STUDY OF PREVALENCE AND RISK FACTORS FOR DEPRESSION AND ANXIETY AMONG CHRONIC PAIN PATIENTS IN HOSPITAL UNIVERSITI SAINS MALAYSIA

DR ROSAIDAREMANJA BINTI SUKRI

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LIST OF ABBREVIATIONS

A	Anxiety
D	Depression
DSM	Diagnostic and Statistical Manual of Mental Disorder
DASS-21	Depression Anxiety, Stress Scale
HADS	Hospital Anxiety Depression Score
HADS-A	Hospital Anxiety Depression Score -Anxiety
HADS-D	Hospital Anxiety Depression Score-Depression
HUSM	Hospital Universiti Sains Malaysia
ICD	International Classification of Disease
JEPeM	Jawatankuasa Etika Penyelidikan Manusia USM
NSAIDS	Non- Steroidal Anti Imflammatory
TCA	To Come Again
USM	Universiti Sains Malaysia
VAS	Visual Analogue Score

ABSTRAK

Latar belakang Masalah psikologi seperti keresahan dan kemurungan sering dialami oleh penderita kesakitan kronik. Pesakit yang mengalami masalah psikologi ini biasanya mengalami persepsi yang berbeza terhadap kesakitan. Pesakit kesakitan kronik yang mengalami kemurungan dan keresahan ini, kebiasaannya sukar untuk di tangani. Faktor-faktor yang mendorong ke arah keresahan dan kemurungan ini adalah sukar untuk dirumuskan.

Tujuan Untuk menentukan prevalens keresahan dan kemurungan dikalangan penderita kesakitan kronik, disamping menentukan kaitan antara keresahan dan kemurungan dikalangan penderita kesakitan kronik. Selain itu, untuk menentukan faktor-faktor menyumbang kepada keresahan dan kemurungan di kalangan penderita kesakitan kronik.

Kaedah Seramai 116 pesakit yang menderita kesakitan kronik diberi soalan-soalan berkaitan keadan and demografi pesakit. Soalan mengandungi Skor Keresahan Kemurungan Hospital sama ada dalam Bahasa Melayu atau Inggeris. Skor berkaitan keresahan dan kemurungan direkod. Data yang deperolehi kemudiannya di analisa untuk analisis deskriptif, dan ‘pearson’s correlation’ digunakan untuk menentukan kaitan di antara keresahan dan kemurungan. Seterusnya ‘multiple logistic Regression’ digunakan untuk faktor-faktor yang mungkin mendorong kearah keresahan dan kemurungan.

Keputusan Prevalens keresahan direkodkan sebanyak 28.4% manakala 26.7% untuk depressi. Keresahan menyumbang ke arah kemurungan. Faktor-faktor seperti umur, jantina, bangsa, tahap pendidikan, pendapatan, keterukan sakit, umur semasa diagnosis, jangka masa sakit, dan rawatan yang diterima termasuk antidepressi tidak menyumbang kearah depressi. Namun begitu perkerjaan, pendapatan, jangka masa sakit, umur semasa diagnosis, dan etiologi boleh meramalkan keresahan.

Kesimpulan Hubungan antara keresahan dan kemurungan di kalangan penderita kesakitan kronik adalah komplex. Masalah jiwa boleh berlaku disebabkan oleh kesakitan kronik dan sebaliknya. Keresahan menyumbang kearah kemurungan. Berdasarkan keputusan di atas adalah digalakkan untuk menyaring pesakit-pesakit kronik yang datang ke hospital bagi mengenalpasti tahap keresahan dan kemurungan mereka supaya langkah selanjutkan dapat di ambil dengan segera.

ABSTRACT

Background Psychological disorder namely anxiety and depression often co-exist in chronic pain patient. Likewise affective disorder more likely to express pain differently. Concomitant anxiety and depression in chronic pain were difficult and challenging to manage. To date, the predisposing factors to these affective disorder were largely inconclusive.

Aim To determine prevalence of anxiety and depression among Chronic pain patient as well as to determine association between anxiety and depression among chronic pain patient. and to predict factor associated with anxiety and chronic pain.

Methods 116 of patients with chronic pain were given set of questions related to their general well-being and demographic details. Question contains HADS-A and HADS-D either in original English and validated Malay version. The severity of anxiety and depression were recorded and analysed.

Results Prevalence of anxiety and depression were 28.4% and 26.7% respectively. Anxiety had a positive association with depression among chronic pain patient. Factors such as age, gender, race, educational status, employment status, income, severity of pain, age of diagnosis, duration of pain, treatment of pain did not predict depression . However employment, income, duration of pain, diagnosis age, and etiology of pain can predict anxiety.

Conclusion The relationship between depression and anxiety with chronic pain were complex. Affective disorder can occurs as result of chronic pain and vice versa. Anxiety and depression has significant positive association. Addition of the screening of anxiety and depression in chronic pain patient who come for treatment may help in timely manage their affective disorder as well as helping in their chronic pain.

CHAPTER 1 INTRODUCTION

1.1 Background

Chronic pain is defined as the pain persist despite passing normal healing time and usually lasts or recurs for more than 3 to 6 months(1). It is a debilitating condition that has various impact in clinical, economic, and interpersonal life. The prevalence of chronic pain is estimated ranging from 8% to over 60% (2). The cost of low back pain alone equivalent to more than 20% of one total country's total health expenditure as well as 1.5% of its annual gross domestic products. Apart from massive impact on economies, chronic pain probably one of the diseases with greatest negative impact on quality of life (2).

Psychological disorder namely depression and anxiety are often co-exist in chronic pain population. The prevalence of depression in chronic pain patients varies from 30% - 54% (3). The life time prevalence of at least one psychiatric disorder in chronic pain patient has been reported in 81.4% of chronic low back pain patient in which anxiety and depression was the commonest reported (4). Likewise, these psychiatric illness patients namely anxiety and depression are more likely to influence pain (5).

Chronic pain patient with anxiety and depression are often difficult to managed possibly due to several reasons. Chronic pain patients with co-morbid mood disorder may perceived pain differently (6). In a study comparing fibromyalgia patient and multiple sclerosis, fibromyalgia patients tends to overdramatized their pain as compared in control group. Despite both being chronic pain patient, the prevalence of anxiety and depression were higher in fibromyalgia group (7). International Association of the Study of Pain (IASP) definition of pain both current and newly proposed emphasized the significant of role emotions and mood in pain perception (8).

Holistically management tailored personally to each patient are very important in dealing with this chronic illness. Reduction in somatic symptoms has been shown in a third of the patient who underwent maxillofacial cancer treatment with coexisting significant anxiety (9). Hence treating the anxiety and depression in chronic pain patient may help in the management of patients with chronic pain and vice versa (5).

1.2 Study Objective

1.2.1 General Objective

This study is carried out with the aims to identify the prevalence of depression and anxiety among chronic pain patients.

1.2.2 Specific Objective

1. To determine the prevalence of depression and anxiety among chronic pain patients.

2. To identify the association between depression and anxiety among chronic pain patient.

3. To identify factors that influence severe depression and anxiety among chronic pain patients (Factors include age, gender, race, education status, employment status, income, severity of pain, age of diagnosis, duration of pain, treatment and antidepressant).

1.3 Rationale of Study

Although depression and anxiety are common in chronic pain patient, the prevalence that has been reported were difference between the population and places. Currently there were no local data regarding prevalence of anxiety and depression among chronic pain patient. Kelantan's population especially in Kubang Kerian are differs from previous study that has been done. Differences in cultures and life styles are expected to significantly altered the prevalence of anxiety and depression in these population.

Anxiety and depression were common in chronic pain patient, factors contributing to these were conflicting. Factors such as gender, age, education level, pain score yield different results in previous study that has been reported. Several factors may play role contributing to severity of anxiety and depression in chronic pain patient. Hence identifying the risks factors that may contribute to anxiety and depression in chronic pain patients may be able to predict the co-existing psychosocial behaviours of the patients as well as helps in managing them holistically.

1.4 Literature Review

Annually in developed countries, it has been reported that at least 8% of the population affected by chronic pain (10). Recently low back pain, headache disorders and depressive disorders were the leading causes for years living with disabilities in 2017 for both female and males. Comparing with the same analysis in 1990, depressive disorder has become the new leading causes for years living with disabilities replacing dietary iron deficiency (11). This shows that chronic pain remains the main issues globally and increasing in depressive disorder globally.

Pain is considered chronic when it persist or recur beyond period of normal healing tome, lacks of acute warning function of physiological nociception and usually more than 3 to 6 months (1). Chronic pain can be classified as neuropathic, nociceptive or mixed (1). Neuropathic pain generally develop after nerve injury which may involve nociceptive or descending modulatory pathway (12) while nociceptive pain can result from actual or threatened damage to other tissue (12). The main difference in

neuropathic pain and nociceptive pain are; there were no transduction (conversion of nociceptive stimulus into electrical impulse) in neuropathic pain as compared to nociceptive pain, and neuropathic pain carries worse prognosis (13). Current and newly proposed definition of pain in which "an unpleasant sensory and emotional experienced associated with actual or potential tissue damage, or describe in term of such damage "(14), and " an aversive sensory and emotional experience typically caused by, or resembling that caused by, actual or potential tissue injury''(14) emphasized the significant role of emotions and mood in pain perception (8).

Depression and anxiety often coexist in chronic pain patient. Depression has been reported between 30-54% in chronic pain patient (3) while anxiety range from 25%(15) to 55% (16) (3). Lifetime prevalence of at least one psychiatric disorder in chronic pain patient; in which depression, anxiety disorder were the most common has been reported in 81.4% of chronic low back patient (4). The causal association between chronic pain with anxiety and depression were unclear. Finding support both antecedent and consequent association (17).

Multiple questionnaires have been developed to screen the affective disorder in clinical and non- clinical settings. Hospital Anxiety Depression score is a self-assessment tool that has been develop to detect the states of anxiety and depression in outpatient clinic (18) with sensitivity and specificity of 80% (19). There are two subscales of HADS; anxiety (HADS-A) and depression (HADS-D) which indicates how respondents currently feel (20). There are 14 items which equally divided in HADS-A and HADS-D. HADS-A includes tension, worry, fear, panic, relaxing difficulties and restlessness. Meanwhile HADS-D includes item that predominantly measures anhedonia. Response then are rated to score 0 to 3 in which indicates severity. These 14

items then summed to yield total score of 0 to 42 with each subscale score 0-21 separately. Scored 0-7 considers normal, 8-10 mild , 11-14 moderate while 15-21 indicating severe anxiety or depression (20).

Despite extensive reviews on this aspect, there were no clinical consensus of the factors that predisposed to anxiety nor depression in chronic pain patients. Factors such as gender, diagnosis of pain, duration of pain, as well as severity pain have been reported differently in multiple literature.

To date, question of anxiety and depression lead to chronic pain or vice versa are still debated. Evidence support both antecedent and consequent association (17). Those with pre-existing depression are likely to develop headache and chest pain, in contrast to ‘diathesis-stress’ model which support depression as a sequalae of chronic pain (8).

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CHAPTER 2 STUDY PROTOCOL

2.1 STUDY PROTOCOL SUBMITTED FOR ETHICAL APPROVAL

INTRODUCTION

Study of prevalence of depression and anxiety among chronic pain patient. To study the psychosocial factor associate with depression and anxiety in chronic pain patient.

PROBLEM STATEMENT AND STUDY RATIONALE

Depression in chronic pain are very common. This psychological assessment be it a reaction to somatic illness or independent factor is often overlooked (1). The prevalence of depression in chronic pain varies from 30 – 54%(2). However there were no local data regarding the prevalence of depression and anxiety in chronic pain patient. Populations in Kelantan particularly in Kubang Kerian are differs from the previous study has been done on anxiety and depression in chronic pain patient. Hence difference in cultures and life styles are expected to significantly alters the prevalence of depression and anxiety in these population.

Although depression and anxiety were common in chronic pain patient, the factors contribute to these were conflicting. Sagher et al 2013, shows that there were significant association between gender in both depression and anxiety. Women tend to become more depress than men (2, 3). Recent study in chronic pain patients in Chinese population shows conflicting evidence; there were no significant association between age, education level, sex (4, 5) and marital status (6).

Management of patient holistically is very important in dealing with these chronic illness. Telfer, M.R et al (7) found that a third of the patient who had undergo maxilo-facial cancer treatment with coexist significant anxiety had reduction in their somatic symptoms by discussing the nature of anxiety. Depression has been shown to reduce adherence to recommended treatment (8).

In a secondary analysis published in oncology journal 2011, shows that women with improving depressive symptom have longer survival time compared to those with worsening symptoms (9). Therefore detection of depression in chronic pain patient may aid with the management of the chronic pain.

RESEARCH QUESTION

What is the prevalence of depression and anxiety in chronic pain patient .

What are the factors associated with depression and anxiety in chronic pain patient.

OBJECTIVE

General : To determine the prevalence of depression and anxiety among chronic pain patient

Specific :

1- To determine the prevalence of depression and anxiety in chronic pain patient
2- To study the association between severe anxiety with depression among chronic pain patient.

3- To study factors associated with moderate to severe depression and anxiety among chronic pain patient. As well as to study the correlation between age, duration of pain and severity of pain .

STUDY HYPOTHESIS

1. There were association between anxiety and depression among chronic pain patient.
2. There were association between type of pain, duration of pain, intensity of pain, drugs used, disability and intervention done with severity of depression or anxiety among chronic pain patient.

LITERATURE REVIEW

Annually in developed countries, it has been reported that at least 8% of the population affected by chronic pain (10). Mental health and behavioral disorder, musculoskeletal disorders, diabetes and endocrine diseases are the main contributors for years living with disabilities in a systemic analysis for the Global Burden of Disease Study 2010. Low back pain and major depressive disorder were the leading causes for Years Living with Disabilities.(11).

Chronic pain defined as Pain which has persist or recur for more than 3 to 6 month, persist past normal healing time and lacks of acute warning function of physiological nociception. (12)

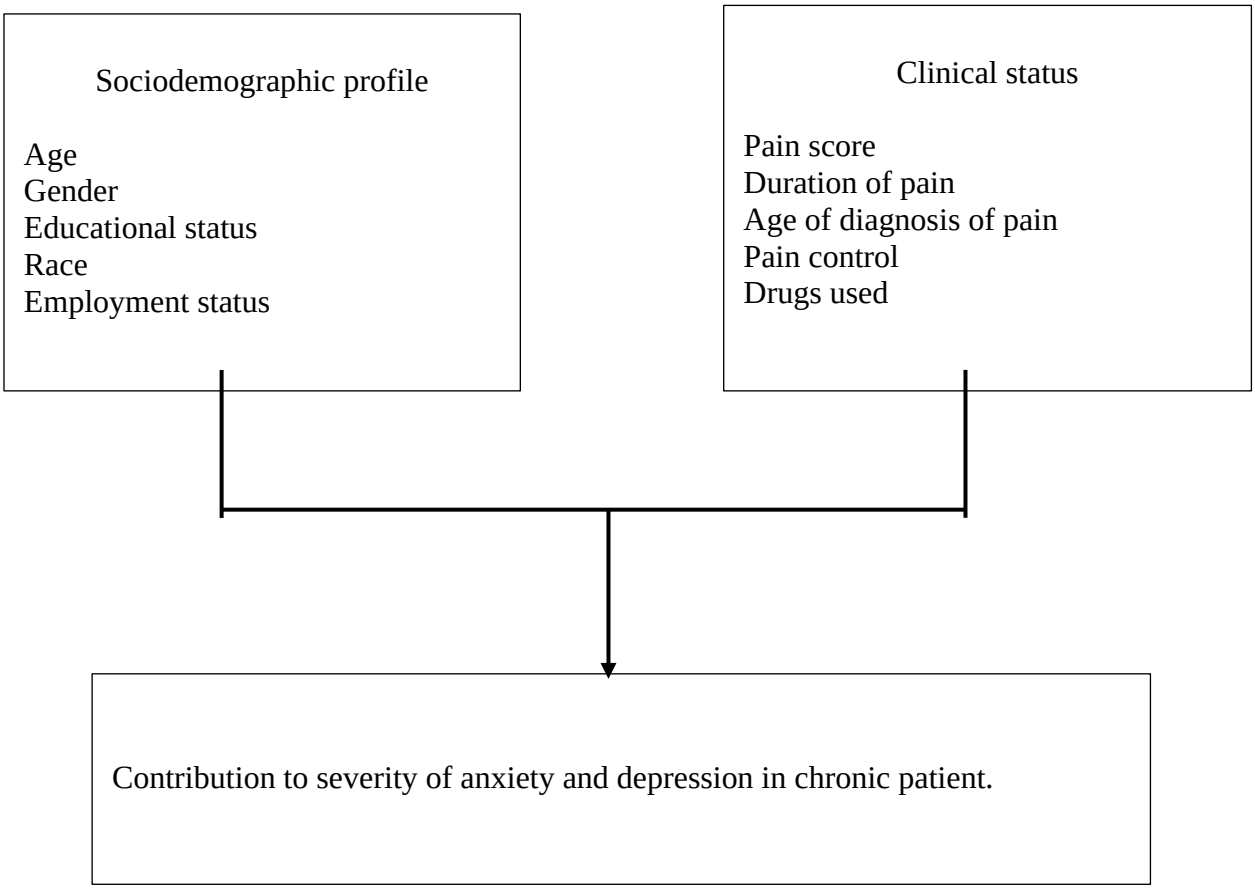
Depression in chronic pain has been reported between 30-54%(2). The lifetime prevalence of at least one psychiatric disorder in chronic pain patient; in which depression, anxiety disorder were the most common has been reported in 81.4% of chronic low back pain patient (13). The causal association between chronic pain and depression and anxiety is unclear. Findings support both an antecedent and consequent association(14).

Diagnosis of depression based on ICD 10 or DSM IV criteria whereby patients suffer from lowering of mood, reduction in energy as well as activity. Capacity for enjoyment, interest and concentration are reduced. Patients usually have disturbance in sleep, and diminished appetite. Self-esteem and confidence reduced with ideas of guilty or worthlessness often present (15).

Patients are the best assessor of their own. A brief and easily understood questionnaire as well as avoidance of any references to abnormal perception (hallucination) nor implication of psychiatric disorder (suicidal ideation) are important in assessing their psychological state (1). Hospital Anxiety Depression score is a self-assessment tool that has been develop for detecting states of depression and anxiety in hospital outpatient clinic. It is also a valid measurement of emotional disorder (16). Hospital anxiety depression score (HADS) was design to be simple and short focusing on anxiety and depression which deem to be the most relevant in general hospital (1). Reviews on HADS score by Bjelland, I. et al.(17) founded that the sensitivity and specificity of HADS-A and HADS-D approximately 0.8. In assessing the severity of anxiety and depression, HADS was found to be well performed in both somatic and psychiatric cases. HADS has been used in both hospital and primary care patient (1).

Two subscales of HADS; anxiety (HADS-A) and depression (HADS-D) which respondents indicates how they currently feel. Fourteen items are equally divides in these subscales. HADS-A includes tension, worry, fear, panic, relaxing difficulties and restlessness while HADS-D includes items predominantly measuring anhedonia. Response will then be rated on a 4-point Likert scale ranging from 0 to 3 which indicates severity. The 14 items are then summed to yield total score of 0-42 or for each subscale 0-21 separately. The cut off recommended are 0-7 normal, 8-10 mild, 11-14 moderate while 15-21 indicating severe anxiety or depression. Despite that HADS does not adequately detect the presence of specific anxiety and depression disorder and not a diagnostic tool (18).

CONCEPTUAL FRAME WORK



The causative effect of depression and anxiety unable to be determined as this study is plan as cross sectional study. Depression and anxiety may presence earlier than chronic pain or vice versa.

RESEARCH DESIGN

Cross sectional study. Identification of depression in chronic pain patient using English or Validated Malay version of Hospital Anxiety Depression score. Severity of pain assessment with Visual Analogue score (VAS).

STUDY AREA

Hospital Universiti Sains Malaysia, Kubang Kerian.

STUDY POPULATION

Chronic pain patient. Diagnosed with chronic pain more than 6 months and follow up by Pain services Hospital University Sains Malaysia.

STUDY DURATION

The study is estimated to be conducted February 2019 after gaining ethical clearance from Ethics Committee (Human), Universiti Sains Malaysia.

STUDY CRITERIA

1. Inclusion criteria
    a. Patient that has been diagnosed with chronic pain
    b. Patient that has pain more than 6 month
    c. Age more than 18 years old

d. Able to read and understand questionnaire (Malay version of Hospital Anxiety Depression Score)
e. Follow up in Hospital University Sains Malaysia pain services

2. Exclusion criteria
    a. Patient refusal
    b. Head injury or substance abuser

SAMPLING METHOD

Convenience sampling

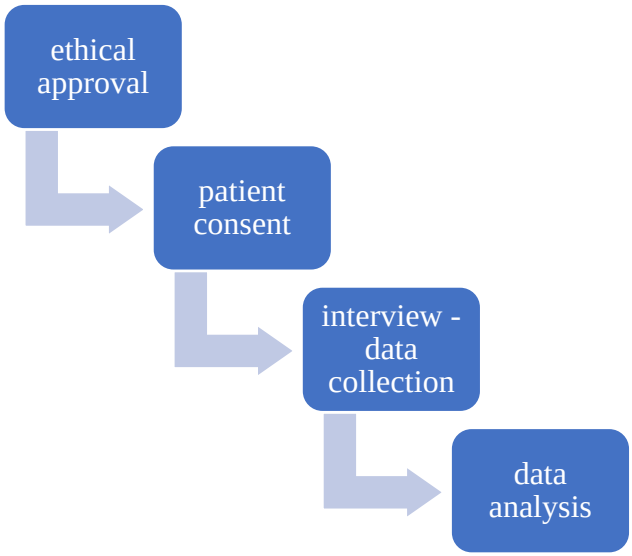
PARTICIPANT RECRUITMENT / SUBJECT SELECTION

Written consent will be obtained on those who are fulfilled the criteria. Malay version of Hospital Anxiety Depression questionnaire will be distributed to assess the depression and anxiety level in chronic pain patient if any. Selection of patient mainly those who has TCA in pain clinic, chronic pain patient admitted due to pain as well as those who came for pain procedure.

DATA COLLECTION METHODS

Diagnosis and duration of pain will be obtained from hospital record. Anxiety and depression score will be done during interview with the patients who either attending pain clinic, admitted due to pain or come for procedure.

STUDY FLOW CHART



SAMPLE SIZE CALCULATION

OBJECTIVE 1

Prevalence of anxiety - (2)

P = 0.55

$N = (\frac{z}{\Delta})^2 X\ P\ (1\text{-}P)$ z= 1.96 n = 95. $\Delta = 0.1$

Prevalence of depression -(2)

P0 0.485

$N = (\frac{z}{\Delta})^2 X\ P\ (1\text{-}P)$ z= 1.96 n= 96..5 $\Delta = 0.1$

taken the highest n adding 20% drop up rate ~ 116

OBJECTIVE 2

Association of severe anxiety and depression sample calculation

- Correlation coefficient r 0.5 (moderate correlation)
- Type 1 error, α = 0.05
- Type II error, β = 20%

  Calculated sample size 30, with anticipate 10% dropout rate 10% , n = 34

OBJECTIVE 3

Sample size using power sample software dichrotomous, independent sample will be used to estimate sample size required for the association

P0 – proportion of exposure among patient which have depression / anxiety

P1- estimation case which exposed to factors

Ratio 1:1

To compare two independent proportions – anxiety and depression

Associated factors	P0	P1	m	n	2n	n+10%	Literature review
Single (marital status)	A- 0.32 D- 0.28	0.47 0.53	1 1	48 34	96 68	106 75	Brasil et al (2009)(19)
Gender- female	A -0.4 D- 0.32	0.14 0.16	1 1	13 32	26 64	29 71	Sagheer et al ((2)
Severity of pain	A- 0.67 D 0.78	0.35 0.26	1 1	11 4	22 8	24 9	Brasil et al (2009)(19

A- Anxiety. D - depression

Correlation of severity of pain , age and duration of pain with severity of depression.

- Correlation coefficient r 0.5 (moderate correlation)
- Type 1 error, α = 0.05
- Type II error, β = 20%

Calculated sample size 30 , with anticipate 10% dropout rate 10% , n = 34

Out of all the sample size calculation the sample size for prevalence were the highest 116. Hence sample size taken is 116.

ANALYSIS AND EXPECTED RESULTS

Proposed statistical analysis

Data entry and analysis will be conducted using SPSS software (version 22, USM-corporate license)

Descriptive analysis

Descriptive statistic will be used to depict the stage of anxiety and depression among chronic pain patient as well as summarizing socio-demographic of the patient. The frequencies and percentages of anxiety and depressions level will be measured according to age and gender. Mean standard deviation will then be calculated for age groups and gender.

Pearson correlation analysis will be applied to test the significant association between severe anxiety and depression.

Multiple logistic regression will be used to determine the factors associated with moderate to severe depression (moderate to severe depression – HADS-D score more than 11). Additional association between moderate to severe anxiety (HADS-A score more than 11) and moderate to severe depression (HADS-D more than 11) will also been calculated using multiple logistic regression. Correlation analysis for correlation between severity of pain, duration of pain and age with severity of depression.

Expected result (dummy table)

Descriptive profile of anxiety and depression in chronic pain patient			
variables	**Cut off score**	**Anxiety (%)**	**Depression (%)**
Normal mild moderate severe	0-7 8-10 11-14 14-21		

Patient socio-demographic and clinical characteristic	
variables	
Sociodemographic Age- years mean (SD) Male Female Race , n (%0) Malay Chinese	

Others Educational status , n (%) Primary and below Secondary Tertiary Employment status , n (%) Working / student / retired unemployed	
Clinical Pain score Duration of Pain Age diagnosis of pain Pain control etiology of chronic pain (type of chronic pain) Disability Drugs used Side effect of drugs used Presence of anxiety (normal or mild)	

ETHICAL CONSIDERATION

Subject vulnerability

Subjects are the patient under care of research team member. However they are not obliged to take part in this study. The subjects will be given ample time to decide and freedom to participate or not without affecting the clinical management that has been planned for them. Detailed and through explanation regarding this study will be given to the patients and their next of kin. The scale will be given to subjects for them to fill in themselves unless help is needed in the process. The subjects decision are independent and will not influence their further management and care. Data collected in this study will be independent and not be used for any achievement assessment and decision related to healthcare plan.

Subjects who scored high (severe depression) during question will be further asses with the ICD 10/ DSM criteria. If patients full fill the criteria of depression or anxiety, discussion will be made with the pain specialist regarding referral to psychiatric college. If patient exhibit life threatening depression and anxiety for example suicidal ideation immediate referral will be made to psychiatric college.
Risk for the patient who participate in this study include emotional disturbance during the study but referral to appropriate party will be included if emotional distress deem to be very severe. Benefits of the study includes availability of local data as well as help in managing patient condition holistically.

Declaration of absence of conflict of interest

The researchers declare no conflict of interest in these matter.

HANDLING PRIVACY AND DATA COLLECTION

Confidentiality

The data will be presented as grouped data , statistical analysis and will not disclosed the responders individually. The data obtained in this study will be kept and handled in a confidential manners, in accordance to applicable law and /or regulations. The subjects personal information will not be disclosed. Only research team member will be able to access the data.

Data storage

Research record will be securely stored in a lock cabinet while soft copy data will be stored in password -protected computer or thumb-drive. Only research team will be given access to these data. All forms will are anonymously and SPSS will be entered using unique numbers. Storage duration and archival of medical records and study data will take 3 years after completion the study. After that period all data will be permanently deleted and questionnaire form which contain the data will be disposed. All records from the study will kept confidential .

Gantt chart & milestone

	July-october 2018	November 2018- jan 2019	feb - dec 2019	Dec 2019	Jan 2020	Feb 2020	march - june 2020	july 2020
Proposal presentation								
Proposal submissions to research& ethics committee								
Data collection								
Data analysis								
Project write-up								
Presentation on preliminary report								
Presentation on final report								
Submission								

HOSPITAL ANXIETY AND DEPRESSION SCALE (HADS) – MALAY VERSION

Saya berasa tertekan / tersepit / serabut: A
- ☐ Sepanjang masa 3
- ☐ Banyak kali / kerapkali 2
- ☐ Kadang-kadang 1
- ☐ Tiada langsung 0

Saya berasa kurang / tidak secergas dahulu: D
- ☐ Hampir sepanjang masa 3
- ☐ Kerap kali 2
- ☐ Kadang-kadang 1
- ☐ Tidak langsung 0

Saya masih seronok melakukan perkara yang dahulunya menyeronokkan: D
- ☐ Seperti dahulu/biasa (tiada perubahan) 0
- ☐ Tidak seseronok dahulu 1
- ☐ Seronok sedikit sahaja 2
- ☐ Tidak lagi/hampir tiada lagi keseronokan 3

Saya berasa takut / berdebar-debar / gementar: A
- ☐ Tidak langsung 0
- ☐ Jarang-jarang 1
- ☐ Agak kerap 2
- ☐ Kerap kali 3

Saya selalu berasa ketakutan seolah-olah seperti sesuatu yang buruk akan berlaku: A
- ☐ Sememangnya dan amat teruk sekali 3
- ☐ Ya tetapi tidaklah terlalu teruk 2
- ☐ Ada sedikit tetapi tidak membimbangkan saya 1
- ☐ Tidak ada langsung 0

Saya sudah hilang minat terhadap keterampilan diri sendiri: D
- ☐ Sememangnya agak kurang minat dari biasa 3
- ☐ Kurang minat dari biasa / yang seharusnya 2
- ☐ Kadang-kadang mungkin kurang minat dari biasa 1
- ☐ Tidak hilang minat – masih seperti biasa 0

Saya boleh ketawa dan dapat menyukai / Nampak perkara-perkara yang melucukan: D
- ☐ Sememangnya seperti dahulu 0
- ☐ Tidaklah seperti dahulu 1
- ☐ Sememangnya tidak seperti dahulu 2
- ☐ Hanya kadang-kadang 3

Saya berasa tidak tenang / gelisah / seolah-olah saya perlu sentiasa membuat kerja / bergerak: A
- ☐ Sememangnya banyak kali 3
- ☐ Agak kerap 2
- ☐ Tidak terlalu kerap 1
- ☐ Tidak langsung 0

Perkara-perkara yang merisaukan / membimbangkan kerap bermain di fikiran saya: A
- ☐ Hampir sepanjang masa 3
- ☐ Banyak kali 2
- ☐ Dari masa kesemasa 1
- ☐ Hanya jarang-jarang / kadang-kadang 0

Saya sentiasa mengharapkan keceriaan / kegembiraan apabila melakukan sesuatu perkara: D
- ☐ Sama seperti dahulu 3
- ☐ Tidak seperti dahulu 2
- ☐ Sememangnya amat kurang daripada dahulu 1
- ☐ Tidak / hampir tidak berasa ceria langsung 0

Saya berasa ceria: D
- ☐ Tidak ada langsung 3
- ☐ Tidak selalu 2
- ☐ Kadang-kadang 1
- ☐ Sepanjang masa 0

Saya mengalami panik / keadaan gementar secara tiba-tiba: A
- ☐ Sememangnya banyak kali / kerap kali 3
- ☐ Agak kerap 2
- ☐ Tidak kerap / kadang-kadang 1
- ☐ Tidak pernah langsung 0

Saya boleh berasa relaks dan duduk dengan selesa: A
- ☐ Sememangnya 0
- ☐ Selalunya / kerap kali 1
- ☐ Tidak selalu / kadang-kadang 2
- ☐ Tidak boleh langsung 3

Saya dapat merasai nikmat / keseronokan apabila melakukan sesuatu seperti membaca buku yang menarik / mendengar radio / menonton rancangan televisyen yang menarik: D
- ☐ Kerap kali 0
- ☐ Kadang-kadang 1
- ☐ Tidak selalu 2
- ☐ Jarang-jarang sekali 3

Fariza Yahya, Zahiruddin Othman. Validation of the Malay Version of Hospital Anxiety and Depression Scale (HADS) in Hospital Universiti Sains Malaysia. International Medical Journal 2015; 22(2): 80-82.

Hospital Anxiety and depression scale (HADS) – English version

A	**I feel tense or wound up**		**D**	**I still enjoy the things I used to enjoy**	
	Most of the time	3		Definitely as much	0
	A lot of the time	2		Not quite so much	1
	From time to time, occasionally	1		Only a little	2
	Not at all	0		Hardly at all	3
A	**I get a sort of frightened feeling as if something awful is about to happen**		**D**	**I can laugh and see the funny side of things**	
	Very definitely and quite badly	3		As much as I always could	0
	Yes, but not too badly	2		Not quite so much now	1
	A little, but it doesn't worry me	1		Definitely not so much now	2
	Not at all	0		Not at all	3
A	**Worrying thoughts go through my mind**		**D**	**I feel cheerful**	
	A great deal of the time	3		Not at all	3
	A lot of the time	2		Not often	2
	From time to time, but not too often	1		Sometimes	1
	Not at all	0		Most of the time	0
A	**I can sit at ease and feel relaxed**		**D**	**I feel as if I am slowed down**	
	Definitely	0		Nearly all the time	3
	Usually	1		Very often	2
	Not often	2		Sometime	1
	Not at all	3		Not at all	0
A	**I get a sort of frightened feeling like butterflies in the stomach**		**D**	**I have lost interest in my appearance**	
	Not at all	0		Definitely	3
	Occasionally	1		I don't take as much care as I should	2
	Quite often	2		I may not take quite as much care	1
	Very often	3		I take just as much care as ever	0
A	**I feel restless as if I have to be on the move**		**D**	**I look forward with enjoyment to things**	
	Very much indeed	3		As much as I ever did	0
	Quite a lot	2		Rather less than I used to	1
	Not very much	1		Definitely less than I used to	2
	Not at all	0		Hardly at all	3
A	**I get sudden feelings of panic**		**D**	**I can enjoy a good book, radio or television programme**	
	Very often indeed	3		Often	0
	Quite often	2		Sometimes	1
	Not very often	1		Not often	2
	Not at all	0		Very seldom	3

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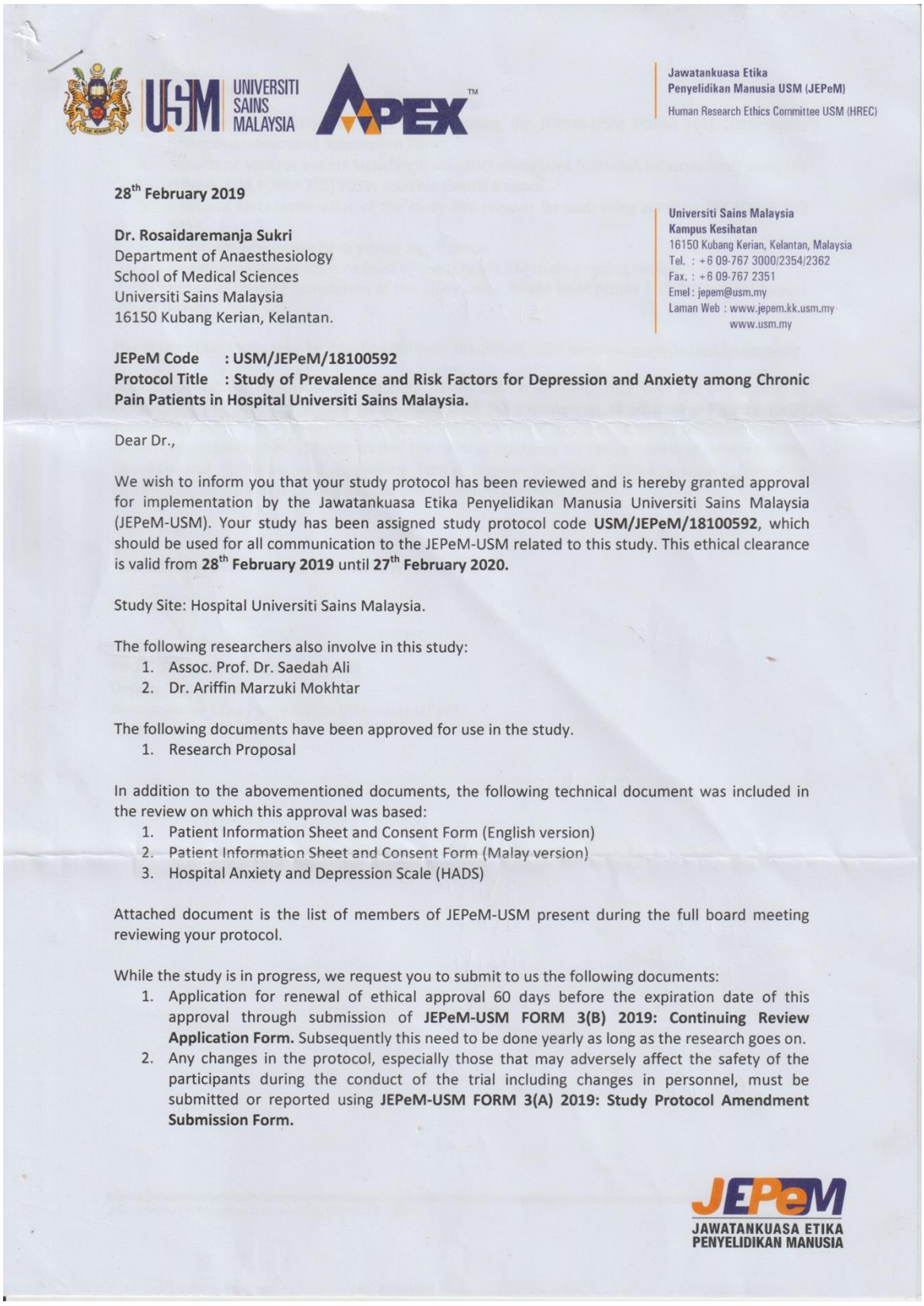
2.2 Ethical Approval Letter



UNIVERSITI SAINS MALAYSIA

Jawatankuasa Etika
Penyelidikan Manusia USM (JEPeM)
Human Research Ethics Committee USM (HREC)

28th February 2019

Dr. Rosaidaremanja Sukri
Department of Anaesthesiology
School of Medical Sciences
Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan.

Universiti Sains Malaysia
Kampus Kesihatan
16150 Kubang Kerian, Kelantan, Malaysia
Tel. : +6 09-767 3000/2354/2362
Fax. : +6 09-767 2351
Emel : jepem@usm.my
Laman Web : www.jepem.kk.usm.my
www.usm.my

JEPeM Code : USM/JEPeM/18100592
Protocol Title : Study of Prevalence and Risk Factors for Depression and Anxiety among Chronic Pain Patients in Hospital Universiti Sains Malaysia.

Dear Dr.,

We wish to inform you that your study protocol has been reviewed and is hereby granted approval for implementation by the Jawatankuasa Etika Penyelidikan Manusia Universiti Sains Malaysia (JEPeM-USM). Your study has been assigned study protocol code **USM/JEPeM/18100592**, which should be used for all communication to the JEPeM-USM related to this study. This ethical clearance is valid from **28th February 2019** until **27th February 2020.**

Study Site: Hospital Universiti Sains Malaysia.

The following researchers also involve in this study:
1. Assoc. Prof. Dr. Saedah Ali
2. Dr. Ariffin Marzuki Mokhtar

The following documents have been approved for use in the study.
1. Research Proposal

In addition to the abovementioned documents, the following technical document was included in the review on which this approval was based:
1. Patient Information Sheet and Consent Form (English version)
2. Patient Information Sheet and Consent Form (Malay version)
3. Hospital Anxiety and Depression Scale (HADS)

Attached document is the list of members of JEPeM-USM present during the full board meeting reviewing your protocol.

While the study is in progress, we request you to submit to us the following documents:
1. Application for renewal of ethical approval 60 days before the expiration date of this approval through submission of **JEPeM-USM FORM 3(B) 2019: Continuing Review Application Form.** Subsequently this need to be done yearly as long as the research goes on.
2. Any changes in the protocol, especially those that may adversely affect the safety of the participants during the conduct of the trial including changes in personnel, must be submitted or reported using **JEPeM-USM FORM 3(A) 2019: Study Protocol Amendment Submission Form.**

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PENYELIDIKAN MANUSIA

3. Revisions in the informed consent form using the **JEPeM-USM FORM 3(A) 2019: Study Protocol Amendment Submission Form.**
4. Reports of adverse events including from other study sites (national, international) using the **JEPeM-USM FORM 3(G) 2019: Adverse Events Report.**
5. Notice of early termination of the study and reasons for such using **JEPeM-USM FORM 3(E) 2019.**
6. Any event which may have ethical significance.
7. Any information which is needed by the JEPeM-USM to do ongoing review.
8. Notice of time of completion of the study using **JEPeM-USM FORM 3(C) 2019: Final Report Form.**

Please note that forms may be downloaded from the JEPeM-USM website: **www.jepem.kk.usm.my**

Jawatankuasa Etika Penyelidikan (Manusia), JEPeM-USM is in compliance with the Declaration of Helsinki, International Conference on Harmonization (ICH) Guidelines, Good Clinical Practice (GCP) Standards, Council for International Organizations of Medical Sciences (CIOMS) Guidelines, World Health Organization (WHO) Standards and Operational Guidance for Ethics Review of Health-Related Research and Surveying and Evaluating Ethical Review Practices, EC/IRB Standard Operating Procedures (SOPs), and Local Regulations and Standards in Ethical Review.

Thank you.

"ENSURING A SUSTAINABLE TOMORROW"

Jawatankuasa Etika
Penyelidikan Manusia USM (JEPeM)
Human Research Ethics Committee USM (HREC)

Date of meeting : 31st December 2018
Venue : Main Conference Room, School of Medical Sciences, USM Health Campus.
Time : 9.00 a.m – 2.00 p.m
Meeting No : 410

Universiti Sains Malaysia
Kampus Kesihatan
16150 Kubang Kerian, Kelantan, Malaysia
Tel. : +6 09-767 3000/2354/2362
Fax. : +6 09-767 2351
Emel : jepem@usm.my
Laman Web : www.jepem.kk.usm.my
www.usm.my

Members of Committee of the Jawatankuasa Etika Penyelidikan (Manusia), JEPeM Universiti Sains Malaysia who reviewed the protocol/documents are as follows:

Member (Title and Name)		Occupation (Designation)	Male/ Female (M/F)	Tick (✓) if present when above items, were reviewed
Deputy Chairperson: Professor Dr. Mohd Shukri Othman		Deputy Chairperson of Jawatankuasa Etika Penyelidikan (Manusia), JEPeM USM	M	✓ (Deputy Chairperson)
Secretary: Mr. Mohd Bazlan Hafidz Mukrim		Science Officer	M	✓
Members :				
1.	Mr. Andrew Nicholas Williams	Community Representatives	M	✓
2.	Dr. Chong Soon Eu	Lecturer, Advanced Medical and Dental Institute (AMDI)	M	✓
3.	Assoc. Prof. Dr. Haslina Taib	Lecturer, School of Dental Sciences	F	✓
4.	Mr. Khairul Ithma Mahdi	Assistant Registry, School of Health Sciences	M	✓
5.	Dr. Mohammad Farris Iman Leong Abdullah	Lecturer, Advanced Medical and Dental Institute (AMDI)	M	✓
6.	Dr. Mujahid Bakar	Lecturer, School of Health Sciences	M	✓
7.	Dr. Nazri Mustaffa @ Mohamed	Lecturer, School of Medical Sciences	M	✓
8.	Prof. Dr. Nik Hazlina Nik Hussain	Lecturer, School of Medical Sciences	F	✓
9.	Assoc. Prof. Oleksandr Krasilshchikov	Lecturer, School of Health Sciences	M	✓
10.	Dr. Soon Lean Keng	Lecturer, School of Health Sciences	F	✓

JEPeM
JAWATANKUASA ETIKA PENYELIDIKAN MANUSIA

CHAPTER 3 MANUSCRIPT

3.1 Title page

3.1.1 Article Title

Study of Prevalence and Risk Factors for Depression and Anxiety among Chronic Pain Patients in Hospital Universiti Sains Malaysia.

3.1.2 Running Head

Depression and Anxiety in Chronic Pain Patients.

3.1.3 Authors' Names and Institutional Affiliations

Rosaidaremanja SUKRI [1], Saedah ALI[1], Ariffin Marzuki MOKHTAR[1]

1. Department of Anesthesiology and Intensive Care, School of Medical Sciences, University Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia.

Hospital University Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia.

3.1.4 Corresponding Author's Details

Dr Rosaidaremanja Binti Sukri MBBCh (Cardiff)

Department of Anesthesiology and Intensive Care, School of Medical Sciences, University Sains Malaysia, 16150, Kubang Kerian, Kelantan, Malaysia.

+6011-12956752

Email: rosaidaremanjasukri@gmail.com

3.1.5 Acknowlegdement

Special thanks to Associate Prof Dr. Zahiruddin Othman, who consented for validated malay version of HADS to be used.

3.2 Main Documents

3.2.1 Title

Study of Prevalence and Risk Factors for Depression and Anxiety among Chronic Pain Patients in Hospital Universiti Sains Malaysia.

3.2.2 Abstract

Background: Psychological disorder namely anxiety and depression often co-exist in chronic pain patient. Likewise affective disorder patients more likely to express pain differently. Concomitant anxiety and depression in chronic pain were difficult and challenging to manage. To date, the predisposing factors to these affective disorder were inconclusive . This study aims to determine prevalence of anxiety and depression among chronic pain patient, the association between anxiety and depression and to predict the factors associated with anxiety and depression in chronic pain.

Methods: 116 of patients with chronic pain were given a set of questions related to their general well-being and demographic details. Questions contains HADS-A and HADS-D either in original English or validated Malay version. Severity of anxiety and depression scored were recorded and analysed.

Results: Prevalence of anxiety and depression were 28.4% and 26.7% respectively. Anxiety had a positive association with depression among chronic pain patient. Factors such as age, gender, race, educational status, employment status, income, severity of pain, age during diagnosis, duration of pain, treatment of pain did not predict depression . However employment, income, duration of pain, diagnosis age and etiology of pain can predict anxiety.

Conclusion: The relationship between depression and anxiety with chronic pain were complexes and this work will explain the component of interaction and interdependence. Affective disorder can occur as result of chronic pain and vice versa. Anxiety and depression has significant positive association. Based on the findings, actively screening of patient with chronic pain are recommended to help in detecting anxiety and depression in this population as well as timely intervention.

Keywords *chronic pain, depression, anxiety , HADS-A , HADS –D*

(256 words)

3.3 Introduction

It has been reported that at least 8% of population affected by chronic pain annually in developed country (1). Chronic pain is debilitating condition defined as pain that persist passing normal healing time which usually lasts or recurs for more than 3 to 6 months (2). Chronic pain can be classified as neuropathic, nociceptive or mixed (2). The main difference between neuropathic pain and nociceptive pain is no transduction (conversion of nociceptive stimulus to electrical impulse) in neuropathic pain as compared to nociceptive pain as well neuropathic pain carries poor prognosis (3).

In chronic pain patient, anxiety and depression have been found to be higher than general population (4). Affective disorder mainly depression has become the leading causes of years of living with disabilities in 2017 replacing dietary iron deficiency (5) in both genders. The prevalence of at least one psychiatric disorder has been reported in 81.4% of chronic low back pain patients, in which anxiety and depression among the commonest being reported (6). Psychological disorder especially depression and anxiety often co-exist in chronic pain population. Likewise, among psychiatric patients namely those with anxiety and depression are more likely to have chronic pain (7). The causal association of chronic pain with anxiety and depression were unclear which supported both antecedent and consequent association (8).

The reported depression and anxiety varies within the population studies and there were no local data regarding these affective disorder in local population. Depression has be reported between 30-54% (9) in chronic pain population while anxiety ranging from 25% to 55% (10, 11) depending on population and methods used to assessed depression A study conducted in India involving 140 chronic low back patients using HAD Score

showed prevalence of anxiety and depression were 55% and 48.5% respectively (9). While another study conducted among chronic dental patients using Depression Anxiety, Stress Scale (DASS-21) concluded depression 18.9% while anxiety 36.5% (12). Timely mannered assessment and management may help in chronic pain management and prevention of undesirable complications. Moderate to severe depression patients were estimated 1.8 to 2.4 times more likely to misuse opioid medications (13).

Chronic pain patient with concomitant anxiety and depression often difficult to manage due to several reasons. Firstly chronic pain patients with mood disorder co-morbid may perceived pain differently (14). In a study comparing fibromyalgia and multiple sclerosis patient, fibromyalgia patient tend to overdramatized their pain as compared to control group. Despite both group being chronic pain, the prevalence of anxiety and depression were higher in fibromyalgia group (4). Secondly, the definition of pain both current and newly proposed which are " unpleasant sensory and emotional experienced associated with actual or potential tissue damage, or describe in term of such damage (15, 16)'' and " an aversive sensory and emotional experience typically caused by, or resembling that caused or potential tissue injury (15, 16)" respectively further emphasized the significant role of emotions and mood in pain perception (17). Coexist anxiety and depression in chronic pain patient carries higher disability days than anxiety or depression alone or without psychiatric comorbidity in chronic pain (18).

One third of somatic symptoms reduction has been shown in patient who underwent maxillofacial cancer treatment with coexisting anxiety shows that holistically management tailored personally to each patient are very important in these population (19). Hence treating anxiety and depression concurrently with chronic pain may help in

managing the chronic pain patients and vice versa (7). Addressing the anxiety has been shown to exhibit better outcome with 92% improvement as compared to control group (20). In a secondary analysis done among patients with metastatic breast cancer published in an oncology journal 2011, showed that those with improving depressive symptoms had longer survival time compared to those with worsening symptoms (21). Hence detecting affective disorder in chronic pain patient would aid in their management as a whole.

Anti-depressant has been used in treatment of chronic pain. Serotonin - Norepinephrine inhibitors such as venlafaxine and duloxetine and Tricyclic Antidepressants help in managing chronic pain as well as coexisting anxiety and depression in chronic pain. Addressing patient affective state with anticonvulsants and Cognitive Behavioral Therapy have strong evidence in managing these chronic pain population (18).

3.4 Methodology

Data collection started after gaining an approval from both Dissertation Committee of Department of Anaesthesiology and Intensive Care, Hospital Universiti Sains Malaysia and Medical Research & Ethics Committee , (HUSM) with code of :USM/JEPeM/18100592.

This cross sectional study recruited those who aged more than 18 years old, had been in pain more than 6 months with diagnosis of chronic pain, able to read and understand either English or Validated Malay version of Hospital Anxiety Depression score, and followed up at Hospital Universiti Sains Malaysia. Head injury or substances abuse patients as well as patients refusal were excluded in this study. Other exclusion criteria includes acute medical illness, presence of psychiatric illness as well as recent injury were excluded.

After consented both verbal and written, 116 participants were given a set of questions that need to be filled during their follow up mainly in pain clinic or during admission to ward. The questions consisted of an English and validated Malay version of Hospital Anxiety and Depression score (HADS) (22) as well as demographic details. The severity of Anxiety and Depression were measured using HADS score and recorded, with score of 0-7 considered normal, 8-10 mild , 11-14 moderate while 15-21 indicated severe.

Analysis of the data were analysed using IBM SPSS 25.0 software. Both descriptive and inferential statistics were used. The descriptive analysis include frequency, percentage mean and standard deviation were carried out to determined patient socio-demographic and clinical characteristics of the patients participated.

Inferential statistics involved Pearson's Coefficient Correlation used to identify the association between depression and anxiety among chronic pain patients. P-value less than 0.05 was deemed significant and showed there were association between anxiety and depression. Meanwhile, Multiple Logistic Regression conducted to identify factors influence severe depression and anxiety. P-value less than 0.05 considered significant to reject null hypothesis. Further analysis showed certain risk factors may be able to predict likelihood of depression and anxiety if multiple logistic value was significant. Risk factors such as; age, gender, race, educational status, employment, income, severity of pain, age of diagnosis, duration of pain and treatment of the patients were analysed.

3.5 Result

Among 116 participants that participate in this study 52 (44.8%) were males and 64 (55.2%) were females with the mean age of 51.0 ± 16.02 years . Majority of the patients who took part were Malays 91.4%, followed by Chinese (6.9%) while Indian and others account for 0.9% each. Majority of patients had tertiary education (n=56, 48.3%), 45 (38.8%) patients had secondary education while 15 (12.9%) patients had primary or below level of education. With regards to employment status; 47 (40.5%) patients were working, 5 (4.3%) students and 27.6% each for retired and unemployed.

Mean pain score reported was 6.00 ± 2.14 with 24 (20.7%) patients had acceptable pain control as repoted by patients. Mean duration of pain was 7.77 ± 8.11years with the mean age of diagnosis was 43.91 ± 15.88 years. In term of the aetiology of pain, more than half of the participants (54.3%) had neuropathic pain, 18.1% nociceptive and 27.6% were mixed where both nociceptive and neuropathic pain co-exist. Majority of the

patients were on multimodal analgesia mostly Non-Steroidal Anti Inflammatory Drugs (NSAIDS) which account for 25.1%, nearly 20% on opioids and 28 (9.6%) patients on antidepressant for their chronic pain. Almost 25% patients were on antiepileptic (gabapentinoid) which used for the treatment of neuropathic pain. Majority of the patients (88.8%) participated in this study experienced side effects in which most of them were tolerable (Table 3.1).

Those who scored more than 10 in HADS-A was considered to have anxiety and scored 10 in HADS-D considered to have depression. The prevalence of anxiety was 28.4% (33 patients) and 26.7% (31 patients) with depression. Most of the patients scored less than 7 (normal) for both anxiety (56%) and depression (50.9%) (Table 3.2).

Pearson's Correlation analysis showed the r value of 0.509 with $p = 0.000 < 0.01$ which showed positive association between anxiety and depression. Therefore there was association between anxiety and depression among chronic patients (Table 3.3).

Multiple risks factors such as age, gender, race, educational status, employment status, income, severity of pain, age of diagnosis, duration of pain, etiology , treatment of pain as well as with antidepressant were analyzed with multiple regression analysis for both anxiety and depression model. In term of depression all the p values for each risk factor that was studied was greater than 0.05 (p-value $> \alpha = 0.05$). Therefore it can be concluded that all the risk factors studied were not associated with depression among chronic pain patients in HUSM.

However for anxiety model, logistic regression showed that employment status, income, duration of pain, age of diagnosis and nociceptive pain were significant risk factors for anxiety. In term of employment status, working had $p = 0.045 < \alpha = 0.05$, which indicates that working status was a significant predictor for anxiety. The Exp(B) for working = 0.119 was less than 1, indicates that working reduced the risk of anxiety by 88.1% (1 – 0.119). Chronic pain patients who had retired from their job, would have reduction in their risk of anxiety by 89.0%. These indicates that both working and retired patient were protected from anxiety. Apart from employment status, income had shown to be significant risk factor for anxiety with p-value of ($p = 0.015 < \alpha = 0.05$). The Exp(B) for income = 1.001 is greater than 1, it indicates that the likelihood of anxiety increases as value of the income increases.

Duration of pain yield significant association with anxiety ($p = 0.011 < \alpha = 0.05$) with further analysis Exp(B) for duration of pain = 1.213, which showed that as duration of pain increases, likelihood of anxiety increased. Apart from that, diagnosis age of pain had been shown to significantly predict anxiety with the p-value less than 0.05 ($p = 0.040 < \alpha = 0.05$). Further analysis showed that likelihood of anxiety increased with increases age of diagnosis. The last significant predictor for anxiety was nociceptive pain with the p-value less than 0.05 ($p = 0.048 < \alpha = 0.05$). Nociceptive causes of pain were more likely to develop anxiety. Other risk factors such as age, gender ,race, education status , severity of pain as well as treatment module included antidepressant had no association with anxiety (Table 3.4).

3.6 Discussion

Over the years, multiple studies had done in assessing the concomitant psychiatric disorder in chronic pain patients. The prevalence of the anxiety and depression were differ depending on the study and population conducted. On a study conducted involving 140 patients who suffered chronic low back pain showed prevalence of anxiety and depression were 55% and 48.5% respectively (9). Our study gave lower prevalence for both anxiety (28.4%) and depression (26.7%) in chronic pain .

Another study done involving 159 dental patients in different state in Malaysia who suffered from periodontal disease, showed 18.9% anxiety and 36.5% depression (12). These study gave lower prevalence of anxiety but higher prevalence depression than demonstrated in our study. The difference may be due to the etiology of chronic pain itself, whereby Radeef, et al 2017 mainly involved peridontal disease patient while this study combined multiple diagnosis of chronic pain including low back pain which had demonstrated higher pevalence of anxiety and depression.

Another possible reason for differences in the results between our study and other study posibly due to the validated malay version of Hospital Anxiety and Depresssion score (22) that being used would have higher sensitivity but lower specificity when lower cut off score being used, while the original english version of HADS (23) score using score 10/11 cut off point for significant anxiety and depression. A higher portion of anxiety and depression patients would be missed when the original cutt off score of 10/11 in validated Malay version HADS (22).

Study involving chronic pain patients visited pain clinic in Hong Kong showed that prevalence of anxiety 23.2% which was lower than our study while depression 57.1% which was higher that observed values in this study (24). This possiblly due to difference in socio-economic background and different methods used to determine anxiety and depression which was assesed using Revised Clinical Interview Schedule.

Multiple messengers (neurotransmitters) were involved in pain pathway. Central modulating pain pathway can either amplify or dampen nociceptive signal from peripheries. Anxiety and depression associated with dysregulation of the modulating neurotransmitter namely serotonin and noradrenaline which may affect pain modulation pathway. The same neurotransmitters may involve in pain central modulating pain pathway. Thus explaining how anxiety and depression which shared similar neuroanatomical pathway, hence dysregulation of these modulating neurotransmitter may contribute to increase in pain signals. This may also be used to explain how antidepressants which increased these neurotransmitters help in reduction of pain signals (18).

Histologically chronic pain shared the same regions with mood management. The regions that has been shown include insular cortex, prefrontal cortex, anterior cingulate, thalamus, hippocampus, and amygdala. In addition, significantly smaller volumes of certain regions in brain namely prefrontal cortex and hippocampus had been reported in many studies in relation to affective disorder and chronic pain (25).

Another possible hypothesis was pain caused functional impairments which may predisposed the patient to social isolation thus lead to negative impact on patient's emotional state as well as pain perception (7). Pain as unpleasant sensation may predisposed to anxiety which can increased sensitivity to pain and subsequently lead to persistent pain (7) .

Analysis in this study demonstrated that there was association between anxiety and depression in chronic pain. Similar finding was demonstrate in a study involving 428 patient with chronic pain, both anxiety and depression were reported in more than half of the samples (26). Similarly in a study done in 2015 among Malaysian's citizen, the prevalence of anxiety was 8.2% with depression has been found to be predictors for anxiety even in non-chronic pain patients (27). Chronic pain patients who suffered both anxiety and depression experienced greatest pain severity as compared to depression and anxiety alone (18), which may suggest possible bidirectional relationship. Detecting this co-exist psychoactive disorder may helped in tackling both organic and non-organic disorder as well as to treat patient holistically.

Multiple risk factors such as age, gender, race, educational, employment status , income, severity of pain, age of diagnosis, duration of pain, etiology, treatment of pain as well as antidepressants may implicate anxiety and depression among chronic pain patient. Among all of the risk factors included in this study**,** employment status, income, duration of pain, age of diagnosis as well of chronic pain etiology were significantly predicts anxiety. One study showed no difference in anxiety among periodontal patient in gender and race (12) gave the similar findings as our study.

A study conducted in Hong Kong concluded that duration of pain significantly associated with psychiatric morbidity after controlling sociodemographic factors which similar to our study (24).

Multiple studies has been shown that anxiety may influence the perception of pain. It has been shown that anxiety increases sensitivity to experimental pain and clinically; the presence of anxiety before medical procedure in both adult and children increases pain perception post procedure. In addition to that, anxiety may increases hyperalgesia (28). This may indicate the relationship between pain intensity and anxiety may be interchangeable.

Similar risk factors were studied to predict depression in chronic pain patient. Based on the analysis, none of these factors predisposed to depression. This could either be: these factors were not associated with depression among chronic pain patient or the sample size in this study was not adequate predicting risk for depression in chronic pain patient. Another study comparing depression and anxiety in term of expression of pain showed that pain intensity was not affected by depression (28) which gave similar finding in our study.

Another question to be answered was whether perception of pain affected by anxiety and depression or vice versa. Studies has shown that concomitant anxiety and depression may affect patient perception of pain suggested the relationship could be interchangeable (4).

As of today, question on whether chronic pain lead to depression or vice versa still debated. Pre- existing depression patient were found to be more likely to develop headache and chest pain. In contrast, 'diathesis-stress' model for this conundrum support that depression is a sequalae of chronic pain (17). To date despite widely studied, the nature and mechanism of chronic pain and its affective disorder largely remain inconclusive (24).

3.7 Limitations

There were several limitation to this study. The design of the study which is a cross sectional study will only able to give a point prevalence of anxiety and depression in chronic pain. Cross sectional study unable to established the cause and effect. Therefore it could not determine whether the chronic pain cause this affective disorder or vice versa.

HADs score that were given to the patients were subjective depending on patient's assessment. Hence there will be possibility of bias and may not reflect the actual assessment of anxiety and depression.

Diagnosis of anxiety and depression were based on Diagnostic and Statistical Manual of Mental Disorder-5 (DSM-5) which had more detailed assessment of the patient well-being. The HADS questionnaire that was given to patients was used as screening tool in screening anxiety and depression Hence, it may not reflect the actual number of anxiety and depression disorder in this population.

3.8 Conclusions

To sum up, prevalence of anxiety was 28.4% while depression was 26.7%. In this study the presence of anxiety predisposed patient to concomitant depression in chronic pain population. Factors such as employment status , income, duration of pain, age of diagnosis and aetiology of pain were significant predictor for anxiety. Meanwhile in depression model none of the factors study were significantly predict depression. This study involved general chronic pain population and may not reflects the specific patient in this group . Further study may be required involving specific group of chronic pain patient such as low back pain , fibromyalgia, chronic arthritis patient in terms of association between these chronic debilitating pain with anxiety and depression as well as the outcome of pain management when these affective disorder being incorporated as part of multidisciplinary management among chronic pain patient.

3.9 References of Manuscript

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3.10 Tables of manuscript

Table 3.1: Descriptive analysis of patient's Socio-Demographic Background and Clinical Characteristics.

Variable	Frequency (N = 116)	Percentage (%)
Age – Mean ± SD	51.0 ± 16.02	
Gender		
Male	52	44.8
Female	64	55.2
Race		
Malay	106	91.4
Chinese	8	6.9
Indian	1	0.9
Others	1	0.9
Educational Status		
Primary and below	15	12.9
Secondary	45	38.8
Tertiary	56	48.3
Employment Status		
Working	47	40.5
Student	5	4.3
Retired	32	27.6
Unemployed	32	27.6
Pain Score – Mean ± SD	6.00 ± 2.14	
Pain Control		
Acceptable	24	20.7
Not Acceptable	92	79.3
Duration of Pain	7.77 ± 8.11	
Age of Duration Pain - Mean ± SD	43.91 ± 15.88	
Etiology of Chronic Pain		
Neuropathic	63	54.3
Nociceptive	21	18.1
Mixed	32	27.6
Drugs Used		
Opiod	58	19.9
NSAIDs	73	25.1
Antidepressant	28	9.6
Antiepileptic	71	24.4
Otherspharmaco	61	21.0
Side Effect of Drugs Used		
No	13	11.2
Yes	103	88.8

Table 3.2 : Descriptive Profile of Depression and Anxiety in Chronic Pain Patient

Variable	Cut off Score	Depression		Anxiety	
		N	%	N	%
Normal	0-7	59	50.9	65	56.0
Mild	8-10	26	22.4	18	15.5
Moderate	11-14	25	21.6	28	24.1
Severe	15-21	6	5.2	5	4.3

Table 3.3 : Association between Depression and Anxiety among Chronic Pain Patients

Variable		Depression	Anxiety
Depression	Pearson Corr. (r)	1	0.509
	Sig. (2-tailed)		0.000
	N	116	116
Anxiety	Pearson Corr. (r)	0.509	1
	Sig. (2-tailed)	0.000	
	N	116	116

Pearson's Correlation analysis. ** correlation was significant at the 0.01 level (2-tailed)

Table 3.4 : Risk factors associated with depression and anxiety in chronic pain patients.

Risk Factor	**Depression**	**Anxiety**
	Odd Ratio (p-value)	**Odd Ratio (p-value)**
Age	1.124 (0.390)	0.898 (0.056)
Gender (Male)	1.095 (0.870)	0.857 (0.835)
Race		
i. Malay	0.000 (1.000)	0.008 (1.000)
ii. Chinese	0.000 (1.000)	0.001 (1.000)
iii. Indian	0.000 (0.999)	0.000 (1.000)
Education Status		
i. Primary and below	2.487 (0.276)	3.662 (0.363)
ii. Secondary	0.929 (0.911)	4.751 (0.180)
Employment Status		
i. Working	0.911 (0.902)	0.119 (0.045)
ii. Student	4.638 (0.250)	0.000 (0.999)
iii. Retired	0.791 (0.745)	0.110 (0.043)
Income	1.000 (0.234)	1.001 (0.015)
Severity of Pain	1.050 (0.680)	0.877 (0.392)
Duration of Pain	0.928 (0.581)	1.213 (0.011)
Diagnosis Age of Pain	0.890 (0.383)	1.137 (0.040)
Etiology of Chronic Pain		
i. Neuropathic	0.675 (0.513)	1.322 (0.757)
ii. Nociceptive	1.510 (0.575)	7.366 (0.048)
Medical Treatment (No)	0.000 (0.999)	0.000 (0.999)
Antidepressant (No)	0.908 (0.868)	0.784 (0.740)
Non Medical Treatment (No)	1.331 (0.585)	1.130 (0.860)

Multiple logistic regression showed Exp(B) and overall significant of each risk factors for both anxiety and depression model.

3.12 Guideline /Instruction of Malaysian Journal of Medical science

THE MALAYSIAN JOURNAL OF MedicalSciences

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Patient consent form

When submitting a video or a photograph of a patient in which the patient is identifiable, the author must provide a Patient Consent Form signed by the patient or the patient's parent/legal guardian.

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Types of Manuscript

MJMS publishes the following types of manuscripts, each with its own formats as outlined below:

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  Text: Not exceeding 1200 words (excluding references, figures, and tables).
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  Reply by authors.

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Each type of manuscript has its own formats; examples of published manuscript are available on our website. Authors may also consult the provided references—or other similar publications—for tips on preparing a scientific manuscript.

Failure to comply these rules will result in the manuscript not accepted for consideration for publication.

Documents to be submitted

1. Title page
2. Main document
3. Table (if any)
4. Artwork (if any)
5. Video (if any)

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The title page should be submitted as a **separate document** from the main text. This document will not be available to reviewers as we employ a double-blind review process.

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2. Main document

a. Title

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The length of abstract depends on the type of manuscript submitted. The abstract should state the purpose of the study, a brief description of the procedures employed, main findings, and principal conclusions; it should be a stand-alone section that can be understood without reference to the text. Footnotes, references, and subheadings must avoided.

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d. Text

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The main text is divided into the following sections:

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• Introduction • Materials/Subjects and Methods • Results • Discussion • Conclusion	• Introduction • Case Report/Series • Discussion	• As seen necessary by the authors

Long articles may need subsections clarify their content. Subheadings representing different hierarchical levels must be readily distinguished by readers. For example:

Heading 1	**Materials and Methods**	**Bold type, title case**
Heading 2	*Enzymatic analyses*	*Italic type, sentence case*
Heading 3	**Glutathione peroxidase assay**	**Bold type, sentence case**
Normal text	The glutathione peroxidase activity…	Roman type, sentence case

Listing

List may be run into the text if the items are short, simple, and form a complete grammatical sentence. For example:

> The lecturer will expound on (1) glyceraldehydes, (2) erythrose, (3) arabinose, and (4) allose.

Lists that contain several levels should be set vertically. For example:

> The animals were divided into the following groups:
> 1. Group 1: Control (0.5 mL/kg saline, p.o.)
> 2. Group 2: Untreated diabetic (230 mg/kg NA and 65 mg/kg STZ)
> 3. Group 3: Diabetic + Combination-1 (1 mg/kg Pio + 50 mg/kg Met, p.o.)
> 4. Group 4: Diabetic + Combination-2 (1 mg/kg Pio + 0.2 mg/kg Gmp, p.o.)
> 5. Group 5: Diabetic + α-tocopherol (20 mg/kg, p.o.)
> 6. Group 6: Diabetic + insulin (1 IU/kg, s.c.)

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References should be numbered consecutively in the order in which they are first mentioned in the text (citation-sequence style). Please ensure that every reference cited in the text is also present in the reference list.

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Identify references in text, tables, and legends by Arabic numerals in parentheses, for example: (2), (3–5). To cite a study by the author's name, follow these examples:

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For formatting the reference list, we recommend following the *Scientific Style and Format: The CSE Manual For Authors, Editors, and Publishers* or *Citing Medicine: The NLM Style Guide for Authors, Editors, and Publishers*.

Author is also requested to provide the **digital object identifier (DOI)** for each DOI-assigned citation. DOI is usually available in the bibliographic information and can be retrieved from CrossRef by using free DOI lookup or simple text queries. Please note that failure to comply with this direction may result in a delay in the manuscript publication.

Journal article	
General	Author(s). Title of article. *Journal title**. Year of publication;**Volume(Issue)**:Pagination. DOI. *A journal title should be abbreviated according to the style used in PubMed. Johnson LA, Jackson DG. Inflammation-induced secretion of CCL21 in lymphatic endothelium is a key regulator of integrin-mediated dendritic cell transmigration. *Int Immunol*. 2010;**22(10)**:839–826. doi: 10.1093/intimm/dxq432.
Article with more than 6 authors	List the first 6 authors and use "et al." for the subsequent authors. Asp J, Steel D, Jonsson M, Ameen C, Dahlenborg K, Jeppsson A, et al. Cardiomyocyte clusters derived from human embryonic stem cells share similarities with human heart tissue. *J Mol Cell Biol*. 2010;**2(5)**:276–238. doi: 10.1093/jmcb/mjq022.
Forthcoming article	Conclude the reference with "Forthcoming" and the estimated date of publication, if available. Hassan R, Aziz AA. Computed tomography imaging of injuries from blunt abdominal trauma: A pictorial essay. *Malays J Med Sci*. Forthcoming 2010 Jun.
Supplement or special issue	Include the supplement or special issue number after the year of publication. Al-Tawfiq JA, Clark TA, Memish ZA. Meningococcal disease: The organism, clinical presentation, and worldwide epidemiology. *J Travel Med*. 2010;**17 Suppl**:S3–S8. doi: 10.1111/j.1708-8305.2010.00448.x.
Online journal article	Include the medium designator, cited date, and URL as follows: Author(s). Title of article. *Journal title* [medium designator]. Year of publication [cited YYYY MM DD];**Volume(Issue)**:pagination. DOI. Available from: URL. Rabbani SI, Devi K, Khanam S. Role of pioglitazone with metformin or glimepiride on oxidative stress-induced nuclear damage and reproductive toxicity in diabetic rats. *Malays J Med Sci* [Internet]. 2010 [cited 2010 Mar 21]**;17(1)**:3–11. Available from: http://ernd.usm.my/journal/journal/02-171OA1pioglitazone.pdf.

Book	
General	Author(s). *Book title*. Edition. Place of publication: Publisher; Year of publication. Carlson BM. *Human embryology and developmental biology*. 3rd ed. St Louis (MO): Mosby; 2004.
Online book	Include the medium designator, cited date, and URL as follows: Author(s). *Book title* [medium designator]. Edition. Place of publication: Publisher; Year of publication [Date of citation]. Available from: URL. Merlis M, Gould D, Mahato B. *Rising out-of-pocket spending for medical care: A growing straing on family budgets* [Internet]. New York (NY): Commonwealth Fund; 2006 Feb [cited 2006 Oct 2]. Available from: http://wwww.cmwf.org/usr_doc/Merlis_risingoopspending_8887.pdf.
Chapter in a book	Authors may want to cite an identified portion of a book rather than a book as a whole. In this case, begin a reference to a contribution with information on the contribution, followed by the word "In:" and information about the book itself. Author(s). Paper title. In: Editor(s), editors. *Book title*. Place of publication: Publisher; Year of publication. Pagination. Anderson RJ, Schrier RW. Acute renal failure. In: Braunwald E, Isselbacher KJ, Petersdorf RD, editors. *Harrison's principles of internal medicine*. 15th ed. New York (NY): McGraw-Hill; 2001. p. 1149–1155.

Dissertation or thesis	
General	Author. Title of dissertation or thesis [content designator]. Place of publication: Publisher; date. Oviedo S. Adolescent pregnancy: voices heard in the everyday lives of pregnant teenagers *master's thesis+. *Denton (TX)+: University of North Texas; 1995.

Conference proceeding or paper	
Conference proceeding	Editor(s), editors. Book title*. Conference title; Date of conference; Place of conference. Place of publication: Publisher; Year of publication. Pagination. * Book title may be omitted if there is none. Pacak K, Aguilera G, Sabban E, Kvetnansky R, editors. Stress: Current neuroendocrine and genetic approaches. 8th Symposium on Catecholamines and Other Neurotransmitters in Stress; 2003 Jun 28–Jul 3; Smolenice Castle, Slovakia. New York: New York Academy of Sciences; 2004. 590 p.
Conference paper	To cite a conference paper, begin a reference to a contribution with information on the contribution, followed by the word "In:" and information about the conference itself. Author(s). Paper title. In: Editor(s), editors. Book title*. Conference title; Date of conference; Place of conference. Place of publication: Publisher; Year of publication. Pagination. Ilias I, Pacak K. Anatomical and functional imaging of metastatic pheochromocytoma. In: Pacak K, Aguilera G, Sabban E, Kvetnansky R, editors. Stress: Current neuroendocrine and genetic approaches. 8th Symposium on Catecholamines and Other Neurotransmitters in Stress; 2003 Jun 28–Jul 3; Smolenice Castle, Slovakia. New York: New York Academy of Sciences; 2004. p. 495–504.

Patent	
General	Inventor(s), inventors; Assignee's name, assignee. Title. Patent country Document type Patent Number. Date issued. Myers K, Nguyen C, inventors; 3F Therapeutics, Inc., assignee. Prosthetic heart valve. United States patent US 6,911,043. 2005 Jun 28.

Technical report	
General	Author(s). Title. Place of publication: Publisher; Year of publication. Pagination. Report number. Page E, Harney JM. Health hazard evaluation report. Cincinnati (OH): National Institute for Occupational Safety and Health (US); 2001. 24 p. Report No.: HETA2000-0139-2824.

Newspaper article	
General	Author(s). Article title. *Newspaper title*. Date of publication:Section:Location (Column number). Gaul G. When geography influences treatment options. *Washington Post*. 2005 Jul 24:Sect. A:12 (col.1).

Electronic source

Website Author(s). Title of article [Internet]. Place of publication: Publisher; Year of publication [Date of citation]. Available from: URL.

Peterson CL, Burton R. U.S. Health care spending: Comparison with other OECD countries. [Internet]. Washington DC (USA): Congressional Research Service; 2007 [cited 2007 Sep 17]. Available from: http://assets.opncrs.com/rpts/RL34175_20070917.pdf.

Cite only from authoritative websites; do not include citations from personal websites.

Database Title [Internet]. Place of publication: Publisher; Year of publication [date of update/revision]. Available from: URL.

Database of Human Disease Causing Gene Homologues in Dictyostelium Discoideum [Internet]. San Diego (CA): San Diego Supercomputer Center; 2003 [modified 2003 Mar 30; cited 2007 Feb 2]. Available from: http://dictyworkbench.sdsc.edu/HDGDD.

CD-ROM Author(s). Title [medium designator]. Place of publication: Publisher; Year of publication. Extent: Physical description.

Lennon RL, Horlocker TT. Mayo Clinic procedural training manual: Peripheral nerve blockade for major lowere extremity orthopaedic surgery [CD-ROM]. Rochester (MN): Mayo Foundation for Medical Education & Research; 2006. 1 CD-ROM: sound, colour, 4 ¾ in.

Unknown item

If a certain item is unknown or not available, indicate in the reference.

Troyer G. Sensory phantoms: Dealing with the loss of a limb [Internet]. [Place of publication unknown]: Canadian Broadcasting Corporation. 2009 [updated 2009 Jan 5; cited 2009 Jan 13]. Available from: www.cbc.ca/health/story/2009/01/05/ftroyer-phantompain.html.

Unpublished work

Unpublished work is not included in the reference list. Indicate that the data cited or provided are not published.

Based on a survey conducted in our hospital, 78.6% of resident physicians complained of being overworked (unpublished data).

Personal communication/ interview

Interview or other forms of personal communication are not included the reference list. Provide the type and source in parentheses within the text, for example:

The economic burden of health care has increased tremendously due to the increasing cases of non-communicable diseases among Malaysians (Dr Rashid Omar, Director General of Health, personal communication).

Secondary or indirect source

When citing information, it is always best to consult the original document; citing a secondary source is discouraged. However, if the primary source is unavailable, cite the source of your information (i.e., the secondary source).

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3. Table

Tables must be submitted **separately** from the main document. Please ensure that the table (including titles and footnotes) is complete enough to be understood without reference to the text while assuring that the table is orderly, logical, and as simple as possible. Each table should have

a. Title
Number each table sequentially, in the order in which it is mentioned in the text and assign a brief descriptive title for each table.

b. Table
Use the Table tools in Microsoft Word to construct the table; **do not** manually construct table columns using Tab or embed the table as an image in the text.

c. Footnotes (if any)
Assign footnotes in alphabetical order from left to right and from top to bottom.
Use superscript lowercase letters, e.g., [a]Mean (SD), [b]Analysis of variance.

d. Abbreviation list (if any)
Expanded abbreviations are typically presented below the footnotes. Abbreviations defined in the text must be redefined as this practice allows the table to stand alone.

An example of table format suitable for MJMS is as depicted below:

Table 3: Association of *CYP2D6* alleles and PANSS scores

	Subtotal Positive [a]	Subtotal Negative [a]	Subtotal General [a]	Total PANSS [a]
*CYP2D6*1*	9. 7 (3.52)	8. 9 (3.86)	20. 2 (4.46)	38. 7 (10. 11)
*CYP2D6*4*	9. 8 (2.75)	7. 3 (0.50)	22. 3 (5.32)	39. 3 (8. 42)
*CYP2D6*5*	10. 9 (2.78)	9. 2 (3.74)	22. 5 (6.26)	42. 6 (11. 13)
*CYP2D6*10*	9. 4 (2.63)	8. 8 (3.77)	20. 6 (4.27)	38. 9 (8. 96)
Duplication	11. 2 (5.01)	14. 1 (7.67)	24. 5 (8.76)	49. 8 (19. 31)
F statistic (*df*)	1. 29 (4, 289)	4. 44 (4, 289)	2. 67 (4, 289)	3. 22 (4, 289)
P value [b]	0. 276	0. 002	0. 033	0. 013
NA	8. 1 (2.19)	7. 2 (0.65)	18. 8 (2.90)	34. 1 (4. 86)
Total	9. 6 (3.12)	8. 9 (3.97)	20. 5 (4.65)	39. 1 (10. 02)

[a]Mean (SD). [b]Analysis of variance (ANOVA). NA represents samples that were amplifiable during first PCR, but genotypes were not determined during the second PCR. Samples were screened for *CYP2D6*3, *4, *5, *6, *9, *10, *14, *17,* and duplication gene.

Source: Zahari et al. *Malays J Med Sci.* 2009;**16(3)**:13–21.

More tips on creating tables are available in *The Chicago Manual of Style* and the Microsoft Office Support Center

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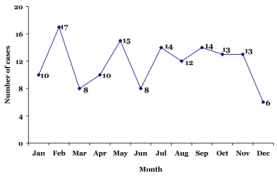
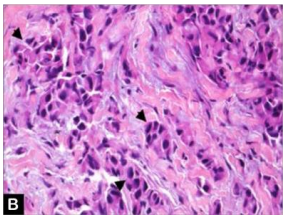
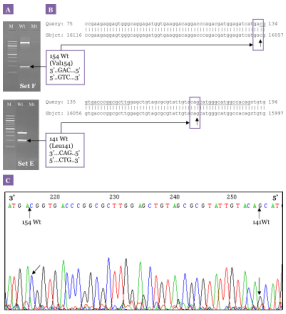
4. Artwork

All figures must be submitted **separately,** from the main document **one file for each**. Figures must be numbered sequentially and in the order in which they are mentioned in the text. Figure legends are needed for all figures.

Regardless of the application used, when your electronic artwork is finalised, please "save as" or convert the images to **one of the following formats** (note the resolution and size requirements for line drawings, halftones, and combinations given below):

Image type	Example	Recommended format	Resolution and display size	Colour
Line Art Lines and texts (without tonal or shaded area)		TIFF or EPS	1000 dpi Half page = 8 cm Full page = 16 cm	RGB
Halftone Continuous tone photograph (without text)		TIFF	300 dpi Half page = 8 cm Full page = 16 cm	RGB
Combination Halftone and line art elements		TIFF or EPS	600 dpi Half page = 8 cm Full page = 16 cm	RGB

For graphs and charts, in addition to TIFF/EPS files, please submit their original, editable files (e.g., the Excel/PowerPoint).

For text in graphics, please use minimum 8 point font. Save text in illustrations as "graphics" or enclose the font. This will avoid missing fonts problem. As precaution, use "create outlines" features for fonts in vector illustration created using Adobe Illustrator/Freehand/Corel Draw. Or, only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.

Please **do not**:

- Supply embedded graphics in your word processor (spreadsheet, presentation) document.
- Supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low.
- Supply images in JPEG.
- Supply files that are too low in resolution; 72 dpi web-quality graphics in which colours are not realistic, text is illegible, or images are pixelated.
- Submit graphics that are disproportionately large for the content.
- Combine figure legends and figure in a textbox or frame.

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5. Video

We welcome submission of video manuscripts. Videos may be useful for demonstrating complex laboratory, surgical or medical procedures. The demonstration of the experiment must be shown in orderly fashion, including a demonstration of equipment and reagent. Researchers should be properly attired when handling animals, reagents, and chemicals.

Preferred settings of videos:

- Audio codec: AAC
- Sample audio bit rate: 128 kbit/s
- Video codec: H.264
- Video resolution: 480 vertical lines or better
- Maximum file size: 30 MB
- Format: mov, avi, mpg, mpeg, mp4, mkv, flv, wmv

The video should make a specific point; particularly, it should demonstrate the features described in the text of the manuscript. Special effects or texts are not permitted to be inserted in the video. Authors who intend to submit videos must have the necessary expertise in video post-production.

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Checklist

Please refer to this list for the final checking of your article before sending it to us.

Cover letter
Title page
- Article title
- Running head
- Authors' names and affiliations
- Corresponding author's details
- Acknowledgement

Main document
- Title
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- Keywords (minimum 5)
- Text
- References

All tables (including title and footnotes, if any)
All figures (including legend, if any)
All videos (if any)
All necessary files are attached in the correct format
Completed authorship agreement form and patient consent form (if relevant)

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Articles will be reviewed in a double-blind fashion, shielding authors' and reviewers' identities wherever possible. Authors should take care to remove all pointers to their own identity or to that of their institution. For example, when citing references to your own (co-) authored work(s) that could identify you to reviewers, use author-neutral text, for example, "in Chan et al. (5)'s study" instead of "in our previous study".

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A manuscript for publication will be uploaded on our website as a PreView article shortly after acceptance, provided that the authorship agreement form, patient consent form (if relevant), and copyright transfer form have been submitted.

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A manuscript may be corrected for length, grammatical correctness, sentence structure, and journal style. Accepted manuscripts are edited in accordance with the *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers (7th edition)*. The final proof of the manuscript will be sent to the corresponding author for final checking. The author should not make any changes to the contents of the manuscript at this stage, unless instructed.

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References

1. Council of Science Editors, Style Manual Committee. *Scientific style and format: The CSE manual for authors, editors, and publishers.* 7th ed. Reston (VA): The Council; 2006.
2. *The Chicago manual of style: The essential guide for writers, editors and publishers*. 15th ed. Chicago: University of Chicago Press; 2003.
3. Uniform requirements for manuscripts submitted to biomedical journals: Writing and editing for biomedical publication [Internet]. International Committee of Medical Journal Editors; 2009 [cited 2010 May 7]. Available from: http://www.icmje.org/.
4. Assembling a list of works cited in your paper [Internet]. Durham (NC): Duke University Library; 2009 [cited 2010 May 7]. Available from: http://library.duke.edu/research/citing/workscited/.

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CHAPTER 4 APPENDICES

4.1 Hospital Anxiety And Depression Scale

Validated Malay Version Hospital Anxiety And Depression Scale (HADS)

HOSPITAL ANXIETY AND DEPRESSION SCALE (HADS) – MALAY VERSION

Saya berasa tertekan / tersepit / serabut: A
- ☐ Sepanjang masa 3
- ☐ Banyak kali / kerapkali 2
- ☐ Kadang-kadang 1
- ☐ Tiada langsung 0

Saya berasa kurang / tidak secergas dahulu: D
- ☐ Hampir sepanjang masa 3
- ☐ Kerap kali 2
- ☐ Kadang-kadang 1
- ☐ Tidak langsung 0

Saya masih seronok melakukan perkara yang dahulunya menyeronokkan: D
- ☐ Seperti dahulu/biasa (tiada perubahan) 0
- ☐ Tidak seseronok dahulu 1
- ☐ Seronok sedikit sahaja 2
- ☐ Tidak lagi/hampir tiada lagi keseronokan 3

Saya berasa takut / berdebar-debar / gementar: A
- ☐ Tidak langsung 0
- ☐ Jarang-jarang 1
- ☐ Agak kerap 2
- ☐ Kerap kali 3

Saya selalu berasa ketakutan seolah-olah seperti sesuatu yang buruk akan berlaku: A
- ☐ Sememangnya dan amat teruk sekali 3
- ☐ Ya tetapi tidaklah terlalu teruk 2
- ☐ Ada sedikit tetapi tidak membimbangkan saya 1
- ☐ Tidak ada langsung 0

Saya sudah hilang minat terhadap keterampilan diri sendiri: D
- ☐ Sememangnya agak kurang minat dari biasa 3
- ☐ Kurang minat dari biasa / yang seharusnya 2
- ☐ Kadang-kadang mungkin kurang minat dari biasa 1
- ☐ Tidak hilang minat – masih seperti biasa 0

Saya boleh ketawa dan dapat menyukai / Nampak perkara-perkara yang melucukan: D
- ☐ Sememangnya seperti dahulu 0
- ☐ Tidaklah seperti dahulu 1
- ☐ Sememangnya tidak seperti dahulu 2
- ☐ Hanya kadang-kadang 3

Saya berasa tidak tenang / gelisah / seolah-olah saya perlu sentiasa membuat kerja / bergerak: A
- ☐ Sememangnya banyak kali 3
- ☐ Agak kerap 2
- ☐ Tidak terlalu kerap 1
- ☐ Tidak langsung 0

Perkara-perkara yang merisaukan / membimbangkan kerap bermain di fikiran saya: A
- ☐ Hampir sepanjang masa 3
- ☐ Banyak kali 2
- ☐ Dari masa kesemasa 1
- ☐ Hanya jarang-jarang / kadang-kadang 0

Saya sentiasa mengharapkan keceriaan / kegembiraan apabila melakukan sesuatu perkara: D
- ☐ Sama seperti dahulu 3
- ☐ Tidak seperti dahulu 2
- ☐ Sememangnya amat kurang daripada dahulu 1
- ☐ Tidak / hampir tidak berasa ceria langsung 0

Saya berasa ceria: D
- ☐ Tidak ada langsung 3
- ☐ Tidak selalu 2
- ☐ Kadang-kadang 1
- ☐ Sepanjang masa 0

Saya mengalami panik / keadaan gementar secara tiba-tiba: A
- ☐ Sememangnya banyak kali / kerap kali 3
- ☐ Agak kerap 2
- ☐ Tidak kerap / kadang-kadang 1
- ☐ Tidak pernah langsung 0

Saya boleh berasa relaks dan duduk dengan selesa: A
- ☐ Sememangnya 0
- ☐ Selalunya / kerap kali 1
- ☐ Tidak selalu / kadang-kadang 2
- ☐ Tidak boleh langsung 3

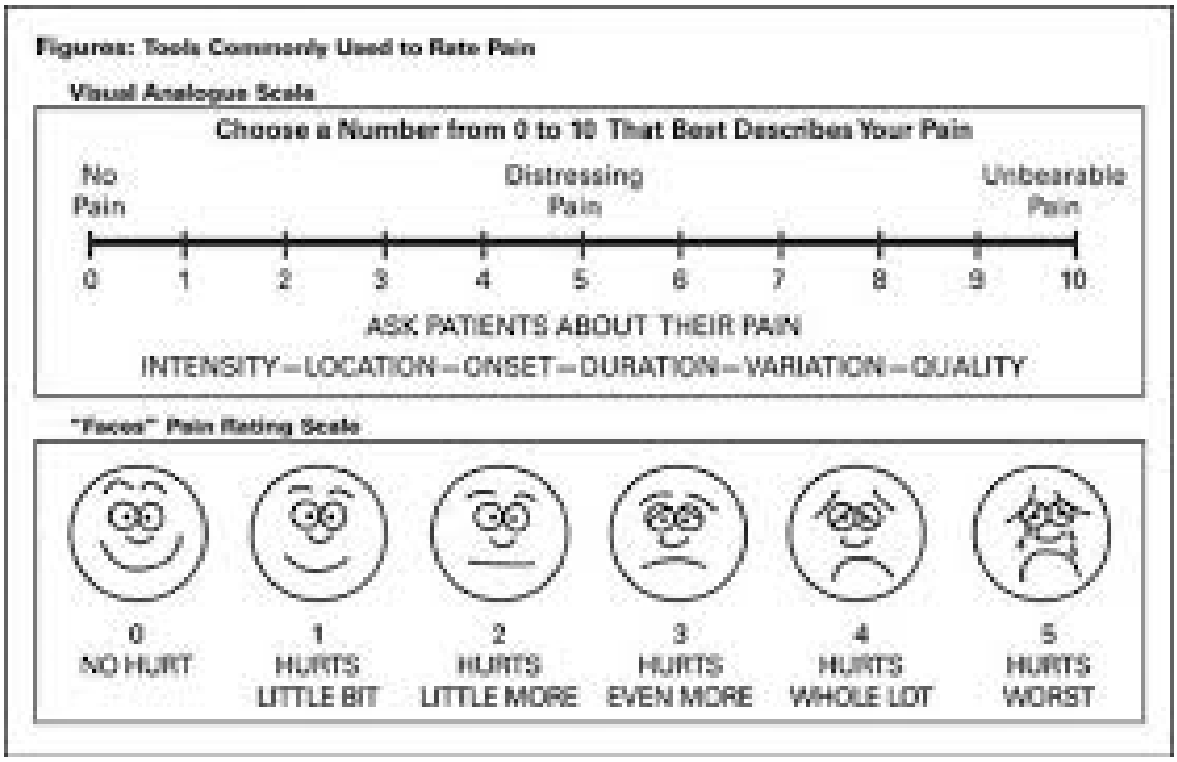
Saya dapat merasai nikmat / keseronokan apabila melakukan sesuatu seperti membaca buku yang menarik / mendengar radio / menonton rancangan televisyen yang menarik: D
- ☐ Kerap kali 0
- ☐ Kadang-kadang 1
- ☐ Tidak selalu 2
- ☐ Jarang-jarang sekali 3

Fariza Yahya, Zahiruddin Othman. Validation of the Malay Version of Hospital Anxiety and Depression Scale (HADS) in Hospital Universiti Sains Malaysia. International Medical Journal 2015; 22(2): 80-82.

Original Hospital Anxiety And Depression Scale (HADS)

A	**I feel tense or wound up**		**D**	**I still enjoy the things I used to enjoy**	
	Most of the time	3		Definitely as much	0
	A lot of the time	2		Not quite so much	1
	From time to time, occasionally	1		Only a little	2
	Not at all	0		Hardly at all	3
A	**I get a sort of frightened feeling as if something awful is about to happen**		**D**	**I can laugh and see the funny side of things**	
	Very definitely and quite badly	3		As much as I always could	0
	Yes, but not too badly	2		Not quite so much now	1
	A little, but it doesn't worry me	1		Definitely not so much now	2
	Not at all	0		Not at all	3
A	**Worrying thoughts go through my mind**		**D**	**I feel cheerful**	
	A great deal of the time	3		Not at all	3
	A lot of the time	2		Not often	2
	From time to time, but not too often	1		Sometimes	1
	Not at all	0		Most of the time	0
A	**I can sit at ease and feel relaxed**		**D**	**I feel as if I am slowed down**	
	Definitely	0		Nearly all the time	3
	Usually	1		Very often	2
	Not often	2		Sometime	1
	Not at all	3		Not at all	0
A	**I get a sort of frightened feeling like butterflies in the stomach**		**D**	**I have lost interest in my appearance**	
	Not at all	0		Definitely	3
	Occasionally	1		I don't take as much care as I should	2
	Quite often	2		I may not take quite as much care	1
	Very often	3		I take just as much care as ever	0
A	**I feel restless as if I have to be on the move**		**D**	**I look forward with enjoyment to things**	
	Very much indeed	3		As much as I ever did	0
	Quite a lot	2		Rather less than I used to	1
	Not very much	1		Definitely less than I used to	2
	Not at all	0		Hardly at all	3
A	**I get sudden feelings of panic**		**D**	**I can enjoy a good book, radio or television programme**	
	Very often indeed	3		Often	0
	Quite often	2		Sometimes	1
	Not very often	1		Not often	2
	Not at all	0		Very seldom	3

4.2. Visual Analogue Scale



4.3 Data Collection Sheets

Study of prevalence and risk factors for depression and anxiety among chronic pain patient in Hospital Universiti Sains Malaysia

Data collection sheet

Date :

Patients index :

Diagnosis. :

Sociodemographic

Age :

Gender. :

○ male	○ female	○ other

Race

○ Malay	○ Chinese	○ Indian	○ others

Educational status

○ primary and below	○ secondary	○ tertiary

Employment status

○ working	○ student	○ retired	○ unemployed

Monthly income

- ○ dependent on family
- ○ RM 1,000- 2,000
- ○ RM 2,000-3,000
- ○ RM 3,000-4,000
- ○ RM 4,000-5,000
- ○ RM 5,000 and above

Clinical

Presence of other chronic illness

○ yes	
○ no	

Pain score :

Duration of pain: (years)

Age of diagnosis :

Aetiology of chronic pain

○ neuropathic	○ nociceptive	○ mixed

Treatment

- ○ Yes
- ○ No

Pharmacological	Non pharmacological
○ opiods	○ physiotherapy
○ NSAIDS	○ LA injection
○ antidepressant	○ Others
○ others	

Side effects of treatment

Able to tolerate	
Not able to tolerate	

Hospital Anxiety and Depression score

HADS -A score. :

HADS-D score :

4.4 Consent forms

LAMPIRAN A

MAKLUMAT KAJIAN

Tajuk Kajian **:KAJIAN PREVALENS DAN FAKTOR RISIKO DEPRESI DAN KERESAHAN DALAM KALANGAN PESAKIT KESAKITAN KRONIK DI HOSPITAL UNIVERSITI SAINS**

Nama Penyelidik dan penyelidik bersama

: DR ROSAIDAREMANJA BINTI SUKRI
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

PENGENALAN

Anda adalah dipelawa untuk menyertai satu kajian penyelidikan mengenai prevalens dan factor risiko depresi dan keresahan dalam kalangan penderita kesakitan kronik di Hospital Universiti Sains Malaysia secara sukarela. Kajian ini adalah berkaitan kemurungan dan keresahan di kalangan pesakit kesakitan kronik.

Anda akan di berikan soalan mengenai kesakitan yang di alami berserta keadaan anda semasa menjawab soalan. Kajian ini adalah untuk mengenal pasti prevalens kemurungan dan keresahan di kalangan pesakit kesakitan kronik beserta faktor-faktor yang membawa kepada kemurungan dan keresahan.

Adalah penting bagi anda membaca dan memahami maklumat kajian sebelum anda bersetuju untuk menyertai kajian penyelidikan ini. Sekiranya anda menyertai kajian ini, anda akan menerima satu salinan borang ini untuk simpanan anda.

Penyertaan anda di dalam kajian ini dijangka mengambil masa selama 30 minit untuk menjawab soalan yang di sediakan. Seramai 116 orang dijangka akan menyertai kajian ini.

TUJUAN KAJIAN

Kajian ini bertujuan untuk mengkaji tentang tahap kemurungan and keresahan di kalangan pesakit kesakitan kronik dan faktor- faktor yang berkait.

KELAYAKAN PENYERTAAN

Salah seorang kakitangan kajian akan membincangkan kelayakan untuk menyertai kajian ini. Adalah penting anda berterus terang kakitangan tersebut termasuk sejarah kesihatan anda.

Kajian ini akan melibatkan individu yang telah di diagnosis dengan kesakitan kronik selama lebih daripada enam bulan , berusia 18 tahun ke atas dan boleh membaca dan memahami soalan yang di berikan sama ada dalam bahasa melayu ataupun bahasa

Inggeris (Skor Keresahan Kemurungan Hospital). Pesakit juga menjalani rawatan susulan di Hospital Universiti Sains Malaysia.

Kajian ini tidak akan melibatkan individu yang tidak bersetuju untuk melibatkan diri dalam kajian, mendapat kecedaraan otak , ketagihan dadah/ mengambil ubat-ubatan terlarang

PROSEDUR-PROSEDUR KAJIAN

Peserta akan diberikan satu set soalan kaji selidik yang mengandungi 14 soalan yang mana 7 soalan berkisar tentang kemurungan dan 7 soalan berkisar kepada keresahan. Setiap peserta di jangka mengambil masa selama 15- 20 minit untuk menjawab soalan yang di berikan. Set soalan ini akan di berikan semasa pesakit datang untuk rawatan susulan dan masuk hospital kerana kesakitan kronik.

RISIKO

Sila maklumkan kepada kakitangan kajian sekiranya anda menghadapi sebarang masalah atau mempunyai sebarang maklumat penting yang mungkin mengubah persetujuan anda untuk terus menyertai kajian ini. Kajian in tidak melibatkan sebarang gangguan emosi terhadap pesakit . sekiranya anda mengalami ganguan emosi ketika terlibat dalam kajian ini , anda akan di rujuk kepada kaunselor / pakar psikiatri untuk tidakan susulan.

PENYERTAAN DALAM KAJIAN

Penyertaan anda dalam kajian ini adalah secara sukarela. Anda berhak menolak untuk menyertai kajian ini atau menamatkan penyertaan anda pada bila-bila masa, tanpa sebarang kehilangan manfaat yang sepatutnya anda perolehi.
Penyertaan anda juga mungkin boleh diberhentikan oleh kakitangan kajian ini tanpa persetujuan anda sekiranya anda didapati tidak sesuai untuk meneruskan kajian ini berdasarkan protokol kajian. Kakitangan kajian akan memaklumkan anda sekiranya anda perlu diberhentikan dari menyertai kajian ini.

MANFAAT YANG MUNGKIN [Manfaat terhadap Individu, Masyarakat, Universiti]

Prosedur kajian ini akan diberikan kepada anda tanpa kos.
Hasil kajian ini diharapkan, dapat memberi manfaat kepada masyarakat umum untuk mengesan tahap kemurungan dan kersahan di kalangan pesakit kesakitan kronik di Hospital Universiti Sains Malaysia di samping mengkaji faktor- faktor yang berkait dengan kemurungan dan keresahan di kalangan pesakit kesakitan kronik.

Kajian ini juga dapat memberikan informasi terhadap tahap kemurungan dan keresahan bagi setiap individu yang mengambil bahagian seterusya membantu dalam merawat keadaan pesakit.
Anda tidak akan menerima sebarang pampasan kerana menyertai kajian ini.

PERSOALAN

Sekiranya anda mempunyai sebarang soalan mengenai prosedur kajian ini atau hak-hak anda, sila hubungi;

Dr Rosaidaremanja Binti Sukri (
Jabatan Anesthesiolgi & Rawatan Rapi
HUSM
USM Kampus Kesihatan

Sekiranya anda mempunyai sebarang soalan berkaitan kelulusan Etika atau sebarang pertanyaan dan masalah berkaitan kajian ini, sila hubungi;

En. Mohd Bazlan Hafidz Mukrim
Setiausaha Jawatankuasa Etika Penyelidikan (Manusia) USM
Bahagian Penyelidikan dan Inovasi (P&I)
USM Kampus Kesihatan.

KERAHSIAAN

Maklumat yang anda berikan akan dirahsiakan oleh kakitangan kajian. Ianya tidak akan dedahkan secara umum melainkan jika ia dikehendaki oleh undang-undang.
Data yang diperolehi dari kajian ini tidak akan mengenalpasti anda secara perseorangan. Hasil kajian mungkin akan diterbitkan untuk tujuan perkongsian ilmu.
Semua borang kajian dan data yang anda berikan termasuk rekod perubatan anda yang asal mungkin akan disemak oleh pihak penyelidik, Lembaga Etika kajian ini dan pihak berkuasa regulatori bagi tujuan mengesahkan prosedur dan/atau data kajian klinikal. Maklumat anda akan disimpan dalam komputer dan hanya kakitangan kajian yang dibolehkan sahaja dibenarkan untuk mendapatkan dan memproses data tersebut.
Dengan menandatangani borang persetujuan ini, anda membenarkan penelitian rekod, penyimpanan maklumat dan pemprosesan data seperti yang dihuraikan di atas.
Adalah dimaklumkan sekiranya pesakit berhak untuk menolak sekiranya tidak mahu sebarang data mengenai kajian ini di simpan dan di gunakan di masa hadapan.
Pesakit akan di berikan maklum balas mengenai status kemurungan dan keresahan setelah semua soalan di jawab.

TANDATANGAN

Untuk dimasukkan ke dalam kajian ini, anda atau wakil sah anda mesti menandatangani serta mencatatkan tarikh halaman tandatangan .

LAMPIRAN S

Borang Keizinan Peserta

Tajuk Kajian: **KAJIAN PREVALENS DAN FAKTOR RISIKO DEPRESI DAN KERESAHAN DALAM KALANGAN PENDERITA KESAKITAN KRONIK DI HOSPITAL UNIVERSITI SAINS MALAYSIA.**

Nama Penyelidik: **DR ROSAIDAREMANJA BINTI SUKRI**
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

Untuk menyertai kajian ini, anda atau wakil sah anda mesti menandatangani mukasurat ini. Dengan menandatangani mukasurat ini, saya mengesahkan yang berikut:

- Saya telah membaca semua maklumat dalam Borang Maklumat dan Keizinan Pesakit ini termasuk apa-apa maklumat berkaitan risiko yang ada dalam kajian dan saya telah pun diberi masa yang mencukupi untuk mempertimbangkan maklumat tersebut.
- Semua soalan-soalan saya telah dijawab dengan memuaskan.
- Saya, secara sukarela, bersetuju menyertai kajian penyelidikan ini, mematuhi segala prosedur kajian dan memberi maklumat yang diperlukan kepada doktor, para jururawat dan juga kakitangan lain yang berkaitan apabila diminta.
- Saya boleh menamatkan penyertaan saya dalam kajian ini pada bila-bila masa.
- Saya telah pun menerima satu salinan Borang Maklumat dan Keizinan Peserta untuk simpanan peribadi saya.

_____

Nama Peserta

_____

No. Kad Pengenalan Peserta

Tandatangan Peserta atau Wakil Sah	**Tarikh** (dd/MM/yy) (Masa jika perlu)
Nama & Tandatangan Individu yang Mengendalikan Perbincangan Keizinan	Tarikh (dd/MM/yy)
Nama Saksi dan Tandatangan	Tarikh (dd/MM/y

Nota: i) Semua peserta yang mengambil bahagian dalam projek penyelidikan ini tidak dilindungi insurans.

LAMPIRAN P

Borang Keizinan bagi Penerbitan Bahan yang berkaitan dengan Peserta Kajian

Tajuk Kajian: **KAJIAN PREVALENS DAN FAKTOR RISIKO DEPRESI DAN KERESAHAN DALAM KALANGAN PENDERITA KESAKITAN KRONIK DI HOSPITAL UNIVERSITI SAINS MALAYSIA.**

Nama Penyelidik: **DR ROSAIDAREMANJA BINTI SUKRI**
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

Untuk menyertai kajian ini, anda atau wakil sah anda mesti menandatangani mukasurat ini.

Dengan menandatangani mukasurat ini, saya memahami yang berikut:

- Bahan yang akan diterbitkan tanpa dilampirkan dengan nama saya dan setiap percubaan yang akan dibuat untuk memastikan ketanpanamaan saya. Saya memahami, walaubagaimanapun, ketanpanamaan yang sempurna tidak dapat dijamin. Kemungkinan sesiapa yang menjaga saya di hospital atau saudara dapat mengenali saya.
- Bahan yang akan diterbitkan dalam penerbitan mingguan/bulanan/dwibulanan/suku tahunan/dwi tahunan merupakan satu penyebaran yang luas dan tersebar ke seluruh dunia. Kebanyakan penerbitan ini akan tersebar kepada doktor-doktor dan juga bukan doktor termasuk ahli sains dan ahli jurnal.
- Bahan tersebut juga akan dilampirkan pada laman web jurnal di seluruh dunia. Sesetengah laman web ini bebas dikunjungi oleh semua orang.
- Bahan tersebut juga akan digunakan sebagai penerbitan tempatan dan disampaikan oleh ramai doktor dan ahli sains di seluruh dunia.
- Bahan tersebut juga akan digunakan sebagai penerbitan buku oleh penerbit jurnal.
- Bahan tersebut tidak akan digunakan untuk pengiklanan ataupun bahan untuk membungkus.

Saya juga memberi keizinan bahawa bahan tersebut boleh digunakan sebagai penerbitan lain yang diminta oleh penerbit dengan kriteria berikut:

- Bahan tersebut tidak akan digunakan untuk pengiklanan atau bahan untuk membungkus.
- Bahan tersebut tidak akan digunakan di luar konteks – contohnya: Gambar tidak akan digunakan untuk menggambarkan sesuatu artikel yang tidak berkaitan dengan subjek dalam foto tersebut.

Nama Peserta

No. Kad Pengenalan Peserta | T/tangan Peserta | Tarikh (dd/MM/yy)

Nama & Tandatangan Individu yang Mengendalikan Perbincangan Keizinan | Tarikh (dd/MM/yy)

Nota: i) Semua peserta yang mengambil bahagian dalam projek penyelidikan ini tidak dilindungi insuran.

ATTACHMENT B

RESEARCH INFORMATION

Research Title : STUDY OF PREVALENCE AND RISK FACTORS FOR DEPRESSION AND ANXIETY AMONG CHRONIC PAIN PATIENTS IN HOSPITAL UNIVERSITI SAINS MALAYSIA.

Name of main and co-Researcher

DR ROSAIDAREMANJA BINTI SUKRI
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

INTRODUCTION

You are invited to take part voluntarily in a research ''Study of prevalence and risk factors for Depression and anxiety among chronic pain patients in Hospital Universiti Sains Malaysia''. This research is about depression and anxiety in chronic pain patient and factors that contributing to depression and anxiety among chronic pain patient.

You will be given sets of question regarding chronic pain that you are having as well a questionare mainly focusing on your mood. The answers will be then be analysed after all the question has been answered.

It is important that you read and understand this research information before agreeing to participate in this study. You will receive a copy of this form to keep for your records if you agree to participate.

Your participation in this study is expected to be done within 30 minutes. This study is estimated to include up to 116 participants.

PURPOSE OF THE STUDY

The purpose of this study are to determine the prevalance of anxiety and depression among chronic pain patient and factors contributing to depression and anxiety.

PARTICIPANTS CRITERIA

The research team members will discussed your eligibility to participate in this study. It is important that you are completely truthful with the staff including your health history.

This study will include individual who has been diagnosed with chronic pain more than 6 months , age more than 18 years and able to understand questionare that will be given either in english or validated malay version Hospital Anxiety and Depression Score. Patients under Hospital Universiti Sains Malaysia follow up.

This study will not incude individual who are refused to take part in this study neither those with head injury nor substance abuser.

STUDY PROCEDURES

Particiapant will be given a set of question which consists of 14 questions , 7 questions regarding depression and 7 questions for anxiety. This questionare takes around 15 to 20 minutes to answer. The questionare will be distributed during follow up in Pain clinic, or patient admitted to hospital due to chronic pain.

RISKS

This study didnot involved any emotional disturbance to patient nor their relatives. However if you are having any emotional disturbance during this study , you will be referred to counsellor / psychiatrist for further follow up.

PARTICIPATION IN THE STUDY

Your taking part in this study is entirely voluntary. You may refuse to take part in the study or you may stop your participation in the study at anytime, without any penalty or loss of benefits to which you are otherwise entitled. Your participation also may be stopped by the research team without your consent if in any form you have violated the study eligibility criteria. The research team member will discussed with you if the matter arises.

POSSIBLE BENEFITS

This study finding may benefit the community by stating the prevalence of anxiety and depression in chronic pain patient as well as factors contributing to depression and anxiety among chronic pain patient.

As the questions given are the screening for depression and anxiety , you will able to know the degree of your anxiety and depression. If you scored high value , further evaluation will be done and referral to approprite expertise will be done . This will help in managing your condititon.

You will not recieve any compensation from this study.

QUESTIONS

If you have any question about this study or your rights, please contact;

If you have any questions regarding the Ethical Approval or any issue / problem related to this study, please contact;

CONFIDENTIALITY

Your information will be kept confidential by the researchers and will not be made publicly available unless disclosure is required by law.

Data obtained from this study that does not identify you individually will be published for knowledge purposes.

Your original records may be reviewed by the researcher, the Ethical Review Board for this study, and regulatory authorities for the purpose of verifying the study procedures and/or data. Your information may be held and processed on a computer. Only research team members are authorized to access your information.

Please be informed that you have the right to refuse storage and possible use of data collected for future.

At the end of the questionare after all the questions have been answers , a feedback regarding the status of depression and anxiety will be given to the participant.

By signing this consent form, you authorize the record review, information storage and data process described above.

SIGNATURES

To be entered into the study, you or a legal representative must sign and data the signature page .

ATTACHMENT S

Subject Information and Consent Form
(Signature Page)

Research Title: STUDY OF PREVALENCE AND RISK FACTORS FOR DEPRESSION AND ANXIETY AMONG CHRONIC PAIN PATIENTS IN HOSPITAL UNIVERSITI SAINS MALAYSIA.

Researcher's Name: DR ROSAIDAREMANJA BINTI SUKRI
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

To become a part this study, you or your legal representative must sign this page. By signing this page, I am confirming the following:

- I have read all of the information in this Patient Information and Consent Form including any information regarding the risk in this study and I have had time to think about it.
- All of my questions have been answered to my satisfaction.
- I voluntarily agree to be part of this research study, to follow the study procedures, and to provide necessary information to the doctor, nurses, or other staff members, as requested.
- I may freely choose to stop being a part of this study at anytime.
- I have received a copy of this Participant Information and Consent Form to keep for myself.

_____
Participant Name

_____
Participant I.C No

_____ _____
Signature of Participant or Legal Representative Date (dd/MM/yy)

_____
Name of Individual
Conducting Consent Discussion

_____ _____
Signature of Individual Date (dd/MM/yy)
Conducting Consent Discussion

_____ _____
Name & Signature of Witness Date (dd/MM/yy)

Note: i) All participants who are involved in this study will not be covered by insurance.

Participant's Material Publication Consent Form
Signature Page

Research Title: STUDY OF PREVALENCE AND RISK FACTORS FOR DEPRESSION AND ANXIETY AMONG CHRONIC PAIN PATIENTS IN HOSPITAL UNIVERSITI SAINS MALAYSIA.

Researcher's Name: DR ROSAIDAREMANJA BINTI SUKRI
ASSOC. PROFESSOR DR SAEDAH BINTI ALI
DR ARIFFIN MARZUKI BIN MOKHTAR

To become a part this study, you or your legal representative must sign this page.

By signing this page, I am confirming the following:

- I understood that my name will not appear on the materials published and there has been efforts to make sure that the privacy of my name is kept confidential although the confidentiality is not completely guaranteed due to unexpected circumstances.
- I have read the materials or general description of what the material contains and reviewed all photographs and figures in which I am included that could be published.
- I have been offered the opportunity to read the manuscript and to see all materials in which I am included, but have waived my right to do so.
- All the published materials will be shared among the medical practitioners, scientists and journalist world wide.
- The materials will also be used in local publications, book publications and accessed by many local and international doctors world wide.
- I hereby agree and allow the materials to be used in other publications required by other publishers with these conditions:
- The materials will not be used as advertisement purposes nor as packaging materials.
- The materials will not be used out of contex – i.e.: Sample pictures will not be used in an article which is unrelated subject to the picture.

_____
Participant Name

_____ _____ _____
Participant I.C No. Participant's Signature Date (dd/MM/yy)

_____ _____
Name and Signature of Individual Conducting Consent Discussion Date (dd/MM/yy)

Note: i) All participants who are involved in this study will not be covered by insurance.

4.6 Raw Data on SPSS Softcopy