	8	6.9
8. Lack of appetite	1.97 ± 0.16	8	6.9
9. Drowsy (sleep)	2.41 ± 0.16	9	7.8
10. Dry mouth	1.31 ± 0.12	7	6.1
11. Sad	1.81 ± 0.27	1	0.9
12. Vomiting	1.26 ± 0.16	4	3.5
13. Numbness	1.18 ± 0.16	6	5.2
Brain tumor symptoms			
1. Weakness	1.16 ± 0.16	11	9.6
2. Difficult understanding	0.86 ± 0.12	4	3.4
3. Difficulty speaking	1.13 ± 0.14	7	6.1
4. Seizures	0.49 ± 0.17	3	2.7
5. Difficulty concentrating	1.73 ± 0.18	5	4.3
6. Vision	1.53 ± 0.13	9	7.8
7. Change in appearance	1.38 ± 0.16	3	2.7
8. Change in bowel pattern	1.15 ± 0.11	1	0.8
9. Irritability	1.58 ± 0.14	2	1.7

Table 4.5: Symptom severity of brain tumors patients. (cont.)

Symptom	**Mean ± SE**	**Moderate to Severe Rating (≥ 5) No.**	**Moderate to Severe Rating (≥ 5) %**
Symptoms interfered patients' life			
1. Work	2.12 ± 0.15	4	3.5
2. General activity	2.44 ± 0.15	9	7.8
3. Walking	2.04 ± 0.17	13	11.3
4. Mood	1.89 ± 0.11	4	3.5
5. Relations with other people	1.56 ± 0.15	5	4.3
6. Enjoyment of life	2.12 ± 0.16	12	10.4
All Groups	**Mean**	**SD**	
13 item mean	1.7	0.08	
9 item mean	1.2	0.08	
Interference mean	1.9	0.10	
Total MDASI (28 item mean)	1.6	0.07	

4.3.4 Anxiety

The study results revealed that patients' anxiety ranged from 1- 35 points and the majority of them had anxiety (60.9%) from mild to moderate anxiety (55.7%) until severe anxiety (5.2%). In addition, the average anxiety score was mild to moderate anxiety (10.44 ± 5.73) (table 4.5)

Table 4.6: Anxiety

Level of anxiety (range 0-32)	Number	Percentage
No anxiety (0-7)	45	39.1
Mild to moderate anxiety (8-19)	64	55.7
Severe anxiety (≥ 20)	6	5.2
Min = 1		
Max = 35		
Mean ± SD = 10.44 ± 5.73		

4.4. The correlation between BMI, symptom severity, anxiety and QOL in patients with brain tumors

For testing assumption, the BMI, symptom severity, anxiety, and QOL scores were assessed for their normal distribution. The results showed that all of the variables were not normal distribution. Therefore, Spearman's rho correlation was employed to test all variables' correlation and QOL.

The table 4.7 showed that symptom severity and anxiety was significant negative correlation with QOL (r = -.665, r = -.702, p < 0.01). However, BMI did not correlate with QOL.

Table 4.7 The correlation between BMI, symptom severity, anxiety and QOL

Spearman's rho Correlations				
	1	**2**	**3**	**4**
1. BMI	1			
2. Symptom severity	.014	1		
3. Anxiety	.068	.703	1	
4. QOL	-.077	-.665**	-.702**	1

** p < 0.01

CHAPTER V
DISCUSSION

In this chapter, the researcher will present the discussion of this research findings relevance to the two studied objectives:

1. The demographic data of participants.
2. Quality of life among brain tumors patients
3. The correlation between BMI, symptom severity, anxiety and quality of life among patients with brain tumors

5.1 The demographic data of participants.

In this study, the vast majority of patients were in median and late median age groups, male patients were estimated over 60%. This finding has some points in common with the cancer data released before. According to international agency for research on cancer, WHO, in Vietnam (Globocan, 2012). the prevalence and incidence of cancer in Vietnam were in middle group but we were ranked as the second highest group of morality. To specify, in 2012, in Vietnam, there were 140.1 million new cancer cases, 108.7 million cancer deaths, and 86.7 million people living with cancer within 1 years of diagnosis. In addition, although there was more female living with cancer than male, the morality in male were nearly to fold in female. (Globocan, 2014).

In our study, we found almost patients paid hospital fees by insurance and one thirst patient earn less than 100 USD over months, which was much less than average GDP (around 3000 USD/year). This figure proves that patients with brain cancer could not earn much money as normal patients so more depended on social. Our finding pointed some common ideal with other research on patient suffered cancer. According to the Vietnam social insurance, in 2015, health insurance funds to pay more than 4,400 billion for cancer patients (Minitry of health , 2014). More detail, burden of 6 common cancers account for about 0.22% including the cancer of breast, colorectal, stomach, liver, cervical, oral cavity (General statistics office of VN., 2016). More ominously, one study in national hospital of cancer, due to the cost of treating cancer is expensive so that cancer patients in Vietnam more than one third cannot afford therapy after 1 year of diagnosis. Recently, the financial study for the treatment of cancer in Vietnam showed that the families of cancer patients suffer severe financial consequences of cancer treatment. Accordingly, around 34% of cancer patients in our country cannot afford therapy after 12 months of diagnosis; 22% are unable to pay the cost of travel; 24.37% of families fell into bankruptcy (not afford to pay regular expenses such as household electricity, water, gas), to borrow, even close to 9% of families had to sell land , moving house. (Chi, 2016).

By the characteristic of diseases, half of patients in primary level, and another half in Metastasis level, over 60% patients had tumors spread actively or rapidly. So the quality of treatment also be affected with only nine percent of patient could performed surgery. According to the study of Hung and colleges (2016) in Vietnam, cancer patients of 71.4% were WHO grade III or higher. This is the reason to explain why the number of deaths from cancer in Vietnam is higher than other country. Caused of difficult, expensive, reduced efficiency in treating patients in advance stage.

5.2 Quality of life among brain tumors patients

The patients in this study composed of 120 patients with brain tumors receiving several treatment therapies as radiation, chemotherapy, surgeon, and combine therapy. Half of responded placed in metastasis stage with other tumors in some organs. During data collection period, five patients were too tired to finish the interview questions. Finally, this researched end up with 115 completed answers sheet with the mean FACT- Br score in this study were 129.47 (SD= ± 18.85).

In this study, researcher used The Functional Assessment of Cancer Therapy - Brain (FACT-Br), which covering five parts with 50 questions, each of those scores from 0 - 4 and the higher scores of FACT- Br mean the higher QOL.

The results study revealed that the QOL in patients suffered brain tumors in Bach Mai Hospital witnessed a practically as high as other national and international researches. They reported that low physical and emotional functioning could predict low QOL with bone and brain metastases (Ronald, 2015) . Similarly, a literature review of 18 primary and metastatic brain neoplasms researches conducted from 1980 to 2012 found that QOL in primary brain neoplasms was 61.88 as opposed to 59.44 in metastatic cases (Chiu et al., 2012). In Vietnam, research about patients with tumors had done in Hanoi Medical University illustrated that QOL of cancer patients were dramatically higher than our study with mean of FACT –G: 69.74 (SD = 8.73), the average was score FACT– G mean 47.03 (SD= 13.84) (Binh, 2015). The significant difference possibly related to the study instruments because the study of Hanoi Medical University hospital used the FACT-G questionnaire that was not covered 23 specific concern questions about brain tumors like this study. If you compare with FACT – G standardization with 101 patients were mean 86.97, it is mean that's QOL patients cancer in this study lower than QOL standardization of scale.

For the five domains in QOL scale, about physical aspects, lack of energy and side effects of treatment were main problems. This found support for the studies in American viewpoints, which opinion that fatigue is a pervasive distress symptom among patients with brain tumors (Asher et al., 2016), and interventional therapy at fatigue, possibly having important benefits for high grade gliomas (Brown et al., 2006). On the other hand, even though nauseas or vomiting were appeared as the certain symptoms and remained over time in advanced cancer patients as brain metastases (Hird et al., 2010). In this study, the results illustrated that this was not the most dramatically barrier to get high QOL for patients with brain tumors.

Secondly, as respect to social aspect in patients with brain tumors, This research figures showed the smallest issue in this research population. In contract, other researcher in oversea could not share the same ideals, take the study in Poland as an example. In their first examination without any supported program, all types of family relationships were found to be severely weakened; there was deep social isolation, loneliness, sadness, opposition, and lack of purposive social activity (Bulinski, 2010). Because of really strong family bonds and connected culture in

Vietnam, the vast majority of patients felt close to their partner and get huge support from family and friends.

Thirdly, emotional support were mean of 15.8 (SD = 2.88), similarly to social support mean of 20.17 (SD = 2.12) this also not a big trouble for overwhelming of cases. However, there was warming figure for researcher in how much satisfied with how patients coping with their illness, this figure was ranked as highest group in Fact-Br. Furthermore, considering that brain neoplasm is a progressive tumor with deteriorating patients' QOL, we support for the ideal from Korean study that health care workers have to pay more attention to emotional problems, and treatment strategies should be investigated in this regard to improve patients' QOL (Noh et al., 2014).

About functional section, this was the most significant affect to QOL in brain tumor patients, this disease take the good sleep and ability to work in most of cases. This research findings contribute to suggesting that the patient impairment is associated with alteration of QOL (Boyer et al., 2012). Likewise, some special concerns in brain tumors showed that the characteristic of the disease also had the certain affect to QOL, even higher affect than the social aspect. Also, this study supported the FACT-Br quality of life that patient increased the feeling of serious illness, worrying and upsetting about death, experiencing the sickness, troubling of thoughts expression and actions that reflect from thoughts. Those feeling were drastically worse in brain tumors patients, indicating lower QOL. However, there are still assistance coming from friends. (Chow et al., 2016; Shiow, 2014). Similarly, another research also pointed that five following things affected to QOL as in this research for example headache, trouble concentrating and confusion, memory change, reduced vitality, nausea and vomiting, numbness and weakness, dizziness, and (Hird et al., 2010).

5.3 The correlation between BMI, symptoms, and anxiety level among responded suffered brain tumors

5.3.1 The correlation between BMI and QOL

According to WHO, we categorized the BMI to 4 level for Asian region, underweight (BMI <17.5), normal (BMI 17.5-22.99), overweight (BMI = 23.00 – 27.99), obese (BMI ≥ 28). In our study, around 13.9% were underweight and more critically we had one case categorized as severe thinness was 18 years male with 20kg of weight and around 150cm height. Conversely, the massive 90% was in normal index and around five percent in overweight level. There was no case with severe obesity.

In comparison to Vietnam national data about BMI through years 2005, our figure had higher people in normal scale (80.9% as oppose to 71.9%) and overweight scale (5.2% compare with 3.9%) but had substantially less number of people with underweight scale (13.9 as against 24.2%).

In this study, there were not correlation between BMI and QOL. However, other studies argue that severe obesity had notably impact on QOL craniopharyngioma (Muller et al., 2005). According to the study of Niedermarier (2015) with BMI related with primary tumors in Germany, the result indicated that overweight & obesity were not associated with QOL in glioma patients (Niedermaier, 2015).

5.3.2. The correlation between symptom distress and QOL

In this study, we were using the M.D. Anderson scale to score how severe the symptoms were and the correlation between the symptoms and QOL in brain tumors patients. This questionnaire covered two parts, the first parts included 22 common symptoms scored from zero to ten, and six other questions were the the second part with the effects of above server symptoms to normal activities, mood, work, relationship, moving, and enjoy life.

Overall, what stands out from research results were the negative correlation between the QOL and the symptoms at ($r = -.665$, $p < 0.01$**)** patients had. Which mean that the more server symptoms patients had, the less QOL they were.

This finding was supporting for the following research below (Cahill, 2014; Tsay, 2014).

First of all, for the first 22 questions, it were not all of these symptoms were acquired in high grade in all of cases but some of them (pain, tiredness, sleepy, loss of appetite) witnessed the significantly higher incidence than others. This study results partly agree to some previous researchers that even though how severe each symptom brought change over time but there always had some certain signs and symptoms. Similarly, the study of Chow et al (2016) reported statistically worsen of symptoms in most patients, indicating lower QOL as same as patients with glioma had social, physical, sensational, the way of thinking, and diminish their characters before surgery. Moreover, there were five common troubles in this group; exhaustion, pain, the loss of food craving, sleeplessness and nausea/vomiting. In conclusion, the QOL was powerfully affected by the exhaustion, pain symptoms and every type of functional deterioration. (Cheng et al., 2012)

The most severe symptoms were belonging to tiredness and pain, the lowest acquired signs was seizure. Tiredness or fatigue was considered as a pervasive and an intolerable distress symptom especially in brain tumors patients and also general cancer patients. The pathophysiology of cancer-related fatigue (CRF) in the context of patients with brain tumors is multifaceted, complex, and still containing mystery points, involving biological, behavioral, medical and social factors. In the cancer population, CRF is associated with the role of inflammatory cytokines. Nowadays, the powerful prognostic factor for remaining alive longer is fatigue and it increases prognostic value in recurrent brain tumors (Asher et al., 2016). Therefore, there was no doubt that tiredness was the most dramatically symptoms in this study. Pain, on the other hand, depends on which strategies patient in and where the tumors located. In this study, pain ranked as the second highest problems in participants but it’s having a chance that this figures change in our next interview, liking patient in Department of Neurosurgery, Seoul National University Bundang Hospital. Korean study carried on a total of 258 patients who underwent surgical treatment. The results pointed out that physical function was significantly aggravated and there were symptoms such as headache, pain and nausea and vomiting were significantly decreased, while dyspnea, communication deficit and weakness of the legs were increased. (Kim et al., 2016).

Conversely, general activities and the obvious symptoms that patients had to live with, were the most effects to QOL in this study such as: “Able to work at” mean 1.71 , “My work” (include work at home) is fulfilling at mean 1.65 (Tsay, 2014). According to the study of Bahlouli et al (2016), they found that the factors most influencing the patients and relatives QOL were the dependence in the complex activities. Since, almost people in Vietnam got married (90 %) and family always got patients’ back to fight with diseases (Ship, 2014). So, work and able to enjoy life also harder to overcome with our patients whilst the relationship and mood disorders witnessed a slightly easier to cope with.

5.3.3. The correlation between anxiety and QOL

Overall, what stands out from research results were the negative correlation between the QOL and the anxiety at (r = -.702, p <0.01) patients had. Anxiety score had strong negative relationship with QOL as same as the study of Teke et al (2016) found that mood and sleep quality are correlated to survival and QOL of metastasis brain tumor patients. So, decreased anxiety could results in a good patient outcomes.

To specify, the anxiety mood, somatic and insomnia were significant higher than other as patients show a fear when facing with brain neoplasm. In contrast, Su et al (2014) argued that Chinese brain tumors’ patients who had a short-term complications with depression, anxiety and poor QOL in while a long-term complication was mild cognitive impairment and this results are consisted with result of other author (Tsay, 2014; Teke et al.,2016)

5.4 Conclusion

In conclusion, this finding confirm the components of Healthy Related Quality of Life Theory such as physical, psychological, emotional and social of response. For the physical, symptom of the brain tumors patients can affect to the QOL outcome. Psychological, anxiety effect to QOL of patients. Symptom severity and anxiety are transition conditions that intervene to QOL for patients. So, symptom is the type of response that nurses must attention and manage. Further, symptom manage should be for brain tumors and cancer patients for improving QOL of brain tumor patients.

CHAPTER VI
CONCLUSION

This across-sectional descriptive and correlation research aimed to examine factors correlation between symptom distress, anxiety, BMI and quality of life among brain tumor patients. Quality of life theory was utilized as a framework of this study. 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. The sample of this study consisted of 115 patients with brain tumors, both male and female, who were 18 years old and older. They have primary or metastatic brain tumors with or without receiving radiotherapy, chemotherapy, Gamma knife and/or surgery. The participants were recruited inpatient when they admit at the Oncology center in Bach Mai hospitals for treatment from August to October, 2016

After study 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 4 instruments: 1) the general information of patients includes: Age (years), gender, and education level, income, married status, number of tumors, size of tumors, location, BMI, weigh in the past and so on, 2) the MD Anderson Symptom Inventory – Brain tumor (MDASI - BT) questionnaire measures symptom of patients with tumors, 3) Hamilton Anxiety Rating Scale (HAM - A) questionnaire, 4) the Functional Assessment of Cancer Therapy-Brain (FACT - Br) questionnaire. The 115 samples were selected according to the inclusion criteria. The researcher collected data by herself from 8.00 am to 5.00 pm every day until the sample reached the target of the studied sample size. For each sample the researcher spent 30 to 45 minutes 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 BMI, symptom distress, anxiety and quality of life. 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 BMI, symptom distress, anxiety and quality of life among patients with brain tumor during hospital stay.The results showed as follows:

6.1 The demographic data of brain tumor patients.

Regards demographic characteristics of the patients with brain tumors, seventy patients (60.9%) were male. Their mean age was 54.55 years with (SD = 13.5) and from 41 to 60 years old is the highest with 66 patients (57.45%). Patients were married at 100 (87.0%) and them work by self-employer 43 (37.45%). A mean personal income was from 101 to 200 USD (35.7%) per month while a mean family income was Over 300 USD per month (81.7%).

6.2 characteristics of illness and treatment

With regard the characteristics of illness and treatment**,** All most patients has reasons of admitted by motor dysfunction/ Sensory deficits 54 (47%) and metastatic patients (50.4%).

6.3 Quality of life in patient brain tumors

The mean and for quality of life (FACT- Br) in this study was 129.47 (SD =18.85) and average score 0.34, mean of social score 3.9 and average about 0.16. Mean of FACT - G 69.70 (SD= 8.73) were higher than a specific concern (brain tumor) about disease 59.77 with average (0.35). Physical wellbeing and functional wellbeing were average (0.37 and 0.42) and mean of sum at 17.5 (SD = 3.6) and 16.11 (SD = 4.1).

6.4 The correlation between BMI, symptom distress, anxiety level and QOL.

In this study, symptom distress and anxiety were significant negative correlate with QOL ($r = -.706$, $r = -.665$, $p < .01$). However, BMI also did not correlate with QOL.

The results of this study reflected the concept as proposed in with the concept of health related quality of life theory in that when patients with brain tumors relatively poor QOL. Factors correlated with quality of life among these patients comprised internal or patients related factors such as: Anxiety and symptom severity.

6.5 Recommendations

The study findings showed that symptom severity, anxiety were significant to QOL of patients with brain tumors during hospital stay. Therefore, clinicians could utilize such findings to plan nursing care for patients with brain tumor individually regarding of symptom or anxiety. Provision of care should begin with evaluation of symptom, anxiety of patients in order to ensure the individual appropriateness of care planning:

Implication to nursing practice

1. Healthcare professionals should apply specific measures to help the patients improve the situation, then accordingly help the patients to improve their QoL. In addition nurses should upgrade their knowledge of symptom assessment, assess patients' symptoms, anxiety or illnesses related to comorbidities have to be controlled and treated properly.

2. Nurse should coordinate with health care team such as doctors, pharmacists ect. in order to reduce patients' symptoms and enhance patients' nutrition, giving advises about adequate sleep.

3. Symptom management program has to be tailored suiting individual patients problems to various subgroups basing on demographic characteristics to meet their unique needs. Training for nurse, patients, family members and others are also

advisable to share and update information on the disease itself as well the medical treatment and nonmedical treatment. Better understanding of their situation will bring the patients more positive behavior and optimistic reaction to life, and finally better their QoL during the treatment process.

4. Nurses should utilize the finding to develop a nursing care program to manage pain anxiety, and distress symptoms.

5. Nurses can implement the study findings to develop a clinical nursing practice guideline on provision of care for patients with brain tumor during hospital stay to promote quality of life because nurse can control and reduce symptoms and anxiety as an independent role to improved quality of life for patients.

Implication for further researches

1. Clinical practice guidelines to improve QOL patients with brain tumor should be developed and tested for its effectiveness by using quasi experimental research.

2. Studies should also be carried out to further investigate other factors affecting functional status of patients with brain tumors such as type of food and modification of eating behaviors, symptom special because data regarding those influential factors among patients with brain tumors can be utilized by nurses to plan for diet and other appropriate habits. To conducted research separate or compare with two groups of primary or metastatic tumors or the kind of treatments.

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APPENDICES

APPENDIX A

LIST OF THE EXPERTS

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 Mai Trong Khoa, MD, PhD.

   Director of the Medical nuclear and Oncology centre in Bach Mai hospital.

3. PhD Pham Cam Phuong, MD, PhD.

   Vice director of the Medical nuclear and Oncology centre in Bach Mai hospital.

4. BA. Phan Thu Hue

   Head nursing of the Medical nuclear and Oncology centre in Bach Mai hospital.

5. PhD Nguyen Quang Hung, MD, PhD.

   Dortor of the Medical nuclear and Oncology centre in Bach Mai hospital.

6. MSc. Tran Hai Binh.

   Dortor of the Medical nuclear and Oncology centre in Bach Mai hospital.

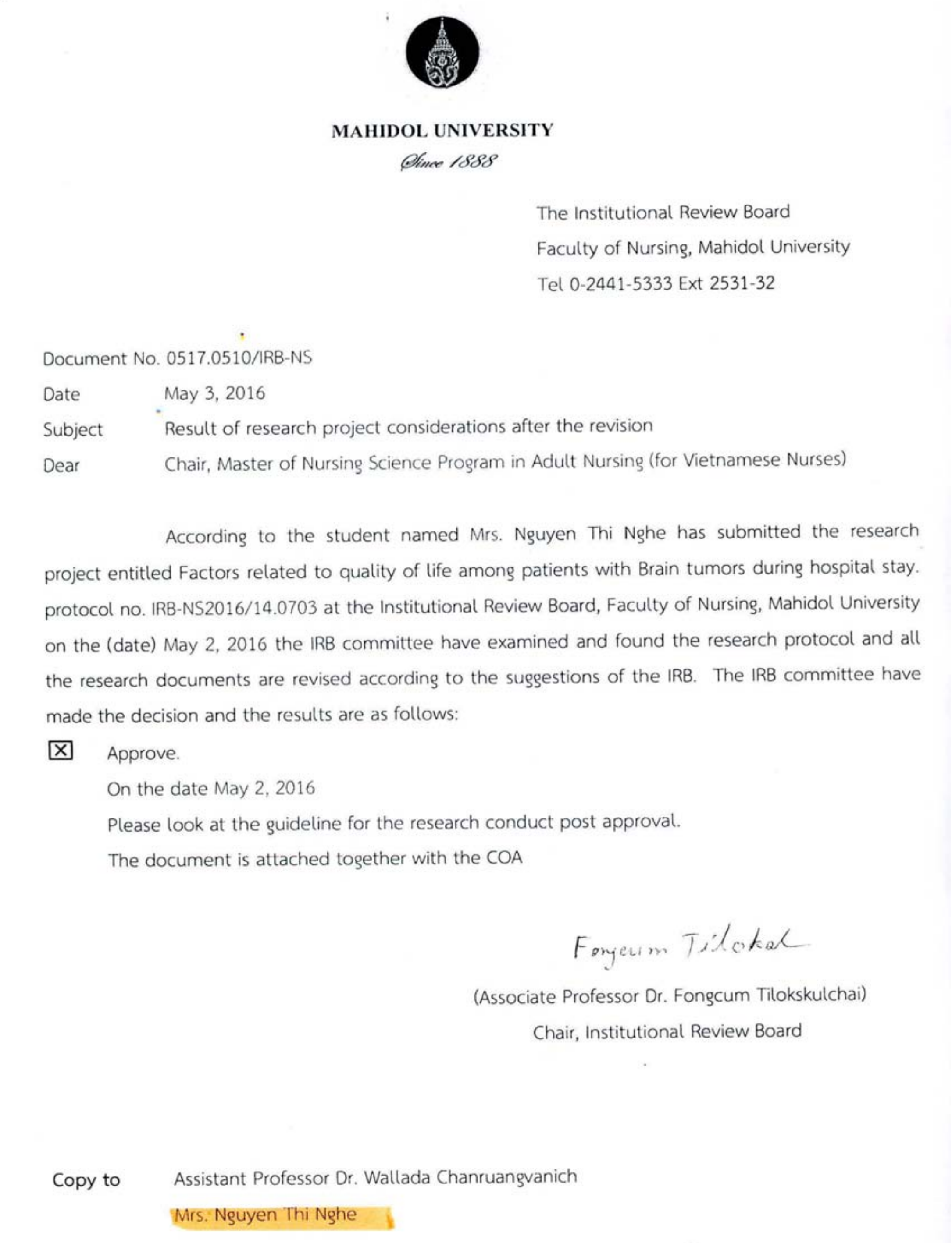
7. BA. Do Trinh Sa

   Techniques of the Medical nuclear and Oncology centre in Bach Mai hospital.

8. MSc. Phan Thi Dieu

   English Teacher Ha noi university.

APPENDIX B



MAHIDOL UNIVERSITY
Since 1888

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

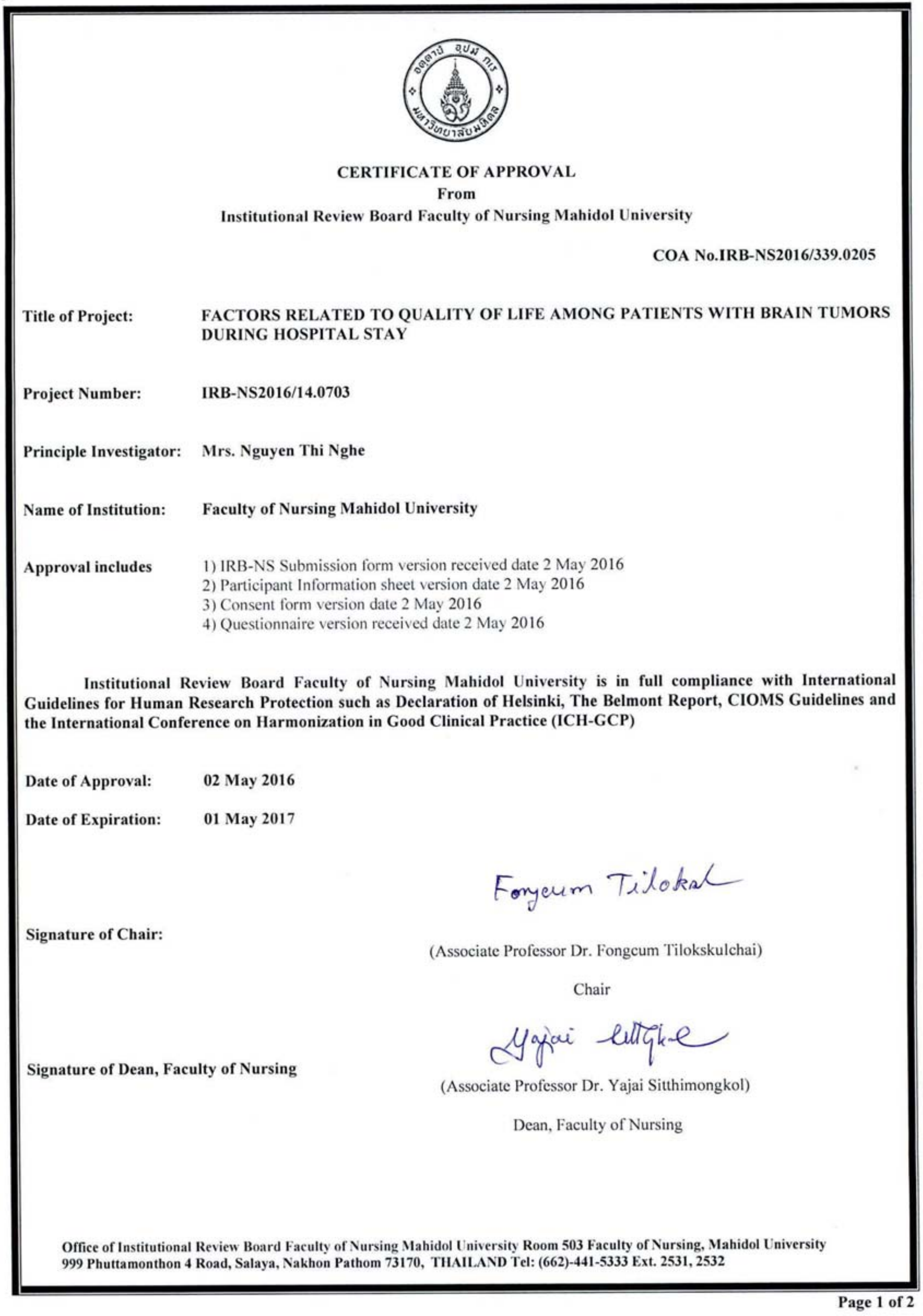
Document No. 0517.0510/IRB-NS
Date May 3, 2016
Subject Result of research project considerations after the revision
Dear Chair, Master of Nursing Science Program in Adult Nursing (for Vietnamese Nurses)

According to the student named Mrs. Nguyen Thi Nghe has submitted the research project entitled Factors related to quality of life among patients with Brain tumors during hospital stay. protocol no. IRB-NS2016/14.0703 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 Tilokal
(Associate Professor Dr. Fongcum Tilokskulchai)
Chair, Institutional Review Board

Copy to Assistant Professor Dr. Wallada Chanruangvanich
Mrs. Nguyen Thi Nghe



CERTIFICATE OF APPROVAL
From
Institutional Review Board Faculty of Nursing Mahidol University

COA No.IRB-NS2016/339.0205

Title of Project: **FACTORS RELATED TO QUALITY OF LIFE AMONG PATIENTS WITH BRAIN TUMORS DURING HOSPITAL STAY**

Project Number: **IRB-NS2016/14.0703**

Principle Investigator: **Mrs. Nguyen Thi Nghe**

Name of Institution: **Faculty of Nursing Mahidol University**

Approval includes
1) IRB-NS Submission form version received date 2 May 2016
2) Participant Information sheet version date 2 May 2016
3) Consent form version date 2 May 2016
4) Questionnaire version received date 2 May 2016

Institutional Review Board Faculty of Nursing Mahidol University is in full compliance with International Guidelines for Human Research Protection such as Declaration of Helsinki, The Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP)

Date of Approval: **02 May 2016**

Date of Expiration: **01 May 2017**

Signature of Chair:

Fongcum Tilokal

(Associate Professor Dr. Fongcum Tilokskulchai)

Chair

Signature of Dean, Faculty of Nursing

Yajai

(Associate Professor Dr. Yajai Sitthimongkol)

Dean, Faculty of Nursing

Office of Institutional Review Board Faculty of Nursing Mahidol University Room 503 Faculty of Nursing, Mahidol University
999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom 73170, THAILAND Tel: (662)-441-5333 Ext. 2531, 2532

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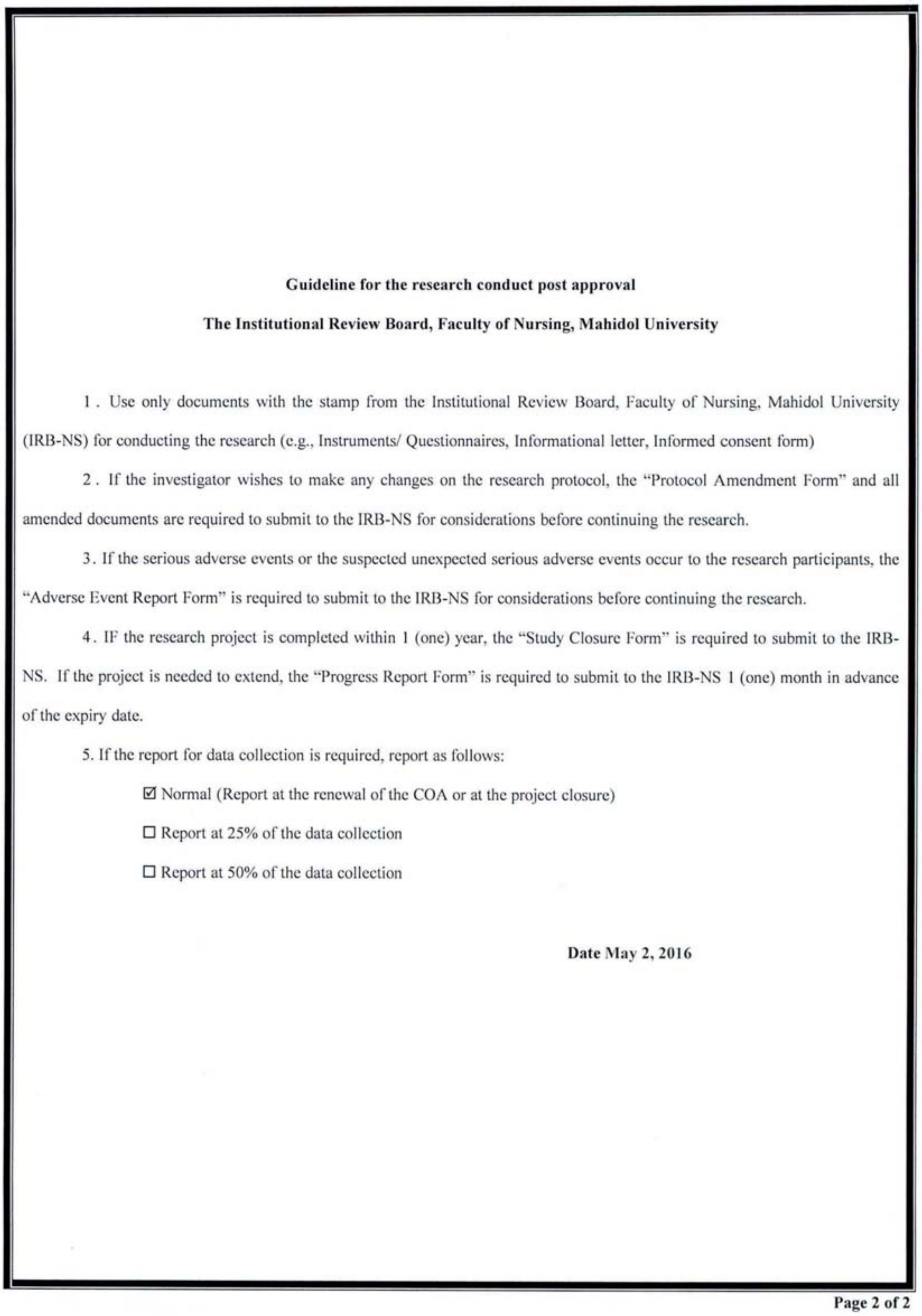


Guideline for the research conduct post approval

The Institutional Review Board, Faculty of Nursing, Mahidol University

1 . Use only documents with the stamp from the Institutional Review Board, Faculty of Nursing, Mahidol University (IRB-NS) for conducting the research (e.g., Instruments/ Questionnaires, Informational letter, Informed consent form)

2 . If the investigator wishes to make any changes on the research protocol, the "Protocol Amendment Form" and all amended documents are required to submit to the IRB-NS for considerations before continuing the research.

3 . If the serious adverse events or the suspected unexpected serious adverse events occur to the research participants, the "Adverse Event Report Form" is required to submit to the IRB-NS for considerations before continuing the research.

4 . IF the research project is completed within 1 (one) year, the "Study Closure Form" is required to submit to the IRB-NS. If the project is needed to extend, the "Progress Report Form" is required to submit to the IRB-NS 1 (one) month in advance of the expiry date.

5. If the report for data collection is required, report as follows:

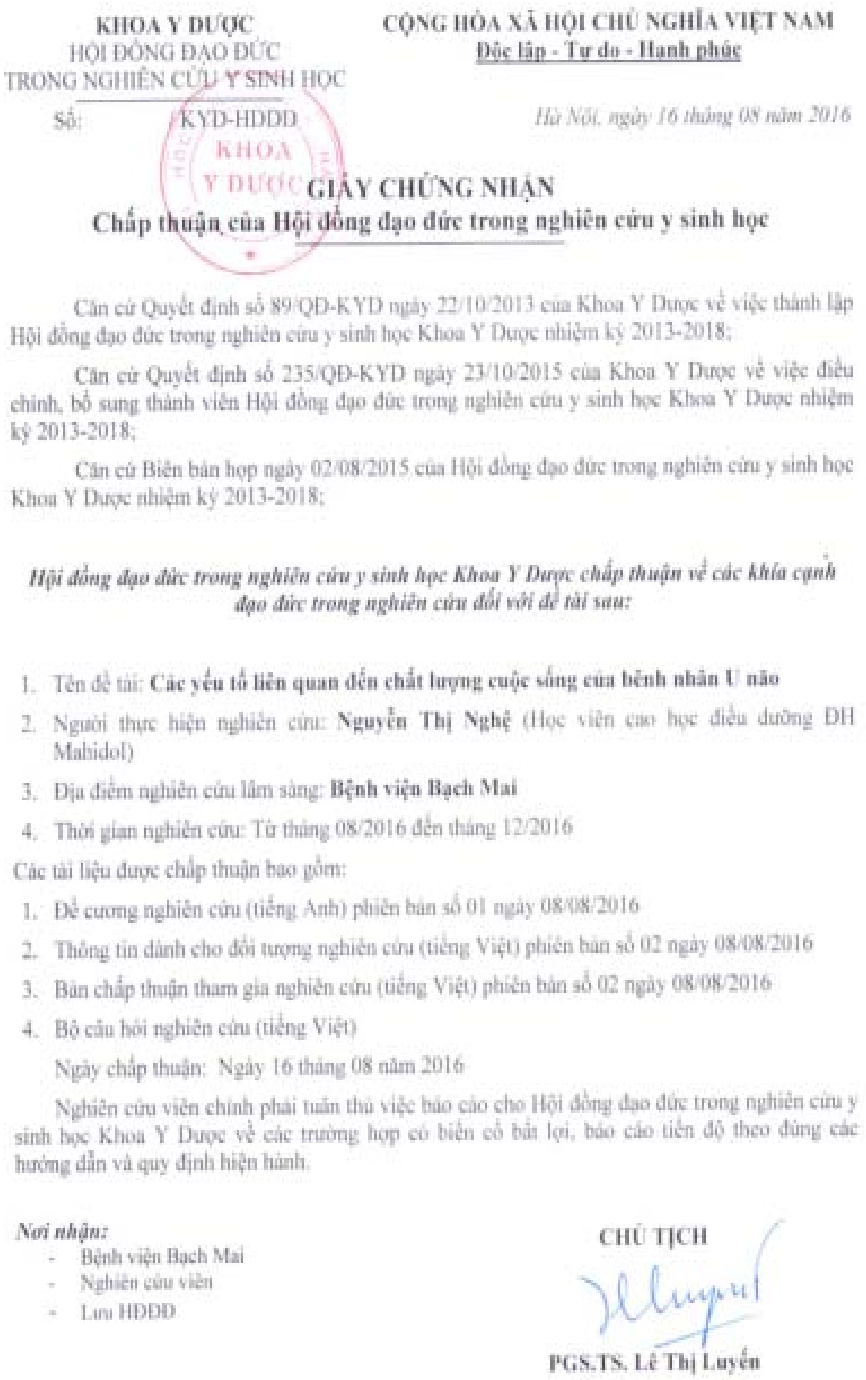
☑ Normal (Report at the renewal of the COA or at the project closure)

☐ Report at 25% of the data collection

☐ Report at 50% of the data collection

Date May 2, 2016

Page 2 of 2



KHOA Y DƯỢC
HỘI ĐỒNG ĐẠO ĐỨC
TRONG NGHIÊN CỨU Y SINH HỌC

Số: /KYD-HDDD

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Hà Nội, ngày 16 tháng 08 năm 2016

GIẤY CHỨNG NHẬN

Chấp thuận của Hội đồng đạo đức trong nghiên cứu y sinh học

Căn cứ Quyết định số 89/QĐ-KYD ngày 22/10/2013 của Khoa Y Dược về việc thành lập Hội đồng đạo đức trong nghiên cứu y sinh học Khoa Y Dược nhiệm kỳ 2013-2018;

Căn cứ Quyết định số 235/QĐ-KYD ngày 23/10/2015 của Khoa Y Dược về việc điều chỉnh, bổ sung thành viên Hội đồng đạo đức trong nghiên cứu y sinh học Khoa Y Dược nhiệm kỳ 2013-2018;

Căn cứ Biên bản họp ngày 02/08/2015 của Hội đồng đạo đức trong nghiên cứu y sinh học Khoa Y Dược nhiệm kỳ 2013-2018;

Hội đồng đạo đức trong nghiên cứu y sinh học Khoa Y Dược chấp thuận về các khía cạnh đạo đức trong nghiên cứu đối với đề tài sau:

1. Tên đề tài: **Các yếu tố liên quan đến chất lượng cuộc sống của bệnh nhân U não**
2. Người thực hiện nghiên cứu: **Nguyễn Thị Nghệ** (Học viên cao học điều dưỡng ĐH Mahidol)
3. Địa điểm nghiên cứu lâm sàng: **Bệnh viện Bạch Mai**
4. Thời gian nghiên cứu: Từ tháng 08/2016 đến tháng 12/2016

Các tài liệu được chấp thuận bao gồm:

1. Đề cương nghiên cứu (tiếng Anh) phiên bản số 01 ngày 08/08/2016
2. Thông tin dành cho đối tượng nghiên cứu (tiếng Việt) phiên bản số 02 ngày 08/08/2016
3. Bản chấp thuận tham gia nghiên cứu (tiếng Việt) phiên bản số 02 ngày 08/08/2016
4. Bộ câu hỏi nghiên cứu (tiếng Việt)

Ngày chấp thuận: Ngày 16 tháng 08 năm 2016

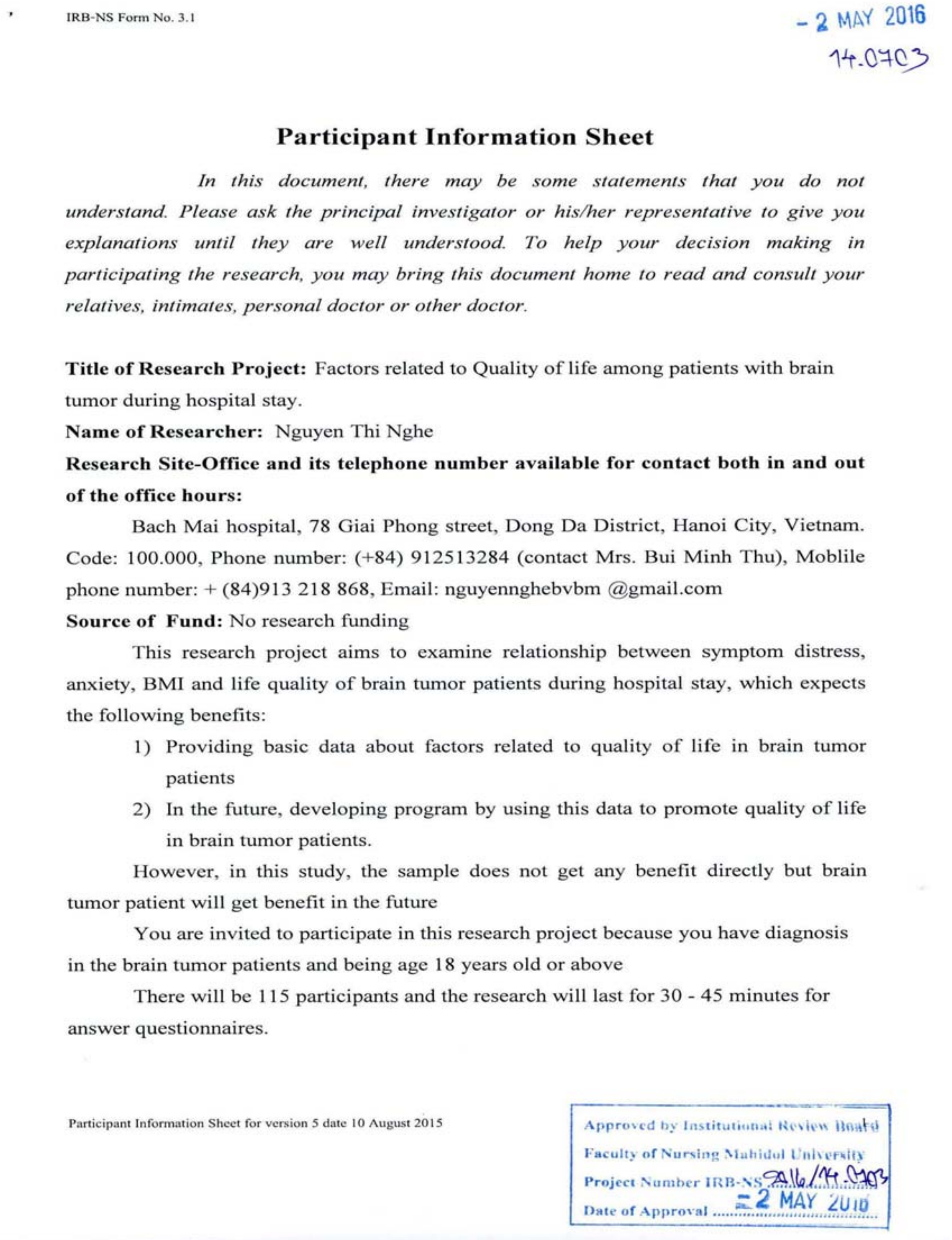
Nghiên cứu viên chính phải tuân thủ việc báo cáo cho Hội đồng đạo đức trong nghiên cứu y sinh học Khoa Y Dược về các trường hợp có biến cố bất lợi, báo cáo tiến độ theo đúng các hướng dẫn và quy định hiện hành.

Nơi nhận:
- Bệnh viện Bạch Mai
- Nghiên cứu viên
- Lưu HĐĐĐ

CHỦ TỊCH

PGS.TS. Lê Thị Luyến

APPENDIX C



IRB-NS Form No. 3.1

- 2 MAY 2016
14.0703

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 Quality of life among patients with brain tumor during hospital stay.

Name of Researcher: Nguyen Thi Nghe

Research Site-Office and its telephone number available for contact both in and out of the office hours:

Bach Mai hospital, 78 Giai Phong street, Dong Da District, Hanoi City, Vietnam. Code: 100.000, Phone number: (+84) 912513284 (contact Mrs. Bui Minh Thu), Moblile phone number: + (84)913 218 868, Email: nguyennghebvbm @gmail.com

Source of Fund: No research funding

This research project aims to examine relationship between symptom distress, anxiety, BMI and life quality of brain tumor patients during hospital stay, which expects the following benefits:

1) Providing basic data about factors related to quality of life in brain tumor patients
2) In the future, developing program by using this data to promote quality of life in brain tumor patients.

However, in this study, the sample does not get any benefit directly but brain tumor patient will get benefit in the future

You are invited to participate in this research project because you have diagnosis in the brain tumor patients and being age 18 years old or above

There will be 115 participants and the research will last for 30 - 45 minutes for answer questionnaires.

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/14.0703
Date of Approval - 2 MAY 2016

IRB-NS Form No. 3.1

*To participate in this research is completely VOLUNTARY.

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

1) The researcher will organize private room to interview you or do questionnaire by yourself. Then, researcher uses five questionnaires for data collection. Questionnaires are: 1) Demographic data questionnaire has 14 question, 2) M.D. Anderson Symptom Inventory - Brain Tumor scale have 28 questions, 3) Hamilton Anxiety Rating Scale (HAM-A) has 14 questions, 4) The Functional Assessment of Cancer Therapy-Brain (FACT-Br) scale has 50 questions. Total questionnaire has 106 questions and time is about 30-45 minutes.

2) During interview or use questionnaire, if you feel uncomfortable. 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.

During data collection, you may have unexpected conditions from stage of disease for example dyspnea, or unstable vital signs. The researcher will stop interviewing or using questionnaire and will immediately contact with doctors who have responsibility to take care of you. The researcher will take care until you already stable.

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

If you have any questions about this research please feel free to contact the researcher, Mrs. Nguyen Thi Nghe, Telephone: (+84)913218868.

You do not get any money or payment for participating 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.

Your 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.

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/74.0703
Date of Approval 2 MAY 2016

IRB-NS Form No. 3.1

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 0066 2 441 5333 ext 2531, 2532 Fax 0066 2 441 5333 ext 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com

Then submit document and the result to SMP- IRB institutional review board of Vietnam National University. The IRB Chair – SMP is Associate Professor Le Thi Luyen, MD, PhD. Address: Y1 Building, No.144 Xuan Thuy street, Cau Giay district, Hanoi, Vietnam. Code: 100000, Telephone number: (+84)437450118, Fax: +84-4-37450146 Mobile Phone number of IRB: (+84)983297654 (Contact Mr. Nguyen Hoang Long)

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.

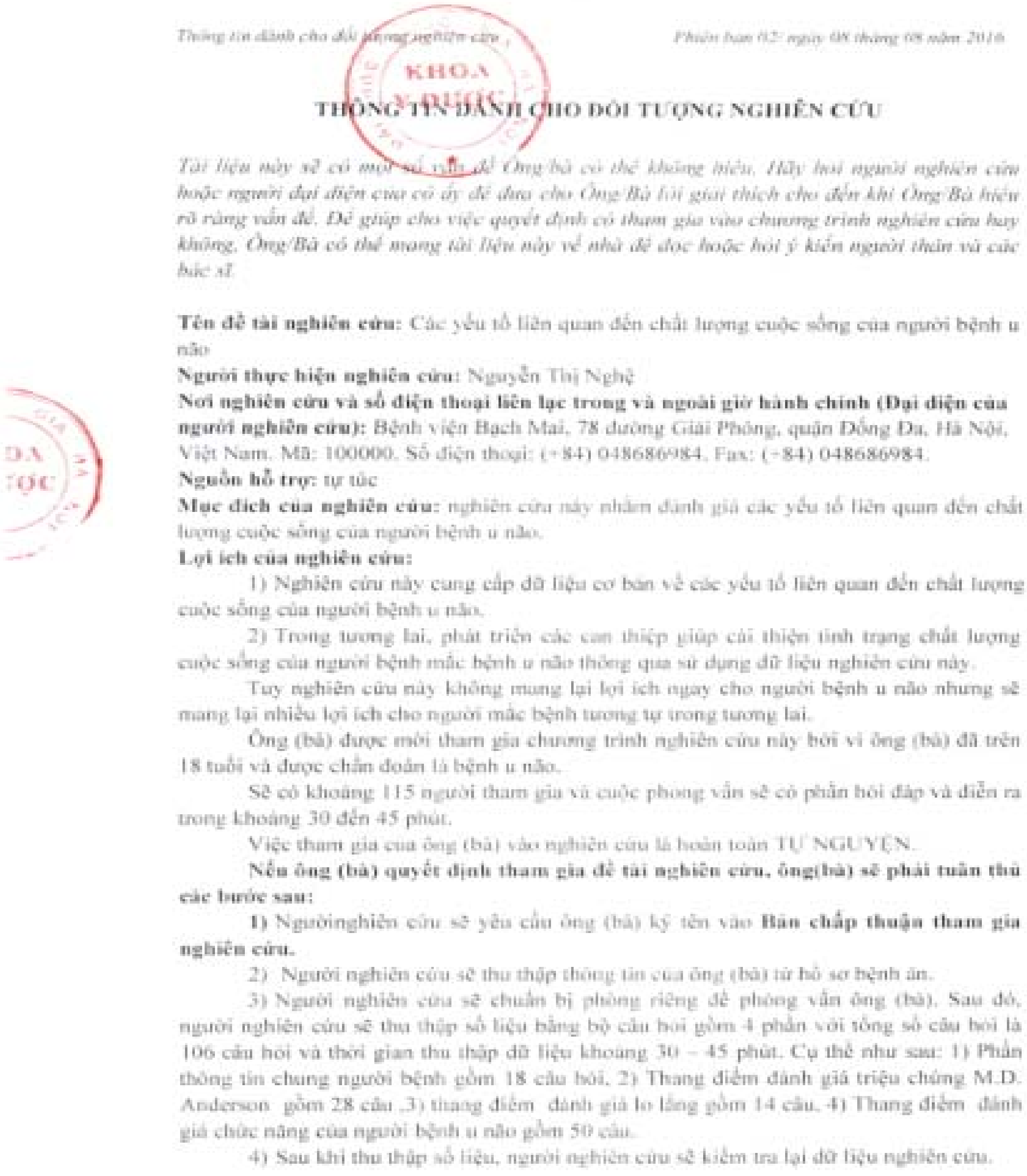
Signature………………………………………… Participant

(………...)

Date…………………......

Participant Information Sheet for version 5 date 10 August 2015

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/34.0702
Date of Approval 2 MAY 2016



Thông tin dành cho đối tượng nghiên cứu *Phiên bản 02: ngày 08 tháng 08 năm 2016*

THÔNG TIN DÀNH CHO ĐỐI TƯỢNG 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 chất lượng cuộc sống của người bệnh u não

Người thực hiện nghiên cứu: Nguyễn Thị Nghệ

Nơi nghiên cứu và số điện thoại liên lạc 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: 100000. Số điện thoại: (+84) 048686984. Fax: (+84) 048686984.

Nguồn hỗ trợ: tự túc

Mục đích của nghiên cứu: nghiên cứu này nhằm đánh giá các yếu tố liên quan đến chất lượng cuộc sống của người bệnh u não.

Lợi ích của nghiên cứu:

1) Nghiên cứu này cung cấp dữ liệu cơ bản về các yếu tố liên quan đến chất lượng cuộc sống của người bệnh u não.

2) Trong tương lai, phát triển các can thiệp giúp cải thiện tình trạng chất lượng cuộc sống của người bệnh mắc bệnh u não thông qua sử dụng dữ liệu nghiên cứu này.

Tuy nghiên cứu này không mang lại lợi ích ngay cho người bệnh u não nhưng sẽ mang lại nhiều lợi ích cho người mắc bệnh tương tự 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 là bệnh u não.

Sẽ có khoảng 115 người tham gia và cuộc phỏng vấn sẽ có phần hỏi đáp và diễn ra trong khoảng 30 đến 45 phút.

Việc tham gia của ông (bà) vào nghiên cứu là hoàn toàn TỰ NGUYỆN.

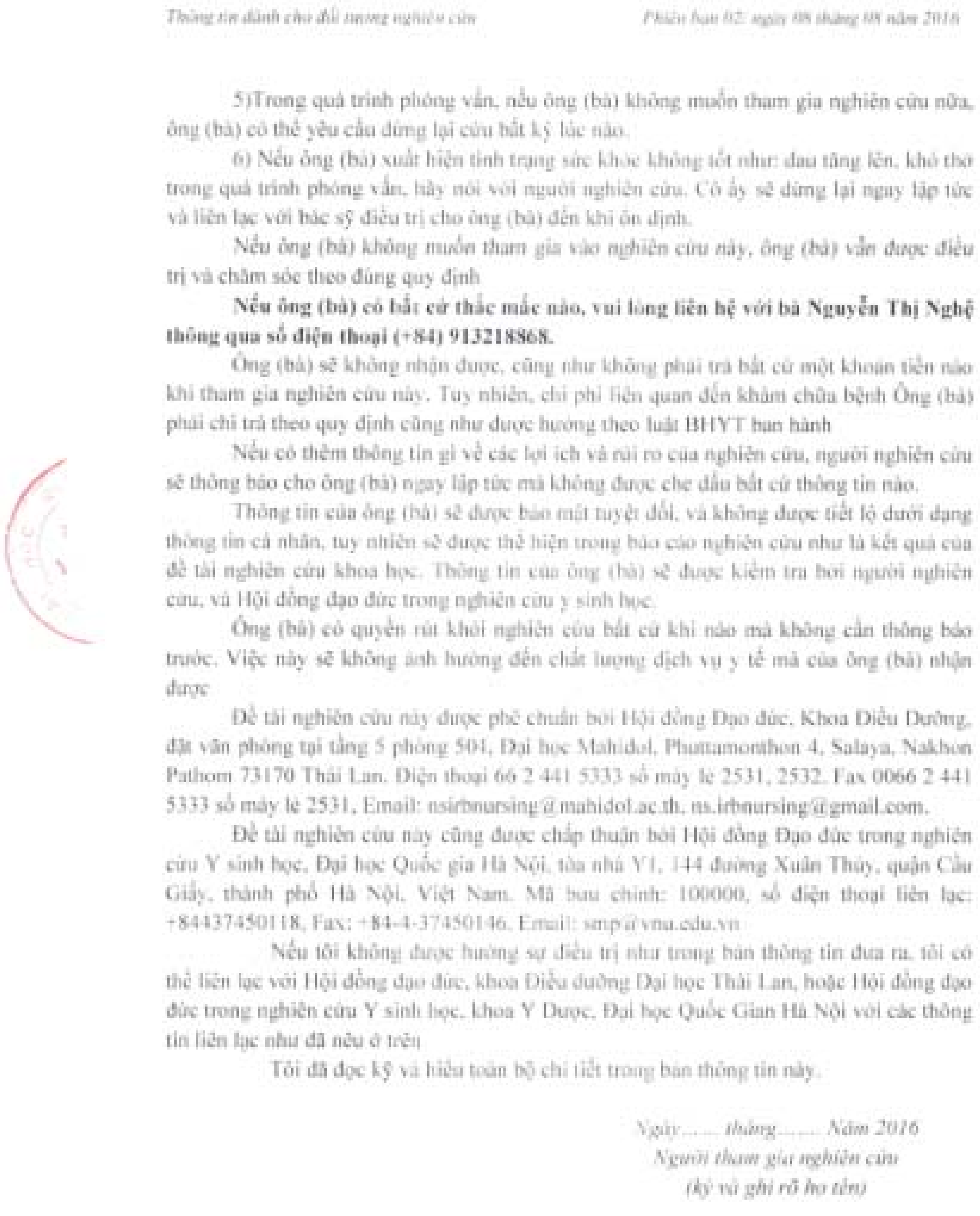
Nếu ông (bà) quyết định tham gia đề tài nghiên cứu, ông(bà) sẽ phải tuân thủ các bước sau:

1) Ngườinghiên cứu sẽ yêu cầu ông (bà) ký tên vào **Bản chấp thuận tham gia nghiên cứu.**

2) Người nghiên cứu sẽ thu thập thông tin của ông (bà) từ hồ sơ bệnh án.

3) Người nghiên cứu sẽ chuẩn bị phòng riêng để phỏng vấn ông (bà). Sau đó, người nghiên cứu sẽ thu thập số liệu bằng bộ câu hỏi gồm 4 phần với tổng số câu hỏi là 106 câu hỏi và thời gian thu thập dữ liệu khoảng 30 – 45 phút. Cụ thể như sau: 1) Phần thông tin chung người bệnh gồm 18 câu hỏi, 2) Thang điểm đánh giá triệu chứng M.D. Anderson gồm 28 câu ,3) thang điểm đánh giá lo lắng gồm 14 câu, 4) Thang điểm đánh giá chức năng của người bệnh u não gồm 50 câu.

4) Sau khi thu thập số liệu, người nghiên cứu sẽ kiểm tra lại dữ liệu nghiên cứu.



Thông tin dành cho đối tượng nghiên cứu *Phiên bản 02: ngày 08 tháng 08 năm 2016*

5)Trong quá trình phỏng vấn, nếu ông (bà) không muốn tham gia nghiên cứu nữa, ông (bà) có thể yêu cầu dừng lại cứu bất kỳ lúc nào.

6) Nếu ông (bà) xuất hiện tình trạng sức khỏe không tốt như: đau tăng lên, khó thở trong quá trình phỏng vấn, hãy nói với người nghiên cứu. Cô ấy sẽ dừng lại ngay lập tức và liên lạc với bác sỹ điều trị cho ông (bà) đến khi 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 định

Nếu ông (bà) có bất cứ thắc mắc nào, vui lòng liên hệ với bà Nguyễn Thị Nghệ thông qua số điện thoại (+84) 913218868.

Ông (bà) sẽ không nhận được, cũng như không phải trả bất cứ một khoản tiền nào khi tham gia nghiên cứu này. Tuy nhiên, chi phí liên quan đến khám chữa bệnh Ông (bà) phải chi trả theo quy định cũng như được hưởng theo luật BHYT ban hành

Nếu có thêm thông tin gì về các lợi ích và rủi ro của nghiên cứu, người nghiên cứu sẽ thông báo cho ông (bà) ngay lập tức mà không được che dấu bất cứ thông tin nào.

Thông tin của ông (bà) sẽ được bảo mật tuyệt đối, và không được tiết lộ dưới dạng thông tin cá nhân, tuy nhiên sẽ được thể hiện trong báo cáo nghiên cứu như là kết quả của đề tài nghiên cứu khoa học. Thông tin 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 này sẽ không ảnh hưởng đến chất lượng dịch vụ y tế mà của ông (bà) nhận được

Đề tài nghiên cứu này được phê chuẩn bởi Hội đồng Đạo đức, Khoa Điều Dưỡng, đặt văn phòng tại tầng 5 phòng 504, Đại học Mahidol, 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 lẻ 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com.

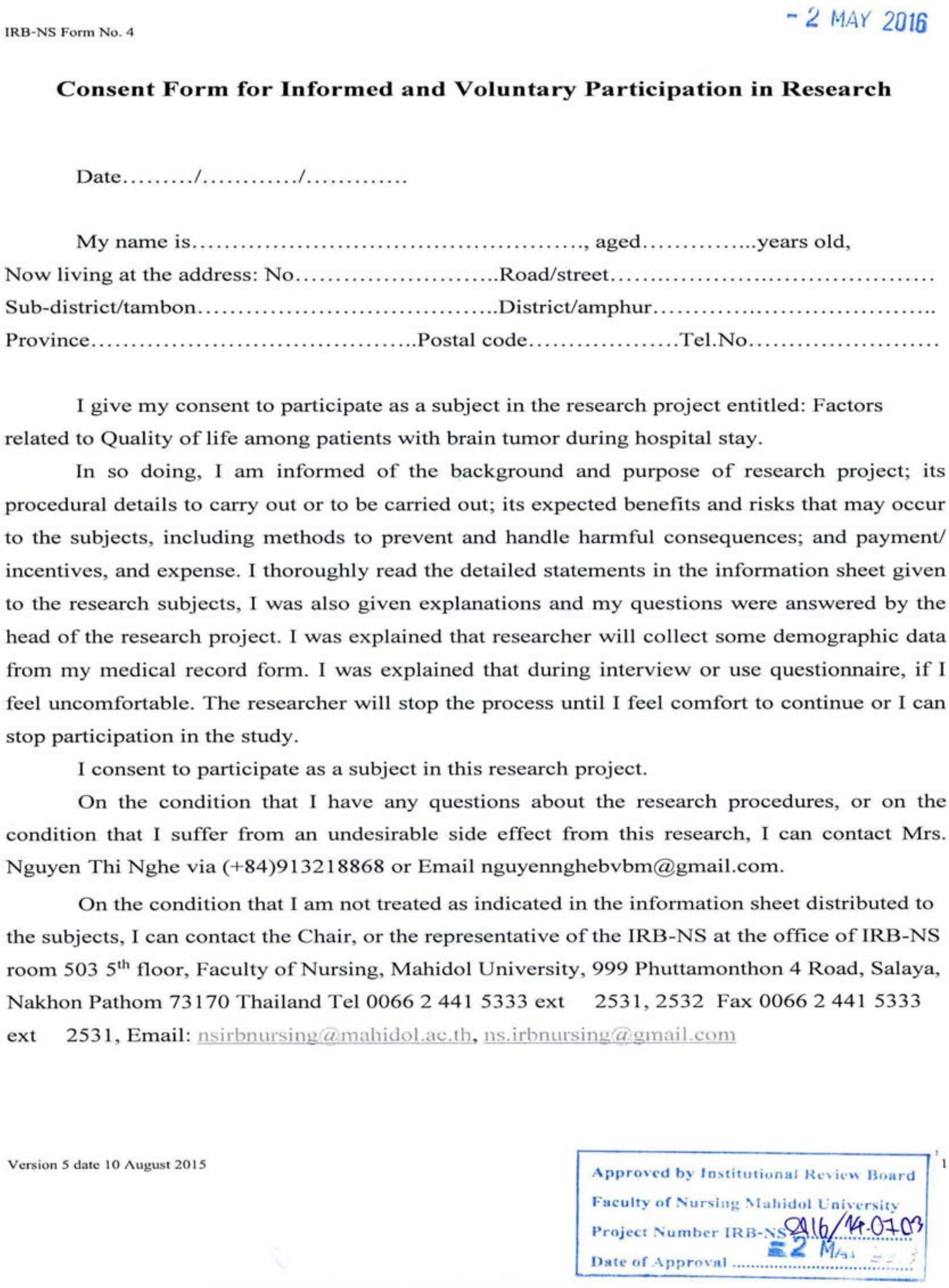
Đề tài nghiên cứu này cũng được chấp thuận bởi Hội đồng Đạo đức trong nghiên cứu Y sinh học, Đại học Quốc gia Hà Nội, tòa nhà Y1, 144 đường Xuân Thủy, quận Cầu Giấy, thành phố Hà Nội, Việt Nam. Mã bưu chính: 100000, số điện thoại liên lạc: +84437450118, Fax: +84-4-37450146, Email: smp@vnu.edu.vn

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 Thái Lan, hoặc Hội đồng đạo đức trong nghiên cứu Y sinh học, khoa Y Dược, Đại học Quốc Gian Hà Nội với các thông tin liên lạc như đã nêu ở trên

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

Ngày……. tháng……. Năm 2016
Người tham gia nghiên cứu
(ký và ghi rõ họ tên)

APPENDIX D



IRB-NS Form No. 4

- 2 MAY 2016

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………………Tel.No……………………

I give my consent to participate as a subject in the research project entitled: Factors related to Quality of life among patients with brain tumor during hospital stay.

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 was explained that researcher will collect some demographic data from my medical record form. I was explained that during interview or use questionnaire, if I feel uncomfortable. The researcher will stop the process until I feel comfort to continue or I can stop participation in the study.

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 Mrs. Nguyen Thi Nghe via (+84)913218868 or Email nguyennghebvbm@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 office of IRB-NS room 503 5th floor, Faculty of Nursing, Mahidol University, 999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom 73170 Thailand Tel 0066 2 441 5333 ext 2531, 2532 Fax 0066 2 441 5333 ext 2531, Email: nsirbnursing@mahidol.ac.th, ns.irbnursing@gmail.com

Version 5 date 10 August 2015

Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/14.07.03
Date of Approval 2 MAY

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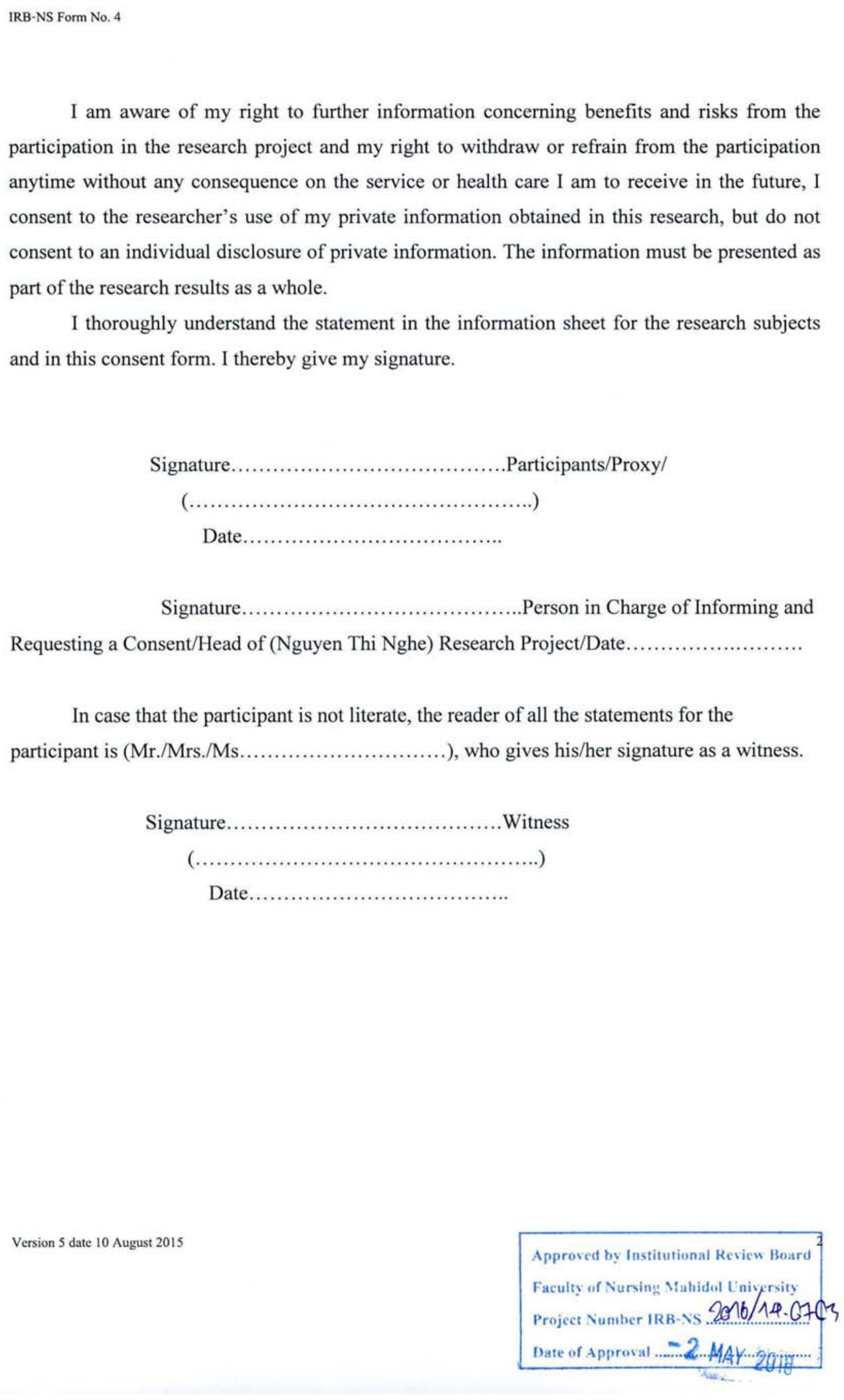


IRB-NS Form No. 4

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………………………………..

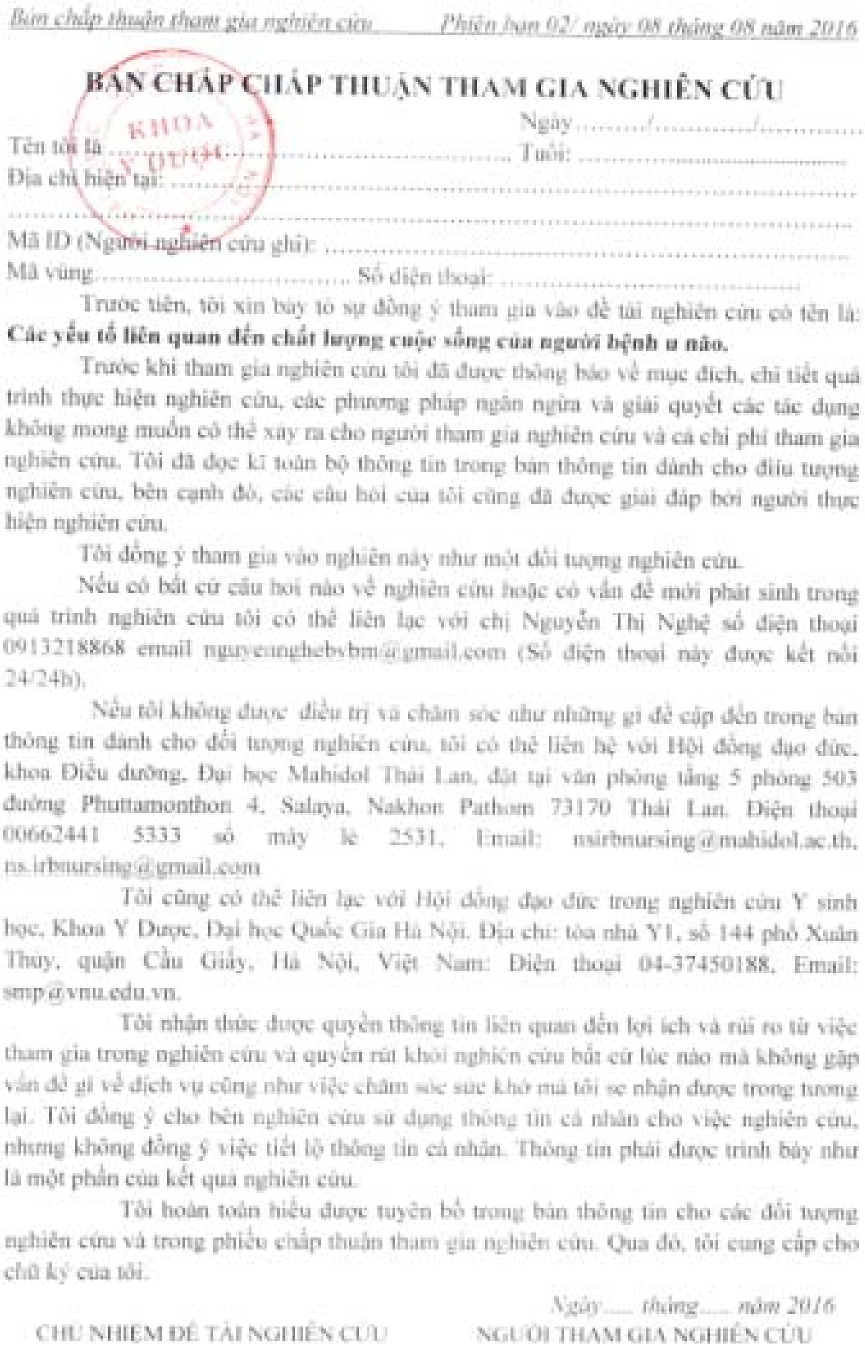
Signature…………………………………..Person in Charge of Informing and Requesting a Consent/Head of (Nguyen Thi Nghe) Research Project/Date……………………..

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………………………………..

Version 5 date 10 August 2015

2
Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS 2016/14-0703
Date of Approval - 2 MAY 2018



Bản chấp thuận tham gia nghiên cứu *Phiên bản 02/ ngày 08 tháng 08 năm 2016*

BẢN CHẤP CHẤP THUẬN THAM GIA NGHIÊN CỨU

Ngày………/…………/…………

Tên tôi là ………………………………………… Tuổi: ……………………………

Địa chỉ hiện tại: ……………………………………………………………………

……………………………………………………………………………………

Mã ID (Người nghiên cứu ghi): ……………………………………………………

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 chất lượng cuộc sống của người bệnh u não.**

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

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

Nếu có bất cứ câu hỏi nào về nghiên cứu hoặc có vấn đề mới phát sinh trong quá trình nghiên cứu tôi có thể liên lạc với chị Nguyễn Thị Nghệ số điện thoại 0913218868 email nguyenunghebvbm@gmail.com (Số điện thoại này được kết nối 24/24h).

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 tại văn phòng tầng 5 phòng 503 đường Phuttamonthon 4, Salaya, Nakhon Pathom 73170 Thái Lan. Điện thoại 00662441 5333 số máy lẻ 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, Email: smp@vnu.edu.vn.

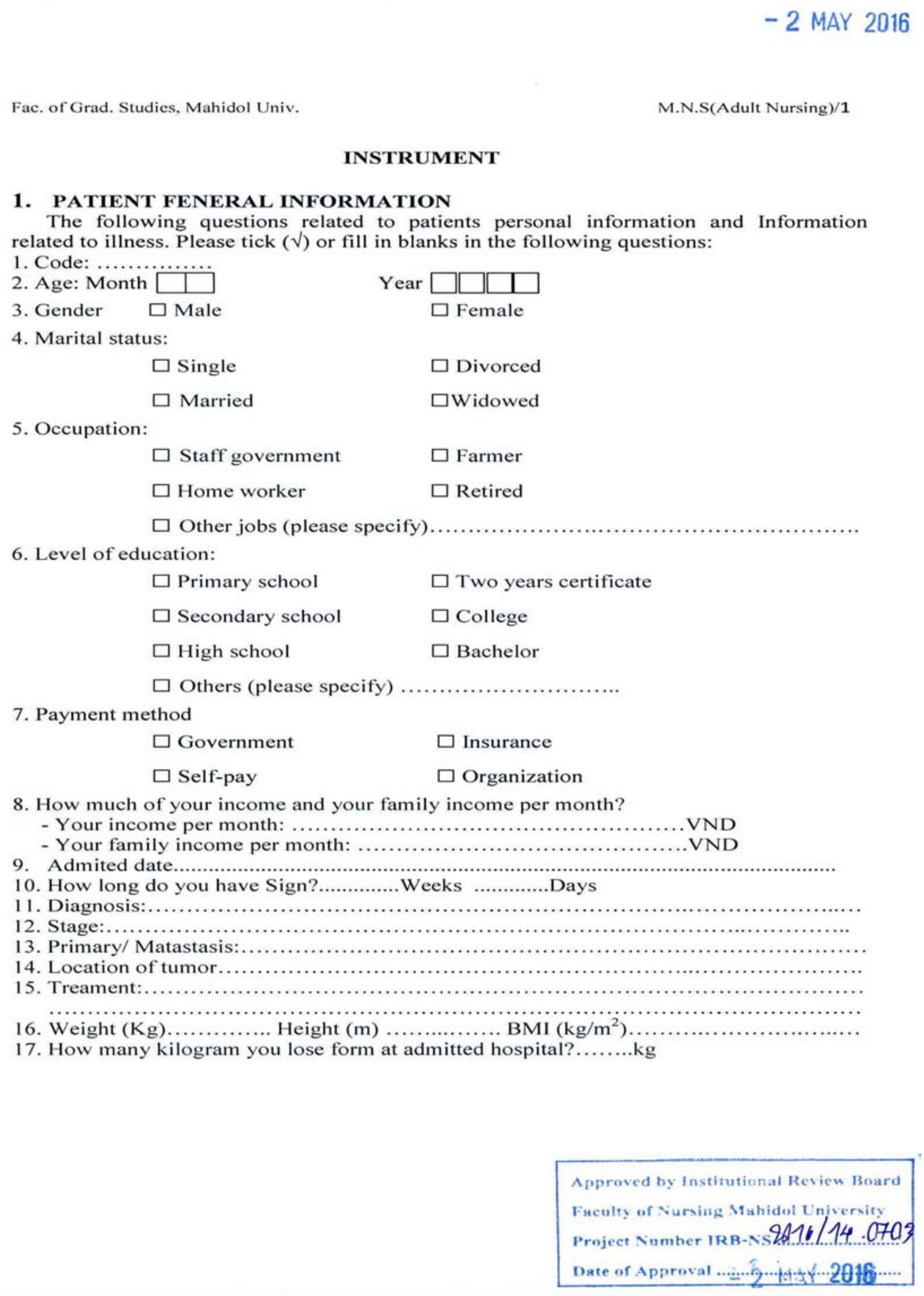
Tôi nhận thức được quyền thông tin liên quan đến lợi ích và rủi ro từ việc tham gia trong nghiên cứu và quyền rút khỏi nghiên cứu bất cứ lúc nào mà không gặp vấn đề gì về dịch vụ cũng như việc chăm sóc sức khỏ mà tôi sẽ nhận được trong tương lai. Tôi đồng ý cho bên nghiên cứu sử dụng thông tin cá nhân cho việc nghiên cứu, nhưng không đồng ý việc tiết lộ thông tin cá nhân. 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 cho các đối tượng nghiên cứu và trong phiếu chấp thuận tham gia nghiên cứu. Qua đó, tôi cung cấp cho chữ ký của tôi.

Ngày….. tháng….. năm 2016

CHỦ NHIỆM ĐỀ TÀI NGHIÊN CỨU NGƯỜI THAM GIA NGHIÊN CỨU

APPENDIX E



- 2 MAY 2016

Fac. of Grad. Studies, Mahidol Univ. M.N.S(Adult Nursing)/**1**

INSTRUMENT

1. PATIENT FENERAL INFORMATION

The following questions related to patients personal information and Information related to illness. Please tick (√) or fill in blanks in the following questions:

1. Code: ……………
2. Age: Month ☐☐ Year ☐☐☐☐
3. Gender ☐ Male ☐ Female
4. Marital status:
   - ☐ Single ☐ Divorced
   - ☐ Married ☐Widowed
5. Occupation:
   - ☐ Staff government ☐ Farmer
   - ☐ Home worker ☐ Retired
   - ☐ Other jobs (please specify)……………………………………………………
6. Level of education:
   - ☐ Primary school ☐ Two years certificate
   - ☐ Secondary school ☐ College
   - ☐ High school ☐ Bachelor
   - ☐ Others (please specify) ………………………..
7. Payment method
   - ☐ Government ☐ Insurance
   - ☐ Self-pay ☐ Organization
8. How much of your income and your family income per month?
   - Your income per month: ……………………………………………VND
   - Your family income per month: ……………………………………VND
9. Admited date...
10. How long do you have Sign?.............Weeks ....Days
11. Diagnosis:…………………………………………………………………………………...
12. Stage:……………………………………………………………………………..…………..
13. Primary/ Matastasis:………………………………………………………………………
14. Location of tumor……………………………………………………..……………………
15. Treament:…………………………………………………………………………………
    …………………………………………………………………………………………………
16. Weight (Kg)………….. Height (m) ……..……. BMI (kg/m^2)………..……………..…
17. How many kilogram you lose form at admitted hospital?……..kg

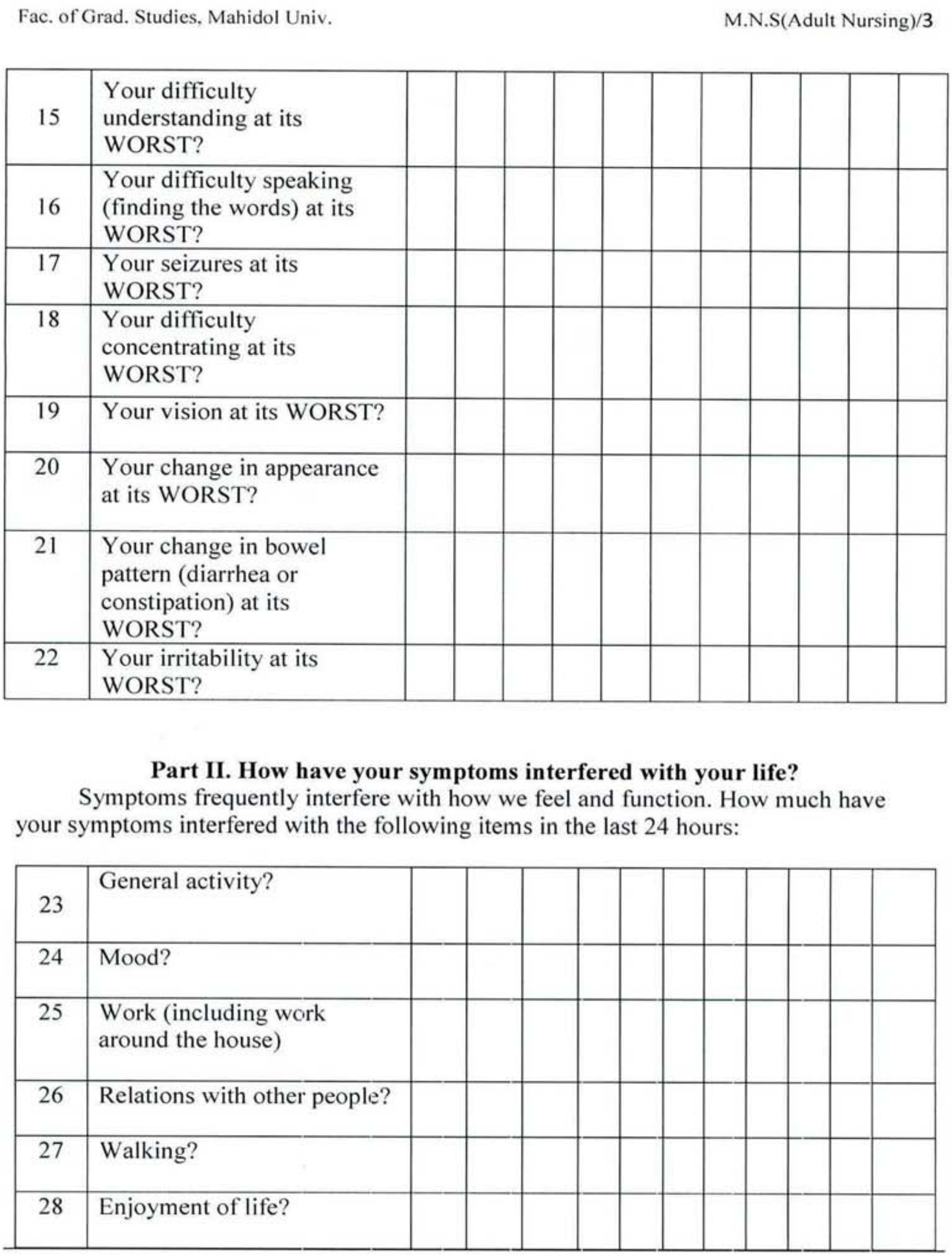
Approved by Institutional Review Board
Faculty of Nursing Mahidol University
Project Number IRB-NS2016/14.0703
Date of Approval - 2 MAY 2016

2. M.D. ANDERSON SYMPTOM INVENTORY – BRAIN TUMOR (MDASI – BT)

Part I. How severe are your symptoms?

People with cancer frequently have symptoms that are caused by their disease or by their treatment. We ask you to rate how severe the following symptoms have been in the last 24 hours. Please fill in the circle below from 0 (symptom has not been present) to 10 (the symptom was as bad as you can imagine it could be) for each item.

No		**0 = symptom has not been present/ 10 = WORST**										
		0	1	2	3	4	5	**6**	**7**	**8**	**9**	**10**
1	Your pain at its WORST?											
2	Your fatigue (tiredness) at its WORST?											
3	Your nausea at its WORST?											
4	Your disturbed sleep at its WORST?											
5	Your feeling of being distressed (upset) at its WORST?											
6	Your shortness of breath at its WORST?											
7	Your problem with remembering things at its WORST?											
8	Your problem with lack of appetite at its WORST?											
9	Your feeling drowsy (sleepy) at its WORST?											
10	Your having a dry mouth at its WORST?											
11	Your feeling sad at its WORST?											
12	Your vomiting at its WORST?											
13	Your numbness or tingling at its WORST?											
14	Your weakness on one side of the body at its WORST?											



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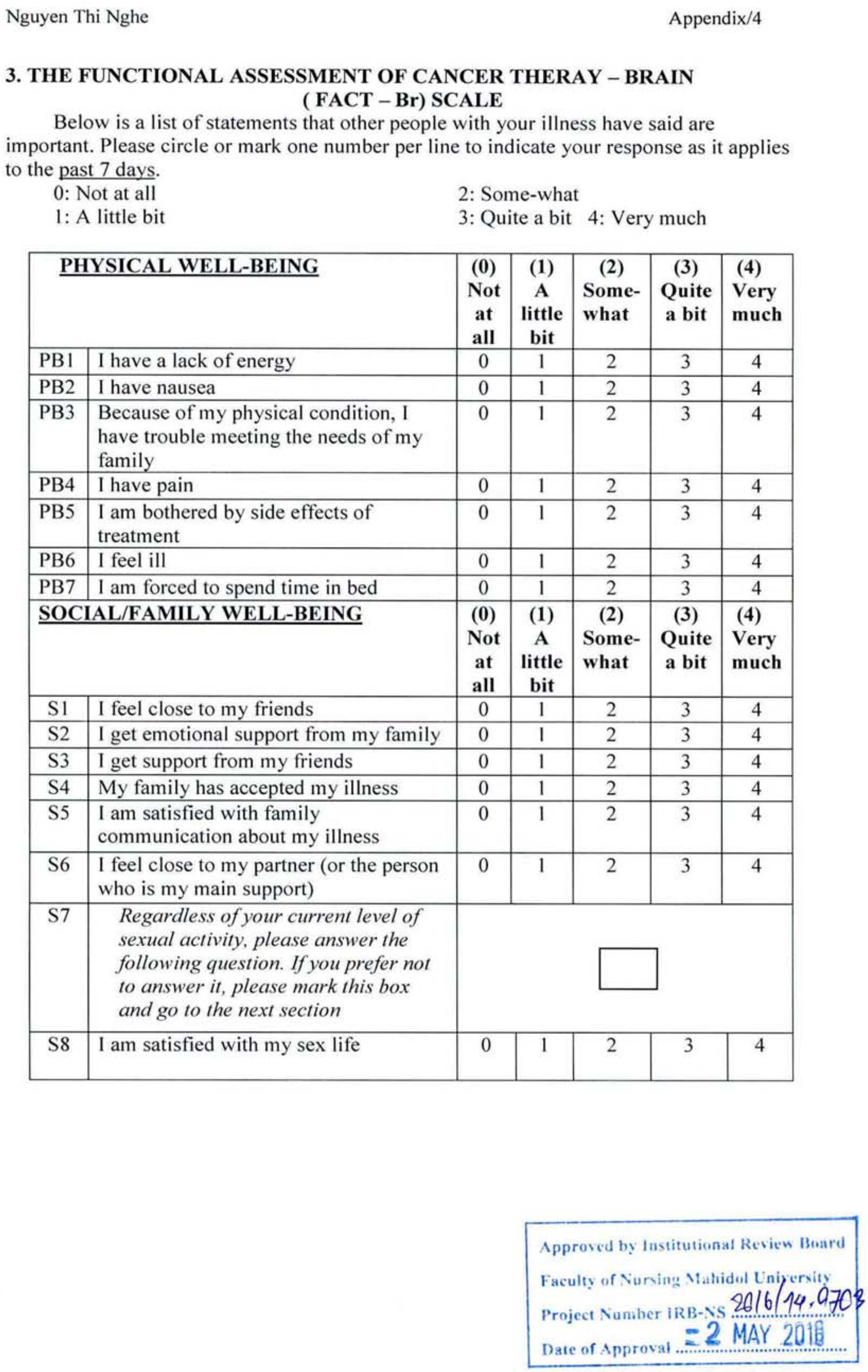
15	Your difficulty understanding at its WORST?											
16	Your difficulty speaking (finding the words) at its WORST?											
17	Your seizures at its WORST?											
18	Your difficulty concentrating at its WORST?											
19	Your vision at its WORST?											
20	Your change in appearance at its WORST?											
21	Your change in bowel pattern (diarrhea or constipation) at its WORST?											
22	Your irritability at its WORST?											

Part II. How have your symptoms interfered with your life?

Symptoms frequently interfere with how we feel and function. How much have your symptoms interfered with the following items in the last 24 hours:

23	General activity?											
24	Mood?											
25	Work (including work around the house)											
26	Relations with other people?											
27	Walking?											
28	Enjoyment of life?											

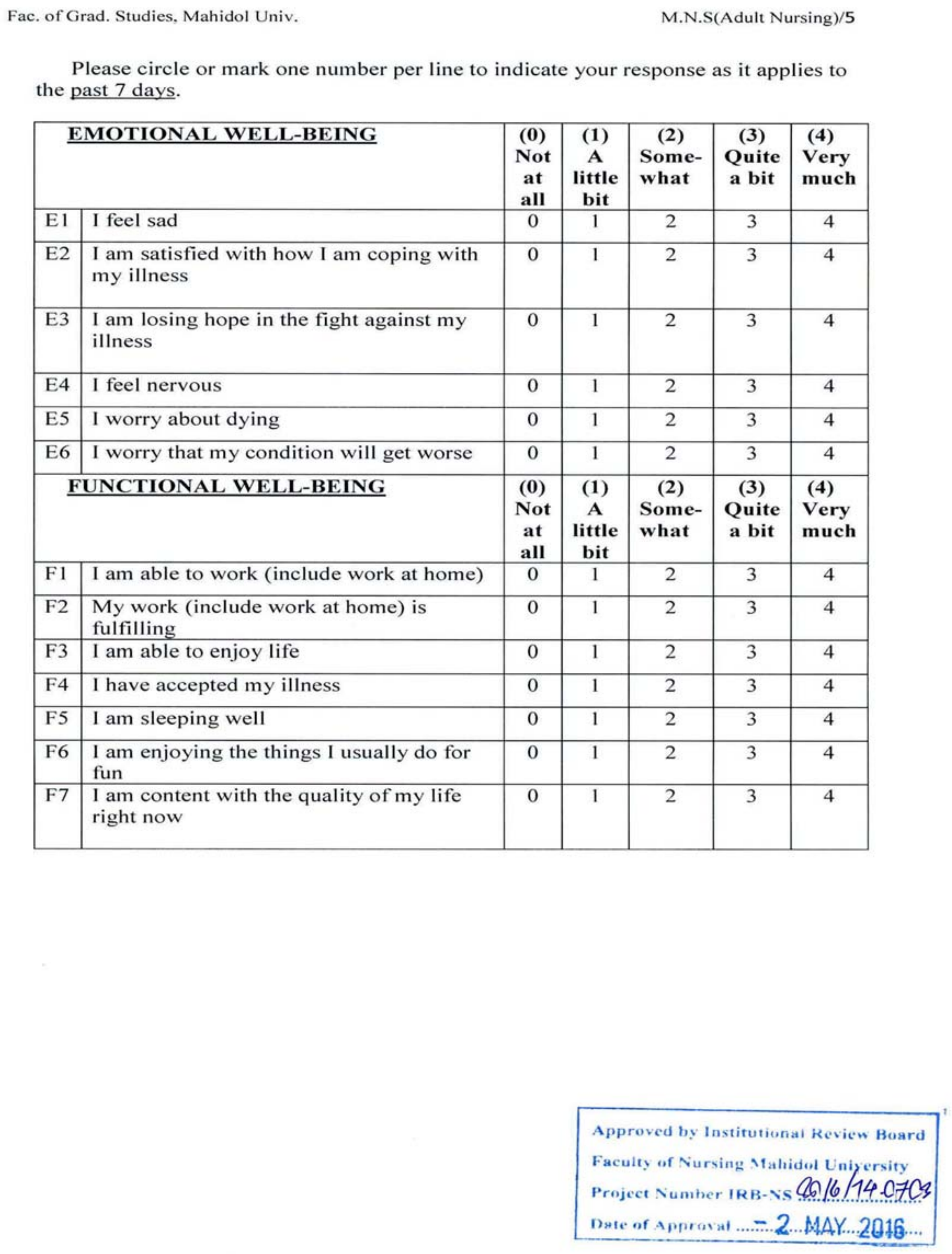


3. THE FUNCTIONAL ASSESSMENT OF CANCER THERAY – BRAIN (FACT – Br) SCALE

Below is a list of statements that other people with your illness have said are important. Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

0: Not at all
1: A little bit
2: Some-what
3: Quite a bit 4: Very much

PHYSICAL WELL-BEING		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
PB1	I have a lack of energy	0	1	2	3	4
PB2	I have nausea	0	1	2	3	4
PB3	Because of my physical condition, I have trouble meeting the needs of my family	0	1	2	3	4
PB4	I have pain	0	1	2	3	4
PB5	I am bothered by side effects of treatment	0	1	2	3	4
PB6	I feel ill	0	1	2	3	4
PB7	I am forced to spend time in bed	0	1	2	3	4
SOCIAL/FAMILY WELL-BEING		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
S1	I feel close to my friends	0	1	2	3	4
S2	I get emotional support from my family	0	1	2	3	4
S3	I get support from my friends	0	1	2	3	4
S4	My family has accepted my illness	0	1	2	3	4
S5	I am satisfied with family communication about my illness	0	1	2	3	4
S6	I feel close to my partner (or the person who is my main support)	0	1	2	3	4
S7	*Regardless of your current level of sexual activity, please answer the following question. If you prefer not to answer it, please mark this box and go to the next section*	☐				
S8	I am satisfied with my sex life	0	1	2	3	4



Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

EMOTIONAL WELL-BEING		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
E1	I feel sad	0	1	2	3	4
E2	I am satisfied with how I am coping with my illness	0	1	2	3	4
E3	I am losing hope in the fight against my illness	0	1	2	3	4
E4	I feel nervous	0	1	2	3	4
E5	I worry about dying	0	1	2	3	4
E6	I worry that my condition will get worse	0	1	2	3	4
FUNCTIONAL WELL-BEING		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
F1	I am able to work (include work at home)	0	1	2	3	4
F2	My work (include work at home) is fulfilling	0	1	2	3	4
F3	I am able to enjoy life	0	1	2	3	4
F4	I have accepted my illness	0	1	2	3	4
F5	I am sleeping well	0	1	2	3	4
F6	I am enjoying the things I usually do for fun	0	1	2	3	4
F7	I am content with the quality of my life right now	0	1	2	3	4

Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

ADDITIONAL CONCERNS		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
B1	I am able to concentrate	0	1	2	3	4
B2	I have had seizures (convulsions)	0	1	2	3	4
B3	I can remember new things	0	1	2	3	4
B4	I get frustrated that I cannot do things I used to	0	1	2	3	4
B5	I am afraid of having a seizure (convulsion)	0	1	2	3	4
B6	I have trouble with my eyesight	0	1	2	3	4
B7	I feel independent	0	1	2	3	4
B8	I have trouble hearing	0	1	2	3	4
B9	I am able to find the right word(s) to say what I mean	0	1	2	3	4
B10	I have difficulty expressing my thoughts	0	1	2	3	4
B11	I am bothered by the change in my personality	0	1	2	3	4
B12	I am able to make decisions and take responsibility	0	1	2	3	4
B13	I am bothered by the drop in my contribution to the family	0	1	2	3	4
B14	I am able to put my thoughts together	0	1	2	3	4
B15	I need help in caring for myself (bathing, dressing, eating, etc.)	0	1	2	3	4
B16	I am able to put my thoughts into action	0	1	2	3	4
B17	I am able to read like I used to	0	1	2	3	4

ADDITIONAL CONCERNS		**(0) Not at all**	**(1) A little bit**	**(2) Some-what**	**(3) Quite a bit**	**(4) Very much**
B19	I am able to drive a vehicle (my car, truck, etc.)	0	1	2	3	4
B20	I have trouble feeling sensations in my arms, hands, or legs	0	1	2	3	4
B21	I have weakness in my arms or legs	0	1	2	3	4
B22	I have trouble with coordination	0	1	2	3	4
A1	I get headaches	0	1	2	3	4

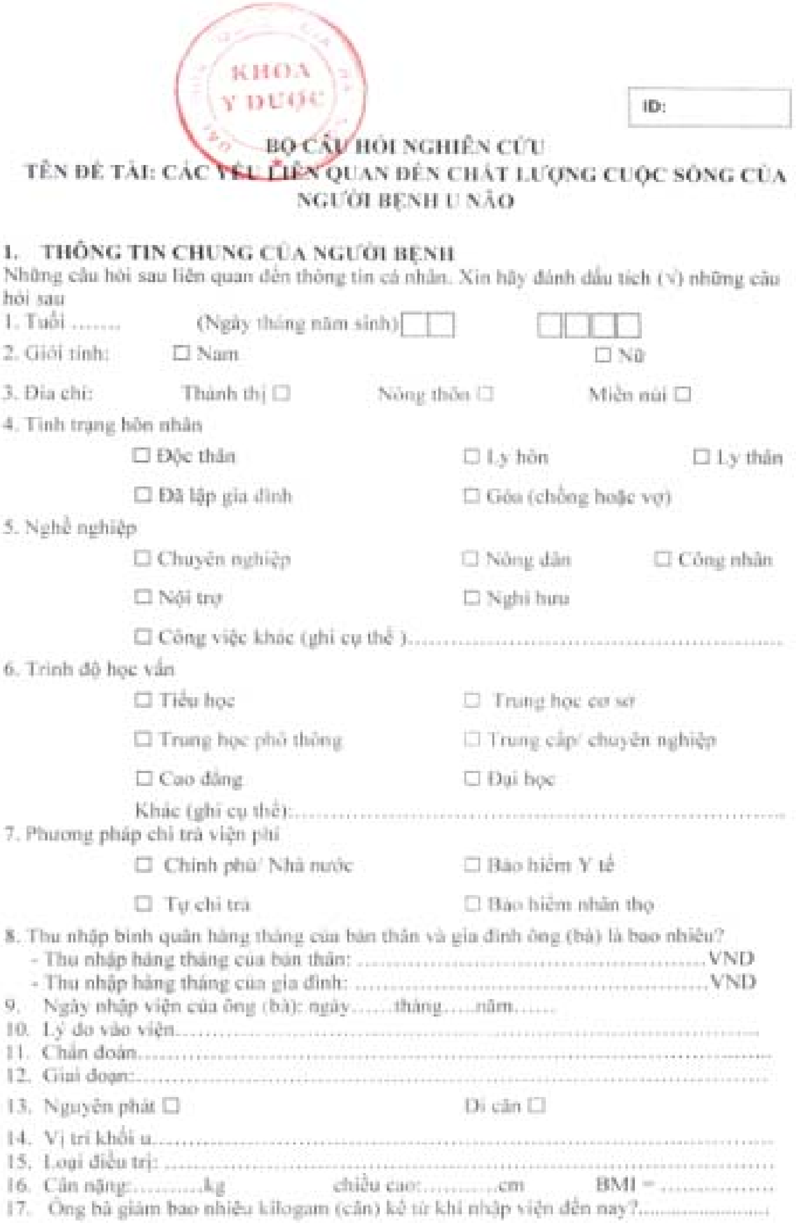
4. HAMILTON ANXIETY RATING SCALE (HAM –A)

Below is a list of phrases that describe certain feeling that people have. Rate the patients by finding the answer which best describes the extent to which he/she has these conditions. Select one of the five responses for each of the fourteen questions.

0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

	English version	(0) Not present	(1) Mild	(2) Moderate	(3) Severe	(4) Very severe.
1	**Anxious mood** Worries, anticipation of the worst, fearful anticipation, irritability					
2	**Tension** Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.					
3	**Fears** Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.					
4	**Insomnia** Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors.					
5	**Intellectual** Difficulty in concentration, poor memory.					
6	**Depressed mood** Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.					
7	**Somatic (muscular)** Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.					
8	**Somatic (sensory)** Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.					

	English version	(0) Not present	(1) Mild	(2) Moderate	(3) Severe	(4) Very severe.
10	**Respiratory symptoms** Pressure or constriction in chest, choking feelings, sighing, dyspnea.					
11	**Gastrointestinal symptoms** Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.					
12	**Genitourinary symptoms** Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.					
13	**Autonomic symptoms** Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.					
14	**Behavior at interview** Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.					



KHOA Y DƯỢC

ID:

BỘ CÂU HỎI NGHIÊN CỨU

TÊN ĐỀ TÀI: CÁC YẾU LIÊN QUAN ĐẾN CHẤT LƯỢNG CUỘC SỐNG CỦA NGƯỜI BỆNH U NÃO

1. THÔNG TIN CHUNG CỦA NGƯỜI BỆNH

Những câu hỏi sau liên quan đến thông tin cá nhân. Xin hãy đánh dấu tích (√) những câu hỏi sau

1. Tuổi ……. (Ngày tháng năm sinh)☐☐ ☐☐☐☐

2. Giới tính: ☐ Nam ☐ Nữ

3. Địa chỉ: Thành thị ☐ Nông thôn ☐ Miền núi ☐

4. Tình trạng hôn nhân

☐ Độc thân ☐ Ly hôn ☐ Ly thân

☐ Đã lập gia đình ☐ Góa (chồng hoặc vợ)

5. Nghề nghiệp

☐ Chuyên nghiệp ☐ Nông dân ☐ Công nhân

☐ Nội trợ ☐ Nghỉ hưu

☐ Công việc khác (ghi cụ thể)………………………………………………

6. Trình độ học vấn

☐ Tiểu học ☐ Trung học cơ sở

☐ Trung học phổ thông ☐ Trung cấp/ chuyên nghiệp

☐ Cao đẳng ☐ Đại học

Khác (ghi cụ thể):……………………………………………………………

7. Phương pháp chi trả viện phí

☐ Chính phủ/ Nhà nước ☐ Bảo hiểm Y tế

☐ Tự chi trả ☐ Bảo hiểm nhân thọ

8. Thu nhập bình quân hàng tháng của bản thân và gia đình ông (bà) là bao nhiêu?

- Thu nhập hàng tháng của bản thân: ……………………………………VND
- Thu nhập hàng tháng của gia đình: ……………………………………VND

9. Ngày nhập viện của ông (bà): ngày……tháng…..năm……

10. Lý do vào viện………………………………………………………………

11. Chẩn đoán……………………………………………………………………

12. Giai đoạn:……………………………………………………………………

13. Nguyên phát ☐ Di căn ☐

14. Vị trí khối u…………………………………………………………………

15. Loại điều trị: ………………………………………………………………

16. Cân nặng:……….kg chiều cao:……….cm BMI = ……………

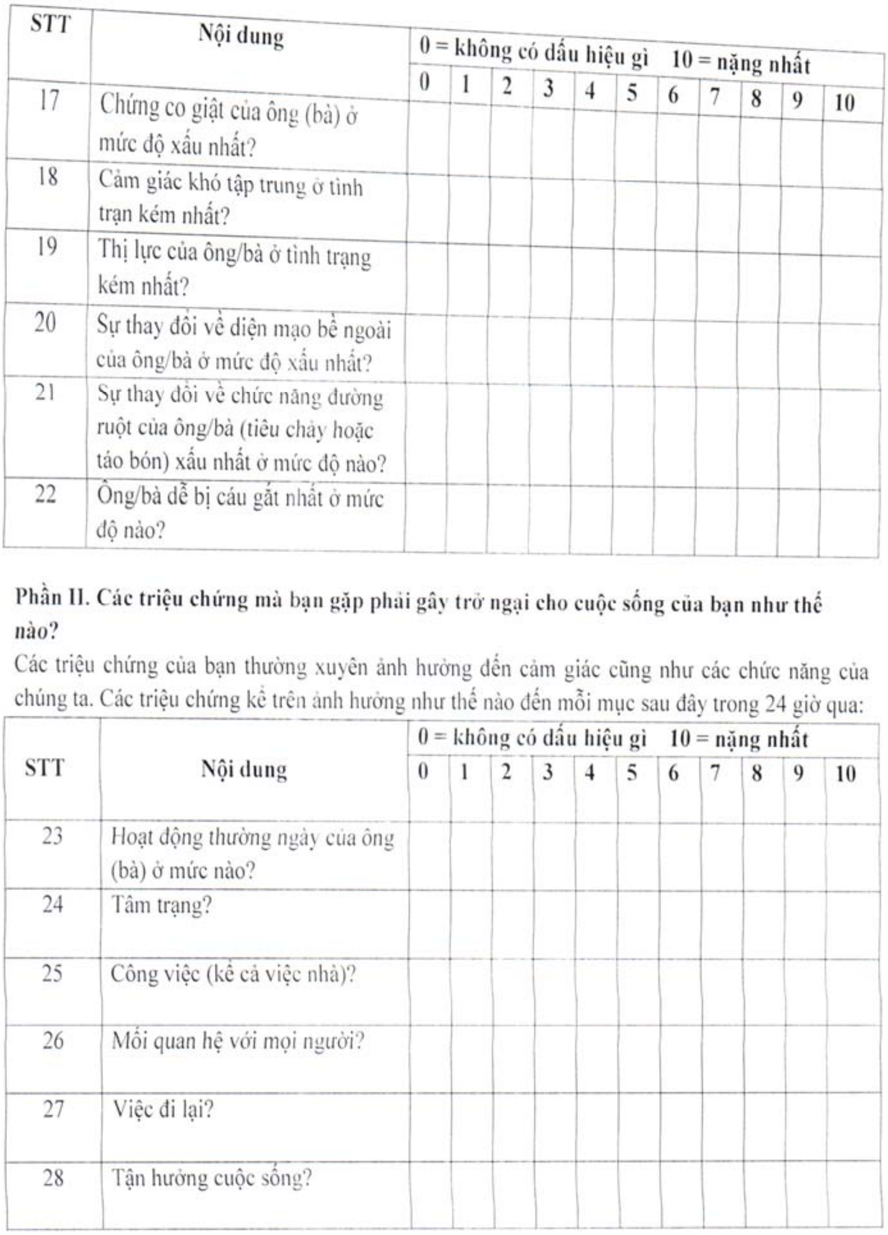
17. Ông bà giảm bao nhiêu kilogam (cân) kể từ khi nhập viện đến nay?……………………

PHẦN 2. THANG ĐO CAN THIỆP TRIỆU CHỨNG. M.D. ANDERSON CHO NGƯỜI BỆNH U NÃO

Phần I. Mức độ nghiêm trọng về các triệu chứng mà bạn gặp phải?

Những người mắc bệnh ung thư thường xuất hiện những triệu chứng do bệnh lý gây ra hoặc do quá trình điều trị. Chúng tôi yêu cầu ông (bà) tự đánh giá mức độ nghiêm trọng của các triệu chứng mà ông (bà) gặp phải trong 24 giờ qua. Ông (bà) vui lòng tích (x) vào điểm của mỗi mục bên dưới từ mức độ 0 (triệu chứng không xuất hiện) đến mức độ10 (triệu chứng tồi tệ nhất bạn có thể tưởng tượng)

STT	Nội dung	0 = không có dấu hiệu gì 10 = nặng nhất										
		0	1	2	3	4	5	6	7	8	9	10
1	Mức độ đau tồi tệ nhất của ông (bà)?											
2	Sự mệt mỏi ở mức độ tồi tệ nhất của bạn?											
3	Trạng thái buồn nôn ở mức độ tồi tệ nhất?											
4	Giấc ngủ bị ngắt quãng ở mức độ tồi tệ nhất?											
5	Cảm giác lo lắng, bối rối ở mức độ tồi tệ nhất?											
6	Cảm giác khó thở ở mức độ tồi tệ nhất của bạn											
7	Trí nhớ kém ở mức độ tồi tệ nhất của bạn?											
8	Không có cảm giác ngon miệng ở mức độ tồi tệ nhất?											
9	Cảm giác buồn ngủ, uể oải ở mức độ tồi tệ nhất?											
10	Tình trạng khô miệng ở mức tồi tệ nhất?											
11	Cảm giác buồn chán ở mức tồi tệ nhất?											
12	Tình trạng nôn-ọe ở mức độ xấu nhất?											
13	Trạng thái tê bì hoặc đau nhói đầu chi ở mức độ tồi tệ nhất?											
14	Yếu nửa người ở mức độ tồi tệ nhất?											
15	Triệu chứng khó hiểu ý người khác mức độ tồi tệ nhất?											
16	Triệu chứng khó nói (khó diễn tả) ở mức tồi tệ nhất?											



STT	Nội dung	0 = không có dấu hiệu gì					10 = nặng nhất					
		0	1	2	3	4	5	6	7	8	9	10
17	Chứng co giật của ông (bà) ở mức độ xấu nhất?											
18	Cảm giác khó tập trung ở tình trạn kém nhất?											
19	Thị lực của ông/bà ở tình trạng kém nhất?											
20	Sự thay đổi về diện mạo bề ngoài của ông/bà ở mức độ xấu nhất?											
21	Sự thay đổi về chức năng đường ruột của ông/bà (tiêu chảy hoặc táo bón) xấu nhất ở mức độ nào?											
22	Ông/bà dễ bị cáu gắt nhất ở mức độ nào?											

Phần II. Các triệu chứng mà bạn gặp phải gây trở ngại cho cuộc sống của bạn như thế nào?

Các triệu chứng của bạn thường xuyên ảnh hưởng đến cảm giác cũng như các chức năng của chúng ta. Các triệu chứng kể trên ảnh hưởng như thế nào đến mỗi mục sau đây trong 24 giờ qua:

STT	Nội dung	0 = không có dấu hiệu gì					10 = nặng nhất					
		0	1	2	3	4	5	6	7	8	9	10
23	Hoạt động thường ngày của ông (bà) ở mức nào?											
24	Tâm trạng?											
25	Công việc (kể cả việc nhà)?											
26	Mối quan hệ với mọi người?											
27	Việc đi lại?											
28	Tận hưởng cuộc sống?											

PHẦN 3: THANG ĐIỂM ĐÁNH GIÁ CHỨC NĂNG CỦA BỆNH NHÂN U NÃO (FACT – Br)

Sau đây là những điều mà người có bệnh như ông (bà) cho là quan trọng.

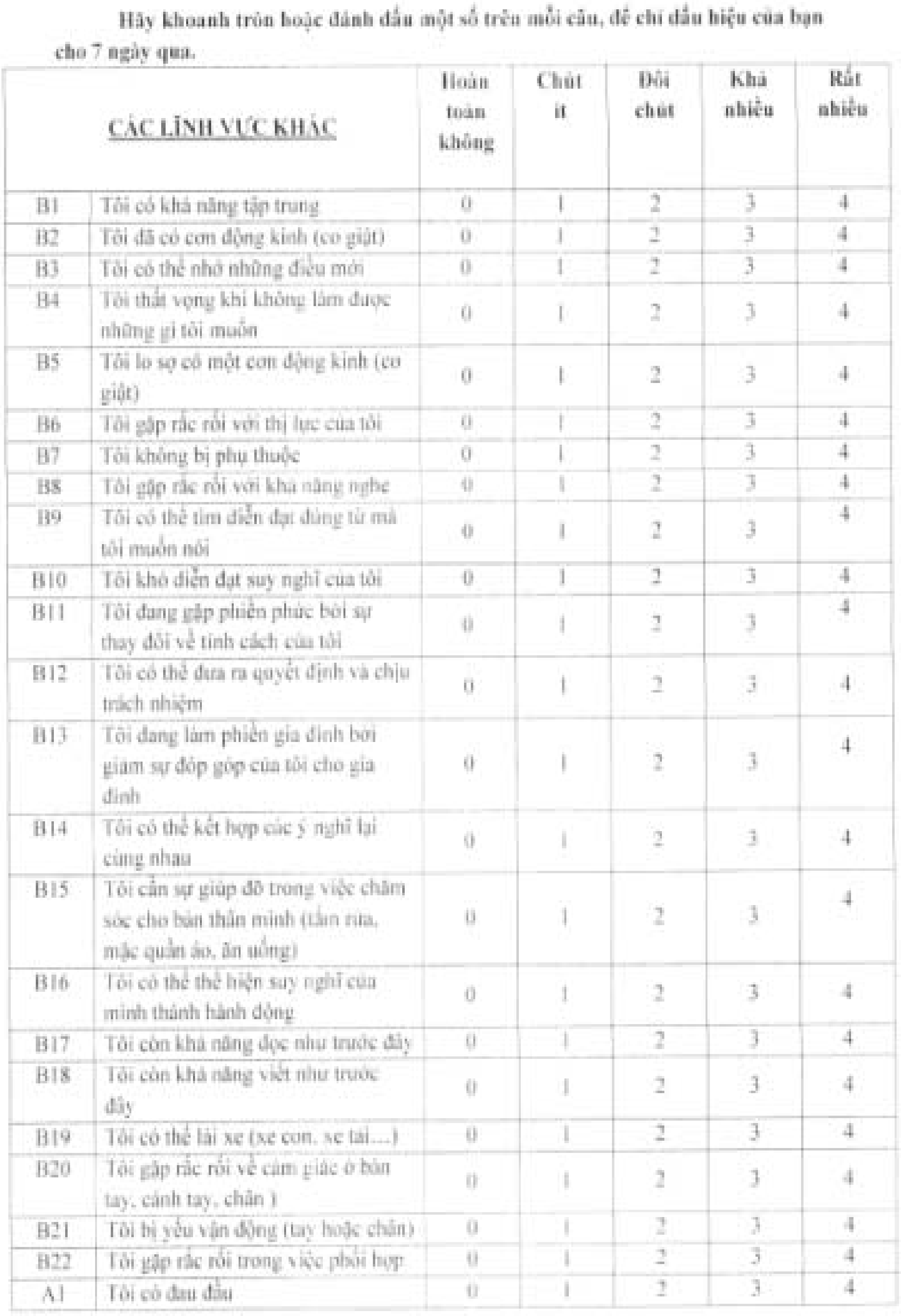
Xin hãy khoanh tròn hoặc đánh dấu vào một con số cho mỗi hang tương ứng với mỗi câu hỏi để cho biết câu trả lời nào đúng với ông (bà) trong **7 ngày qua**.

0: Hoàn toàn không 2: có chút ít
1: Đôi chút 3: Khá nhiều 4: Rất nhiều

TÌNH TRẠNG SỨC KHỎE		**Hoàn toàn không**	**Chút ít**	**Đôi chút**	**Khá nhiều**	**Rất nhiều**
GP1	Tôi kém sinh lực	0	1	2	3	4
GP2	Tôi buồn nôn	0	1	2	3	4
GP3	Vì tình trạng thể chất của tôi, tôi khó đáp ứng các nhu cầu trong gia đình tôi	0	1	2	3	4
GP4	Tôi bị đau nhức	0	1	2	3	4
GP5	Các phản ứng phụ của việc điều trị làm tôi bị khó chịu.	0	1	2	3	4
GP6	Tôi cảm thấy bệnh	0	1	2	3	4
GP7	Tôi bắt buộc phải nghỉ trên giường	0	1	2	3	4
TÌNH TRẠNG GIAO TIẾP VỚI GIA ĐÌNH/XÃ HỘI		**Hoàn toàn không**	**Chút ít**	**Đôi chút**	**Khá nhiều**	**Rất nhiều**
GS1	Tôi cảm thấy gần gũi với bạn bè	0	1	2	3	4
GS2	Tôi được gia đình nâng đỡ tinh thần	0	1	2	3	4
GS3	Tôi được bạn bè trợ giúp	0	1	2	3	4
GS4	Gia đình tôi chấp nhận bệnh của tôi	0	1	2	3	4
GS5	Tôi hài lòng với những giao tiếp trong gia đình về bệnh của tôi	0	1	2	3	4
GS6	Tôi cảm thấy gần gũi với bạn đời của tôi (hay người hỗ trợ chính của tôi)	0	1	2	3	4
Q1	*Bất kể mức độ hoạt động tình dục hiện nay của quý vị như thế nào, xin hãy trả lời câu hỏi sau đây. Nếu quý vị không muốn trả lời, xin hãy đánh dấu vào ô này rồi chuyển tiếp sang phần sau.*			☐		
	Tôi vừa ý với cuộc sống tình dục của tôi	**0**	1	2	3	4

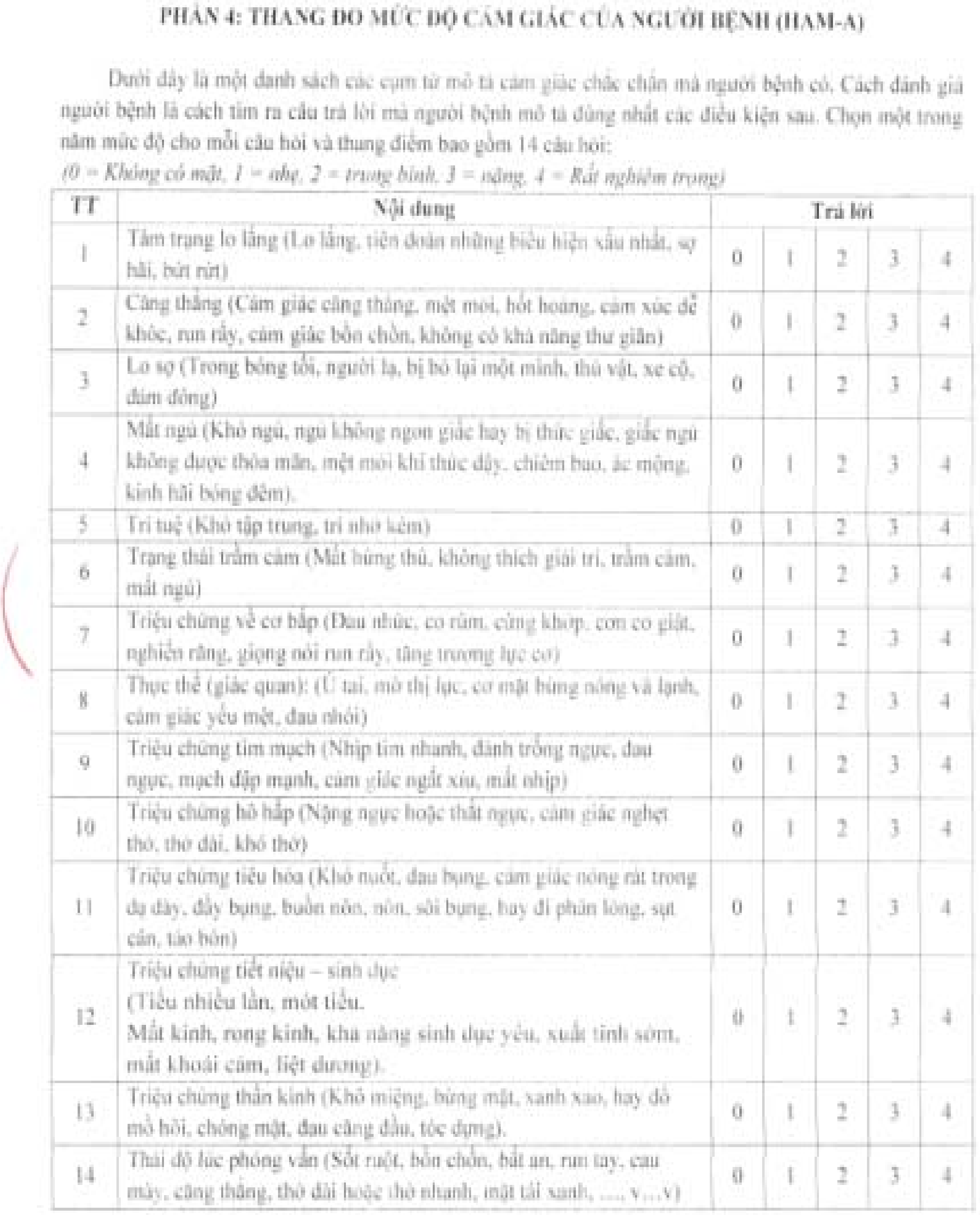
Xin khoanh tròn hoặc đánh dấu một con số cho mỗi hàng để cho biết câu trả lời nào áp dụng cho quý vị trong 7 ngày qua.

TÌNH TRẠNG TINH THẦN		**Hoàn toàn không**	**Chút ít**	**Đôi chút**	**Khá nhiều**	**Rất nhiều**
GE1	Tôi cảm thấy buồn	0	1	2	3	4
GE2	Tôi hài lòng với cách mà tôi đang thích nghi với bệnh của mình	0	1	2	3	4
GE3	Tôi mất dần hy vọng trong việc chống chọi lại bệnh của tôi	0	1	2	3	4
GE4	Tôi cảm thấy hồi hộp	0	1	2	3	4
GE5	Tôi lo lắng về cái chết	0	1	2	3	4
GE6	Tôi lo lắng rằng tình trạng của tôi sẽ trở nên trầm trọng	0	1	2	3	4
TÌNH TRẠNG CHỨC NĂNG		**Hoàn toàn không**	**Chút ít**	**Đôi chút**	**Khá nhiều**	**Rất nhiều**
GF1	Tôi có khả năng làm việc (bao gồm cả việc ở nhà)	0	1	2	3	4
GF2	Công việc của tôi (kể cả việc ở nhà) đem lại sự hài lòng vui thích	0	1	2	3	4
GF3	Tôi có thể vui sống	0	1	2	3	4
GF4	Tôi đã chấp nhận bệnh của mình	0	1	2	3	4
GF5	Tôi ngủ ngon giấc	0	1	2	3	4
GF6	Hiện tại tôi vui thích với những gì tôi thường làm để giải trí	0	1	2	3	4
GF7	Tôi hài lòng với chất lượng cuộc sống hiện tại của tôi	0	1	2	3	4



Hãy khoanh tròn hoặc đánh dấu một số trên mỗi câu, để chỉ dấu hiệu của bạn cho 7 ngày qua.

CÁC LĨNH VỰC KHÁC		**Hoàn toàn không**	**Chút ít**	**Đôi chút**	**Khá nhiều**	**Rất nhiều**
B1	Tôi có khả năng tập trung	0	1	2	3	4
B2	Tôi đã có cơn động kinh (co giật)	0	1	2	3	4
B3	Tôi có thể nhớ những điều mới	0	1	2	3	4
B4	Tôi thất vọng khi không làm được những gì tôi muốn	0	1	2	3	4
B5	Tôi lo sợ có một cơn động kinh (co giật)	0	1	2	3	4
B6	Tôi gặp rắc rối với thị lực của tôi	0	1	2	3	4
B7	Tôi không bị phụ thuộc	0	1	2	3	4
B8	Tôi gặp rắc rối với khả năng nghe	0	1	2	3	4
B9	Tôi có thể tìm diễn đạt đúng từ mà tôi muốn nói	0	1	2	3	4
B10	Tôi khó diễn đạt suy nghĩ của tôi	0	1	2	3	4
B11	Tôi đang gặp phiền phức bởi sự thay đổi về tính cách của tôi	0	1	2	3	4
B12	Tôi có thể đưa ra quyết định và chịu trách nhiệm	0	1	2	3	4
B13	Tôi đang làm phiền gia đình bởi giảm sự đóp góp của tôi cho gia đình	0	1	2	3	4
B14	Tôi có thể kết hợp các ý nghĩ lại cùng nhau	0	1	2	3	4
B15	Tôi cần sự giúp đỡ trong việc chăm sóc cho bản thân mình (tắm rửa, mặc quần áo, ăn uống)	0	1	2	3	4
B16	Tôi có thể thể hiện suy nghĩ của mình thành hành động	0	1	2	3	4
B17	Tôi còn khả năng đọc như trước đây	0	1	2	3	4
B18	Tôi còn khả năng viết như trước đây	0	1	2	3	4
B19	Tôi có thể lái xe (xe con, xe tải...)	0	1	2	3	4
B20	Tôi gặp rắc rối về cảm giác ở bàn tay, cánh tay, chân)	0	1	2	3	4
B21	Tôi bị yếu vận động (tay hoặc chân)	0	1	2	3	4
B22	Tôi gặp rắc rối trong việc phối hợp	0	1	2	3	4
A1	Tôi có đau đầu	0	1	2	3	4



PHẦN 4: THANG ĐO MỨC ĐỘ CẢM GIÁC CỦA NGƯỜI BỆNH (HAM-A)

Dưới đây là một danh sách các cụm từ mô tả cảm giác chắc chắn mà người bệnh có. Cách đánh giá người bệnh là cách tìm ra câu trả lời mà người bệnh mô tả đúng nhất các điều kiện sau. Chọn một trong năm mức độ cho mỗi câu hỏi và thang điểm bao gồm 14 câu hỏi:

(0 = Không có mặt, 1 = nhẹ, 2 = trung bình, 3 = nặng, 4 = Rất nghiêm trọng)

TT	Nội dung	Trả lời				
1	Tâm trạng lo lắng (Lo lắng, tiên đoán những biểu hiện xấu nhất, sợ hãi, bứt rứt)	0	1	2	3	4
2	Căng thẳng (Cảm giác căng thẳng, mệt mỏi, hốt hoảng, cảm xúc dễ khóc, run rẩy, cảm giác bồn chồn, không có khả năng thư giãn)	0	1	2	3	4
3	Lo sợ (Trong bóng tối, người lạ, bị bỏ lại một mình, thú vật, xe cộ, đám đông)	0	1	2	3	4
4	Mất ngủ (Khó ngủ, ngủ không ngon giấc hay bị thức giấc, giấc ngủ không được thỏa mãn, mệt mỏi khi thức dậy, chiêm bao, ác mộng, kinh hãi bóng đêm).	0	1	2	3	4
5	Trí tuệ (Khó tập trung, trí nhớ kém)	0	1	2	3	4
6	Trạng thái trầm cảm (Mất hứng thú, không thích giải trí, trầm cảm, mất ngủ)	0	1	2	3	4
7	Triệu chứng về cơ bắp (Đau nhức, co rúm, cứng khớp, cơn co giật, nghiến răng, giọng nói run rẩy, tăng trương lực cơ)	0	1	2	3	4
8	Thực thể (giác quan): (Ù tai, mờ thị lực, cơ mặt bừng nóng và lạnh, cảm giác yếu mệt, đau nhói)	0	1	2	3	4
9	Triệu chứng tim mạch (Nhịp tim nhanh, đánh trống ngực, đau ngực, mạch đập mạnh, cảm giác ngất xỉu, mất nhịp)	0	1	2	3	4
10	Triệu chứng hô hấp (Nặng ngực hoặc thắt ngực, cảm giác nghẹt thở, thở dài, khó thở)	0	1	2	3	4
11	Triệu chứng tiêu hóa (Khó nuốt, đau bụng, cảm giác nóng rát trong dạ dày, đầy bụng, buồn nôn, nôn, sôi bụng, hay đi phân lỏng, sụt cân, táo bón)	0	1	2	3	4
12	Triệu chứng tiết niệu – sinh dục (Tiểu nhiều lần, mót tiểu. Mất kinh, rong kinh, khả năng sinh dục yếu, xuất tinh sớm, mất khoái cảm, liệt dương).	0	1	2	3	4
13	Triệu chứng thần kinh (Khô miệng, bừng mặt, xanh xao, hay đổ mồ hôi, chóng mặt, đau căng đầu, tóc dựng).	0	1	2	3	4
14	Thái độ lúc phỏng vấn (Sốt ruột, bồn chồn, bất an, run tay, cau mày, căng thẳng, thở dài hoặc thở nhanh, mặt tái xanh, ..., v...v)	0	1	2	3	4

APPENDIX F

1/16/2016 Gmail - I want a letter of permission

Nghệ Nguyễn <nguyennghebvbm@gmail.com>

I want a letter of permission

5 thư

Nguyễn Nghệ <nguyennghebvbm@gmail.com> 05:10 Ngày 05 tháng 12 năm 2015
Tới: information@facit.org

Dear Management of Facit!
Full name is Nguyen Thi Nghe.
I am nursing in Bach Mai hospital on Ha Noi, Viet Nam
I am studding about factor related to quality of life among Brain tumor patient.
I hope find put factors impact to patient and farther more, nurses can provide interventions for patients ' life improvement.
I can use sacle FACT- Br?
Pleas permission for me!
Thanks you very much.

--

Nguyễn Nghệ Phòng điều dưỡng Bệnh viện Bạch mai – phone 0913218868

Jason Bredle <jbredle@facit.org> 22:31 Ngày 07 tháng 12 năm 2015
Tới: Nguyễn Nghệ <nguyennghebvbm@gmail.com>

Hi Nghe,

Unfortunately, we do not have a validated version of the Vietnamese FACT-Br questionnaire. If you'd like, I can send you the English version, or I can send you the Vietnamese FACT-G questionnaire, which is appropriate for use with all cancer types. Let me know if you have any questions.

Kind regards,
Jason

Jason Bredle

Manager, Business Operations
jbredle@facit.org
+1-773-807-9094

https://mail.google.com/mail/u/0/?ui=2&ik=e734951347&view=pt&q=FACT%20%20&search=query&th=1516f0c46b1c3410&siml=1516f0c46b1c3410&siml=15... 1/3

1/16/2016 Gmail - I want a letter of permission

From: Nguyễn Nghệ [mailto:nguyennghebvbm@gmail.com]
Sent: Friday, December 11, 2015 8:23 PM
To: Jason Bredle <jbredle@facit.org>
Subject: Re: I want a letter of permission

[Ẩn văn bản trích dẫn]

4 tệp đính kèm

FACT-G_VIE_Final_Ver4_NI_08Aug14.docx
38K

FACT-G_VIE_Final_Ver4_NI_08Aug14.pdf
162K

doc03_ScoringFACT-G v4-REVISED.doc
24K

doc01_Administration Guidelines_Manual_082505-2.doc
27K

Nguyễn Nghệ <nguyennghebvbm@gmail.com> 05:36 Ngày 14 tháng 12 năm 2015
Tới: Jason Bredle <jbredle@facit.org>

Dear Mr Jason Bredle !
I received mail and the Vietnamese FACT-G questionnaire on yesterday.
Thanks you very much.
[Ẩn văn bản trích dẫn]

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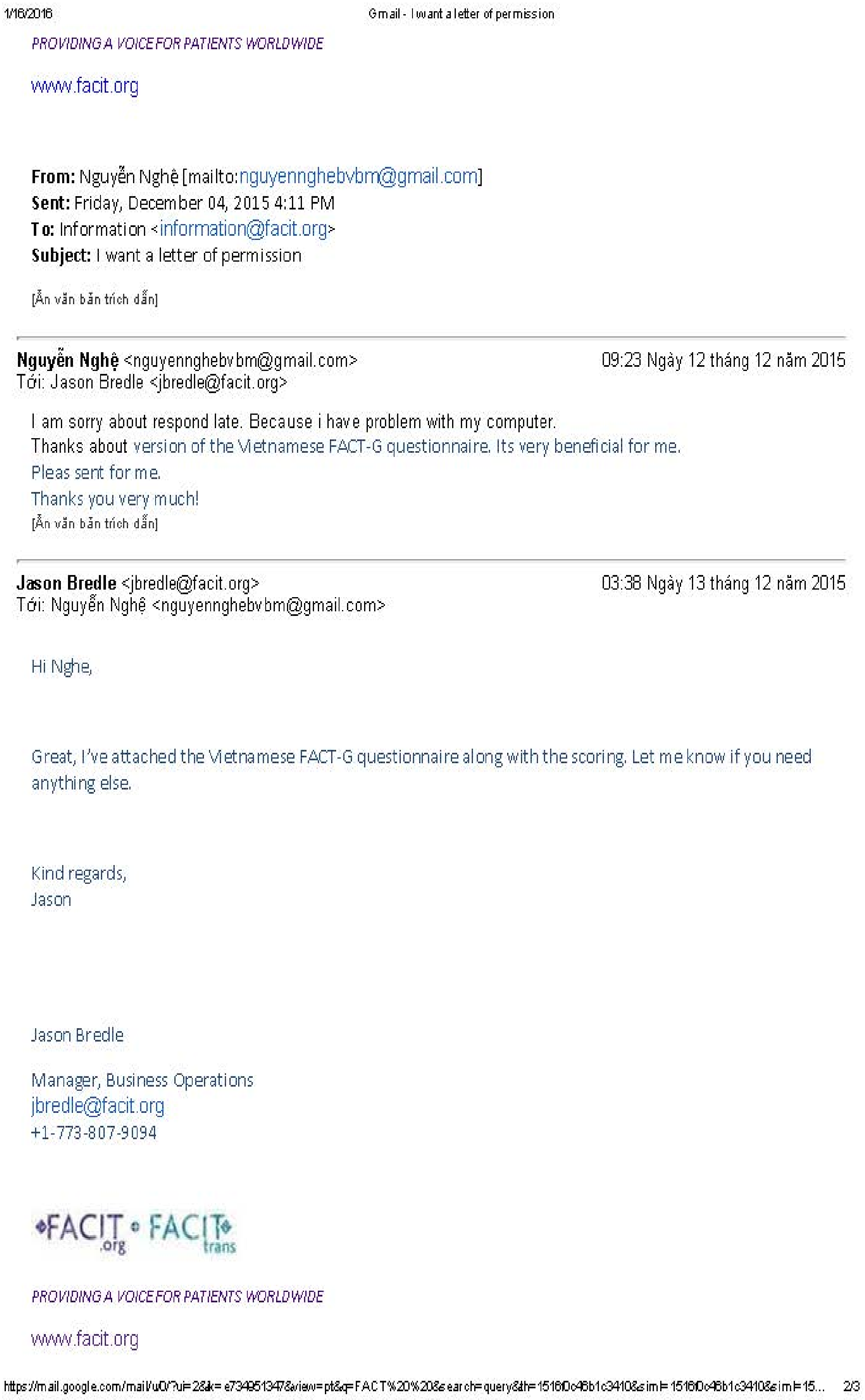


1/16/2016 Gmail - I want a letter of permission

PROVIDING A VOICE FOR PATIENTS WORLDWIDE

www.facit.org

From: Nguyễn Nghệ [mailto:nguyennghebvbm@gmail.com]
Sent: Friday, December 04, 2015 4:11 PM
To: Information <information@facit.org>
Subject: I want a letter of permission

[Ẩn văn bản trích dẫn]

Nguyễn Nghệ <nguyennghebvbm@gmail.com> 09:23 Ngày 12 tháng 12 năm 2015
Tới: Jason Bredle <jbredle@facit.org>

I am sorry about respond late. Because i have problem with my computer.
Thanks about version of the Vietnamese FACT-G questionnaire. Its very beneficial for me.
Pleas sent for me.
Thanks you very much!
[Ẩn văn bản trích dẫn]

Jason Bredle <jbredle@facit.org> 03:38 Ngày 13 tháng 12 năm 2015
Tới: Nguyễn Nghệ <nguyennghebvbm@gmail.com>

Hi Nghe,

Great, I've attached the Vietnamese FACT-G questionnaire along with the scoring. Let me know if you need anything else.

Kind regards,
Jason

Jason Bredle

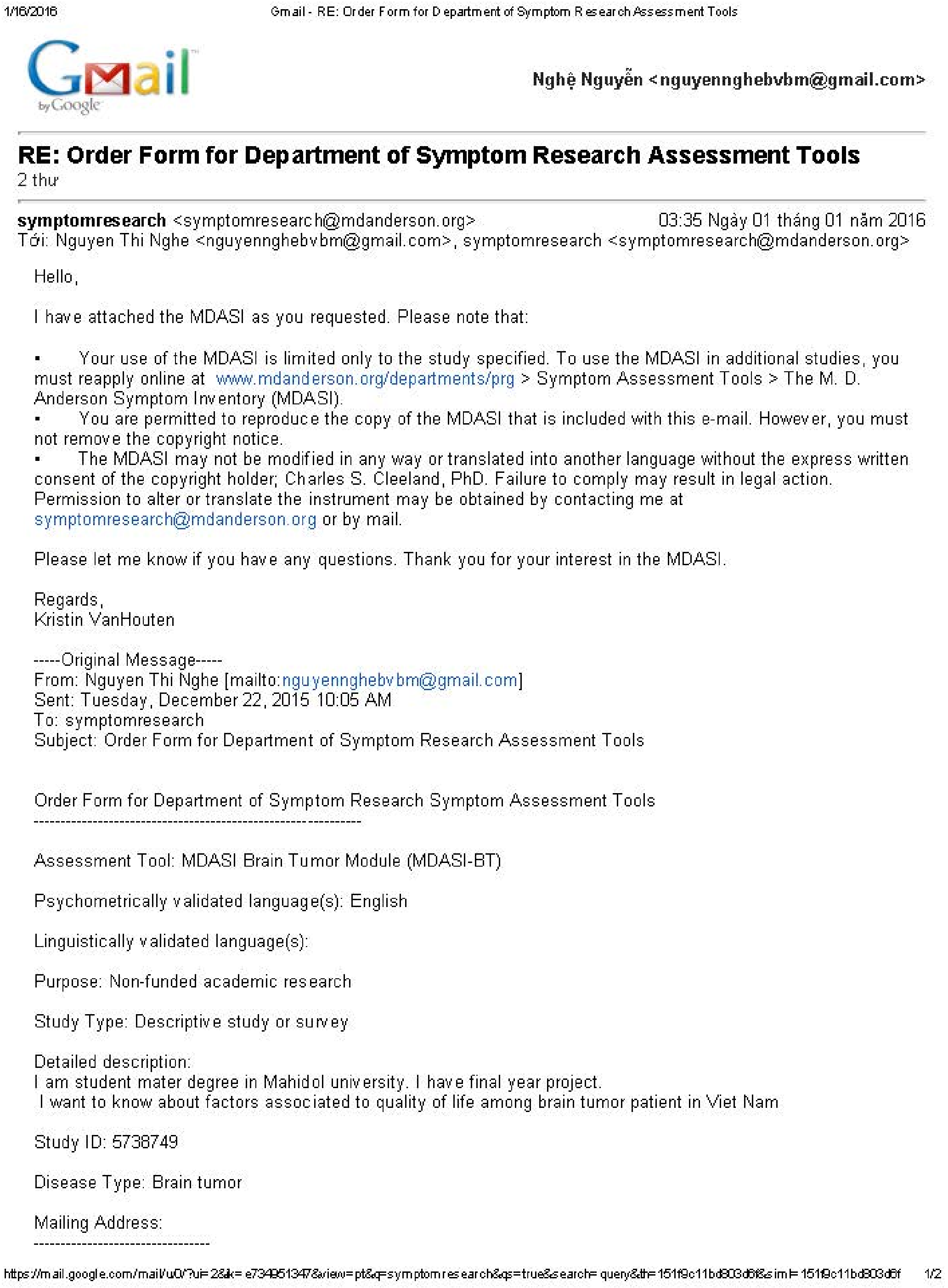
Manager, Business Operations
jbredle@facit.org
+1-773-807-9094

FACIT.org FACIT trans

PROVIDING A VOICE FOR PATIENTS WORLDWIDE

www.facit.org

https://mail.google.com/mail/u/0/?ui=2&ik=e734951347&view=pt&q=FACT%20%20&search=query&th=1516f0c46b1c3410&siml=1516f0c46b1c3410&siml=15... 2/3



1/16/2016 Gmail - RE: Order Form for Department of Symptom Research Assessment Tools

Nghệ Nguyễn <nguyennghebvbm@gmail.com>

RE: Order Form for Department of Symptom Research Assessment Tools
2 thư

symptomresearch <symptomresearch@mdanderson.org> 03:35 Ngày 01 tháng 01 năm 2016
Tới: Nguyen Thi Nghe <nguyennghebvbm@gmail.com>, symptomresearch <symptomresearch@mdanderson.org>

Hello,

I have attached the MDASI as you requested. Please note that:

- Your use of the MDASI is limited only to the study specified. To use the MDASI in additional studies, you must reapply online at www.mdanderson.org/departments/prg > Symptom Assessment Tools > The M. D. Anderson Symptom Inventory (MDASI).
- You are permitted to reproduce the copy of the MDASI that is included with this e-mail. However, you must not remove the copyright notice.
- The MDASI may not be modified in any way or translated into another language without the express written consent of the copyright holder; Charles S. Cleeland, PhD. Failure to comply may result in legal action.

Permission to alter or translate the instrument may be obtained by contacting me at symptomresearch@mdanderson.org or by mail.

Please let me know if you have any questions. Thank you for your interest in the MDASI.

Regards,
Kristin VanHouten

-----Original Message-----
From: Nguyen Thi Nghe [mailto:nguyennghebvbm@gmail.com]
Sent: Tuesday, December 22, 2015 10:05 AM
To: symptomresearch
Subject: Order Form for Department of Symptom Research Assessment Tools

Order Form for Department of Symptom Research Symptom Assessment Tools
----

Assessment Tool: MDASI Brain Tumor Module (MDASI-BT)

Psychometrically validated language(s): English

Linguistically validated language(s):

Purpose: Non-funded academic research

Study Type: Descriptive study or survey

Detailed description:
I am student mater degree in Mahidol university. I have final year project.
I want to know about factors associated to quality of life among brain tumor patient in Viet Nam

Study ID: 5738749

Disease Type: Brain tumor

Mailing Address:
----

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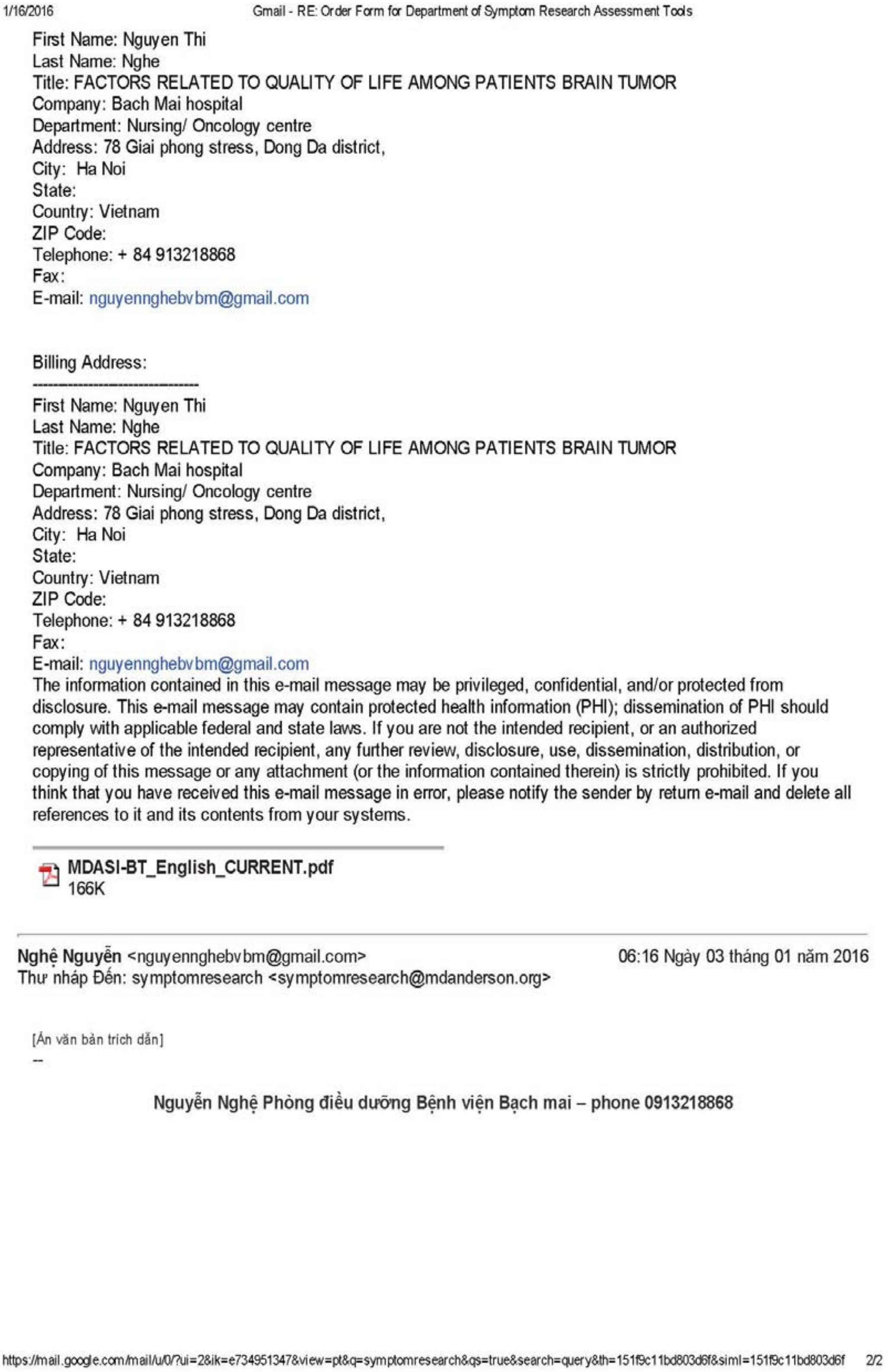

1/16/2016 Gmail - RE: Order Form for Department of Symptom Research Assessment Tools

First Name: Nguyen Thi
Last Name: Nghe
Title: FACTORS RELATED TO QUALITY OF LIFE AMONG PATIENTS BRAIN TUMOR
Company: Bach Mai hospital
Department: Nursing/ Oncology centre
Address: 78 Giai phong stress, Dong Da district,
City: Ha Noi
State:
Country: Vietnam
ZIP Code:
Telephone: + 84 913218868
Fax:
E-mail: nguyennghebvbm@gmail.com

Billing Address:

First Name: Nguyen Thi
Last Name: Nghe
Title: FACTORS RELATED TO QUALITY OF LIFE AMONG PATIENTS BRAIN TUMOR
Company: Bach Mai hospital
Department: Nursing/ Oncology centre
Address: 78 Giai phong stress, Dong Da district,
City: Ha Noi
State:
Country: Vietnam
ZIP Code:
Telephone: + 84 913218868
Fax:
E-mail: nguyennghebvbm@gmail.com

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MDASI-BT_English_CURRENT.pdf
166K

Nghệ Nguyễn <nguyennghebvbm@gmail.com> 06:16 Ngày 03 tháng 01 năm 2016
Thư nháp Đến: symptomresearch <symptomresearch@mdanderson.org>

[Ẩn văn bản trích dẫn]
--

Nguyễn Nghệ Phòng điều dưỡng Bệnh viện Bạch mai – phone 0913218868

https://mail.google.com/mail/u/0/?ui=2&ik=e734951347&view=pt&q=symptomresearch&qs=true&search=query&th=151f9c11bd803d6f&siml=151f9c11bd803d6f 2/2

Hamilton Depression Rating Scale (HDRS)

Reference: **Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960; 23:56–62**

Rating Clinician-rated

Administration time 20–30 minutes

Main purpose To assess severity of, and change in, depressive symptoms

Population Adults

Commentary

The HDRS (also known as the Ham-D) is the most widely used clinician-administered depression assessment scale. The original version contains 17 items ($HDRS_{17}$) pertaining to symptoms of depression experienced over the past week. Although the scale was designed for completion after an unstructured clinical interview, there are now semi-structured interview guides available. The HDRS was originally developed for hospital inpatients, thus the emphasis on melancholic and physical symptoms of depression. A later 21-item version ($HDRS_{21}$) included 4 items intended to subtype the depression, but which are sometimes, incorrectly, used to rate severity. A limitation of the HDRS is that atypical symptoms of depression (e.g., hypersomnia, hyperphagia) are not assessed (see SIGH-SAD, page 55).

Scoring

Method for scoring varies by version. For the $HDRS_{17}$, a score of 0–7 is generally accepted to be within the normal range (or in clinical remission), while a score of 20 or higher (indicating at least moderate severity) is usually required for entry into a clinical trial.

Versions

The scale has been translated into a number of languages including French, German, Italian, Thai, and Turkish. As well, there is an Interactive Voice Response version (IVR), a Seasonal Affective Disorder version (SIGH-SAD, see page 55), and a Structured Interview Version (HDS-SIV). Numerous versions with varying lengths include the HDRS17, HDRS21, HDRS29, HDRS8, HDRS6, HDRS24, and HDRS7 (see page 30).

Additional references

Hamilton M. Development of a rating scale for primary depressive illness. Br J Soc Clin Psychol 1967; 6(4):278–96.

Williams JB. A structured interview guide for the Hamilton Depression Rating Scale. Arch Gen Psychiatry 1988; 45(8):742–7.

Address for correspondence

The HDRS is in the public domain.

Hamilton Depression Rating Scale (HDRS)

PLEASE COMPLETE THE SCALE BASED ON A STRUCTURED INTERVIEW

Instructions: for each item select the one "cue" which best characterizes the patient. Be sure to record the answers in the appropriate spaces (positions 0 through 4).

1 **DEPRESSED MOOD** *(sadness, hopeless, helpless, worthless)*
- 0 ☐ Absent.
- 1 ☐ These feeling states indicated only on questioning.
- 2 ☐ These feeling states spontaneously reported verbally.
- 3 ☐ Communicates feeling states non-verbally, i.e. through facial expression, posture, voice and tendency to weep.
- 4 ☐ Patient reports virtually only these feeling states in his/her spontaneous verbal and non-verbal communication.

2 **FEELINGS OF GUILT**
- 0 ☐ Absent.
- 1 ☐ Self reproach, feels he/she has let people down.
- 2 ☐ Ideas of guilt or rumination over past errors or sinful deeds.
- 3 ☐ Present illness is a punishment. Delusions of guilt.
- 4 ☐ Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations.

APPENDIX G

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sumSymptom	.080	115	.066	.915	115	.000
sumAnxiety	.149	115	.000	.891	115	.000
BMI	.073	115	.188	.943	115	.000
sumFACTBr	.094	115	.014	.973	115	.020

a. Lilliefors Significance Correction

BIOGRAPHY

NAME	Nguyen Thi Nghe
DATE OF BIRTH	19th July 1982
PLACE OF BIRTH	Hanoi
INSTITUTIONS ATTENDED	Bach Mai Medical school, 2002 – 2004 Diploma of Nursing Science Thang Long University, 2007 - 2011 Bachelor of Nursing Science Mahidol University, 2015-2016 Master of Nursing Science (Adult Nursing)
POSITION AND OFFICE	2006 - 2013, Nursing Nuclear medicine and Oncology center, Bach Mai hospital, Vietnam 2013 - 2016, Work at Nursing Department, Bach Mai Hospital, Vietnam
EMPLOYMENT ADDRESS	No .78 Giai Phong Street, Dong Da district, Hanoi, Vietnam. Telephone number) :84 (4.38693171 Email :lienhe@yhn.edu.vn Website: www.Bachmai.gov.vn
HOME ADDRESS	Thiet Binh village, Van Ha ward, Đong Anh district, Ha Noi capital, Vietnam. Mobile telephone) :84.(913218868. Email :nguyennghebvbm@gmail.com