PERCEIVED STRESS, ANXIETY AND DEPRESSION AMONG 40-60 YEAR OLD WOMEN, A CROSS SECTIONAL STUDY IN THIRUVANANTHAPURAM

Dr Haritha C S

Dissertation submitted in partial fulfilment of the requirements for the award of the degree of

Master of Public Health

ACHUTHA MENON CENTRE FOR HEALTH SCIENCE STUDIES
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM
Thiruvananthapuram, Kerala. India - 695011

JULY 2023

ACKNOWLEDGEMENTS

I am grateful to the universe for being provided with the excellent opportunity of pursuing the Master of Public Health degree.

I am immensely thankful to my guide, Dr Jissa V T whose been nothing but the biggest pillar of support in my endeavour of thesis completion. I would also like to thank all the faculty members at AMCHSS, for their valuable time and suggestions regarding the thesis.

My heartfelt gratitude to my batch mates who stood up with me and motivated to push further in every step, especially Dr Nahda and Dr Ezhil, who stood up with me in the rough times.

I am forever thankful to my family for the support they've given, especially my mother and my beloved husband, both of whom have put up the biggest struggle to support me throughout the process.

I would also like to mention my gratitude towards the participants of the study and the authorities of governing bodies who granted permission for conduction of the study and stayed cooperative throughout the formalities and data collection.

DECLARATION

I hereby declare that this dissertation titled – "Perceived stress, anxiety and depression among 40-60 year old women, a cross-sectional study in Thiruvananthapuram" is a bonafide record of my original research. It has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published and unpublished work of others has been duly acknowledged in the text.

Dr Haritha C S (Student id: 7950)

Achutha Menon Centre for Health Science Studies

Sree Chitra Tirunal Institute for Medical Science and Technology, Trivandrum

Thiruvananthapuram, Kerala, India – 695011

July,2023.

CERTIFICATE

Certified that the dissertation titled - "Perceived stress, anxiety and depression, a cross-sectional study in Thiruvananthapuram" is a record of the research work undertaken by Dr Haritha C S, in partial fulfilment of the requirements for the award of the degree of Master of Public Health under my guidance and supervision.

Guide:

Dr Jissa V T

Scientist C

Achutha Menon Centre for Health Science Studies

Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum

Thiruvananthapuram, Kerala. India -695011

July,2023.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GLOSSARY OF ABBREVIATIONS

WHO	World Health Organization
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
PSS	Perceived stress scale
GAD-7	Generalised Anxiety Disorder - 7
PHQ-9	Patient Health Questionnaire – 9
CDS	Community Development Society
GP	Grama Panchayath

ABSTRACT

Background:

A mental disorder, according to World Health Organization, is defined as a clinically significant disturbance in an individual's cognition, emotional regulation, or behaviour. According to the National mental health survey 15-16, a female predominance was observed in depressive disorders and neurotic and stress-related disorders.

Methods:

A cross-sectional survey among 282 women in the age group of 40-60 years residing in Thiruvananthapuram Taluk was done. Participants were selected from two Grama panchayaths and Municipal corporation under the geographical area of Thiruvananthapuram taluk. Data was collected through a structured questionnaire, where PHQ-9, GAD-7 and PSS was used to assess depression, anxiety and stress respectively.

Results:

Among the study participants, 13.8 percent were found to have moderate to severe depression, 8.9 percent have moderate to severe anxiety and 28.7 percent had moderate to high perceived stress. Socioeconomic status and certain symptoms of menopause seemed to be consistently associated with the severity of the three outcomes.

Conclusion:

More than one in four women and more than one in ten women was found to have moderate to severe stress and depression respectively. Interventions should prioritize the socio- economically disabled population and factors found associated should be taken into account while planning appropriate coping strategies.

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Mental disorders are a growing health concern across the world. According to World Health Organization, a mental disorder is characterized by a clinically significant disturbance in an individual's cognition, emotional regulation, or behaviour (Mental disorders, 2023).

One in every eight people in the world live with a mental disorder, with anxiety and depressive disorders the most common. Depression is a serious mental disorder with a global prevalence of 3.8 percent including 5 percent among adults and 5.7 percent among adults older than 60 years. In 2019, approximately 280 million people in the world were living with depression and 301 million people were living with anxiety disorder. Although there are known effective treatments for mental disorders, more than 75 percent of people in low and middle-income countries receive no treatment. Also, women are affected by depression more than men (Depression, 2023; Depressive disorder (depression), 2023).

According to the National mental health survey 2015-16, the overall weighted prevalence for any mental morbidity was 13.7 percent lifetime and 10.6 percent is the current mental morbidity. Individual's risk of suicide in the past one month was observed to be highest in the 40–49 years age group, greater among females, and those from urban metros compared to their respective counterparts. Again, a female predominance was observed for depressive disorders (both current [female: 3.0%; male: 2.4%] and lifetime [female: 5.7%; male: 4.8%]) for neurotic and stress-related disorders (Murthy, 2017). The country level estimates of depression and anxiety disorder among women in 2019 shows a prevalence of 8.05 percent and 4.97 percent in the age group of 50-69 years and 5.67 percent and 5.06 percent

in the age group of 25-49 years respectively (*Institute for Health Metrics and Evaluation*, 2023).

A Study done among women aged 18 to 59 years in rural Puducherry, Tamilnadu have reported the prevalence of depression, anxiety, and stress to be 15, 10.6 and 5 percentages respectively, among women in rural south India (Srinivasan et al., 2020).

While there's enough scope for exploring these mental disorders among women in general, problems related to women of middle age group in particular is an attention seeking area. Several factors may influence the mental health status of women in the late adulthood. Responsibilities of family, career and imposed gender roles as homemaker, child bearer adds up to the burden of mental distress in this age group. Factors like years of education, discordant marital life and physiological events such as menopause affect the mental health status of women in this age (Bromberger and Epperson, 2018; Srinivasan et al., 2020). The Harvard study of moods and cycles was a prospective study done over a period of 72 months, conducted in 36-45 years old women residing in metropolitan community areas of Boston, U.S. The study stated a two-fold increased risk of significant depressive symptoms in those who enter peri-menpause, compared with those women who remain premenopausal (Cohen et al., 2006).

Stress also contributes to the psychological deficit women faces in middle age. Stress being any change that causes physical, emotional or psychological strain (Stress, 2023) Many stressors can be identified with regard to women in middle age-like family strain, changes and body weight in middle age (Darling et al., 2012).

Though Midlife has been identified as a transition phase, the types of life events that women experience as stressful and their effect on reproductive health and healthy aging is yet to be identified (Sievert et al., 2018). So researches should be directed from numbers towards the

reasons behind it and thereby expand on the knowledge and understanding of health related problems and needs of women in late adulthood or middle age to develop adequate measures of coping.

1.2 LITERATURE REVIEW

1.2.1 Stress

According to WHO, Stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being (Stress, 2023).

Perceived stress is a person's feelings or thoughts about how much stress they are feeling at any given time or over a given period of time (Whittaker was Phillips, 2015).

Stress can result in a wide range of emotions, including worry and irritability. When we are stressed, we may experience a variety of physical symptoms, including discomfort in our stomach, headaches, and difficulty concentrating. We may also eat less or more than usual. Chronic stress has been linked to increased use of alcohol, nicotine, and other drugs as well as the deterioration of pre-existing health conditions. Stressful situations can also cause or exacerbate mental health problems, most commonly depression and anxiety, which require medical attention. When we experience mental health problems, it may be because our stress-related symptoms have gotten worse and are now obstructing our ability to function in daily life (Stress, 2023).

As said earlier, stress can be a precursor to depression. The study in this direction probe into a new subtype of depression- STRID or Stress-induced depression (Bartolomucci and Leopardi, 2009).

1.2.2 Anxiety

Anxiety involves the anticipation of a real or imagined future threat or danger, whereas fear is a conscious response produced by threat or impending danger. Anxiety and fear both aid in survival and are frequently adaptive. As a result, many fears and anxieties are normal occurrences in childhood (such as aversion to strangers or performance anxiety) or in adulthood (such as stress or transitional anxiety). When they are excessive compared to the threat, persistent and severe, or when they interfere with daily activities, they may need psychiatric attention. Environmental cues that alert a person to potential danger, such as a social scenario or health concern, are examples of perceived dangers (Penninx et al., 2021).

Generalized Anxiety Disorder:

Generalized anxiety disorder is characterized by chronic excessive worry that occurs more days than not and is difficult to control. The worry is associated with symptoms, such as concentration problems, insomnia, muscle tension, irritability, and physical restlessness, and causes clinically significant distress or impairment (Sadock et al., 2019).

Symptoms of GAD includes Feeling restless, wound-up, or on-edge, Being easily fatigued Having difficulty concentrating, Being irritable, Having headaches, muscle aches, stomach aches, or unexplained pains, Difficulty controlling feelings of worry, Having sleep problems, such as difficulty falling or staying asleep (*National Institute of Mental Health (NIMH)*, 2023a).

1.2.3 Depression

Depression is a common mental illness that involves a persistently depressed mood or loss of pleasure or interest in activities for long periods of time. Depression is distinct from typical mood swings and everyday feelings. It can have an impact on all facets of life,

including interactions with friends, family, and community at large (Depressive disorder (depression), 2023).

Major Depressive Disorder:

The necessary feature of major depressive disorder is depressed mood or loss of interest or pleasure in usual activities. All symptoms must be present nearly every day, except suicidal ideation or thoughts of death, which need only be recurrent. The diagnosis is excluded if the symptoms are the result of a normal bereavement and if psychotic symptoms are present in the absence of mood symptoms (Sadock et al., 2019).

Common symptoms of depression includes, persistent sad, anxious, or “empty” mood, feelings of hopelessness, or pessimism, feelings of irritability, frustration, or restlessness, feelings of guilt, worthlessness, or helplessness, loss of interest or pleasure in hobbies and activities, decreased energy, fatigue, or feeling "slowed down", difficulty concentrating, remembering, or making decisions, difficulty sleeping, early morning awakening, or oversleeping, changes in appetite or unplanned weight changes, thoughts of death or suicide, or suicide attempts, aches or pains, headaches, cramps, or digestive problems without a clear physical cause that do not ease even with treatment, and suicide attempts or thoughts of death or suicide.

These symptoms may be observed on most days, nearly every day, for at least two weeks. And not necessarily every symptom has to be persistent in a person, some people may present with only a few and some may present with many of the signs and symptoms (*National Institute of Mental Health (NIMH)*, 2023b).

1.2.4 Stress, Anxiety and Depression in women

Nolen-Hoeksema, in the book- Sex differences in depression states that the variation in depression on the basis of sex has been discussed long before. Biological as well as socially made circumstances have been influencing this gender based difference and women is said to be twice as likely as men to experience depression (Nolen-Hoeksema, 1990).

Women at any age group are found to be more depressed than their male counterparts. A mental health study among elderly in the state of Tamilnadu found a correlation between female sex and depression, and widowhood among the population also appeared to be associated to the severity of depression (Sinha et al., 2013). Similar study on adults with more than 25,000 participants in the very same state of Tamilnadu (CURES-Chennai Urban Rural Epidemiology Study) produced results showing that women were more prone to depression than men (Poongothai et al., 2009).

Studies done previously on this regard have identified several associating factors for the increased level of stress, anxiety and depression among women. The most highlighted factor being hormonal fluctuations. Women may experience an increased risk of depression and anxiety throughout periods of hormonal change, such as puberty, the pregnancy and postpartum periods, and the peri-menopause stage. Women are more prone than males to experience both depressive and anxiety disorders from the time they reach menarche (Albert, 2015).

There also exists a concept of -'Window of vulnerability', which is referred to as the reproductive period in which the women are expected to be most prone to depression (Sassarini, 2016). However reproductive factor and hormones alone are not the factors influencing the differences seen in women.

Many factors like socio economic status, level of education has found to influence one's mental health. Education has been found to mitigate the level of stress and mental disorders among women. A study done in rural India substantiates this and as well suggests that in order to improve mental health, the focus should be given on enhancing rural women's self-efficacy and problem-solving capabilities to overcome challenging life events and stressors, thereby reducing the risk of Common Mental Disorders(CMD) (Fahey et al., 2016).

1.2.5 Middle age and mental health among women

Middle age is the period in one's life course where phasing out happens from being young to being elderly. The clear cut margins for middle age can be debatable, rather than chronological age the experiences of midlife matters. Though prospective studies are expanding the range from 35 to 65 years, a traditional interval is within 45-65 years (Yaffe and Stewart, 1984).

The perception of middle aged about healthy ageing is multi-dimensional. Which can be incorporated under four chief domains, which is - having good physical health, having good mental health, having financial well-being, having social support (Solhi et al., 2022). And we know that all these are inter related. There exists a balance between them, and any change in one of them mostly leads to other being disturbed, like having a financial problem could affect having a good mental health. Hence, studies have exemplified low socio economic status to be associated with poor mental health (Freeman et al., 2016; Jo et al., 2011).

Menopausal transition marks midlife in women, and factors associated with middle age frequently overlap with menopausal transition factors. However, studies have taken this overlapping into account and have emphasized factors that may apply to middle age without being associated with menopause, such as the quality of one's social environment, which

may affect risk for depression and depressive symptoms after menopause, just as it can at other times in life. Social risk factors include acute and chronic stressors, daily hassles, a lack of environmental resources, and poor social relationships. Midlife women with depression have more interpersonal problems, major events happening to significant others, and financial difficulties than their non-depressed counterparts (Bromberger et al., 2013).

When a woman enters menopause, there may be important psychosocial changes that could be present. Changes in the family structure, children moving out of the house, adjustments at work, and even retirement are all possible. Additional caring obligations for parents or in-laws are a well-known depression risk factor. Even while a single factor is unlikely to be the cause of depression, it can however be contributing to it (Sassarini, 2016).

A study done among Chinese women shows depressive and anxiety symptoms are common among middle-aged women, and that the risk of these symptoms is significantly influenced by certain sociodemographic factors, lifestyle choices, and menopausal symptoms. In this extensive cross-sectional study of Chinese women between the ages of 40 and 60, 19.5 percent and 14.2 percent of women reported having depressed and anxiety symptoms, respectively. Depressive symptom rates were 15.5, 24.1 , and 22.3 percentages respectively, in the reproductive, peri-menopausal, and post-menopausal stages, whereas anxiety symptom rates were 11.4, 18.0, and 15.9 percentages respectively (Wang et al., 2022).

As with stress in middle aged women-in addition to major life events, there are everyday stresses/stressors that women experience, such as an unexpected minor illness of a family member who requires care, dealing with traffic during a commute, or changing work hours. Although not evaluated as challenging, these have a cumulative effect and contribute to, or are associated with, the outcomes of major life events (Sievert et al., 2018).

1.2.6 Menopausal transition

Menopausal transition is an inevitable segment in life of women which is quite eventful for most of them. Menopause is said to have occurred when a women has passed 12 consecutive months without menstruation post last periods. Menopause usually occurs between 45 - 55 years of age (Peacock and Ketvertis, 2023).

Menopause is accompanied by several symptoms which may start presenting from months before cessation of periods lasting long after periods have stopped. Menopausal transition can be explained through three stages- premenopausal, peri menopausal and post-menopausal (Harlow et al., 2012).

Menopausal transition is a physiological process that marks the end of fertile period in women's life. Though physiological, symptoms associated with menopause are a wide range of physical and psychological changes which may not be present in every transitioning woman. That said, a study in India estimated a prevalence of menopausal symptom to be 87.7 percent meaning that 87.7 percent of women presented with at least one of the symptoms, and among them, The most reported symptom was anxiety(80%) (Kalhan et al., 2020).

Menopausal transition with its nature of hormonal fluctuations has made body vulnerable to experience anxiety and depression. Study of Women's Health Across The Nation is a study done among middle aged women from multiple ethnic groups regarding midlife changes and they have followed women throughout middle age, pre to peri and post-menopausal. They were able to get to the understanding that women who had low anxiety pre menopausally turned out to have high anxiety during or after the transition stage, and those with pre-menopausal anxiety, were at high risk for higher level of anxiety irrespective of the menopausal changes (Bromberger et al., 2013).

Similar conclusions have been made from studies done on association of menopausal transition with depression. That is the likelihood of having depressed episodes in peri-menopausal women was found to be 30 percent to three times greater than premenopausal women (Bromberger and Epperson, 2018; Cohen et al., 2006; Freeman et al., 2006).

As we say menopausal transition has effects on being depressed or anxious, it is also highly likely that it could be the other way too. Depression and anxiety could flare up the experience of menopausal symptoms as well. A study on depression and menopausal burden in midlife found a significant association between depressive symptoms and menopausal symptoms (presence of hot flashes and night sweats). The study hypothesized that menopausal symptoms were "amplified" by depressed symptoms, and the evidence indicated that this may be true (Reed et al., 2009).

A study done in Taiwanese women on depressive symptoms during the peri- and post-menopause years, the prevalence of depressive symptoms in peri and post-menopausal women was relatively high(38.7%) that is 4 out of 10 women showed depressive symptoms (Wang et al., 2013).

Throughout a woman's life, stress is crucial to the onset, continuation, and exacerbation of mood disorders. It worsens the physical symptoms of menopause, raising the likelihood of mood disorders returning or developing for the first time at any time throughout life, but particularly during the menopausal transition (Alexander et al., 2007). It might not be the presence of the stressor itself but rather the psychological response to the stressor that could exacerbate one's experience of menopausal symptom. In the study based on data from Study of Women's Health Across the Nation (SWAN), Women who were "still upset" by a stressful event had the most severe symptoms, whereas women who had experienced the

same event but were not upset by it had significantly less severe symptoms (Arnot et al., 2021).

1.2.7 Depression, Anxiety, and Stress along with other morbidities

Depression can co-occur with other significant medical conditions such as diabetes, cancer, heart disease, thyroid disorders, and Parkinson's disease, especially in middle-aged or older persons. When depression is present, these conditions frequently get worse, and evidence indicates that persons who have depression and another medical disease often have more severe symptoms of both conditions. The medications used to treat these physical conditions can occasionally have adverse effects that worsen depression (*National Institute of Mental Health (NIMH)*, 2023b).

The odds of having major depression in people with chronic conditions like hypertension and diabetes are 2-3 times higher than people without these conditions (Egede, 2007).

According to a study on diabetic women conducted in New Delhi, anxiety symptoms were more common in the study participants. While about 19 percent of the 184 diabetic women showed some degree of depression symptoms, 26.6 percent of them exhibited anxiety symptoms that could be indicative of clinically relevant problems. A potentially significant amount of both depression and anxiety symptoms were present in 14 percent of people (Weaver and Madhu, 2015).

Similar associations may be observed with Hypertension as well. Apart from the clinical explanations underlying in the scenario, it is evident that patients with depressive symptomatology have poorer BP control. And one of the study looking at this association, estimates that one third of hypertensive patients is affected by depression (Li et al., 2015; Scalco et al., 2005).

Thyroid problem has always been linked with clinical depression. A biological linkage between the two may be derived at. It is mostly hypothyroidism that's been said to be associated with depression. However, persistent depressive symptoms in patients of hyperthyroidism is seen as well (Bode et al., 2022).

Physical and mental health is mutually dependent. People with physical debilities tend to suffer from mood disorder. Osteo-arthritis is a common widespread illness among middle aged and elderly. It is alarming that people with osteoarthritis show high depressive and anxiety symptoms (Stubbs et al., 2016).

Urinary incontinence is another common complaint of midlife women, which has the potential to distort their mental health, which leads to poor quality of life. (Coyne et al., 2012) Not every studies point out to the fact that it negatively affects the level of anxiety and depression women have, but it certainly along with other factors may contribute to the burden (Hansson Vikström et al., 2021).

Serious conditions like CVD are also linked to depression. People presenting with depressive symptoms has higher risk for CVD and associated mortality (Rajan et al., 2020).

1.2.8 Other factors contributing to depression, anxiety, and stress among middle aged women

Many factors emerge as associated with stress anxiety or depression in women-especially in middle age. For instance, physical violence from intimate partner and economic abuse affect the status of mental health among women. The odds of depression and anxiety increased with each additional form of economic abuse (Kanougiya et al., 2021).

These may not only pertain to middle age women, even so, these factors cannot be excluded while considering mental health of women. A difficult job situation or financial hurdle can put both men and women in distress (Guan et al., 2022).

Though a general notion is that women with job might be more stressed out than women who doesn't have job- that might not be indeed that way. A Study done on impact of occupation on stress and anxiety among women in India showed that among all participants, 26 percent were the most prone and 66 percent were somewhat more prone to stress; 35 percent of women showed high anxiety levels. Homemakers had 1.2 times higher anxiety and 1.3 times higher stress than working women. Prevalence of stress (37) and anxiety (40) were also higher in homemakers compared to working women (stress-19, anxiety-30) and students (stress-21, anxiety-29)) (Patel et al., 2016). Another study back up this finding with deducing an increasing trend of depression among housewives with increasing age (Urvashi et al., 2019).

1.2.9 Scales for measuring depression, anxiety and stress

A wide range of scales is used for measuring depression, anxiety and stress. Here are few inventories used commonly for measuring these outcomes.

Beck depression inventory – BDI II : BDI II is used to measure depression symptoms and severity in persons aged >= 13 years. Versions include BDI-I, BDI-IA, BDI-II, BDI-PC and BDI-FS. There are 21 items in the BDI-IA and BDI-II and seven items in the BDI-FS. There are no subscales. The recall periods for items is two weeks. It has been used for assessing the intensity of depression in psychiatric and normal populations (Measures of depression and depressive symptoms, 2011).

Center for epidemiologic studies Depression scale – CES-D : The purpose of CES-D is to measure current level of depressive symptoms in general population. The original 20 item version has been shortened to a ten item and five item. Multiple other shortened versions ranging from four to sixteen itemshave been developed and used with various populations. There are no subscales and recall period for items is past week. It has been widely used in medical cohorts like Fibromyalgia, Rheumatoid arthritis patients etc (Measures of depression and depressive symptoms, 2011).

Geriatric depression scale – GDS : It was developed as a self-rating screening tool to measure depressive symtoms in older adults. Its been designed to identify depression in elderly by distinguishing symptoms of depression and dementia. The initial long version contains 30 items. A short version with 15 items is also available. There are no subscales. The recall period for items is current for the long form and past week for short form. It is used in community samples as well as in medical cohorts (Measures of depression and depressive symptoms, 2011).

Hospital anxiety and depression scale – HADS : The purpose is to assess anxiety and depressive symptoms in a general medical population. There no versions other than the original. There are 14 items in the scale. Subscales include HADS-A (7 items) for anxiety and HADS-D (7 items) for depression. It is primarily used with psychiatric and medical patients as well as general population, students and subjects with chronic illness (Measures of depression and depressive symptoms, 2011).

Patient health questionnaire – PHQ 9 : The purpose of PHQ-9 is to detect and measure depression and severity in medical population in clinical settings. There exists versions PHQ-9, PHQ-8 AND PHQ-2. All derived from an original PRIME-MD scale. There are nine items on the scale and recall period is last two weeks. It has been widely used in a

variety of settings using medical populations as well as in non medical general populations (Measures of depression and depressive symptoms, 2011).

State-trait anxiety inventory : The purpose is to measure through self-reporting, the presence and seveirity of current symptoms of anxiety and a generelised propensity to be anxious. There are two subscale State Anxiety scale and Trait Anxiety scale. There are 40 items in total in STAI, 20 items allocated each for S-Anxiety and T-Anxiety. It has been extensively used in chronic medical conditions (JULIAN, 2011).

Beck anxiety inventory (BAI) : The BAI is a brief measure of anxiety with a focus on somatic symptoms of anxiety that was developed as a measure adept at discriminating between anxiety and depression. There are 21 items in BAI. BAI is used to obtain measure of anxiety independent of depression. It is mostly used in rheumatic conditions, fibromyalgia and arthritis (JULIAN, 2011).

Generalised Anxiety Disorder-7 (GAD-7) : GAD-7 is intended to be used in primary care setting to detect and measure seveity of anxiety symptoms. A shorter version of scale exists-GAD-2. There are 7 items in this scale, and the recall period is two weeks. It has been used in medical cohorts as well as general public (Sapra et al., 2020).

Perceived stress scale (PSS) : PSS is developed by Sheldon Cohen in 1983.It is a 10 item scale used to assess perceived stress in community samples. The questions in this scale ask about your feelings and thoughts during the last month (PSS, 2023).

DASS 21 : The Depression Anxiety Stress Scale (DASS) is a set of three self-report scales designed to assess the negative emotional states of depression, anxiety, and stress. Each of the three DASS scales has 14 items, which are further subdivided into subscales of 2-5

items with similar content. In addition to the standard 42-item questionnaire, a shorter version, the DASS21, with 7 items per scale, is available. It's also worth noting that an earlier version of the DASS scales was known as the Self-Analysis Questionnaire (SAQ).For research purposes, the DASS can be administered in groups or individually (Depression Anxiety Stress Scales - DASS, 2023).

1.3 RATIONALE FOR THE STUDY:

Literature review clearly reinstates the burden of stress, anxiety and depression among women in middle age. Though many studies pertaining to mental health exist, experiences of midlife women are relatively unexplored in our context. The age of 40-60 in women is a period of vulnerability owing to changes that may happen in their social, family and occupational life- let alone the physiology of menopausal transition.

Kerala is a highly literate state with 92.07 percent female literacy (Census 2011 India, 2023). The pattern of socio demographic factors influencing mental health of middle age women in our context may vary from rest of the country. The demographic transition towards having a larger older population with a major female predominance (1084 per 1000 males) (Census 2011 India, 2023) in the state re emphasizes the idea of healthy ageing, which can only be accomplished by weighing the problems and its probable associations.

Most of the existing health care offered by the health system is focused at improving women's reproductive health. Mental wellbeing of women at this age and its correlates should be understood to address their specific needs and demands.

1.4 OBJECTIVES

a. Major objectives:

- To study stress, anxiety, and depression among 40-60year old women in Thiruvananthapuram.

b. Minor objective:

- To understand the association of socio-economic, demographic, reproductive and menopause related factors with stress, anxiety and depression among women aged 40-60 year in Thiruvananthapuram.
- To understand means of management adopted for psychological or emotional problems faced by them.

CHAPTER 2

METHODOLOGY

2.1 STUDY DESIGN

A quantitative cross-sectional survey was conducted to study stress, anxiety, and depression among 40-60-year-old women in Thiruvananthapuram, Kerala.

2.2 STUDY SETTING

The study was conducted in Thiruvananthapuram district. The urban bodies in the district are the Thiruvananthapuram Corporation, and the Varkala, Neyyattinkara, Attingal, and Nedumangad municipalities, and the rural bodies are 73 Grama Panchayats (GP) in total. Thiruvananthapuram district is divided into 6 Taluks -Thiruvananthapuram, Nedumangadu, Chirayinkeezhu, Kattakada, Neyyattinkara, and Varkala. Thiruvananthapuram Taluk is the most populous taluk in the district and one of the most populous in Kerala. It is situated in the western part of the Thiruvananthapuram district. Under the geographical area of Thiruvananthapuram Taluk, there is one Municipal corporation and six grama panchayats.

The study participants were selected from the Municipal Corporation and Two randomly selected Grama panchayaths under the geographical area of Thiruvananthapuram Taluk.

2.3 STUDY POPULATION

Women in the age group of 40-60 years residing in the geographical area of Thiruvananthapuram taluk.

Rationale for choosing the participant's age group: Middle age is the age group right after young adulthood and that which precedes old age. Most literature has considered this age group to capture incidents of the menopausal transition, an important indicator of middle age in women. Moreover, the mean menopausal age estimated for women in Kerala as per a study published in Kerala medical journal, 2013 was 48.3 (± 4.15) years with median age being 50 years (Sarika et al., 2013). Considering this, an age group between 40-60 years was chosen to include women in menopausal transition.

Inclusion criteria:

Women in the age group of 40-60 years residing in Thiruvananthapuram Taluk.

Exclusion criteria: Women who are

Mentally retarded/challenged,

Bed-ridden,

Terminally ill.

2.4 SAMPLE SIZE ESTIMATION

Using a prevalence of 26.09 percent for depression, with a relative precision of 20 percent for the 95 CI, the sample size calculated was 274. Adding a 10 percent non-response rate the sample size becomes 302, rounded to 310.

The formula used for sample size estimation was $\mathbf{n = Z^2 P(1-P)/D^2}$, Where P=0.26, D=0.052 (20% of 0.26), and Z=1.96.

The prevalence (26.09%) for depression was derived from a study done in rural Kerala among 579 middle-aged (40-60 years) women in Ambalappuzha North Panchayat of

Alappuzha District (Archana et al., 2017). The study was done to look at the prevalence of depression among middle-aged women in the rural area of Kerala and hence it was thought appropriate to choose the expected prevalence for the current study.

2.5 SAMPLE SELECTION PROCEDURE

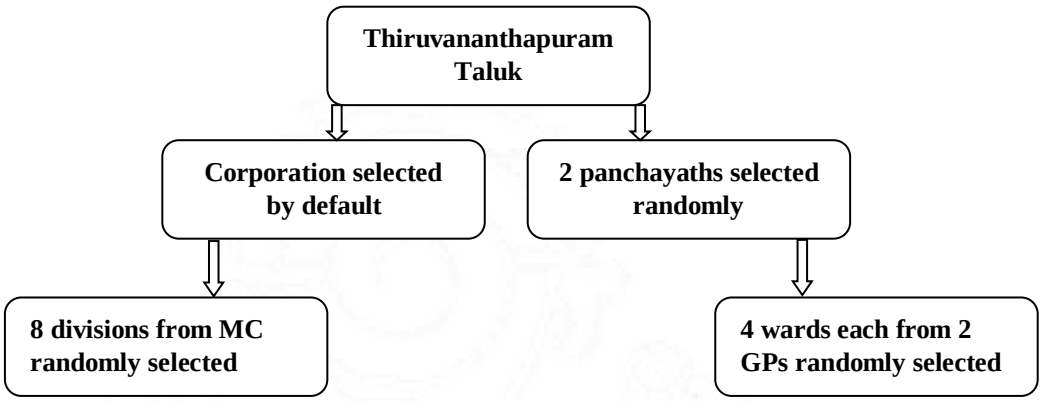
The participants were selected through multi-stage cluster sampling.

The geographical area covering Thiruvananthapuram Taluk includes Thiruvananthapuram corporation and six grama panchayaths, namely Andoorkkonam GP, Kadinamkulam GP, Kalliyoor GP, Mangalapuram GP, Pothencode GP, Venganoor GP. The list of panchayaths were obtained from the official website of the local self-governing department, Kerala.

To ensure urban and rural participation, participants were chosen from the Thiruvananthapuram corporation as well as two grama panchayaths from the listed six. The corporation being the only urban body in the area, was chosen by default. And the grama panchayaths were numbered one to six . Using Open Epi, two random numbers were selected between one to six, and the corresponding grama panchayaths were selected (https://www.openepi.com/Random/Random.htm). The details of wards in the corporation and panchayaths were obtained from respective official websites. And the wards from within the GPs were selected on the basis of random number generated through Open Epi from the total number of wards within the GPs. The ward corresponding to the number generated was selected.

In a similar way the wards from the corporation area were randomly selected from a total of 100 wards in Trivandrum corporation. Four wards each from two panchayaths and eight wards/divisions from corporation were finally selected for the study.

Figure 1.1: Sampling procedure



2.6 DATA COLLECTION PROCESS

Permission from respective GPs and municipal corporation authorities were taken prior to data collection and ward members were informed about the study. They would pass the message in the whatsapp group of their respective ward that the investigator would be visiting for study purpose. Most of the ward members would explain the places and boundaries of their wards so as to help with picking a locality. Some ward members also connected investigator to Kudumbasree (CDS) members of their wards for any support required in the field.

Among the wards, households were identified by picking a spot on Google map by entering the ward name or by entering a location on Google map suggested by respective ward member or CDS member. From that spot, the first household seen by taking the right direction was chosen to begin with. And all consecutive households in the same direction were approached. The purpose of the visit was explained to whoever answered the door and investigator asked for eligible participants within the age group of 40- 60 years.

Once the eligible participant was identified, they were informed about the study and provided with participant information sheet. Any clarification needed about the study

and its purpose were given when asked for by the participants before interview began. Once they go through it, they were asked if they were willing to participate and those who were willing to participate were given consent forms to sign or add thumb impression. Only after consent was received did the interview begin.

Within the household, if there were more than one eligible person, then interview was done for whoever was presently at the house or according to their choice. However, the investigator didn't encounter many instances like that.

Most of the women who were not willing to participate stated reasons like not interested, lack of time, and a few said that they had no benefit in participating.

2.7 DATA COLLECTION TOOLS

A structured questionnaire was prepared in English and translated into Malayalam. The questionnaire had nine sections,

1. Interview details,
2. Socio-demographic and economic details,
3. Details on any present illness,
4. Reproductive history,
5. Menstrual history,
6. Assessment of menopausal symptoms
7. Assessment of depression
8. Assessment of Anxiety
9. Assessment of Perceived Stress

The Tools adopted for assessing the level of perceived stress, anxiety and depression are Perceived stress scale (**PSS**), Generalised anxiety disorder scale (**GAD-7**) and Patient health questionnaire **(PHQ-9)**.

Pfizer, the official copyright owner of PHQ and GAD scales have explicitly stated that no permission is required to reproduce, translate, display or distribute them. (Mental Health Assessment Tools | Pfizer, 2023)

Sheldon Cohen, the author of the perceived stress scale questionnaire has stated that students and nonprofit organizations are free to use PSS without specific individually granted permission. Malayalam translated version by Dr. Anisha K Janardhanan, available on(https://www.cmu.edu/dietrich/psychology/stress-immunity-disease-lab/scales/pdf/malayalam_pss_10.pdf) was used in the study. (PSS Malayalam, 2023)

The study tool is provided at the end of the dissertation as annexure I and IV.

Perceived stress scale is a classic stress assessment tool with 10 items. The question in this scale asks about feelings and thoughts during the last month. In each case, it will be asked to indicate how often one felt or thought a certain way **(0 – never, 1 - almost never, 2 – sometimes, 3 - fairly often, and 4 - very often).**

The scoring of PSS is as follows:

First, reverse the scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0.

Now add up the scores for each item to get a total. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

0-13: low stress.

14-26: moderate stress.

27-40: high perceived stress.

Generalised anxiety disorder scale-7 (GAD-7) is a 7-item instrument that is used to measure or assess the severity of generalized anxiety disorder. Each item asks the individual to rate the severity of their symptoms over the past two weeks. The scoring of GAD-7 is as follows:

By assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of "not at all," "several days," "more than half the days," and "nearly every day." GAD-7 total score for the seven items ranges from 0 to 21. Interpretation of Total Score:

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

The Patient health questionnaire-9 (PHQ-9) is the depression module questionnaire in the self-administered version of PRIME-MD diagnostic instrument for common mental disorders. Each item in the questionnaire asks the individual to rate the severity of their symptoms over the past two weeks. The scoring of PHQ-9 is as follows:

Scoring: add up all checked boxes on PHQ-9, For every tick mark, Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3. Interpretation of Total Score:

1-4 Minimal depression

5-9 Mild depression

10-14 Moderate depression

15-19 Moderately severe depression

20-27 Severe depression

2.8 DATA ENTRY AND ANALYSIS

A hard copy of the instrument was used to record the data, which was then entered into the system using a data entry platform created in Open Data Kit (ODK) Central and afterwards converted to Microsoft Excel. With the help of IBM SPSS Statistics 25 for Windows, the data were analysed. The percentage of women experience low, moderate, and severe levels of depression, anxiety, and perceived stress were estimated. Further investigation was done to see how the characteristics of women relate to the level of stress, anxiety, or depression they experienced. The associations were examined using the chi-square test or the Fischer's exact test.

2.9 ETHICAL CONSIDERATIONS

The Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala had reviewed the study and gave clearance to conduct the study (SCT/IEC/2011/MARCH/2023).

Before moving to each ward, permission was obtained from respective Grama panchayath or Municipal corporation authorities. Participation in the study was completely voluntary. The interview was conducted only after obtaining informed consent from the participants. The participant's identity and personal information were kept confidential.

CHAPTER 3

RESULTS

The actual sample size was 274, with the addition of a non-response rate of 10 percent, the sample size became 302 which was rounded off to 310, and however, the sample size acquired was 282. Given below are the details of survey participation.

Table 3.1: Survey participation

Survey participation	N
Number of households visited*	310
Women who were willing to participate	282
Women who were not willing to participate	8
Women who were willing to participate during the first visit	279
Women who were willing to participate during the second visit	3
Women who weren't available at home during the visit	20

Background details of the participants, details on their menstrual history, details on the menopausal symptoms, the level of depression, anxiety, and stress among the study participants, the association of depression, anxiety, and stress with several characteristics of the women in the survey and the management of menopausal symptoms or psychological or emotional problems faced by the participants are described through different sections in the results chapter.

3.1 BACKGROUND DETAILS OF STUDY PARTICIPANTS

Socio-demographic and economic details of participants, marital and reproductive history and details on present illness as reported by participants are described in Tables 3.2-3.4.

Table 3.2 Socio-demographic and economic background of participants

Socio-demographic Characteristics	Count	Percent
Age		
40 – 45	67	23.8
46 – 50	73	25.9
51 – 55	87	30.9
56 – 60	55	19.5
Education		
Illiterate	11	3.9
Literate but no formal education	1	0.4
Primary school level (1-7th STD)	39	13.8
High school level (8-10th STD)	125	44.3
Higher secondary level (11-12th STD)	55	19.5
Graduate level	35	12.4
Post-graduate level and above	16	5.7
Religion		
Hindu	219	77.7
Muslim	50	17.7
Christian	13	4.6
Working status		
Home maker	169	59.9
Working in Government sector	18	6.4
Working in private sector	19	6.7
Self-employed	27	9.6
Retired	7	2.5
MGNREA	26	9.2
Coolie	8	2.8
Others	8	2.8
Colour of ration card		
Yellow	18	6.4
Pink	126	44.7
Blue	76	27.0
White	62	22.0
Monthly income		
Below 5000	92	32.6
5001 - 10000	109	38.7
10001 - 20000	43	15.2
20001 - 30000	13	4.6
Above 30000	25	8.9
Able to meet the monthly household expenditure easily		
Yes	211	74.8
No	71	25.2

*MGNREA- Mahatma Gandhi National Rural Employment Guarantee Act

The mean age of the participants was 50.2 years with a standard deviation of 5.7. More than eighty percent of the participants had an education level of high school or above. The majority of study participants were homemakers and only less than thirty percent belonged to any kind of working class. The APL ration card holders were 49 percent and the remaining 51 percent were BPL card holders. Among the participants, the most reported average monthly income of the family was between ten thousand and twenty thousand. And one-fourth of the participants said they had difficulty in meeting the monthly expenditures easily. 84 percent of the participants lived in a house with or more than three members, 14.2 percent lived in a house with two members and only 1.8 percent of participants lived alone. Most participants had at least one child, had a normal delivery, and had undergone sterilization. 10.6 percent of the women had undergone hysterectomy (surgical removal of uterus). **(Table 3.3)**

Table 3.3 Marital status and reproductive history

Characteristics:	**Count**	**Percent**
Marital status		
Married	229	81.2
Single	1	0.4
Widowed	43	15.2
Separated/Divorced	9	3.2
Have child		
Yes	270	96.1
No	11	3.9
Type of delivery		
Normal	201	74.4
Cesarean section	57	21.1
Both	12	4.4
Undergone sterilization		
Yes	226	83.7
No	44	16.3
Undergone hysterectomy		
Yes	30	10.6
No	252	89.4

The most reported illness among the participants in the study was hypertension, followed by hyperlipidaemia, thyroid dysfunction, and diabetes mellitus. Diseases complained of most other than these four were asthma, joint pain, and varicose vein.

Table 3.4 Details on present illness and their treatment

Present illness and treatment	Count	Percent
Present illness		
Nil	107	37.9
Hyperlipidemia	82	29.1
Hypertension	93	33.0
Diabetes	67	23.8
Thyroid dysfunction	77	27.3
Others	38	13.5
Morbidities		
No morbidity	107	37.9
Single morbidity	66	23.4
Multiple morbidities	109	38.7
Take medicine for the disease		
Nil	120	42.6
Hyperlipidemia	68	24.1
Hypertension	89	31.6
Diabetes	65	23.0
Thyroid dysfunction	73	25.9
Others	28	9.9

3.2 MENSTRUAL HISTORY

The mean age of menarche in the study participants was 13.7 years with a standard deviation of 1.5 years. 69.1 percent of women in the study attained menarche between 11-14 years of age, 28.4 percent between 15-18 years, and 2.5 percent before the age of 10 years. Further details on their menstrual cycle is mentioned in Table 3.5.

Table 3.5 Menstrual history

Menstrual details	Yes[N(%)]	No[N(%)]	Sometimes[N(%)]
Regular periods	81(60.9)	34(25.6)	18(13.5)
Heavy periods	17(12.8)	96(72.2)	20(15)
Painful periods	21(15.8)	99(74.4)	13(9.8)
Prolonged periods	07(5.3)	120(90.2)	06(4.5)
Bleed in between periods	06(4.5)	104(78.2)	23(17.3)
Premenstrual symptoms	66(49.6)	60(45.1)	07(5.3)

More than 35 percent of the menstruating women complained of irregularity in periods with more than 25 percent complaining of heavy periods and painful periods. One in two women experiences some kind of premenstrual symptoms like bloating, cramping, mood swings, and irritability.

3.3 MENOPAUSAL SYMPTOMS

The menopausal rating scale has been used to identify menopausal symptoms among the women in the study. There are 11 menopausal symptoms that have been scored as none, mild, moderate, severe, and extremely severe. The 11 menopausal symptoms come under three main domains-Physical, Psychological and Uro-genital. The proportion of women reporting different symptoms based on the severity has been given in the tables listed below (Tables 3.6-3.8)

Among the physical symptoms of menopause, the most complained was joint and muscular discomfort followed by hot flashes and sweating, heart discomfort, and sleep problems. In case of hot flashes and sweating, most women experienced severe level of the symptom.

Most women experienced mild discomfort of the heart, while in case of sleep problems and joint and muscular discomfort, the majority experienced severe levels of the symptoms.

Table 3.6 Physical symptoms of menopause

Physical Symptoms (N=282)	None N(%)	Mild N(%)	Moderate N(%)	Severe N(%)	Extremely severe N(%)
Hot flashes, sweating	135(47.9)	47(16.7)	40(14.2)	57(20.2)	03(1.1)
Heart discomfort	144(51.1)	59(29.9)	55(19.5)	24(8.5)	00(00)
Sleep problems	162(57.4)	28(9.9)	30(10.6)	40(14.2)	22(7.8)
Joint and muscular discomfort	71(25.4)	39(13.9)	69(24.6)	84(30.0)	17(6.1)

Out of the four major psychological symptoms, Irritability was most complained of, followed by anxiety, depressive mood, and physical and mental exhaustion. Moderate level of depressive mood as well as physical and mental exhaustion was experienced by most of the participants, when in Irritability and anxiety most of them experienced only mild level.

Table 3.7 Psychological symptoms of menopause

Psychological Symptoms (N=282)	None N(%)	Mild N(%)	Moderate N(%)	Severe N(%)	Extremely severe N(%)
Depressive mood	117(41.5)	58(20.6))	67(23.8)	31(11)	9(3.2)
Irritability	93(33)	91(32.3)	68(24.1)	27(9.6)	03(1.1)
Anxiety	110(39)	81(28.7)	65(23)	23(8.2)	03(1.1)
Physical and mental exhaustion	136(48.2)	51(18.1)	64(22.7)	29(10.3)	02(0.7)

Uro- genital symptoms were the least complained symptoms compared to physical and psychological symptoms. Bladder problems were reported highest by participants followed by dryness of vagina and sexual problems. The majority of women complained of experiencing mild as well as extremely severe sexual problems, whereas in the case of dryness of vagina, most women complained only mild presentation of the symptom, and among bladder problems, a moderate level of the symptom was reported mostly.

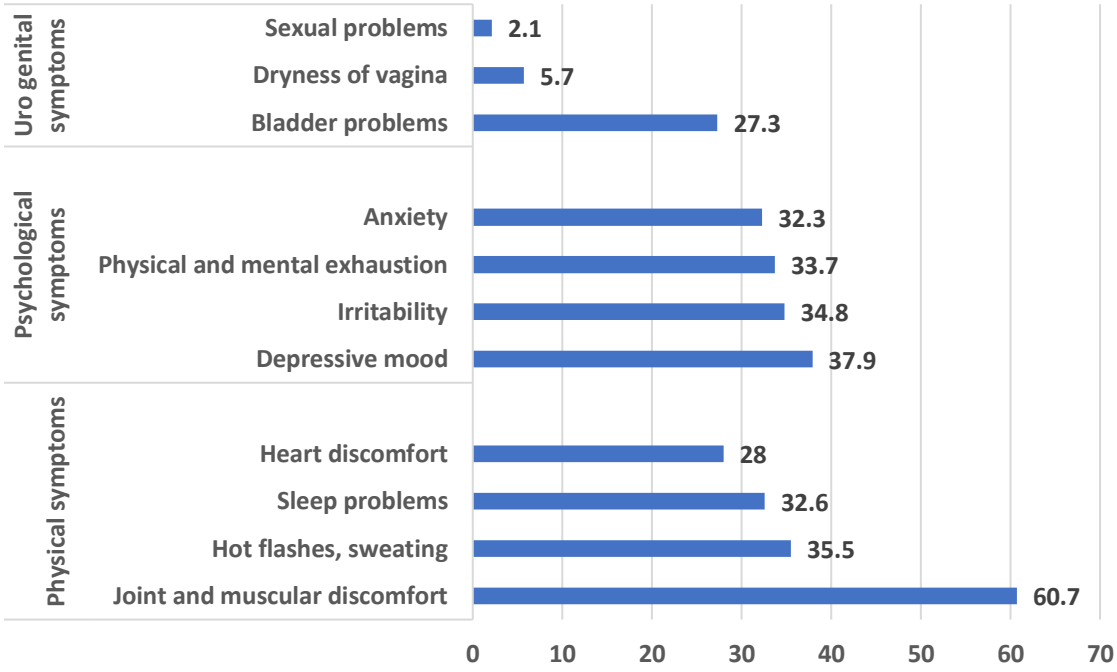
Table 3.8 Uro-genital symptoms of menopause

Uro-genital Symptoms: (N=282)	None N(%)	Mild N(%)	Moderate N(%)	Severe N(%)	Extremely severe N(%)
Sexual problems	272(96.5)	04(1.4)	02(0.7)	00(00)	04(1.4)
Bladder problems	185(65.6)	20(7.1)	37(13.1)	29(10.3)	11(3.9)
Dryness of vagina	240(85.7)	24(8.6)	07(2.5)	08(2.9)	01(0.4)

The most reported symptom with moderate to extreme severity among the study participants was joint and muscular discomfort (N = 170, 60%). Subsequently, depressive mood (N=107, 40%), hot flashes and sweating (N=100,35.4%), irritability (N=98,34.7%), physical and mental exhaustion (N=95,33.6%), sleep problems(N=92,32.6%), anxiety (N=91,32.2%), heart discomfort (N=79,28%), bladder problems (N=77,27.3%), dryness of the vagina (N=16,5.6%), and sexual problems(N=6,2.1%). Only very few women reported extremely severe symptoms.

The percentage of women reporting moderate to severe menopausal symptoms is given in the figure 3.1 below.

Figure 3.1 : Menopausal symptoms



3.4 LEVEL OF DEPRESSION, ANXIETY, AND STRESS

Only nine out of 282 women were found to have severe depression. 13.8 percent of women in the sample were found to have moderate to severe level of depression.

Table 3.9 Level of depression

Level of Depression:	Count	Percent
Minimal depression(0-4)	178	63.1
Mild depression(5-9)	65	23
Moderate depression(10-14)	20	7.1
Moderately severe depression (15-20)	10	3.5
Severe depression(20-27)	09	3.2

Only eight women in the sample had severe anxiety and 8.8 percent of total women were found to have moderate to severe level of anxiety.

Table 3.10 Level of anxiety

Level of Anxiety:	Count	Percent
Minimal anxiety(0-4)	197	69.9
Mild anxiety(5-9)	60	21.3
Moderate anxiety(10-14)	17	6.0
Severe anxiety(15-21)	08	2.8

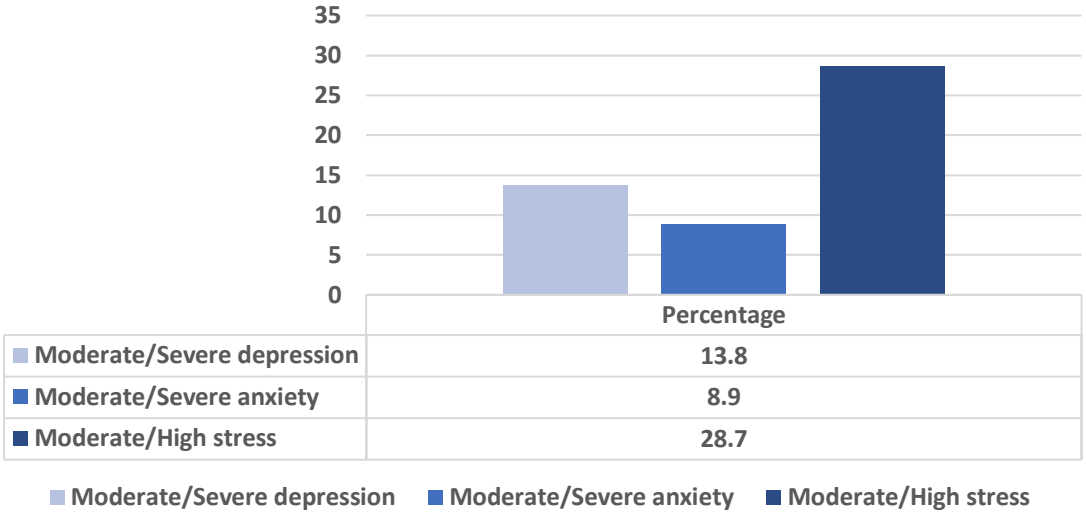
Twelve women reported having high stress. Stress was found more prevalent than depression and anxiety, on the basis of moderate to high level comprising 28.8 percent of the total sample size.

Table 3.11 Level of stress

Level of Stress:	Count	Percent
Low stress(0-13)	201	71.3
Moderate stress(14-26)	69	24.5
High perceived stress(27-40)	12	4.3

The figure 3.2 depicts percentage of women with moderate to severe depression, anxiety and stress.

Figure 3.2 : Level of Depression, Anxiety and Stress



Only a very few thought their mental health status was bad (n=18, 6.3%) and most of them responded to having neither good nor bad overall mental health (n=162, 57.4%). However, 102 participants (36%) responded to having a self-perception of good mental health.

Table 3.12 Self-perception of overall mental health status

Overall mental health status:	Count	Percent
Very bad	5	1.8
Bad	13	4.6
Neither	162	57.4
Good	70	24.8
Very good	32	11.3

3.5 MANAGEMENT OF PSYCHOLOGICAL OR EMOTIONAL PROBLEMS AND MENOPAUSAL SYMPTOMS

Only 16 participants (5.7%) among the total participantshad a history of treatment for any psychological or emotional problems, out of which seven people did only counselling and nine people underwent both counselling and treatment with medicines. At present, only two

participants were under treatment for psychological or emotional problems and their treatment involves both counselling as well as taking medicine.

14 participants (5%) in total said to have felt the need for medical aid regarding the psychological or emotional problem they were encountering. As when asked to describe their problem, most of them said financial difficulties and issues with family were the reasons behind the psychological or emotional problems they were having. Out of these 14 participants, only five said that the emotional or psychological problem they had were in some way affecting their daily routine. And when asked about adopting any self-care strategies to manage emotional or psychological problems, most of the participants said communicating the problems and discussing solutions with family and friends as their strategy to overcome any such situations.

Nearly 33 percent of women sought professional medical care for at least one of the menopausal symptoms. Joint and muscular discomfort was the symptom for which most of the women sought care. Knee joint pain was a highly frequent complaint within the joint and muscular discomfort. Three out of four people who sought professional medical care for any menopausal symptom responded to having relief with the treatment.

28.7 percent of women resorted to home remedies for at least one of the menopausal symptoms and Similar to seeking professional medical care, the problem for which home remedy was mostly done was joint and muscular discomfort, especially knee joint pain. 92.6 percent of women who did any kind of home remedies for menopausal symptoms responded to having relief from it. Home remedies done for the symptoms were mostly application of ayurvedic medicated oil for joint pain, however this was not under prescription from a professional ayurvedic practitioner.

3.6 DEPRESSION AND ASSOCIATED FACTORS

3.6.1 Association of socio-demographic and economic variables with depression:

Among the socio-demographic variables, colour of the ration card, ability to meet household expenditures easily, and monthly income were found to be associated with the level of depression at a statistically significant level of 5%.

People who are BPL card holders had 18.1 percent of moderate to severely depressed women and nearly half of that proportion had moderate to severe depression among APL card holders (9.4%). Those who had difficulty in meeting monthly household expenditure easily had the highest proportion of moderate to severely depressed women as compared to those who could meet monthly household expenditures easily. And 6.2 percent of women with a monthly family income above 10,000 had moderate to severe depression while 16.9 percent of women with family income less than 10,000 had moderate to severe depression.

Those who had up to primary education had a higher proportion of women with moderate to severe depression. And the least proportion of women with moderate to severe depression was seen among those with education level at higher secondary or above.

16.6 percent of home makers were found to be moderate to severely depressed. Whereas only 4.4percent of women working in government or private sector was found to be moderate to severely depressed. Among others, including MGNREGA, coolie workers, self-employed and retired, 13.2percent were found to be moderate to severely depressed. Age of women were not found to be associated with level of depression, however 56-60 years aged had highest proportion of moderate to severely depressed women and 40-45 years aged had the least number of women with moderate to severe depression. Further results of bivariate analysis of socio-demographic and economic variables with depression is given in table 3.13

Table 3.13 Association of socio-demographic and economic variables with depression.

Socio-demographic and Economic characteristics:		Minimal/Mild depression		Moderate/severe depression		χ^2	p
		Count	Percent	Count	Percent		
Age	40 - 45	60	89.6	7	10.4	2.33	0.506
	46 - 50	61	83.6	12	16.4		
	51 - 55	77	88.5	10	11.5		
	56 - 60	45	81.8	10	18.2		
Education	Up to Primary school level	40	78.4	11	21.6	5.3	0.071
	High school level	106	84.8	19	15.2		
	Higher secondary and above	97	91.5	9	8.5		
Working status	Homemaker	141	83.4	28	16.6	4.41	0.11
	Working in Govt./PVT sector	43	95.6	2	4.4		
	Others	59	86.8	9	13.2		
Colour of ration card	BPL	118	81.9	26	18.1	4.41	0.036*
	APL	125	90.6	13	9.4		
Able to meet the monthly household expenditure easily	Yes	188	89.1	23	10.9	6.03	0.014*
	No	55	77.5	16	22.5		
Monthly income	<10,000	167	83	34	16.9	Fisher's exact	0.018*
	>10,000	76	93.8	5	6.2		

significant at 0.05 level

3.6.2 Association of marital status and reproductive history with depression:

No factors like marital status or reproductive history were found to be associated with depression. However, it was found that women who are single, separated, or divorced had highest proportion of women with moderate to severe depression as compared to women living with their spouse. Details of the association between marital status, having children and surgery for removal of uterus with depression has been listed in table 3.14 below.

Table 3.14 Association of marital status and reproductive history with depression.

Reproductive history:		Minimal/Mild depression		Moderate/severe depression		χ^2	p
		Count	Percent	Count	Percent		
Marital status	Married	201	87.8	28	12.2	2.63	0.105
	Others	42	79.2	11	20.8		
Have child	Yes	233	86.3	37	13.7	Fisher's exact	0.654
	No	9	81.8	2	18.2		
Surgery for removal of uterus	Yes	27	90	3	10	Fisher's exact	0.779
	No	216	85.7	36	14.3		

3.6.3 Association of presence of morbidities with depression

While 24 out of 109 women with multiple morbidities had moderate to severe depression, only 7 out of 66 women with single morbidity and 8 out of 107 women with no morbidity had moderate to severe depression. This association between presence of morbidities and level of depression was found to be statistically significant at 0.01 level.

Table 3.15 Association of presence of morbidities with depression

Present illness		Minimal/Mild depression		Moderate/severe depression		χ^2	p
		Count	Percent	Count	Percent		
Morbidities	No morbidity	99	92.5	8	7.5	10.33	0.006**
	Single morbidity	59	89.4	7	10.6		
	Multiple morbidities	85	78	24	22		

*****significant at 0.01 level***

3.6.4 Association of menstrual history with depression

Factors like heavy periods, prolonged periods and bleeding in between periods were found to be associated with level of depression at a statistically significant level.

Table 3.16 Association of menstrual history with depression

Menstrual History		Minimal/Mild depression		Moderate/severe depression		χ^2	p
		Count	Percent	Count	Percent		
Regular periods	Yes	87	87.9	12	12.1	Fisher's exact	0.258
	No	27	79.4	7	20.6		
Heavy periods	Yes	28	75.7	9	24.3	4.219	0.04*
	No	86	89.6	10	10.4		
Painful periods	Yes	31	91.2	3	8.8	Fisher's exact	0.399
	No	83	83.8	16	16.2		
Prolonged periods	Yes	8	61.5	5	38.5	Fisher's exact	0.021*
	No	106	88.3	14	11.7		
Bleed in between	Yes	20	69	9	31	Fisher's exact	0.007**
	No	94	90.4	10	9.6		
Pre-menstrual symptoms	Yes	59	80.8	14	19.2	Fisher's exact	0.075
	No	55	91.7	5	8.3		
Last time periods	>=2 months	95	88.8	12	11.2	4.22	0.122
	3 months - 2 years	19	73.1	7	26.9		
	More than 2 years	102	85.7	17	14.3		

significant at 0.01 level, *significant at 0.05 level.

3.6.5 Association of menopausal symptoms with depression

Every symptoms of menopause under physical, psychological and uro-genital symptoms except for sexual problems were found to be statistically associated with the level of depression. Women with moderate to severe menopausal symptoms had a higher proportion of moderate to severe depression. Details on the association of menopausal symptoms with depression is given in the table 3.17.

Table 3.17 Association of menopausal symptoms with depression

Menopausal symptoms			Minimal/Mild depression		Moderate/severe depression		χ^2	p
			Count	Percent	Count	Percent		
Physical symptoms	Joint & muscular discomfort	None/Mild	107	97.3	3	2.7	18.96	p<0.01 **
		Moderate/ Severe	134	78.8	36	21.2		
	Sleep problems	None/Mild	183	96.3	7	3.7	50.3	p<0.01 **
		Moderate/ Severe	60	65.2	32	34.8		
	Heart discomfort	None/Mild	189	93.1	14	6.9	29.23	p<0.01 **
		Moderate/ Severe	54	68.4	25	31.6		
	Hot flashes, sweating	None/Mild	164	90.1	18	9.9	6.68	0.01 **
		Moderate/ Severe	79	79	21	21		
Psychological symptoms	Physical & mental exhaustion	None/Mild	180	96.3	7	3.7	47.39	0.001 **
		Moderate/ Severe	63	66.3	32	33.7		
	Depressive mood	None/Mild	167	95.4	8	4.6	33.17	p<0.01 **
		Moderate/ Severe	76	71	31	29		
	Irritability	None/Mild	176	95.7	8	4.3	39.95	p<0.01 **
		Moderate/ Severe	67	68.4	31	31.6		
	Anxiety	None/Mild	180	94.2	11	5.8	32.35	p<0.01 **
		Moderate/ Severe	63	69.2	28	30.8		
Uro genital symptoms	Bladder problems	None/Mild	189	92.2	16	7.8	22.87	p<0.01 **
		Moderate/ Severe	54	70.1	23	29.9		
	Dryness of vagina	None/Mild	231	87.5	33	12.5	Fisher's exact	0.013 *
		Moderate/ Severe	10	62.5	6	37.5		
	Sexual problems	None/Mild	238	86.2	38	13.8	Fisher's exact	0.594
		Moderate/ Severe	5	83.3	1	16.7		

significant at 0.01 level, *significant at 0.05 level.

3.7 ANXIETY AND ASSOCIATED FACTORS

3.7.1 Association of socio-demographic and economic factors with anxiety

Factors that were found statistically associated with anxiety were colour of ration card, ability to meet monthly household expenditure easily and monthly income.

Though not statistically significant, a pattern observed in case of association

between education and working status with depression exist in case of anxiety as well. Unlike as seen in depression, the age group 46-50 years had the highest proportion of women with moderate to severe anxiety and 51-55 years had the least.

Table 3.18 Association of socio-demographic and economic factors with anxiety

Socio-demographic and Economic characteristics:		Minimal/Mild Anxiety		Moderate/severe Anxiety		χ^2	p
		Count	Percent	Count	Percent		
Age	40 - 45	60	89.6	7	10.4	1.65	0.647
	46 - 50	65	89	8	11		
	51 - 55	82	94.3	5	5.7		
	56 - 60	50	90.9	5	9.1		
Education	Upto Primary school level	43	84.3	8	15.7	4.29	0.117
	High school level	114	91.2	11	8.8		
	Higher secondary and above	100	94.3	6	5.7		
Working status	Home maker	154	91.1	15	8.9	1.8	0.407
	Working in Govt./PVT sector	43	95.6	2	4.4		
	Others	60	88.2	8	11.8		
Colour of ration card	BPL	125	86.8	19	13.2	6.83	0.009**
	APL	132	95.7	6	4.3		
Able to meet the monthly household expenditure easily	Yes	197	93.4	14	6.6	5.16	0.023*
	No	60	84.5	11	15.5		
Monthly income	<10,000	177	88.1	24	11.9	Fisher's exact	0.004**
	>10,000	80	98.8	1	1.2		

significant at 0.01 level, *significant at 0.05 level

3.7.2 Association of marital status and reproductive history with anxiety

Marital status and reproductive history was not found to be associated with anxiety. The women who were separated, divorced or widowed were found to have highest proportion

of women with moderate to severe anxiety and about only half its proportion had moderate to severe anxiety among women living with their spouse.

Table 3.19 Association of marital status and reproductive history with anxiety

Reproductive history:		Minimal/Mild Anxiety		Moderate/severe Anxiety		χ^2	p
		Count	Percent	Count	Percent		
Marital status	Married	212	92.6	17	7.4	3.13	0.077
	Others	45	84.9	8	15.1		
Have child	Yes	246	91.1	24	8.9	0	0.982
	No	10	90.9	1	9.1		
Surgery for removal of uterus	Yes	29	96.7	1	3.3	1.27	0.259
	No	228	90.5	24	9.5		

3.7.3 Association of presence of morbidities with anxiety

Presence of morbidity was not found to be associated with the level of anxiety. However, the women with multiple morbidities had highest proportion of women with moderate to severe anxiety.

Table 3.20 Association of presence of morbidities with anxiety

Present illness		Minimal/Mild Anxiety		Moderate/severe Anxiety		χ^2	p
		Count	Percent	Count	Percent		
Morbidities	No morbidity	99	92.5	8	7.5	2.16	0.339
	Single morbidity	62	93.9	4	6.1		
	Multiple mobidities	96	88.1	13	11.9		

3.7.4 Association of menstrual history with anxiety

Factors like regular periods and prolonged periods among menstrual history were found to be associated with the level of anxiety at a statistically significant level of 5percent.

Table 3.21 Association of menstrual history with anxiety

Menstrual History		Minimal/Mild Anxiety		Moderate/severe Anxiety		χ^2	p
		Count	Percent	Count	Percent		
Regular periods	Yes	92	92.9	7	7.1	Fisher's exact	.047*
	No	27	79.4	7	20.6		
Heavy periods	Yes	31	83.8	6	16.2	Fisher's exact	.212
	No	88	91.7	8	8.3		
Painful periods	Yes	32	94.1	2	5.9	Fisher's exact	.517
	No	87	87.9	12	12.1		
Prolonged periods	Yes	9	69.2	4	30.8	Fisher's exact	0.032*
	No	110	91.7	10	8.3		
Bleed in between	Yes	23	79.3	6	20.7	Fisher's exact	.079
	No	96	92.3	8	7.7		
Pre-menstrual symptoms	Yes	62	84.9	11	15.1	Fisher's exact	.060
	No	57	95.0	3	5.0		
Last time periods	>=2 months	97	90.7	10	9.3		
	3 months - 2 years	22	84.6	4	15.4	1.21	0.545
	More than 2 years	109	91.6	10	8.4		

significant at 0.05 level.

3.7.5 Association of menopausal symptoms with anxiety

Every menopausal symptom except hot flashes and sweating among the physical symptoms of menopause was found to be associated with the level of anxiety. As similar to as in depression, women with moderate to severe menopausal symptoms had higher proportion of moderate to severe anxiety as compared to women with mild menopausal symptoms.

Table 3.22 Association of menopausal symptoms with anxiety

Menopausal symptoms			Minimal/Mild Anxiety		Moderate/severe Anxiety		χ^2	p
			Count	Percent	Count	Percent		
Physical symptoms	Heart discomfort	None/Mild	197	97	6	3	31.32	p<0.01**
		Moderate/ Severe	60	75.9	19	24.1		
	Sleep problems	None/Mild	184	96.8	6	3.2	23.48	p<0.01**
		Moderate/ Severe	73	79.3	19	20.7		
	Joint & muscular discomfort	None/Mild	108	98.2	2	1.8	11.26	p<0.01**
		Moderate/ Severe	147	86.5	23	13.5		
	Hot flashes, sweating	None/Mild	170	93.4	12	6.6	3.28	0.07
		Moderate/ Severe	87	87	13	13		
Psychological symptoms	Irritability	None/Mild	182	98.9	2	1.1	39.65	p<0.01**
		Moderate/ Severe	75	76.5	23	23.5		
	Depressive mood	None/Mild	174	99.4	1	0.6	39.27	p<0.01**
		Moderate/ Severe	83	77.6	24	22.4		
	Anxiety	None/Mild	186	97.4	5	2.6	28.59	p<0.01**
		Moderate/ Severe	71	78	20	22		
	Physical & mental exhaustion	None/Mild	180	96.3	7	3.7	18.02	p<0.01**
		Moderate/ Severe	77	81.1	18	18.9		
	Sexual problems	None/Mild	254	92	22	8	12.84	p<0.01**
		Moderate/ Severe	3	50	3	50		
Uro genital symptoms	Dryness of vagina	None/Mild	244	92.4	20	7.6	5.84	0.016*
		Moderate/ Severe	12	75	4	25		
	Bladder problems	None/Mild	193	94.1	12	5.9	8.43	0.004**
		Moderate/ Severe	64	83.1	13	16.9		

significant at 0.01 level, *significant at 0.05 level.

3.8 STRESS AND ASSOCIATED FACTORS

3.8.1 Association of socio-demographic and economic factors with stress

The socio-demographic and economic factors found associated with the level of stress was level of education, colour of ration card, ability to meet monthly household expenditure easily and monthly income. 34.5percent of women in the age group of 56-60 years had moderate to severe stress which was the highest and the age group of 40-45 had the least

proportion (22.4). Age and working status was not associated with stress at a statistically significant level.

Table 3.23 Association of socio-demographic and economic factors with stress

Socio-demogrphic and Economic characteristics:		Minimal/Mild Perceived stress		Moderate/severe Perceived stress		χ^2	p
		Count	Percent	Count	Percent		
Age	40 - 45	52	77.6	15	22.4	2.99	0.393
	46 - 50	54	74	19	26		
	51 - 55	59	67.8	28	32.2		
	56 - 60	36	65.5	19	34.5		
Education	Upto Primary school level	28	54.9	23	45.1	16.03	p<0.01**
	High school level	84	67.2	41	32.8		
	Higher secondary and above	89	84	17	16		
Working status	Home maker	120	71	49	29	5.96	0.051
	Working in Govt./PVT sector	38	84.4	7	15.6		
	Others	43	63.2	25	36.8		
Colour of ration card	BPL	88	61.1	56	38.9	14.85	p<0.01**
	APL	113	81.9	25	18.1		
Able to meet the monthly household expenditure easily	Yes	158	74.9	53	25.1	5.16	0.023*
	No	43	60.6	28	39.4		
Monthly income	<10,000	130	64.7	71	35.3	Fisher's exact	p<0.01**
	>10,000	71	87.7	10	12.3		

significant at 0.01 level, *significant at 0.05 level.

3.8.2 Association of marital status and reproductive history with stress

About half (49.1percent) of women who were separated, widowed or divorced had moderate to severe stress. And the association between marital status and level of stress was found to be statistically significant.

Table 3.24 Association of marital status and reproductive history with stress

Reproductive history:		Minimal/Mild Perceived stress		Moderate/severe Perceived stress		χ^2	p
		Count	Percent	Count	Percent		
Marital status	Married	174	76	55	24	13.18	p<0.01**
	Others	27	50.9	26	49.1		
Have child	Yes	192	71.1	78	28.9	0.01	0.908
	No	8	72.7	3	27.3		
Surgery for removal of uterus	Yes	26	86.7	4	13.3	3.88	0.049*
	No	175	69.4	77	30.6		

significant at 0.01 level, *significant at 0.05 level.

3.8.3 Association of presence of morbidities with stress

Presence of illness and stress was not found to be associated. 33percent of women with single morbidity had moderate to severe stress which was higher than the proportion of women with moderate to severe depression among women with multiple morbidities.

Table 3.25 Association of presence of morbidities with stress

Present illness		Minimal/Mild stress		Moderate/severe stress		χ^2	p
		Count	Percent	Count	Percent		
Morbidities	No morbidity	82	76.6	25	23.4	2.51	0.285
	Single morbidity	44	66.7	22	33.3		
	Multiple morbidities	75	68.8	34	31.2		

3.8.4 Association of menstrual history with stress

Only premenstrual symptoms among the factors listed in menstrual history was found to be associated with the level of stress at a statistically significant level.

Table 3.26 Association of menstrual history with stress

Menstrual History		Minimal/Mild stress		Moderate/severe stress		χ^2	p
		Count	Percent	Count	Percent		
Regular periods	Yes	75	75.8	24	24.4	.355	.551
	No	24	70.6	10	29.4		
Heavy periods	Yes	25	67.6	12	32.4	1.271	.260
	No	74	77.1	22	22.9		
Painful periods	Yes	25	73.5	9	26.5	.020	.888
	No	74	74.7	25	25.3		
Prolonged periods	Yes	8	61.5	5	38.5	Fisher's exact	.316
	No	91	75.8	29	24.2		
Bleed in between	Yes	18	62.1	11	37.9	2.981	.084
	No	81	77.9	23	22.1		
Pre-menstrual symptoms	Yes	47	64.4	26	35.6	8.593	.003**
	No	52	86.7	8	13.3		
Last time periods	>=2 months	81	75.7	26	24.3	3.720	.156
	3 months - 2 years	18	69.2	8	30.8		
	More than 2 years	76	63.9	43	36.1		

significant at 0.01 level.

3.8.5 Association of menopausal symptoms with stress

Menopausal symptoms excluding hot flashes, sweating and dryness of vagina were found to be associated with level of perceived stress at a highly statistically significant level. Table 3.27 illustrates the association of every menopausal symptoms with stress.

Table 3.27 Association of menopausal symptoms with stress

Menopausal symptoms			Minimal/Mild stress		Moderate/severe stress		χ^2	p
			Count	Percent	Count	Percent		
Physical symptoms	Heart discomfort	None/Mild	156	76.8	47	23.2	10.98	p<0.01**
		Moderate/ Severe	45	57	34	43		
	Sleep problems	None/Mild	148	77.9	42	22.1	12.46	p<0.01**
		Moderate/ Severe	53	57.6	39	42.4		
	Joint & muscular discomfort	None/Mild	91	82.7	19	17.3	11.97	p<0.01**
		Moderate/ Severe	108	63.5	62	36.5		
	Hot flashes, sweating	None/Mild	135	74.2	47	25.8	2.11	0.147
		Moderate/ Severe	66	66	34	34		
Psychological symptoms	Anxiety	None/Mild	154	80.6	37	19.4	25.28	p<0.01**
		Moderate/ Severe	47	51.6	44	48.4		
	Irritability	None/Mild	149	81	35	19	24.34	p<0.01**
		Moderate/ Severe	52	53.1	46	46.9		
	Depressive mood	None/Mild	141	80.6	34	19.4	19.46	p<0.01**
		Moderate/ Severe	60	56.1	47	43.9		
	Physical & mental exhaustion	None/Mild	145	77.5	42	22.5	10.64	0.001**
		Moderate/ Severe	56	58.9	39	41.1		
	Sexual problems	None/Mild	200	72.5	76	27.5	8.93	0.003**
		Moderate/ Severe	1	16.7	5	83.3		
Uro genital symptoms	Bladder problems	None/Mild	154	75.1	51	24.9	5.42	0.02*
		Moderate/ Severe	47	61	30	39		
	Dryness of vagina	None/Mild	190	72	74	28	0.66	0.416
		Moderate/ Severe	10	62.5	6	37.5		

significant at 0.01 level, *significant at 0.05 level.

CHAPTER 4

DISCUSSION

The study was aimed at understanding depression, anxiety and stress among 40-60 year old women and its correlates. The key findings of our study is that on a cut-off score at 10 for depression and anxiety with 95percent CI, the prevalence of depression and anxiety was 13.8percent [9.8 , 18] and 8.9percent [5.6 , 12] respectively. And with a cut off score at 14 for stress with 95percent CI, the prevalence of stress was found to be 28.7percent [23 , 34]. Socio-economic status and certain menopausal symptoms were found consistently associated with all three outcomes.

A community based study conducted in Ambalappuzha, Kerala reported a prevalence of 26.09 percent (Archana et al., 2017). This was almost twice as the result obtained in the current study. One main difference that was observed was a complete rural participation in the latter as compared to the former study where rural and urban participation has been ensured. And the difference could also be attributed to the socio- cultural background, a difference in the distribution of women based on educational level. While the present study had majority of women with highest attained education level at highschool and above, the other study had majority participants with education with or less than primary school level.

A community based study in Tamilnadu among adult women aged 18-59 years, showed that 15 percent of their study participants had depression, 10.6 percent had anxiety and 5 percent had stress (Srinivasan et al., 2020). A similar proportion of women in our study reported of having depression (13.8) and anxiety (8.9). However, stress (28.7) estimated in the current study was way higher than in this study. This could have been because of difference in the social, regional and cultural differences or the use of a different scale for

same measure. This study used DASS-21 while in the current study we have used three different tools to identify depression (PHQ-9), anxiety (GAD-7) and stress (PSS).

In our study, most of the participants had an education level at high school level or above, only 51 women had education level at primary school level or below but it is interesting to note that out of this 51 women, 11 reported moderate to severe depression, 8 reported to have moderate to severe anxiety and 23 reported to have stress. Though an association with education was only statistically significant in case of stress, women with different education level showed differences in the proportion of women with moderate or severe level of all three outcomes. A study done among women in rural western India had found that with increasing level of education, the probability for screening positive for any mental disorder was considerably decreased especially in women with high level of self reported stress (Fahey et al., 2016).

Working status of our participants was not evenly distributed, most of them being home makers. Women who were coolie workers, MGNREGA workers, self-employed or retired together comprised 24 percent of the total sample. And it was observed that these two groups (home makers, others) had a comparatively more proportion of women with moderate to severe depression, anxiety and stress. Among them, home makers had the highest proportion in case of depression whereas anxiety and stress was more among the group comprising coolie workers, MGNREGA workers, self-employed or retired. The proportion of women working in government or private sector were considerably low in this study. Interestingly this group had less proportion of women with moderate to severe depression, anxiety and stress. However, an association with working status was not statistically significant across any outcomes.

About one-fifth of women who were divorced, widowed or separated had moderate to severe depression, which as compared to those living with their spouse was high. Similarly the proportion with moderate to severe anxiety was high among divorced, widowed or separated. The same can be observed in case of stress, where about 50 percent of them are under moderate to severe stress. The association between marital status and stress was a statistically significant one in this study. This observation has been a consistent one in similar such studies (Archana et al., 2017; Bansal et al., 2015).

The association of depression with presence of morbidities was found statistically signifant in this study, The percentage of women with moderate to severe depression was more among women with multiple morbidities than women with single morbidities or no morbidities at all. Though not statistically significant, a high proportion of women with morbidities had moderate to severe anxiety and stress.

Certain menstrual characteristics like having irregular periods, heavy and prolonged periods, bleeding in between periods and pre-menstrual symptoms along with menopausal symptoms were also found significantly associated with depression, anxiety and stress among the participants of our study. This is another important finding that coincides with a study done in our context with similar nature. Archana et al reported 40.28 percent of women with peri-menopausal symptoms had depression, which twice more than women who did not exhibit peri-menopausal symptoms (Archana et al., 2017).

Overall the most important factor to emphasise is on the socio-economic and cultural background of women that is impacting their mental wellbeing. The variables used to capture economic status of the participants in our study were type of ration card, average monthly income and ability to meet monthly expenditures. However, the educational level and working status also directs at the vulnerable position women is at socio-culturally.

Widowed or divorced or separated women having stress, depression, and anxiety at a bigger proportion than those living with their spouses could mean a number of things like having a supportive family atmosphere, being financially stable or being able to depend on a permanent source for financial needs which will definitively impact on one's mental health.

Therefore the higher stress level in our study could be attributed to the financial toll from a low socio-economic background.

4.1 STRENGTHS AND LIMITATIONS

Few strengths of the present study is that this was a community based study done in an urban and rural setting. The study were able to assess three different mental health conditions in the target population which has not been very much done in our context. And the age distribution of the study population was almost even which limited the skewness of any findings that are age dependent.

This study has few limitations though. There were very less working class women and most of them were home makers and even among working class, government or private employees with clerical or office based jobs were very less, so the generalizability owing to this fact is limited in our study. The study could not capture the actual burden of the mental disorders as it would require a more in depth approach through a qualitative perspective.

4.2 CONCLUSION

Women in middle age have serious concerns regarding their family, children and financial stability. They are at a vulnerable position due to physiological (menopausal transition) and pathological changes (life style disorders) happening with age. This could make them susceptible to common mental disorders like depression, anxiety and stress. A thorough understanding of the scenario through a gendered lens is required to implement effective

interventions. In the age group of 40-60 years, more than one in ten women is depressed and more than one in four women is stressed, which calls for an initiative targeting vulnerable groups.

4.3 RECOMMENDATIONS

A community based intervention involving self help groups like ‘kudumbasree’ to create awareness on mental wellbeing and where to look for help in time of distress can be employed as a way of mental health promotion among socio-economically backward women. Also there should be adequate screening programs through outreach systems in primary care settings where once they’re identified at risk or being diagnosed with a mental disorder, could be supported with counselling and other appropriate measures.

BIBLIOGRAPHY

Albert PR (2015) Why is depression more prevalent in women? *Journal of Psychiatry & Neuroscience : JPN* 40(4). 4. Canadian Medical Association: 219. DOI: 10.1503/jpn.150205.

Alexander JL, Dennerstein L, Woods NF, et al. (2007) Role of stressful life events and menopausal stage in wellbeing and health. *Expert Review of Neurotherapeutics* 7(11 Suppl): S93-113. DOI: 10.1586/14737175.7.11s.S93.

Archana P, Das S, Philip S, et al. (2017) Prevalence of depression among middle aged women in the rural area of Kerala. *Asian Journal of Psychiatry* 29. DOI: 10.1016/j.ajp.2017.05.016.

Arnot M, Emmott EH and Mace R (2021) The relationship between social support, stressful events, and menopause symptoms. *PLoS ONE* 16(1): e0245444. DOI: 10.1371/journal.pone.0245444.

Bansal P, Chaudhary A, Soni RK, et al. (2015) Depression and anxiety among middle-aged women: A community-based study. *Journal of Family Medicine and Primary Care* 4(4). 4: 576–581. DOI: 10.4103/2249-4863.174297.

Bartolomucci A and Leopardi R (2009) Stress and Depression: Preclinical Research and Clinical Implications. *PLoS ONE* 4(1): e4265. DOI: 10.1371/journal.pone.0004265.

Bode H, Ivens B, Bschor T, et al. (2022) Hyperthyroidism and clinical depression: a systematic review and meta-analysis. *Translational Psychiatry* 12(1): 362. DOI: 10.1038/s41398-022-02121-7.

Bromberger JT and Epperson CN (2018) Depression During and After the Perimenopause: Impact of Hormones, Genetics, and Environmental Determinants of Disease. *Obstetrics and gynecology clinics of North America* 45(4): 663–678. DOI: 10.1016/j.ogc.2018.07.007.

Bromberger JT, Kravitz HM, Chang Y, et al. (2013) Does Risk for Anxiety Increase During the Menopausal Transition? Study of Women's Health Across the Nation (SWAN). *Menopause (New York, N.Y.)* 20(5): 488–495. DOI: 10.1097/GME.0b013e3182730599.

Census 2011 India (2023). Available at: https://www.census2011.co.in/ (accessed 24 June 2023).

Cohen LS, Soares CN, Vitonis AF, et al. (2006) Risk for New Onset of Depression During the Menopausal Transition: The Harvard Study of Moods and Cycles. *Archives of General Psychiatry* 63(4): 385–390. DOI: 10.1001/archpsyc.63.4.385.

Coyne KS, Kvasz M, Ireland AM, et al. (2012) Urinary incontinence and its relationship to mental health and health-related quality of life in men and women in Sweden, the

United Kingdom, and the United States. *European Urology* 61(1): 88–95. DOI: 10.1016/j.eururo.2011.07.049.

Darling CA, Coccia C and Senatore N (2012) Women in midlife: stress, health and life satisfaction. *Stress and Health: Journal of the International Society for the Investigation of Stress* 28(1): 31–40. DOI: 10.1002/smi.1398.

Depression (2023). Available at: https://www.who.int/health-topics/depression (accessed 22 June 2023).

Depression Anxiety Stress Scales - DASS (2023). Available at: http://www2.psy.unsw.edu.au/groups/dass/ (accessed 24 June 2023).

Depressive disorder (depression) (2023). Available at: https://www.who.int/news-room/fact-sheets/detail/depression (accessed 22 June 2023).

Egede LE (2007) Major depression in individuals with chronic medical disorders: prevalence, correlates and association with health resource utilization, lost productivity and functional disability. *General Hospital Psychiatry* 29(5): 409–416. DOI: 10.1016/j.genhosppsych.2007.06.002.

Fahey N, Soni A, Allison J, et al. (2016) Education Mitigates the Relationship of Stress and Mental Disorders Among Rural Indian Women. *Annals of Global Health* 82(5): 779–787. DOI: 10.1016/j.aogh.2016.04.001.

Freeman A, Tyrovolas S, Koyanagi A, et al. (2016) The role of socio-economic status in depression: results from the COURAGE (aging survey in Europe). *BMC Public Health* 16: 1098. DOI: 10.1186/s12889-016-3638-0.

Freeman EW, Sammel MD, Lin H, et al. (2006) Associations of hormones and menopausal status with depressed mood in women with no history of depression. *Archives of General Psychiatry* 63(4): 375–382. DOI: 10.1001/archpsyc.63.4.375.

Guan N, Guariglia A, Moore P, et al. (2022) Financial stress and depression in adults: A systematic review. *PLoS ONE* 17(2): e0264041. DOI: 10.1371/journal.pone.0264041.

Hansson Vikström N, Wasteson E, Lindam A, et al. (2021) Anxiety and depression in women with urinary incontinence using E-health. *International Urogynecology Journal* 32(1): 103–109. DOI: 10.1007/s00192-020-04227-2.

Harlow SD, Gass M, Hall JE, et al. (2012) EXECUTIVE SUMMARY of STRAW+10: Addressing the Unfinished Agenda of Staging Reproductive Aging. *Climacteric : the journal of the International Menopause Society* 15(2). 2. NIH Public Access: 105. DOI: 10.3109/13697137.2011.650656.

Institute for Health Metrics and Evaluation (2023) GBD Results. Available at: https://vizhub.healthdata.org/gbd-results (accessed 10 January 2023).

Jo S-J, Yim HW, Bang MH, et al. (2011) The Association between Economic Status and Depressive Symptoms: An Individual and Community Level Approach. *Psychiatry Investigation* 8(3): 194–200. DOI: 10.4306/pi.2011.8.3.194.

JULIAN LJ (2011) Measures of Anxiety. *Arthritis care & research* 63(0 11): 10.1002/acr.20561. DOI: 10.1002/acr.20561.

Kalhan M, Singhania K, Choudhary P, et al. (2020) Prevalence of Menopausal Symptoms and its Effect on Quality of Life among Rural Middle Aged Women (40-60 Years) of Haryana, India. *International Journal of Applied & Basic Medical Research* 10(3): 183–188. DOI: 10.4103/ijabmr.IJABMR_428_19.

Kanougiya S, Daruwalla N, Gram L, et al. (2021) Economic abuse and its associations with symptoms of common mental disorders among women in a cross-sectional survey in informal settlements in Mumbai, India. *BMC public health* 21(1): 842. DOI: 10.1186/s12889-021-10904-8.

Li Z, Li Y, Chen L, et al. (2015) Prevalence of Depression in Patients With Hypertension. *Medicine* 94(31): e1317. DOI: 10.1097/MD.0000000000001317.

Measures of depression and depressive symptoms (2011). DOI: 10.1002/acr.20556.

Mental disorders (2023). Available at: https://www.who.int/news-room/fact-sheets/detail/mental-disorders (accessed 10 January 2023).

Mental Health Assessment Tools | Pfizer (2023). Available at: https://www.pfizer.com/news/press-release/press-release-detail/pfizer_to_offer_free_public_access_to_mental_health_assessment_tools_to_improve_diagnosis_and_patient_care (accessed 23 June 2023).

Murthy RS (2017) National Mental Health Survey of India 2015–2016. *Indian Journal of Psychiatry* 59(1). 1: 21–26. DOI: 10.4103/psychiatry.IndianJPsychiatry_102_17.

National Institute of Mental Health (NIMH) (2023a) Anxiety Disorders. Available at: https://www.nimh.nih.gov/health/topics/anxiety-disorders (accessed 29 January 2023).

National Institute of Mental Health (NIMH) (2023b) Depression. Available at: https://www.nimh.nih.gov/health/publications/depression (accessed 29 January 2023).

Nolen-Hoeksema S (1990) *Sex Differences in Depression*. Stanford University Press.

Patel Pinal, Patel Prerna, Khadilkar A, et al. (2016) Impact of Occupation on Stress and Anxiety Amongst Indian Women. *Women & Health* 57. DOI: 10.1080/03630242.2016.1164273.

Peacock K and Ketvertis KM (2023) Menopause. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing. Available at: http://www.ncbi.nlm.nih.gov/books/NBK507826/ (accessed 13 June 2023).

Penninx BWJH, Pine DS, Holmes EA, et al. (2021) Anxiety disorders. *Lancet (London, England)* 397(10277): 914–927. DOI: 10.1016/S0140-6736(21)00359-7.

Poongothai S, Pradeepa R, Ganesan A, et al. (2009) Prevalence of Depression in a Large Urban South Indian Population — The Chennai Urban Rural Epidemiology Study (Cures – 70). *PLoS ONE* 4(9): e7185. DOI: 10.1371/journal.pone.0007185.

PSS Malayalam (2023). Available at: https://search.cmu.edu/?form_id=basic-form&site=&ie=UTF-8&q=malayalam&site=stress-immunity-disease-lab (accessed 24 June 2023).

PSS CM university (2023) Scales - Laboratory for the Study of Stress, Immunity, and Disease - Department of Psychology - Carnegie Mellon University. Available at: https://www.cmu.edu/dietrich/psychology/stress-immunity-disease-lab/scales/index.html (accessed 24 June 2023).

Rajan S, McKee M, Rangarajan S, et al. (2020) Association of Symptoms of Depression With Cardiovascular Disease and Mortality in Low-, Middle-, and High-Income Countries. *JAMA Psychiatry* 77(10): 1052–1063. DOI: 10.1001/jamapsychiatry.2020.1351.

Reed SD, Ludman EJ, Newton KM, et al. (2009) Depressive Symptoms and Menopausal Burden in the Midlife. *Maturitas* 62(3). 3. NIH Public Access: 306. DOI: 10.1016/j.maturitas.2009.01.002.

Sadock BJ, Ahmad S and Sadock VA (2019) *Kaplan & Sadock's Pocket Handbook of Clinical Psychiatry*. Sixth edition. Philadelphia: Wolters Kluwer.

Sapra A, Bhandari P, Sharma S, et al. (2020) Using Generalized Anxiety Disorder-2 (GAD-2) and GAD-7 in a Primary Care Setting. *Cureus* 12(5): e8224. DOI: 10.7759/cureus.8224.

Sassarini DJ (2016) Depression in midlife women. *Maturitas* 94: 149–154. DOI: 10.1016/j.maturitas.2016.09.004.

Scalco AZ, Scalco MZ, Azul JBS, et al. (2005) HYPERTENSION AND DEPRESSION. *Clinics* 60(3): 241–250. DOI: 10.1590/S1807-59322005000300010.

Sievert LL, Jaff N and Woods NF (2018) Stress and midlife women's health. *Women's Midlife Health* 4(1): 4. DOI: 10.1186/s40695-018-0034-1.

Sinha SP, Shrivastava SR and Ramasamy J (2013) Depression in an older adult rural population in India. *MEDICC review* 15(4): 41–44. DOI: 10.37757/MR2013V15.N4.10.

Solhi M, Pirouzeh R and Zanjari N (2022) Perspectives on healthy aging in middle age: Evidence for health promotion interventions. *Journal of Education and Health Promotion* 11: 5. DOI: 10.4103/jehp.jehp_972_20.

Srinivasan M, Reddy MM, Sarkar S, et al. (2020) Depression, Anxiety, and Stress among Rural South Indian Women—Prevalence and Correlates: A Community-Based Study. *Journal of Neurosciences in Rural Practice* 11(1): 78–83. DOI: 10.1055/s-0039-1700595.

Stress (2023). Available at: https://www.who.int/news-room/questions-and-answers/item/stress (accessed 10 January 2023).

Stubbs B, Aluko Y, Myint PK, et al. (2016) Prevalence of depressive symptoms and anxiety in osteoarthritis: a systematic review and meta-analysis. *Age and Ageing* 45(2): 228–235. DOI: 10.1093/ageing/afw001.

Urvashi, Girdhar S, Chaudhary A, et al. (2019) Socio-demographic co-relates of depression among housewives in rural area of district Ludhiana. *International Journal Of Community Medicine And Public Health* 6(5). 5: 2147–2151. DOI: 10.18203/2394-6040.ijcmph20191835.

Wang H-L, Booth-LaForce C, Tang S-M, et al. (2013) Depressive symptoms in Taiwanese women during the peri- and post-menopause years: associations with demographic, health, and psychosocial characteristics. *Maturitas* 75(4): 355–360. DOI: 10.1016/j.maturitas.2013.04.021.

Wang X, Zhao G, Di J, et al. (2022) Prevalence and risk factors for depressive and anxiety symptoms in middle-aged Chinese women: a community-based cross-sectional study. *BMC Women's Health* 22(1): 319. DOI: 10.1186/s12905-022-01908-6.

Weaver LJ and Madhu SV (2015) Type 2 Diabetes and Anxiety Symptoms Among Women in New Delhi, India. *American Journal of Public Health* 105(11). 11: 2335–2340. DOI: 10.2105/AJPH.2015.302830.

Whittaker was Phillips A (2015) Perceived Stress., pp. 1–1. DOI: 10.1007/978-1-4614-6439-6_479-2.

Yaffe MJ and Stewart MA (1984) The Problems and Concerns of Middle Age. *Canadian Family Physician* 30: 1089–1093.

ANNEXURE I Participant Information Sheet (English)

Achutha Menon Centre for Health Science Studies (AMCHSS)
Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST)
Trivandrum -11

Participant Information Sheet

Perceived Stress, Anxiety and Depression among 40-60 year old women, a cross sectional study in Thiruvananthapuram

I, Dr Haritha C S, final year MPH Student at AMCHSS as part of my thesis topic "Perceived Stress, Anxiety and Depression among 40-60 year old women, a cross sectional study in Thiruvananthapuram" needs to interview women aged 40-60 years. I would be asking the women regarding their experience of certain psychological or emotional problems pertaining to depression, anxiety and perceived stress along with details on their medical history. It can take around 20-30 minutes time for the interview.

In this study your participation is purely voluntary. You are free to take your own time to answer the questions and if you are not willing to answer any of the questions you can ask me to skip the question. You have the complete right to withdraw your participation from the study at any time during the interview. Though there might not be any direct benefit for you from this study, the information you share will be useful to understand the level of depression ,anxiety and perceived stress among women in the age group of 40-60 years. And it may help to suggest policy recommendations on medical care for the same.

I assure that all information you share with me will be highly confidential and only a summary of the information will be used for research and publication purposes. For any clarification regarding the study, you can contact me and for any queries on the authentication of this study you can contact the Member Secretary, Institutional Review Board (IRB) of SCTIMST.

Principal Investigator:

Dr Haritha C S
MPH Student AMCHSS, SCTIMST,
Medical college (PO),
Thiruvananthapuram-11
E mail: harithacs860.kalharam@gmail.com
Phone: 8281792860

IRB Member Secretary:

Dr. Srinivas G
Member Secretary
Institutional Review Board, SCTIMST, Trivandrum
Contact Number: 04712524689(office)
Email id: iec.mem.sec@sctimst.ac.in

ANNEXURE II Consent Form (English)

AchuthaMenon Centre for Health Science Studies (AMCHSS)
SreeChitraTirunal Institute for Medical Sciences & Technology (SCTIMST)
Trivandrum -11

Consent Form

I _____ have read/heard and understood all the information provided in the Participant information sheet. By signing/putting thumb impression I confirm my voluntary participation in this study. I understand that I can withdraw my participation at any time during the data collection process without any explanation and also, I understand that my identity and personal information will be kept confidential. I have been informed who should be contacted for further clarifications

Signature /Thump impression of the participant:

Signature of witness (For verbal consent):

Place:

Date:

ANNEXURE III Interview Questionnaire (English)

1. INTERVIEW DETAILS:

PARTICIPANT ID:

NAME OF THE PARTICIPANT:

BELONGS TO:

☐PANCHAYATH

☐CORPORATION

NAME OF PANCHAYATH / CORPORATION:

WARD NO:

DATE OF INTERVIEW:

2. SOCIO-DEMOGRAPHIC AND ECONOMIC DETAILS OF PARTICIPANTS:

1. What is your age at your last birthday?----------

2. What is the highest level of education you have?
    a. ☐Illiterate
    b. ☐Literate but no formal education
    c. ☐Primary school level (1-7th STD)
    d. ☐High school level (8-10th STD)
    e. ☐Higher secondary level (11-12th STD)
    f. ☐Graduate level
    g. ☐Post graduate level and above
    h. ☐Others (Specify)

3. What is your religion?
    a. ☐Hindu
    b. ☐Muslim
    c. ☐Christian
    d. ☐Others (Specify)

4. What is your working status at present?

a. ☐Home maker
b. ☐Working in Government sector
c. ☐Working in private sector
d. ☐Self-employed
e. ☐Retired
f. ☐MNREGA
g. ☐Coolie
h. ☐Others(specify)

5. What is the colour of your ration card?
    a. ☐ Yellow
    b. ☐ Pink
    c. ☐ Blue
    d. ☐ White

6. What is the approximate monthly income of your family?
    a. ☐ Below 5000
    b. ☐ 5001- 10000
    c. ☐ 10001-20000
    d. ☐ 20001 – 30000
    e. ☐ Above 30000

7. Are you able to meet the monthly household expenditure easily?
    a. ☐ Yes
    b. ☐ No

8. Marital status
    a. ☐ Married
    b. ☐ Single
    c. ☐ Widowed
    d. ☐ Separated/Divorced

9. How many of the family members are presently staying at your house?
    a. ☐ Alone
    b. ☐ Two members
    c. ☐ Three or more members

10. Do you have child /children?

a. ☐ Yes
b. ☐ No

If Yes,

11. What type of delivery did you have?
    a. ☐Normal
    b. ☐Cesarean-section
    c. ☐Both

12. Have you undergone sterilization?
    a. ☐ Yes
    b. ☐ No

3. PRESENT ILLNESS:

This section has questions related to some illness you may have , you may choose multiple options while answering these questions.

13. Have you been diagnosed (by a medical practitioner) with any or some of these diseases?
    a. ☐Hyperlipidemia
    b. ☐Hypertension
    c. ☐Diabetes
    d. ☐Thyroid dysfunction
    e. ☐ Others

If others, Specify----------

14. Do you currently take medicine for any or some of these diseases?
    a. ☐Hyperlipidemia
    b. ☐Hypertension
    c. ☐Diabetes
    d. ☐Thyroid dysfunction
    e. ☐Others

If others, Specify----------

4. MENSTRUAL HISTORY:

15. What was your age at menarche? ----------

16. Have you undergone surgery for removal of uterus?
    a. ☐Yes
    b. ☐No

17. Do you usually get regular periods(regular intervals of 21-35 days)?
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

18. Would you say that you have heavy periods?
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

19. Would you say that you have painful periods?
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

20. Would you say that you have prolonged periods?(more than 7 days)
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

21. Do you bleed in between periods?
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

22. Have you noticed any premenstrual symptoms?(bloating, cramping, moodswings, irritability)
    a. ☐Yes
    b. ☐No
    c. ☐ Sometimes

23. When was the last time you had periods?
    a. ☐ Within one month
    b. ☐ 1-2 months
    c. ☐ 3-6 months
    d. ☐ 6-12 months
    e. ☐ 1-2 years
    f. ☐ More than two years

5. MENOPAUSAL SYMPTOMS- MENOPAUSAL RATING SCALE (MRS)

This section is to assess menopausal symptoms in women.

Instructions: Circle the number that best describes your experience of symptoms.

Which of the following symptoms apply to you at this time (from last few months to few weeks)?

Score = 0 1 2 3 4 (none, mild, moderate, severe, extremely severe)

Symptoms:

24. Hot flashes, sweating (episodes of sweating)

0	1	2	3	4

25. Heart discomfort (unusual awareness of heartbeat, heart skipping, heart racing, tightness)

0	1	2	3	4

26. Sleep problems (difficulty in falling asleep, difficulty in sleeping through the night, waking up early)

0	1	2	3	4

27. Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings

0	1	2	3	4

28. Irritability (feeling nervous, inner tension, feeling aggressive)

0	1	2	3	4

29. Anxiety (inner restlessness, feeling panicky)

0	1	2	3	4

30. Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness)

0	1	2	3	4

31. Sexual problems (change in sexual desire, in sexual activity and satisfaction)

0	1	2	3	4

32. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)

0	1	2	3	4

33. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual
intercourse)

0	1	2	3	4

34. Joint and muscular discomfort (pain in the joints, rheumatoid complaints)

0	1	2	3	4

35. Have you ever sought professional medical care for any of these symptoms?
    a. ☐Yes
    b. ☐No

If Yes,

36. What are the symptoms that you sought professional medical care for?----------
-
37. Have you had any relief with the treatment?
    a. ☐Yes
    b. ☐No
38. Do you manage any of these symptoms with home remedies?
    a. ☐Yes
    b. ☐No

If Yes,

39. What are the symptoms that you manage with home remedies?----------
40. What are the home remedies sought for these symptoms?----------
41. Have you had any relief with the home remedies?
    a. ☐Yes
    b. ☐No

6. DEPRESSION: PHQ-9

This section will have questions regarding your recent experience of certain problems that will be helpful in understanding level of depression you may or may not have.

Instructions:

In the last two weeks, how often have you been bothered by any of the following problems?

Not at all = 0; Several days = 1;More than half the days = 2; Nearly every day = 3

42. Little interest or pleasure in doing things

0	1	2	3

43. Feeling down, depressed, or hopeless

0	1	2	3

44. Trouble falling or staying asleep, or sleeping too much

0	1	2	3

45. Feeling tired or having little energy -

0	1	2	3

46. Poor appetite or overeating -

0	1	2	3

47. Feeling bad about yourself or that you are a failure or have let yourself or your family down -

0	1	2	3

48. Trouble concentrating on things, such as reading the newspaper or watching television -

0	1	2	3

49. Moving or speaking so slowly that other people could have noticed. Or the opposite being so figety or restless that you have been moving around a lot more than usual -

0	1	2	3

50. Thoughts that you would be better off dead, or of hurting yourself -

0	1	2	3

51. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? –

☐Not difficult at all

☐Somewhat difficult

☐Very difficult

☐Extremely difficult

Scoring: add up all checked boxes on PHQ-9

For every tick mark, Not at all = 0; Several days = 1;More than half the days = 2; Nearly every day = 3

Interpretation of Total Score: Total Score of depression severity

1-4 Minimal depression

5-9 Mild depression

10-14 Moderate depression

15-19 Moderately severe depression

20-27 Severe depression

7. ANXIETY: GAD7

This section will have questions regarding your recent experience of certain problems that will be helpful in understanding level of anxiety you may or may not have.

Instructions:

In the last two weeks, how often have you been bothered by any of the following problems?

Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3

52. Feeling nervous, anxious, or on edge

0	1	2	3

53. Not being able to stop or control worrying

0	1	2	3

54. Worrying too much about different things

0	1	2	3

55. Trouble relaxing

0	1	2	3

56. Being so restless that it is hard to sit still

0	1	2	3

57. Becoming easily annoyed or irritable

0	1	2	3

58. Feeling afraid, as if something awful might happen

0	1	2	3

59. If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

☐Not difficult at all

☐Somewhat difficult

☐Very difficult

☐Extremely difficult

Scoring GAD-7 Anxiety Severity

This is calculated by assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of "not at all," "several days," "more than half the days," and "nearly every day." GAD-7 total score for the seven items ranges from 0 to 21.

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

8. PERCIEVED STRESS: PSS

This section will have questions regarding your recent experience of certain problems that will be helpful in understanding level of stress you may or may not have.

Instructions:
For each question choose from the following alternatives that best describes your experience of problems
0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often

60. In the last month, how often have you been upset because of something that happened unexpectedly?

0	1	2	3	4

61. In the last month, how often have you felt that you were unable to control the important things in your life?

0	1	2	3	4

62. In the last month, how often have you felt nervous and stressed?

0	1	2	3	4

63. In the last month, how often have you felt confident about your ability to handle your personal problems?

0	1	2	3	4

64. In the last month, how often have you felt that things were going your way?

0	1	2	3	4

65. In the last month, how often have you found that you could not cope with all the things that you had to do?

0	1	2	3	4

66. In the last month, how often have you been able to control irritations in your life?

0	1	2	3	4

67. In the last month, how often have you felt that you were on top of things?

0	1	2	3	4

68. In the last month, how often have you been angered because of things that happened that were outside of your control?

0	1	2	3	4

69. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

0	1	2	3	4

Figuring PSS Score: You can determine PSS score by following these directions:

First, reverse the scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0.

Now add up the scores for each item to get a total. Total score is _____.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

0-13: low stress.

14-26: moderate stress.

27-40: high perceived stress.

9. MANAGEMENT OF PSYCHOLOGICAL/EMOTIONAL PROBLEMS:

70. Have you ever undergone treatment for mental/psychological disorders that you were diagnosed with in the past?(may be post partum depression?,with/without medication)
    a. ☐Yes
    b. ☐No

71. What kind of treatment did you pursue then:
    a. ☐Counseling
    b. ☐Counseling and medicines

72. Are you currently under treatment for any mental/psychological disorder?
    a. ☐Yes
    b. ☐No

If Yes,

73. What kind of treatment are you currently pursuing:
    a. ☐Counseling
    b. ☐Counseling and medicines

74. Do you have any psychological or emotional problems that you think requires medical attention?
    a. ☐Yes
    b. ☐No

If Yes,

75. Could you describe the problem you are facing?----------

76. Do you think the problem is too severe that it affects your daily routine?
    (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.

1	2	3	4	5

77. Do you try managing these psychological or emotional problems you have with self-care?
    a. ☐Yes

b. ☐No

78. What are the self-care strategies that you resort to for these problems? ----------

79. How much effective do you think these strategies are?
    a. ☐ Very effective
    b. ☐ Somewhat effective
    c. ☐ Less effective

80. How would you rate your overall mental health status?
(Very bad-0,bad-1,neither-2,good-3,very good-4)

0	1	2	3	4

THAT'S ALL THAT I NEED,

THANKYOU FOR YOUR CO-OPERATION.

ANNEXURE IV Participant Information Sheet (Malayalam)

അച്യുതമേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ് (AMCHSS)
ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി (SCTIMST)
തിരുവനന്തപുരം -11

പഠന വിവരം
നാൽപതു മുതൽ അറുപതു വയസ്സ് വരെ ഉള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും, ഉത്കണ്ഠയും, വിഷാദവും, തിരുവനന്തപുരത്തു നടത്തുന്ന ഒരു പഠനം

അച്യുത മേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്- ലെ അവസാന വർഷ എം പി എച് വിദ്യാർത്ഥിയായ, ഡോ ഹരിത സി എസ് എന്ന എനിക്ക്,"നാൽപതു മുതൽ അറുപതു വയസ്സ് വരെ ഉള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും, ഉത്കണ്ഠയും, വിഷാദവും, തിരുവനന്തപുരത്തു നടത്തുന്ന ഒരു പഠനം" എന്ന തീസിസ് വിഷയത്തിൻറെ ഭാഗമായി നാൽപതു മുതൽ അറുപതു വയസ്സ് വരെ ഉള്ള സ്ത്രീകളോട് അവരുടെ പ്രാഥമികമായിട്ടുള്ളവിവരങ്ങളും ആരോഗ്യ സംബന്ധമായ പ്രശ്നങ്ങളും മാനസിക സംഘർഷം, ഉത്കണ്ഠ, വിഷാദം തുടങ്ങിയ മാനസികമോ വൈകരികാമോ ആയ പ്രശ്നങ്ങളെപ്പറ്റിയും അഭിമുഖത്തിലൂടെ ചോദിച്ചറിയേണ്ടതായി ഉണ്ട്. അഭിമുഖത്തിനായി 20 മുതൽ 30 മിനിറ്റ് വരെ എടുത്തേക്കാം.

ഈ പഠനത്തിൽ നിങ്ങളുടെ പങ്കാളിത്തം പൂർണമായും സ്വമേധയാ ഉള്ളതാണ്. ചോദ്യങ്ങൾക്ക് ഉത്തരം നല്കാൻ നിങ്ങളുടേതായ സമയമെടുക്കുവാനും, ഏതെങ്കിലും ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകുവാൻ താല്പര്യം ഇല്ലെങ്കിൽ ആ ചോദ്യം ഒഴിവാക്കുവാൻ എന്നോട് ആവശ്യപെടുവാനും നിങ്ങൾക്ക് സ്വാതന്ത്ര്യം ഉണ്ട്.. നിങ്ങളുടെ പങ്കാളിത്തം ഏതു സമയത്തും പിൻവലിക്കുവാനുള്ള സ്വാതന്ത്ര്യവും നിങ്ങൾക്കുണ്ട്. ഈ പഠനത്തിൽ നിന്ന് താങ്കൾക്ക് നേരിട്ട് പ്രയോജനം ഉണ്ടായേക്കുകയില്ലെങ്കിലും നിങ്ങൾ പങ്കു വയ്ക്കുന്ന വിവരങ്ങൾ നാൽപതു മുതൽ അറുപതു വയസ്സ് വരെ പ്രായമുള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷത്തെയും, ഉത്കണ്ഠയെയും, വിഷാദത്തെയും പറ്റി മനസിലാക്കുന്നതിന് ഉപയോഗപ്രദമാകും. കൂടാതെ ആവശ്യാനുസൃതമായ വൈദ്യ സഹായത്തെ സംബന്ധിച്ച നയപരമായ തീരുമാനങ്ങൾ നിർദ്ദേശിക്കുവാനും ഇത് സഹായിച്ചേക്കാം.

താങ്കൾ എന്നോട് പങ്ക് വയ്ക്കുന്ന എല്ലാ വിവരങ്ങളും അതീവ രഹസ്യാത്മകമായി സൂക്ഷിക്കുമെന്നും ഗവേഷണത്തിനും പ്രസിദ്ധീകരണ ആവശ്യങ്ങൾക്കും മാത്രമായെ ഉപയോഗിക്കുകയൊള്ളു എന്നും ഞാൻ ഉറപ്പ് നൽകുന്നു. പഠനവുമായി ബന്ധപ്പെട്ട എന്തെങ്കിലും സംശയങ്ങൾ ഉണ്ടെങ്കിൽ താങ്കൾക്ക് എന്നെ ബന്ധപ്പെടാവുന്നതാണ്. കൂടാതെ ഈ പഠനത്തിന്റെ ആധികാരികതയെ സംബന്ധിച്ച സംശയങ്ങൾക്ക് ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി-യുടെ സ്ഥാപന റിവ്യൂ ബോർഡ് അംഗ സെക്രട്ടറിയുമായി ബന്ധപ്പെടാവുന്നതാണ്.

പ്രിൻസിപ്പൽ ഇൻവെസ്റ്റിഗേറ്റർ
ഡോ ഹരിത സി എസ്
വിലാസം : അച്യുതമേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ് (AMCHSS)
ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി (SCTIMST)
തിരുവനന്തപുരം -11
ഇ മെയിൽ: harithacs860.kalharam@gmail.com
ബന്ധപ്പെടേണ്ട നമ്പർ: 8281792860

ഐ ആർ ബി മെമ്പർ സെക്രട്ടറി
പേര് : ശ്രീനിവാസ് ജി
വിലാസം : മെമ്പർ സെക്രട്ടറി
ഇൻസ്റ്റിട്യൂഷണൽ റിവ്യൂ ബോർഡ് ,എസ് സി ടി ഐ എം എസ് ടി ,തിരുവനന്തപുരം.
ബന്ധപ്പെടേണ്ട നമ്പർ : 04712524689
ഇ മെയിൽ: iec.mem.sec@sctimst.ac.in

ANNEXURE V Consent Form (Malayalam)

അച്യുതമേനോൻ സെന്ററർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ് (AMCHSS)
ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി (SCTIMST)
തിരുവനന്തപുരം -11

<u>അനുമതി പത്രം</u>

---------- എന്ന ഞാൻ, പഠന വിവരണത്തിൽ നൽകിയിരിക്കുന്ന എല്ലാ വിവരങ്ങളും വായിച്ചതിലൂടെയോ/കേട്ടതിലൂടെയോ മനസിലാക്കിയിട്ടുണ്ട്. ഒപ്പിടുന്നതിലോടെ/ തള്ളവിരലിന്റെ മുദ്ര പതിപ്പിക്കുന്നതിലൂടെ ഞാൻ ഈ പഠനത്തിലെ സ്വമേധയാ ഉള്ള പങ്കാളിത്തം ഉറപ്പിക്കുന്നു. അഭിമുഖ സമയത് എപ്പോൾ വേണമെങ്കിലും വിശദീകരണം നൽകാതെ തന്നെ എന്റെ പങ്കാളിത്തം പിൻവലിക്കാവുന്നതാണ് എന്ന് ഞാൻ മനസിലാക്കിയിട്ടുണ്ട്. എന്റെ വ്യക്തിത്വവും വ്യക്തിഗത വിവരങ്ങളും അതീവ രഹസ്യമായി സൂക്ഷിക്കുമെന്നും ഞാൻ മനസിലാക്കുന്നു. പഠനം സംബന്ധിച്ച കൂടുതൽ വിവരങ്ങൾക്കായി ആരെയാണ് ബന്ധപ്പെടേണ്ടത് എന്ന എന്നെ അറിയിച്ചിട്ടുണ്ട്. ഈ പഠനത്തിൽ പങ്കെടുക്കുവാൻ എനിക്ക് സമ്മതമാണെന്ന് ഇതിനാൽ ഞാൻ സാക്ഷ്യപ്പെടുത്തുന്നു.

പങ്കെടുക്കുന്നയാളുടെ ഒപ്പു/തമ്പ് ഇമ്പ്രെഷൻ(ഒപ്പിടുവാൻ കഴിയില്ലെങ്കിൽ):

സാക്ഷിയുടെ ഒപ്പ് (വാക്കാലുള്ള അനുമതിക്ക്):

സ്ഥലം:

തീയതി:

ANNEXURE VI Interview Questionnaire (Malayalam)

1.ഇന്റർവ്യൂ വിവരങ്ങൾ

- പങ്കെടുക്കുന്ന ആളുടെ ഐഡി
- പങ്കെടുക്കുന്ന ആളുടെ പേര്
- ഇവയിൽ ഏതിൽ ഉൾപ്പെടുന്നു:
    - □പഞ്ചായത്ത്
    - □കോർപറേഷൻ
- പഞ്ചായത്ത് / കോർപറേഷൻപേര്
- വാർഡ്നമ്പർ
- അഭിമുഖത്തിന്റെ തീയതി

2. പങ്കെടുക്കുന്ന ആളുടെ അടിസ്ഥാന വിവരങ്ങൾ

1. കഴിഞ്ഞ ജന്മദിനത്തിൽ നിങ്ങൾക്ക് എത്ര വയസ്സ് പൂർത്തിയായി?---------

2. നിങ്ങളുടെ ഏറ്റവും ഉയർന്ന വിദ്യാഭ്യാസയോഗ്യത എന്താണ്?
    a. □നിരക്ഷര
    b. □സാക്ഷരയെങ്കിലും ഔപചാരിക വിദ്യാഭ്യാസം ഇല്ല
    c. □പ്രൈമറിസ്കൂൾതലം (1-7STD)
    d. □ഹൈസ്കൂൾതലം (8-10thSTD)
    e. □ഹയർസെക്കന്ററിതലം (11-12 STD)
    f. □ബിരുദം
    g. □ബിരുദാനന്തരബിരുദം
    h. □മറ്റുള്ളവ(വ്യക്തമാക്കുക)

3. നിങ്ങളുടെ മതം ഏതാണ്?
    a. □ഹിന്ദു
    b. □മുസ്ലിം
    c. □ക്രിസ്ത്യൻ
    d. □മറ്റുള്ളവ(വ്യക്തമാക്കുക)

4. ഇപ്പോഴുള്ള നിങ്ങളുടെ തൊഴിലിനെ പറ്റിയുള്ള വിശദാംശങ്ങൾ
    a. □വീട്ടമ്മ
    b. □സർക്കാർമേഖലയിൽജോലിചെയ്യുന്നു
    c. □സ്വകാര്യമേഖലയിൽജോലിചെയ്യുന്നു
    d. □സ്വയംതൊഴിൽ
    e. □വിരമിച്ചു
    f. □എംഎൻആർഇജിഎ(തൊഴിലുറപ്പ് പദ്ധതി)
    g. □കൂലി
    h. □മറ്റുള്ളവ (വ്യക്തമാക്കുക)

5. നിങ്ങളുടെ റേഷൻ കാർഡിന്റെ നിറം?
    a. □മഞ്ഞ
    b. □പിങ്ക്

c. □നീല
d. □വെള്ള

6. നിങ്ങളുടെ കുടുംബത്തിന്റെ ഏകദേശ പ്രതിമാസവരുമാനം എത്രയാണ്?
   a. □ 5000-ത്തിൽതാഴെ
   b. □ 5001-10000
   c. □ 10001-20000
   d. □ 20001-30000
   e. □ 30000-ത്തിനുമുകളിൽ

7. നിങ്ങളുടെ വീട്ടിലെ പ്രതിമാസചിലവ് എളുപ്പത്തിൽ നിറവേറ്റാൻ നിങ്ങള്ക്ക് കഴിയാറുണ്ടോ?
   a. □ഉണ്ട്
   b. □ഇല്ല

8. വൈവാഹിക അവസ്ഥ
   a. □വിവാഹിത
   b. □അവിവാഹിത
   c. □വിധവ
   d. □ബന്ധംവേർപെടുത്തി/വിട്ടുനിൽക്കുന്നു

9. നിങ്ങളുടെ വീട്ടിൽ എത്ര അംഗങ്ങൾ താമസിക്കുന്നുണ്ട്?
   a. □ഒറ്റയ്ക്ക്
   b. □രണ്ടുഅംഗങ്ങൾ
   c. □മൂന്നിൽകൂടുതൽഅംഗങ്ങൾ

10. നിങ്ങൾക്കുട്ടി/കുട്ടികൾഉണ്ടോ?
    a. □ഉണ്ട്
    b. □ഇല്ല

ഉണ്ട്എങ്കിൽ,

11. പ്രസവം ഏതു രീതിയിൽ ഉള്ളതായിരുന്നു?
    a. □സാധാരണ പ്രസവം
    b. □സിസേറിയൻ
    c. □രണ്ടും

12. .നിങ്ങൾ വന്ധ്യംകരണത്തിലൂടെ പ്രസവം നിർത്തിയിട്ടുണ്ടോ?
    a. □ഉണ്ട്
    b. □ഇല്ല

<u>3.നിലവിലുള്ള രോഗത്തിന്റെ വിവരങ്ങൾ</u>

<u>നിർദേശങ്ങൾ :</u> നിങ്ങൾക്കുണ്ടായിരിക്കാവുന്ന രോഗങ്ങളെ പറ്റിയുള്ള ചോദ്യങ്ങളാണ് ഈ സെക്ഷനിൽ. ഒന്നിൽ കൂടുതൽ പ്രതികരണങ്ങൾ ഉണ്ടെങ്കിൽ അവ രേഖപ്പെടുത്തുക.

13. രോഗനിർണയം നടത്തി താഴെ കൊടുത്തിരിക്കുന്നവയിൽ ഏതെങ്കിലും നിങ്ങൾക്കുള്ളതായി ഒരു ഡോക്ടർ പറഞ്ഞിട്ടുണ്ടോ?
    a. □ഉയർന്നകൊളെസ്ട്രോൾ
    b. □അമിതരക്തസമ്മർദ്ദം

c. □പ്രമേഹം
d. □തൈറോയ്ഡ്പ്രശ്നങ്ങൾ
e. □മറ്റുള്ളവ (വ്യക്തമാക്കുക)

14. ഇവയിൽ ഏതിനെങ്കിലും നിങ്ങൾ ഇപ്പോൾ മരുന്ന് കഴിക്കുന്നുണ്ടോ?
    a. □ഉയർന്നകൊളെസ്ട്രോൾ
    b. □അമിതരക്തസമ്മർദ്ദം
    c. □പ്രമേഹം
    d. □തൈറോയ്ഡ്പ്രശ്നങ്ങൾ
    e. □മറ്റുള്ളവ (വ്യക്തമാക്കുക)

4.ആർത്തവത്തെ പറ്റിയുള്ള വിവരങ്ങൾ

15. നിങ്ങൾക്ക് ഏതുപ്രായത്തിൽ ആണ് ആർത്തവം ആരംഭിച്ചത്?----------

16. നിങ്ങൾ ഗർഭാശയം നീക്കം ചെയ്യുന്ന ശസ്ത്രക്രിയക്ക് വിധേയ ആയിട്ടുണ്ടോ?
    a. □ഉണ്ട്
    b. □ഇല്ല

17. താങ്കളുടെ ആർത്തവചക്രം സാധാരണ രീതിയിലാണോ? (ഓരോ 21 മുതൽ 35 ദിവസത്തിലും)
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

18. താങ്കൾക്ക് അമിതമായ അളവിൽ ഉള്ള ആർത്തവം ആണോ ഉണ്ടാകാറുള്ളത്?
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

19. താങ്കൾക്ക് വേദനാജനകമായ ആർത്തവമാണോ ഉണ്ടാകാറുള്ളത്?
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

20. താങ്കളുടെ ആർത്തവം ദൈർഘ്യം ഏറിയതാണോ? (ഏഴ് ദിവസത്തിൽകൂടുതൽ)
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

21. രണ്ടു ആർത്തവങ്ങൾക്കിടയിൽ താങ്കൾക്കു രക്തസ്രാവമുണ്ടാകാറുണ്ടോ ?
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

22. ആർത്തവത്തിന്മുമ്പ് ഏതെങ്കിലും ലക്ഷണങ്ങൾ കാണാറുണ്ടോ? (ഉദാ: വയർവീർക്കുന്നഅവസ്ഥ , വയറുവേദന , മാനസികവ്യതിയാനങ്ങൾ , വേഗംകോപംവരുക)
    a. □അതെ
    b. □അല്ല
    c. □ചിലപ്പോഴൊക്കെ

23. നിങ്ങൾക് അവസാനമായി ആർത്തവം ഉണ്ടായത് എപ്പോൾ?
    a. □ഒരുമാസത്തിനുള്ളിൽ
    b. □1-2 മാസത്തിനുള്ളിൽ
    c. □3-6 മാസത്തിനുള്ളിൽ
    d. □6-12 മാസത്തിനുള്ളിൽ
    e. □1-2 വർഷത്തിനിടയിൽ
    f. □2 വർഷത്തിന്മേലെ

5.ആർത്തവ വിരാമത്തെപറ്റിയുള്ള ചോദ്യാവലി

നിർദേശങ്ങൾ : ആർത്തവിരാമവുമായി ബന്ധപെട്ട് ഉണ്ടായേക്കാവുന്ന ലക്ഷണങ്ങളെപറ്റിയുള്ള ഒരു ചോദ്യാവലി ആണ്താഴെ കൊടുത്തിരിക്കുന്നത്. കഴിഞ്ഞകുറച്ചു മാസങ്ങളോആഴ്ചകളോ ആയി നിങ്ങൾക്ക് അവയിൽഏതെങ്കിലും അനുഭവപ്പെടുന്നുണ്ടെങ്കിൽ അതിന്റെ തീവ്രതയ്ക്ക് അനുസരിച്.
(0-**ഒട്ടുമില്ല**, **സൗമമായി**, **മിതമായി**, **കഠിനമായി**, **അതികഠിനമായി**) **എന്ന വിധത്തിൽ ഉത്തരം നൽകുക.**

24. അത്യുഷ്ണഅനുഭവം,അമിതമായ പെട്ടെന്നുള്ള വിയർപ്പ്

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

25. ഹൃദയആസ്വാസ്ഥ്യം(അസാധാരണമായ ഹൃദയമിടി പ്പ്തോന്നുക, വളരെ വേഗതയിൽ മിടിക്കുന്നതായോ കുതിക്കുന്നതായോ അനുഭവപ്പെടുക,മുറുക്കം അനുഭവപ്പെടുക)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

26. ഉറക്കത്തിലെ ബുദ്ധിമുട്ടുകൾ(ഉറക്കത്തിലേക്കു പോകാനുള്ള ബുദ്ധിമുട്ട്, ഉടനീളം ഉറങ്ങുവാനുള്ള ബുദ്ധിമുട്ട് , നേരത്തെതന്നെ ഉറക്കംവിട്ട് എഴുന്നേൽക്കുക)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

27. വിഷാദം (മാനസികവ്യതിയാനങ്ങൾ, താല്പര്യമില്ലായ്മ, കരയാൻ വെമ്പിനിൽക്കുന്ന പോലെ)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

28. അസ്വസ്ഥത (ടെൻഷൻഅനുഭവിക്കുക, വ്യാകുലതപെടുക)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

29. ഉത്ക്കണ്ഠ (പരിഭ്രാന്തി,വെപ്രാളപ്പെടുക)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

30. ശാരീരികവും മാനസികവുമായി തളർന്ന അവസ്ഥ (സാധാരണഗതിയിൽ പ്രവർത്തിക്കാൻ സാധിക്കാതിരിക്കുക, ഓർമക്കുറവ്, ശ്രദ്ധയില്ലായ്മ, മറവി)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

31. ലൈംഗികപ്രശ്നങ്ങൾ (ലൈംഗികആസക്തി, സംതൃപ്തി എന്നിവയിലെ മാറ്റങ്ങൾ)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

32. മൂത്രാശയസംബന്ധ പ്രശ്നങ്ങൾ(മൂത്രമൊഴിക്കുവാനുള്ള ബുദ്ധിമുട്ട്, ഇടയ്ക്കിടെ മൂത്രമൊഴിക്കുവാനുള്ള തോന്നൽ, മൂത്രം പിടിച്ചുവയ്ക്കാൻ കഴിയാത്തവിധം നിയന്ത്രണാതീതമായി പോവുന്നത്)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

33. യോനിയിലെ വരൾച്ച (ചുട്ടുഎരിച്ചിൽ,പുകയുന്ന പോലെ നീറുക ,ലൈകബന്ധത്തിൽ ഏർപെടുവാനുള്ള ബുദ്ധിമുട്ട്)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

34. സന്ധികളിലെയും പേശികളിലെയും ബുദ്ധിമുട്ട് (വേദന, ആമവാത സംബന്ധമായ ബുദ്ധിമുട്ട്)

ഒട്ടുമില്ല	സൗമമായി	മിതമായി	കഠിനമായി	അതികഠിനമായി

35. ഈ പറഞ്ഞ പ്രശ്നങ്ങളിൽ ഏതിനെങ്കിലും നിങ്ങൾ വൈദ്യസഹായം സ്വീകരിച്ചിട്ടുണ്ടോ?
    a. ഉണ്ട്
    b. ഇല്ല

ഉണ്ടെങ്കിൽ,

36. ഏതെല്ലാം പ്രശ്നങ്ങൾക്കാണ് നിങ്ങൾ വൈദ്യസഹായം സ്വീകരിച്ചിട്ടുള്ളത്?
37. ചികിത്സയിലൂടെ നിങ്ങൾക്ക് ആശ്വാസം ലഭിച്ചിട്ടുണ്ടോ?
38. ഇ പറഞ്ഞ പ്രശ്നങ്ങളിൽ ഏതിനെങ്കിലും നിങ്ങൾ സ്വയം പരിഹാരം കാണാൻ ശ്രമിച്ചിട്ടുണ്ടോ?
    a. □ ഉണ്ട്
    b. □ ഇല്ല

ഉണ്ടെങ്കിൽ,

39. ഏതെല്ലാംപ്രശ്നങ്ങൾക്കാണ്നിങ്ങൾസ്വയംപരിഹാരംകാണാൻശ്രമിച്ചിട്ടുള്ളത് ?----------

40. എന്തെല്ലാം രീതിയിൽ ആണ് പരിഹാരം കാണുവാൻ ശ്രമിച്ചിട്ടുള്ളത്?-------

41. അതിലൂടെ നിങ്ങൾക്ക് ആശ്വാസം ലഭിച്ചിട്ടുണ്ടോ?
    a. ☐ ഉണ്ട്
    b. ☐ ഇല്ല

6. വിഷാദം-PHQ9

നിർദേശങ്ങൾ: നിങ്ങൾക്ക് ഉണ്ടായേക്കാവുന്ന 'വിഷാദം' എന്ന അവസ്ഥയെ സംബന്ധിച്ചുള്ള ലക്ഷണങ്ങളുടെ ഒരു ചോദ്യാവലി ആണ് ഈ സെക്ഷനിൽ കൊടുത്തിരിക്കുന്നത്. കഴിഞ്ഞ രണ്ടാഴ്ചകാലത്ത് താഴെ പറയുന്ന പ്രശ്നങ്ങൾ നിങ്ങളെ എന്തുമാത്രം ശല്യം ചെയ്തിട്ടുണ്ട്? (ഒട്ടുമില്ല, നിരവധി ദിവസങ്ങൾ, പകുതിയിൽ അധികം ദിവസങ്ങൾ, മിക്കവാറും ഓരോദിവസവും)

42. കാര്യങ്ങൾ ചെയ്യാൻ താൽപര്യക്കുറവ് അല്ലെങ്കിൽ ഉത്സാഹ കുറവ്

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

43. വിഷാദമോ നിരാശയായോ തോന്നുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

44. ഉറക്കം ലഭിക്കുവാനോ തുടരുവാനോ പ്രയാസം / ഉറക്ക കൂടുതൽ

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

45. ക്ഷീണം തോന്നുകയോ ശക്തിയില്ലെന്നു തോന്നുകയോ

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

46. ആഹാരത്തിൽ താല്പര്യം ഇല്ലായ്മയോ, അമിത ഭക്ഷണമോ

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

47. സ്വയം മതിപ്പില്ലായ്മ, പരാജയബോധം, അല്ലെങ്കിൽ നിങ്ങളെയോ കുടുംബത്തെയോ നിരാശപ്പെടുത്തി എന്ന തോന്നൽ

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

48. പത്രം വായിക്കുന്നതിലോ ടീവി കാണുന്നതിലോ ഒക്കെ ഏകാഗ്രത ഇല്ലായ്മ

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

49. മറ്റുള്ളവർ ശ്രദ്ധിക്കുന്ന രീതിയിൽ സാവധാനത്തിലുള്ള ചലനമോ സംസാരമോ അല്ലെങ്കിൽ നേരെ മറിച് - പതിവിലുമേറെ അസ്വസ്ഥമായ നടപ്പ്

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

50. ഇതിലും ഭേദം മരിക്കുന്നതാണെന്നോ, ഏതെങ്കിലും രീതിയിൽ സ്വയം പീഡിപ്പിക്കണമെന്നോ ഉള്ള ചിന്ത

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും ഓരോദിവസവും

51. നിങ്ങൾ ഏതെങ്കിലും പ്രശ്നം അടയാളപ്പെടുത്തിയിട്ടുണ്ടെങ്കിൽ, ആ പ്രശ്നങ്ങൾ നിങ്ങളുടെ ജോലി ചെയ്യുന്നതിനും വീട്ടിലെ കാര്യങ്ങൾ നടത്തുന്നതിനും മറ്റുള്ളവരുമായി സഹകരിച്ചു പോകുന്നതിനും എത്രത്തോളം ബുദ്ധിമുട്ടുണ്ടാക്കിയിട്ടുണ്ട്?
□ ഒട്ടും ബുദ്ധിമുട്ടില്ല
□ അല്പം ബുദ്ധിമുട്ടുണ്ട്
□ വളരെ ബുദ്ധിമുട്ടുണ്ട്
□ അങ്ങേയറ്റം ബുദ്ധിമുട്ടുണ്ട്

6.ഉത്കണ്ഠ-GAD7

നിർദേശങ്ങൾ: നിങ്ങൾക്ക് ഉണ്ടായേക്കാവുന്ന 'ഉത്കണ്ഠ' എന്നഅവസ്ഥയെ സംബന്ധിച്ചുള്ള ലക്ഷണങ്ങളുടെ ഒരു ചോദ്യാവലി ആണ് ഈ സെക്ഷനിൽ കൊടുത്തിരിക്കുന്നത്. കഴിഞ്ഞ രണ്ടാഴ്ചകാലത്ത് താഴെ പറയുന്ന പ്രശ്നങ്ങൾ നിങ്ങളെ എന്തുമാത്രം ശല്യം ചെയ്തിട്ടുണ്ട്? (ഒട്ടുമില്ല , നിരവധി ദിവസങ്ങൾ, പകുതിയിൽ അധികം ദിവസങ്ങൾ, മിക്കവാറും എല്ലാദിവസവും)

52. മനോബലം ഇല്ലാതിരിക്കുക ,ഉത്ക്കണ്ഠയോ കടുത്ത പിരിമുറുക്കമോ തോന്നുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

53. വിഷമിക്കുന്നത് നിർത്താനോ നിയന്ത്രിക്കാനോ കഴിയാതിരിക്കുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

54. പല കാര്യങ്ങളെ കുറിച്ച് വളരെ അധികം ആശങ്കപ്പെടുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

55. ആശ്വാസം കിട്ടാൻ ബുദ്ധിമുട്ട്

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

56. അസ്വസ്ഥത മൂലം അനങ്ങാതെ ഇരിക്കാൻ പറ്റാതിരിക്കുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

57. എളുപ്പത്തിൽ പ്രകോപിതൻ ആവുകയോ ശുണ്ഠി എടുക്കുകയോ ചെയ്യുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

58. ഭയാനകമായ എന്തെങ്കിലും സംഭവിച്ചേക്കാമെന്ന് ഭയം തോന്നുക

ഒട്ടുമില്ല	നിരവധി ദിവസങ്ങൾ	പകുതിയിൽ അധികം ദിവസങ്ങൾ	മിക്കവാറും എല്ലാദിവസവും

59. നിങ്ങൾ ഏതെങ്കിലും പ്രശ്നം അടയാളപ്പെടുത്തിയിട്ടുണ്ടെങ്കിൽ, ആ പ്രശ്നങ്ങൾ നിങ്ങളുടെ ജോലി ചെയ്യുന്നതിനും വീട്ടിലെ കാര്യങ്ങൾ നടത്തുന്നതിനും മറ്റുള്ളവരുമായി സഹകരിച്ചു പോകുന്നതിനും എത്രത്തോളം ബുദ്ധിമുട്ടുണ്ടാക്കിയിട്ടുണ്ട്?
□ ഒട്ടും ബുദ്ധിമുട്ടില്ല
□ അല്പം ബുദ്ധിമുട്ടുണ്ട്
□ വളരെ ബുദ്ധിമുട്ടുണ്ട്
□ അങ്ങേയറ്റം ബുദ്ധിമുട്ടുണ്ട്

8. മാനസികസംഘർഷം-PSS

നിർദേശങ്ങൾ: നിങ്ങൾക്ക് ഉണ്ടായേക്കാവുന്ന 'മാനസികസംഘർഷം' എന്ന അവസ്ഥയെ സംബന്ധിച്ചുള്ള ലക്ഷണങ്ങളുടെ ഒരു ചോദ്യാവലി ആണ് ഈ സെക്ഷനിൽ കൊടുത്തിരിക്കുന്നത്. കഴിഞ്ഞ ഒരു മാസത്തിനുള്ളിൽ നിങ്ങളുടെ മനസ്സിലുണ്ടായ ചിന്തകളെയും സംഘർഷങ്ങളേയും കുറിച്ച് താഴെ തന്നിരിക്കുന്നവയിൽ നിന്നും നിങ്ങൾക്ക് ഏറ്റവും അനുയോജ്യമായി തോന്നുന്നത് (ഒരിക്കലുമില്ല, അപൂർവമായി,

ചിലപ്പോഴൊക്കെ, സാധാരണയായി, വളരെ സാധാരണയായി) എന്ന വിധത്തിൽ രേഖപ്പെടുത്തുക.

60. അപ്രതീക്ഷിതമായി സംഭവിച്ച കാര്യങ്ങളെ കുറിച്ചോർത്തു എപ്പോഴെല്ലാം നിങ്ങൾ വിഷമിച്ചിട്ടുണ്ട്?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

61. ജീവിതത്തിൽ പ്രധാനപ്പെട്ട കാര്യങ്ങൾ നിയന്ത്രിക്കാൻ കഴിയുന്നില്ല എന്ന് എപ്പോഴെങ്കിലും നിങ്ങള്ക്ക് തോന്നിയിട്ടുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

62. എപ്പോഴെങ്കിലും മനസികസംഘർഷവും പിരിമുറുക്കവും അനുഭവപ്പെട്ടിട്ടുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

63. വ്യക്തിപരമായ പ്രശ്നങ്ങളെ ആത്മവിശ്വാസത്തോടെ നേരിടാൻ കഴിയുമെന്ന് എപ്പോഴെല്ലാം നിങ്ങൾക്ക് തോന്നിയിട്ടുണ്ട്?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

64. കാര്യങ്ങൾ എല്ലാം നിങ്ങളുടെ വഴിക്ക് നടക്കുന്നുവെന്ന് എപ്പോഴെല്ലാം നിങ്ങൾക്ക് തോന്നിയിട്ടുണ്ട്?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

65. കടമകൾ നിർവഹിക്കാനുള്ള സമ്മർദ്ദം അതിജീവിക്കാൻ കഴിയില്ലെന്ന് എപ്പോഴെങ്കിലും നിങ്ങൾക്ക് തോന്നിയിട്ടുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

66. കാര്യങ്ങളെ കുറിച്ച വ്യക്തമായ ധാരണ / അറിവ് നിങ്ങൾക്കുണ്ടെന്ന് എപ്പോഴെല്ലാം തോന്നിയിട്ടുണ്ട്?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

67. പ്രകോപനങ്ങൾ നിയന്ത്രിക്കാൻ കഴിയാറുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

68. കാര്യങ്ങൾ കൈവിട്ടു പോകുമ്പോൾ കോപിതനാകാറുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

69. പ്രയാസങ്ങൾ കുന്നു കൂടുന്നു അവയെ മറികടക്കാൻ സാധിക്കില്ല എന്ന് എപ്പോഴെങ്കിലും നിങ്ങൾക്ക് തോന്നിയിട്ടുണ്ടോ?

ഒരിക്കലുമില്ല	അപൂർവമായി	ചിലപ്പോഴൊക്കെ	സാധാരണയായി	വളരെ സാധാരണയായി

9. മാനസികമോ വൈകാരികമോ ആയ പ്രശ്നങ്ങളും പരിഹാരവുമായി ബന്ധപ്പെട്ടത്

70. നിങ്ങൾ എപ്പോഴെങ്കിലും മാനസികമായ പ്രശ്നങ്ങൾക്ക് ഒരു ഡോക്ടറിൽ നിന്നും വൈദ്യസഹായം സ്വീകരിച്ചിട്ടുണ്ടോ?
    a. ☐ ഉണ്ട്
    b. ☐ ഇല്ല

71. എന്ത് തരം ചികിത്സ ആണ് ചെയ്തത്?
    a. ☐ കൗൺസിലിങ്
    b. ☐ കൗൺസിലിങ് & മരുന്ന്

72. നിലവിൽഎന്തെങ്കിലുംമാനസികപ്രശ്ങ്ങൾ ചികിത്സ എടുക്കുന്ന ആളാണോനിങ്ങൾ?
    a. ☐ അതെ
    b. ☐ അല്ല

73. എന്ത് തരം ചികിത്സ ആണ് നിങ്ങൾ എടുക്കുന്നത്?

    a. ☐ കൗൺസിലിങ്
    b. ☐ കൗൺസിലിങ് & മരുന്ന്

74. നിങ്ങൾക്കുണ്ടായ എന്തെങ്കിലും മാനസികമോ വൈകാരികമോ ആയ പ്രശ്നത്തിന് വൈദ്യസഹായം തേടണമെന്ന് തോന്നിയിട്ടുണ്ടോ?
    a. ☐ ഉണ്ട്
    b. ☐ ഇല്ല

75. അങ്ങനെയെങ്കിൽ എന്താണ് നിങ്ങൾ നേരിടുന്ന പ്രശനം എന്ന് വിശദീകരിക്കാമോ?

76. ഇ പ്രശ്നം നിങ്ങളുടെ ദൈനംദിനദിന ജീവിതത്തെ ബാധിക്കുന്ന തരത്തിൽ ഗുരുതരമാണെന്ന് കരുതുന്നുണ്ട്??

(ശക്തമായിവിയോജിക്കുന്നു-0,വിയോജിക്കുന്നു-1,രണ്ടുമില്ല-2യോജിക്കുന്നു-3,ശക്തമായിയോജിക്കുന്നു-4)

0	1	2	3	4

77. ഇത്തരത്തിലുള്ള മാനസികമോ വൈകാരികമോ ആയ പ്രശ്നങ്ങൾക്ക് സ്വയം പരിഹാരം കാണുവാൻ ശ്രമിച്ചിട്ടുണ്ടോ?
    a. □ ഉണ്ട്
    b. □ ഇല്ല

ഉണ്ടെങ്കിൽ,

78. എന്തെല്ലാം രീതിയിൽ ആണ് സ്വയം പരിഹാരം കാണുവാൻ ശ്രമിച്ചിട്ടുള്ളത്?

79. ഇവ എത്രത്തോളം ഫലപ്രദമാണെന്നാണ് കരുതുന്നത്?
    a. വലിയ തോതിൽ ഫലപ്രദം
    b. ഫലപ്രദം
    c. ചെറിയ തോതിൽ ഫലപ്രദം

80. നിങ്ങളുടെ മാനസിക ആരോഗ്യ നിലയെ എങ്ങനെ വിലയിരുത്തുന്നു?
    (വളരെ മോശം-0 മോശം-1 കുഴപ്പമില്ല-2 നല്ലത്-3 വളരെ നല്ലത്-4)

0	1	2	3	4

ANNEXURE VII IEC Approval Letter

श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेन्द्रम
तिरुवनन्तपुरम - ६९५०११, केरल, इंडिया
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM
Thiruvananthapuram - 695 011, Kerala, India
(An Institute of National Importance under Govt. of India)
Grams : Chitramet, Phone : +91-471-2443152, Fax : +91-471-2550728 / 2446433, E-mail : sct@sctimst.ac.in, Website : www.sctimst.ac.in

Institutional Ethics Committee
(IEC Regn No. ECR/189/Inst/KL/2013/RR-21)

SCT/IEC/2011/MARCH/2023 18.04.2023

Dr. Haritha CS
MPH Student, AMCHSS
SCTIMST, Thiruvananthapuram

Dear Dr. Haritha,

The Institutional Ethics Committee held on 18th March, 2023, reviewed and discussed your application to conduct the study titled "**PERCEIVED STRESS, ANXIETY AND DEPRESSION AMONG 40-60 YEAR OLD WOMEN, A CROSS-SECTIONAL STUDY IN THIRUVANANTHAPURAM** (IEC/2011)".

The following members of the Ethics Committee were present at the meeting held on 18th March, 2023.

SL. No.	Member Name	Highest Degree	Gender	Scientific /Non Scientific	Affiliation with Institution(s)
1.	Smt. Sathi Nair	MA (English Literature)	Female	Lay Person	No
2.	Dr. Pradeep S	MBBS, MD	Male	Basic Medical Scientist	No
3.	Dr. Christina George	MD Psychiatry	Female	Clinician	No
4.	Dr. P. Manickam	BSMS, MSc (Epid)., PhD	Male	Health Science Expert/ Social Scientist	No
5.	Adv. Priya Kaimal	LLM, MBL	Female	Legal Expert	No
6.	Dr. Biju Soman	MBBS,MD, DPH, MSc, DLSHTM	Male	Basic Medical Scientist	Yes
7.	Dr. Syam K	MBBS, MD, DM	Male	Clinician	Yes
8.	Dr. Srinivas G	PhD	Male	Basic Medical Scientist (Member Secretary)	Yes

The following documents were reviewed:

Original submission

1. Checklist Form
2. Covering letter addressed to the Chairman, IEC, SCTIMST dated 03.03.2023
3. Responses/Amendments made based on the Reviewer's comments
4. IEC Application Form
5. Declaration Form
6. Research Proposal
7. Tool in English and Malayalam
8. Participant Information Sheet and Consent Form in English and Malayalam
9. CV of Principal Investigator and Guide
10. SRC Recommendation letter

Revised submission

1. Covering letter addressed to the Chairman, IEC, SCTIMST dated 04.04.2023
2. Responses/Amendments made based on the Reviewer's comments
3. *Copy of IEC Recommendation letter dated 03.04.2023*
4. Checklist Form
5. IEC Application Form
6. Declaration Form
7. Research Proposal
8. Tool in English and Malayalam
9. Participant Information Sheet and Consent Form in English and Malayalam
10. CV of Principal Investigator and Guide

IEC Decision

The IEC approved the conduct of the study in the present form.

Remarks:
The Institutional Ethics Committee expects to be informed about the progress of the study, any SAE occurring in the course of the study, any changes in the protocol and patient information/informed consent and asks to be provided a copy of the final report.

There was no member of the study team / Guide who participated in voting / decision making process. The ethics committee is organized and operated according to the requirements of Good Clinical Practice and the requirements of the Indian Council of Medical Research (ICMR).

Sincerely,

Dr. G. Srinivas
Member Secretary, IEC

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE (IEC)
SCTIMST, THIRUVANANTHAPURAM

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY
INSTITUTIONAL ETHICS COMMITTEE (IEC)
SCTIMST
THIRUVANANTHAPURAM

ANNEXURE VIII Permission letters from Local self-governing bodies

പോത്തൻകോട് ഗ്രാമപഞ്ചായത്ത് കാര്യാലയം

പോത്തൻകോട് പി.ഒ, തിരുവനന്തപുരം 695584

ഫോൺ: 0471-439238 ഇ-മെയിൽ: pothencodugp@gmail.com

നം. A4/2681/23 തീയതി: 20.04.2023

പ്രേക്ഷിതൻ
സെക്രട്ടറി
പോത്തൻകോട്

സ്വീകർത്താവ്,
Biju Soman
Professor and Head
Achutha Menon Centre for
Health Science Studies
Sree Chithra Tirunal
Institute of Medical Science Studies
Thiruvananthapuram

സർ,

വിഷയം: പോത്തൻകോട് ഗ്രാമപഞ്ചായത്ത്- ആരോഗ്യ വിഭാഗം-പഠനം നടത്തുന്നത് സംബന്ധിച്ച്

സൂചന: (1) 05.04.2023 ലെ താങ്കളുടെ കത്ത്
(2) സെക്രട്ടറിയുടെ 13.04.2023 ലെ നിർദ്ദേശം

മേൽ സൂചന പ്രകാരം താങ്കൾ സമർപ്പിച്ച കത്തിന്റെ അടിസ്ഥാനത്തിൽ 40-60 വയസ്സ് വരെ പ്രായം ഉള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷം, ഉത്കണ്ഠ, വിഷാദം എന്നിവയെപ്പറ്റി ഒരു പഠനം നടത്തുന്നതിന് ശ്രീമതി. ഹരിത സി എസിന് അനുമതി നൽകാവുന്നതാണ് എന്ന സൂചന (2) പ്രകാരം ബഹു. പോത്തൻകോട് ഗ്രാമപഞ്ചായത്ത് സെക്രട്ടറി നിർദ്ദേശിച്ചിട്ടുണ്ട്. ആയതിനാൽ ടി പഠനത്തിനാവശ്യമായ സഹായ സഹകരണങ്ങൾക്കായി ടിയാൾക്ക് പോത്തൻകോട് ഗ്രാമപഞ്ചായത്ത് ഹെൽത്ത് വിഭാഗവുമായി ബന്ധപ്പെടാവുന്നതാണ് എന്ന വിവരം അറിയിക്കുന്നു.

വിശ്വസ്തതയോടെ

for Abja

SECRETARY
POTHENCODE GRAMA PANCHAYAT

അണ്ടൂർക്കോണം ഗ്രാമപഞ്ചായത്ത്ഓഫീസ്

കണിയാപുരം. പി.ഒ, തിരുവനന്തപുരംപിൻ. 695301, ഫോൺ. (0471) 2750251

Email : adrkmgp@gmail.com

തീയതി :26/04/2023

പ്രേഷിതൻ
സെക്രട്ടറി
അണ്ടൂർക്കോണം ഗ്രാമപഞ്ചായത്ത്

സ്വീകർത്താവ്,
ഹരിത.സിഎസ്

സർ,

വിഷയം:-അണ്ടൂർക്കോണം ഗ്രാമ പഞ്ചായത്ത് 40 മുതൽ 60 വയസ്സ് വരെയുളള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും , ഉത് കണുയും, വിഷാദവും – വാർഡ് 10,15,11,08 കളിൽ നടത്തുന്ന ഒരു പഠനം.

സൂചന:- 1. 05.04.2023 ലെ താങ്കളുടെ കത്ത്.
2. പഞ്ചായത്ത് സെക്രട്ടറിയുടെ നിർദ്ദേശം

മേൽ സൂചന പ്രകാരം താങ്കൾ സംർപ്പിച്ച കത്തിന്റെ അടിസ്ഥാനത്തിൽ അണ്ടൂർക്കോണം ഗ്രാമ പഞ്ചായത്ത് 40 മുതൽ 60 വയസ്സ് വരെയുളള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും , ഉത് കണുയും, വിഷാദവും എന്ന വിഷയത്തെ പറ്റി പഠനം നടത്തുന്നതിന് ശ്രീമതി ഹരിത.സി.എസ് ന് അനുമതി നൽകാവുന്നതാണെന്ന് സൂചന 2 പ്രകാരം ഗ്രാമ പഞ്ചായത്ത് സെക്രട്ടറി നിർദ്ദേശിച്ചിട്ടുണ്ട്. ആയതിനാൽ ടി പഠനത്തിനാവശ്യമായ സഹായസഹകരണങ്ങൾക്കായി ടിയാരിക്ക് ഹെൽത്ത് വിഭാഗവുമായി ബന്ധപ്പെടാവുന്നതാണ് എന്ന വിവരം അറിയിക്കുന്നു.

വിശ്വസ്തതയോടെ

സെക്രട്ടറി
അണ്ടൂർകോണം ഗ്രാമപഞ്ചായത്ത്
കണിയാപുരം പി.ഒ, തിരുവനന്തപുരം (ജില്ല)
പിൻ-695301,ഫോൺ0471 2750251, 9496040669

തിരുവനന്തപുരം നഗരസഭ
പാളയം, വികാസ് ഭവൻ.പി.ഒ, Ph: 0471-2320821,
E-mail: tvpmcorpn@gmail.com

H17/MS/1433/23 **തീയതി: 24.04.23**

ഹെൽത്ത് ഓഫീസർ
തിരുവനന്തപുരം നഗരസഭ

ഡോ. ബിജു സോമൻ
പ്രൊഫസർ & ഹെഡ് അച്യുതമേനോൻ സെന്റർ-
ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്
തിരുവനന്തപുരം-11

സർ,

വിഷയം: തിരുവനന്തപുരം നഗരസഭ- ആരോഗ്യവിഭാഗം- 40 മുതൽ 60 വയസ്സു വരെയുള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും, ഉത്കണ്ഠയും,വിഷാദവും എന്ന വിഷയം സംബന്ധിച്ച് പഠനം നടത്തുന്നതിന് അനുമതി- സംബന്ധിച്ച്

സൂചന: 1. 05.04.2023-ലെ താങ്കളുടെ കത്ത്.
2. ബഹു. സെക്രട്ടറിയുടെ 10.04.22 ലെ നിർദ്ദേശം

മേൽ സൂചന പ്രകാരം അച്യുതമേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്-ലെ അവസാന വർഷ MPH വിദ്യാർത്ഥിനിയായ ഡോ. ഹരിത. സി. എസ് -ന് 40 വയസ്സ് മുതൽ 60 വയസ്സു വരെയുള്ള സ്ത്രീകളിലെ മാനസിക സംഘർഷവും, ഉത്കണ്ഠയും,വിഷാദവും എന്ന വിഷയത്തിൽ തിരുവനന്തപുരത്ത് പഠനം നടത്തുന്നതുമായി ബന്ധപ്പെട്ട് നഗരസഭാ പരിധിയിലെ തിരഞ്ഞെടുക്കപ്പെട്ട 8 വാർഡുകളിൽ ഉൾപ്പെട്ട 40 വയസ്സ് മുതൽ 60 വയസ്സു വരെയുള്ള 20 സ്ത്രീകളെ ഇന്റർവ്യൂ നടത്തുന്നതിന് അനുമതി നൽകണമെന്ന് അപേക്ഷിച്ചിരുന്നു. ആയത് പ്രകാരം ടി വിഷയത്തിൽ പ്രസ്തുത 8 വാർഡുകളിൽ (03, 09, 16, 28, 31, 44, 30, 97) പഠനം നടത്തുന്നതിന് ബഹു. സെക്രട്ടറി സൂചന (2) പ്രകാരം അനുമതി നൽകിയിട്ടുണ്ട് എന്ന വിവരം അറിയിക്കുന്നു. ടി പഠനവുമായി ബന്ധപ്പെട്ട് ഡോ. ഹരിത. സി. എസ് -ന് ആവശ്യമായ എല്ലാ സഹായ സഹകരണങ്ങൾക്കും ഹെൽത്ത് വിഭാഗവുമായി ബന്ധപ്പെടേണ്ടതണ്.

ഹെൽത്ത് ഓഫീസർ

Dr. GOPAKUMAR.R.S
Health Officer
Icmc 45777
Municipal Corporation
Thiruvananthapuram

ANNEXURE IX List of selected Grama Panchayats and Municipality with respective wards

Sl No.	Ward Number	Ward Name
Pothencode Grama Panchayath		
1	13	Panimoola
2	10	Kattayikonam
3	08	Ayiroopara
4	07	Plamoodu
Andoorkonam Grama Panchayath		
5	15	Pallipuram
6	11	Kaniyapuram
7	08	Paichira
8	10	Kunninakam
Thiruvananthapuram Municipal Corporation		
9	16	Medical college
10	03	Kattayikonam
11	30	Kanjirampara
12	28	Thycaud
13	31	Peroorkada
14	97	Kulathoor
15	44	Jagathy
16	09	Chempazhanthy

ANNEXURE X Plagiarism Report

Ouriginal by Turnitin

Document Information

Analyzed document	Thesis_Finaldraft_7950(Haritha CS).docx (D171910190)
Submitted	7/9/2023 10:45:00 AM
Submitted by	jissa
Submitter email	jissa@sctimst.ac.in
Similarity	7%
Analysis address	sijsa.sctims@analysis.urkund.com

Sources included in the report

W	URL: https://ijmhs.biomedcentral.com/articles/10.1186/s13033-019-0275-x Fetched: 9/28/2019 2:11:15 PM	1
W	URL: https://www.who.int/news-room/fact-sheets/detail/depression Fetched: 5/13/2020 8:24:10 AM	1
W	URL: https://www.sciencedirect.com/topics/medicine-and-dentistry/patient-health-questionnaire-9 Fetched: 3/11/2020 7:10:55 AM	1
W	URL: https://loinc.org/44261-6 Fetched: 3/28/2023 12:48:43 PM	1
W	URL: https://jasondemant.com/scoring-for-phq-9-do-you-have-depression/ Fetched: 4/1/2022 6:33:46 PM	1
SA	**Plagiarism checker.docx** Document Plagiarism checker.docx (D46234790)	2
W	URL: https://sa1s3.patientpop.com/assets/docs/368987.pdf Fetched: 11/8/2022 1:52:24 PM	1
SA	**Dissertation.docx** Document Dissertation.docx (D90351622)	5

Entire Document