

**BURNOUT AMONG PALLIATIVE CARE NURSES IN KERALA:**

**A CROSS-SECTIONAL STUDY**

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**Dissertation submitted in partial fulfilment of the requirements for the award of the  
degree of Master of Public Health**



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## DECLARATION

I hereby declare that this dissertation entitled **“Burnout Among Palliative Care Nurses in Kerala: A Cross-Sectional Study”** is a Bonafide record of my original research work. This dissertation has not been submitted, either in part or in full, to any other university or institution for the award of any degree or diploma. All sources of information, including published and unpublished works of other authors, have been appropriately cited and acknowledged within the text.

A handwritten signature in blue ink, appearing to read 'Arun Rajan', is shown within a rectangular frame. The signature is stylized with a large initial 'A' and a long horizontal stroke at the end.

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## CERTIFICATE

This is to certify that the dissertation entitled “**Burnout Among Palliative Care Nurses in Kerala: A Cross-Sectional Study**” is a bona fide record of the research work carried out by Dr. R C Arun Rajan under my guidance and supervision. This dissertation is submitted in partial fulfilment of the requirements for the award of the Master of Public Health degree.

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## **Glossary of Abbreviations**

|                 |                                                         |
|-----------------|---------------------------------------------------------|
| <b>ANM</b>      | Auxiliary Nurse Midwife                                 |
| <b>ASHA</b>     | Accredited Social Health Activist                       |
| <b>BCCPAN</b>   | Basic Certificate Course in Palliative Nursing          |
| <b>CAD</b>      | Coronary Artery Disease                                 |
| <b>CKD</b>      | Chronic Kidney Disease                                  |
| <b>COVID-19</b> | Coronavirus Disease 2019                                |
| <b>DHS</b>      | Directorate of Health Services                          |
| <b>DMO</b>      | District Medical Officer                                |
| <b>DPM</b>      | District Program Manager                                |
| <b>GNM</b>      | General Nursing and Midwifery                           |
| <b>ICD</b>      | International Classification of Diseases                |
| <b>ICD-10</b>   | International Classification of Diseases, 10th Revision |
| <b>ICD-11</b>   | International Classification of Diseases, 11th Revision |
| <b>IEC</b>      | Institutional Ethics Committee                          |
| <b>JPHN</b>     | Junior Public Health Nurse                              |
| <b>LSGI</b>     | Local Self Government Institution                       |
| <b>NNPC</b>     | Neighbourhood Network in Palliative Care                |
| <b>OLBI</b>     | Oldenburg Burnout Inventory                             |
| <b>OLBI-D</b>   | OLBI Disengagement Domain                               |
| <b>OLBI-E</b>   | OLBI Exhaustion Domain                                  |
| <b>PPE</b>      | Personal Protective Equipment                           |
| <b>PTSD</b>     | Post-Traumatic Stress Disorder                          |
| <b>SD</b>       | Standard Deviation                                      |
| <b>SPSS</b>     | Statistical Package for the Social Sciences             |
| <b>WHO</b>      | World Health Organization                               |

# Abstract

## Background:

Palliative care nurses often face emotionally demanding situations that can lead to burnout, affecting both their well-being and the quality of care delivered. Burnout among healthcare professionals, especially in palliative care settings, remains an underexplored but critical issue in the Indian context.

## Objectives:

This study aimed to assess the levels of burnout among palliative care nurses working under local self-government institutions in the districts of Malappuram and Thiruvananthapuram, and to identify factors associated with burnout.

## Methods:

A cross-sectional study was conducted among palliative care nurses in Malappuram and Thiruvananthapuram districts. A total of 209 participants were recruited based on eligibility criteria, . Data were collected using the **Oldenburg Burnout Inventory (OLBI)** and a **self-structured questionnaire**, both translated into Malayalam. Variables included sociodemographic data, work conditions, service availability, and privileges. Data analysis was conducted using R (version 4.3.1).and jamovi 2.3.28

## Results:

Burnout prevalence among palliative care nurses was 12.4% based on the disengagement module and 77.5% based on the exhaustion module. This indicates that **exhaustion was a more prominent component of burnout** compared to disengagement in the study population.

**Conclusion:**

The study highlights a high burden of burnout among palliative care nurses, necessitating targeted interventions to address both organisational and emotional challenges. Improving working conditions, offering regular training, and promoting emotional support systems are essential steps to enhance nurse well-being and sustain quality palliative care.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Health, as defined by the **World Health Organization (1946)**, is not merely the absence of disease but a positive state of physical, mental, and social well-being. A healthy workplace promotes this holistic health by ensuring not only the absence of hazards but also the presence of supportive structures that foster employee well-being. However, certain professions, especially within the healthcare sector, place a heavy burden on workers' physical and emotional resources. One such demanding field is **palliative care nursing**. (International Health Conference, 2002)

Palliative care focuses on providing relief from the symptoms, pain, and emotional distress of patients with serious illnesses. Nurses working in this field often develop close, compassionate relationships with their patients and families, confronting suffering, deterioration, and death daily (**World Health Organization, 2018**). This emotional labour, compounded by high workloads, staffing shortages, and continuous exposure to grief and loss, makes palliative care nurses particularly vulnerable to **burnout** .(Peters et al., 2013)

According to the **International Classification of Diseases (ICD-11)**, burnout is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

1. Feelings of energy depletion or exhaustion;

2. Increased mental distance from one's job, or feelings of negativism or cynicism related to one's job;
3. Reduced professional efficacy.(Burn-out an occupational phenomenon, 2019)

Burnout in healthcare workers, especially nurses, has been associated with poor mental health outcomes, decreased job satisfaction, lower quality of patient care, and higher turnover rates (Dyrbye et al., 2017; Maslach & Leiter, 2016). Studies indicate that compared to other nursing specialties, palliative care nurses experience higher emotional demands and existential challenges, which can intensify the risk of burnout if not addressed effectively (Kearney et al., 2009).

Kerala, a state recognized for its pioneering palliative care initiatives, offers an important context to study burnout among palliative care nurses. The state has integrated palliative care into its primary healthcare services under Local Self-Government Institutions (LSGIs), particularly through programs like the "Arogya Kiranam" and the "Community-Based Palliative Care" movement.(Kumar, 2007). While these initiatives have expanded access to care, they have also increased the workload and expectations placed on the nurses involved. Many palliative care nurses in Kerala work with limited resources, dealing with complex cases and operating in emotionally taxing environments. However, limited research has been done specifically focusing on their mental health, particularly the prevalence and contributing factors of burnout among them. (Rajagopal and Kumar, 1999)

Malappuram and Trivandrum (Thiruvananthapuram) are two districts in Kerala that offer a contrast in terms of urbanization, healthcare infrastructure, and palliative care models. Malappuram, with a larger rural population and active community participation in palliative

care, and Trivandrum, being a more urbanized and resource-rich district, present unique challenges and support systems for palliative care nurses (Rajagopal, 2012) Studying these districts can provide valuable insights into the levels and determinants of burnout among palliative care nurses operating under Local Self-Government Institutions.

The aim of this study is to evaluate burnout levels among palliative care nurses in the Malappuram and Thiruvananthapuram districts, while also exploring the factors linked to burnout in this crucial yet vulnerable group of healthcare professionals..

## **1.2 Review of Literature**

This section contains the results of literature search which was done using PubMed, Google Scholar, World Health Organization, United Nations websites and other related documents which are cited in the text.

### **1.2.1 Burnout**

In recent years, burnout among healthcare professionals has become a growing concern. According to the World Health Organization's (WHO) 10th revision of the International Classification of Diseases (ICD-10), burnout is classified under the code "Z73.0 – Problems related to life management difficulty" and is described as a "state of vital exhaustion." This condition involves both mental and physical fatigue and is primarily linked to workplace stress. Burnout can also lead to several adverse health outcomes, such as sleep disturbances, a higher risk of cardiovascular conditions, and increased levels of inflammatory markers..(International Health Conference, 2002).In ICD-11, burnout is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: emotional exhaustion associated with feelings of energy depletion or exhaustion;

depersonalisation refers to disengagement from work due to over exhaustion and personal accomplishment that refers to feelings of competence, achievement and accomplishment in one's work.(Menon et al., 2022)

Burnout was first introduced by Freudenberger in 1974, describing a state of exhaustion, cynicism, and reduced professional efficacy (Freudenberger, 1974). Later, Maslach et al. (2001) defined three dimensions of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. In the context of palliative care nursing, burnout manifests predominantly as emotional depletion and psychological disengagement from patients and work roles (Demerouti et al., 2001).

### **1.2.2 Palliative Care- A Global Perspective**

The World Health Organization (WHO) defines palliative care as a method aimed at enhancing the quality of life for individuals and their families who are dealing with life-threatening illnesses. This is achieved by preventing and alleviating suffering through timely identification, thorough assessment, and effective management of pain and other issues—whether physical, psychological, social, or spiritual. (World Health Organization, 2002).

Globally, the demand for palliative care has been increasing due to aging populations and the rising burden of chronic diseases. However, the provision of these services remains uneven, with only about 14% of people who need palliative care currently receiving it (Knaul et al., 2025).

Palliative care, though essential to healthcare and a key component of universal health coverage, is still largely inaccessible or absent in many parts of the world. The Lancet Commission on Global Access to Palliative Care and Pain Relief (referred to as The Lancet

Commission) reports that each year, more than 61 million people endure health-related suffering that could be greatly reduced with appropriate palliative care. Despite this need, at least 80% of those affected are unable to access even the most basic palliative care services, including essential pain medications..(Knaul et al., 2025)

In 2014, the World Health Organization (WHO) passed resolution WHA67.19, encouraging member states to incorporate palliative care into their national health systems at every level, particularly emphasizing primary, community, and home-based services. Additionally, the resolution advocates for making palliative care a fundamental part of all relevant global health and disease control strategies, especially those addressing non-communicable diseases..(Al-Mahrezi and Al-Mandhari, 2016).

Internationally, interventions such as mindfulness-based stress reduction, professional supervision, resilience workshops, and structured debriefing sessions have shown effectiveness in reducing burnout rates (West et al., 2016; Rushton et al., 2015). These programs underline the importance of both individual coping strategies and organizational commitment in mitigating burnout.

### **1.2.3 Burnout among palliative care nurses: The Indian Scenario**

Burnout among palliative care nurses is particularly concerning because it directly impacts the quality of care provided to patients. Nurses working in palliative care often experience emotional exhaustion due to the frequent exposure to death, suffering, and grief. The psychological demands of caring for terminally ill patients can lead to a sense of depersonalization and reduced empathy, which are core components of burnout (Meier & Beresford, 2006). India, with its expanding healthcare needs, faces an increasing burden of

burnout among healthcare professionals, particularly those working in critical care and palliative care. As the healthcare system grows, so too does the emotional and physical strain on healthcare workers. In India, burnout is reported to be prevalent among nurses, with significant implications for both worker well-being and patient care (Agarwal et al., 2016). Nurses reported experiencing role strain between professional duties and familial obligations, compounding their emotional burden. Rajagopal and Kumar (2010) emphasized that, in India, cultural attitudes towards death and the family's central role in end-of-life decisions present unique challenges for nurses.

The delivery of palliative care involves a multidisciplinary team of workers, including doctors, nurses, social workers, and therapists, as well as key stakeholders such as patients and their families, healthcare providers, policy makers, insurance companies, NGOs, and community organizations, all of whom play vital roles in ensuring comprehensive and compassionate care. (Sekse et al., 2018) In India, palliative care has gained attention relatively recently compared to Western countries. The Indian Association of Palliative Care (IAPC) was established in 1994 to promote access to palliative care services across the country. However, the service availability is largely urban-centric, and rural regions continue to lack proper access (Rajagopal, 2015). Cultural beliefs, lack of awareness, and inadequate policies contribute to the slow expansion of palliative care services in India (Kumar, 2013).

Indian palliative care models often rely heavily on family caregivers, while institutional support remains minimal. Nurses in India involved in palliative care face unique challenges such as lack of adequate training, emotional distress due to frequent exposure to death, and balancing professional boundaries with compassionate care (Salins et al., 2016). These factors cumulatively increase the risk of burnout among palliative care providers.

#### **1.2.4 Burnout among palliative care nurse in Kerala**

Kerala is regarded as a pioneer in palliative care services within India. The state accounts for nearly two-thirds of India's palliative care programs (Khosla, Patel, & Sharma, 2012). Kerala's community-based palliative care model, supported by local self-governments and non-governmental organizations, has significantly improved accessibility to care (Rajagopal & Joad, 2010). Kerala stands out as a leader in integrating palliative care into public health services. The state has implemented several community-based palliative care programs, and its palliative care services are among the most developed in India. Kerala's Local Self-Government Institutions (LSGIs) have been key in bringing palliative care closer to communities, through programs such as "Arogya Kiranam" (Kumar, 2013). The Neighbourhood Network in Palliative Care (NNPC) project in Kerala is considered a global model for community-based palliative care (Kumar, 2007). However, despite its success, the heavy reliance on volunteers and nurses without proportionate institutional psychological support places immense emotional burdens on these providers (Chitra & Jeyalakshmi, 2017). Nurses often form strong emotional bonds with patients and their families, leading to complicated grief and heightened susceptibility to burnout.

Established in 1993 in Calicut, Kerala, the Pain and Palliative Care Society (PPCS) originated from a pain clinic at Calicut Medical College. By 1995, the World Health Organization (WHO) recognized PPCS as a demonstration project, setting it up as a model for palliative care services in developing nations. The program initially provided only outpatient care but gradually expanded to include home-based visits, inpatient services, and independent link centers in nearby towns. (Salins et al., 2022).. Malappuram and Thiruvananthapuram districts, in particular, have well-developed palliative care networks. However, the increasing demand for

palliative services, coupled with workforce shortages, limited resources, and challenging working conditions, places significant stress on palliative care nurses in these regions. Kerala stands out in India for its relatively advanced palliative care services, yet nurses in this sector are not immune to the phenomenon of burnout. George et al. (2018) specifically noted that even in Kerala's comparatively better-resourced palliative care systems, emotional exhaustion among nurses was significant. Factors included frequent exposure to dying patients, emotional demands from both patients and families, and organizational gaps in providing emotional support.

Soman et al. (2020) conducted an in-depth study among healthcare workers, including palliative care nurses, in Kerala. They reported that nurses often derived a sense of purpose and fulfilment from their work, which acted as a buffer against burnout. However, systemic issues such as lack of debriefing sessions, absence of structured emotional support systems, and the emotional burden of navigating complex family dynamics were noted as persistent challenges. Nurses reported that even after patients' deaths, they often remained emotionally entangled.

Hence, while Kerala has made substantial advancements in palliative care, addressing burnout among palliative care nurses remains an urgent necessity through formalized psychosocial support, debriefing systems, and resilience-building interventions.

### **1.2.5 Conclusion**

Burnout among palliative care nurses is a critical global concern and a growing issue in India, including in relatively advanced palliative care systems like Kerala. Emotional labour, existential exposure to death, ethical dilemmas, and inadequate systemic support are key

contributors. Addressing burnout necessitates a multifaceted approach incorporating organizational commitment, peer support mechanisms, professional supervision, and individual resilience-building strategies. Future research and interventions should prioritize emotional well-being as a core component of sustainable palliative care systems.

### **1.3 Rationale**

Studies have shown that burnout among healthcare workers, particularly those providing palliative care, is a major concern globally; however, in India, there remains a dearth of data focusing on community-based palliative care settings (Grover et al., 2018). Systematic reviews of burnout among health professionals have largely centered on hospital-based staff, with limited attention given to nurses operating under decentralized, community-led models such as those in Kerala (Gómez-Urquiza et al., 2020). Even where burnout has been studied, the perspectives of palliative care nurses working in local self-government institutions remain underrepresented .(Grover et al., 2018)

Moreover, while tools like the Maslach Burnout Inventory have been widely used, the utilization of the Oldenburg Burnout Inventory, which measures both exhaustion and disengagement, remains limited in Indian palliative care research (BALACHANDAR et al., 2023). A review of available studies indicates that no prior research has been conducted assessing both the levels of burnout and the associated factors specifically among palliative care nurses in Malappuram and Thiruvananthapuram districts.

The present study attempts to address this gap by using a culturally adapted Oldenburg Burnout Inventory and a structured questionnaire to capture not just the prevalence but also the socio-

demographic, occupational, and facility-related factors associated with burnout among palliative care nurses operating under local self-government institutions in these two districts.

#### **1.4 Objective**

- To study the levels of burnout among Palliative Care nurses in Malappuram and Thiruvananthapuram districts under local self-government institutions.
- To study the factors associated with burnout.

## **CHAPTER 2**

### **METHODOLOGY**

#### **2.1 Study Design**

This study was a **cross-sectional study** aimed at assessing the level of burnout among palliative care nurses working in palliative care units under local self-government institutions in Malappuram and Thiruvananthapuram districts of Kerala.

#### **2.2 Study Setting**

The study was conducted in the Malappuram and Thiruvananthapuram districts of Kerala. Both districts have extensive networks of community-based palliative care programs under local self-government institutions (LSGIs), comprising palliative care units functioning at the panchayat and municipal levels. All the palliative care nurses working under the local self-government palliative care programs in these two districts were approached for participation.

#### **2.3 Study Population**

The study population included palliative care nurses working under the palliative care programs affiliated with the Local Self-Government Institutions (LSGIs) in Malappuram and Thiruvananthapuram districts

#### **2.4 Sample Size Calculation**

The expected prevalence of burnout (stress) among palliative care nurses was taken as 38% based on a previous study (Sony Shah, 2010). Using OpenEpi software, the sample size was calculated with a 95% confidence interval and 5% absolute precision.

- The minimum required sample size was 191 nurses.
- However, considering complete enumeration of available nurses, all palliative care nurses working under the selected institutions were approached for the study.

Thus, the final sample size came to 195 nurses at the time of initial planning.

During the field visit, it was identified that in some panchayats there were two palliative care nurses working. Including them, and excluding the two district-level palliative nurses from Thiruvananthapuram and Malappuram (who do not perform field duties), the final total sample size increased to 209 nurses:

- Malappuram: 118 nurses
- Trivandrum: 91 nurses

Thus, the final total sample size used for analysis was 209 nurses.

**Table 2.1 Sample selection procedure**

| District           | Gram panchayat | block panchayat | Jilla panchayat | Total |
|--------------------|----------------|-----------------|-----------------|-------|
| Thiruvananthapuram | 73             | 11              | 1               | 85    |
| Malappuram         | 94             | 15              | 1               | 110   |
| Total              |                |                 |                 | 195   |

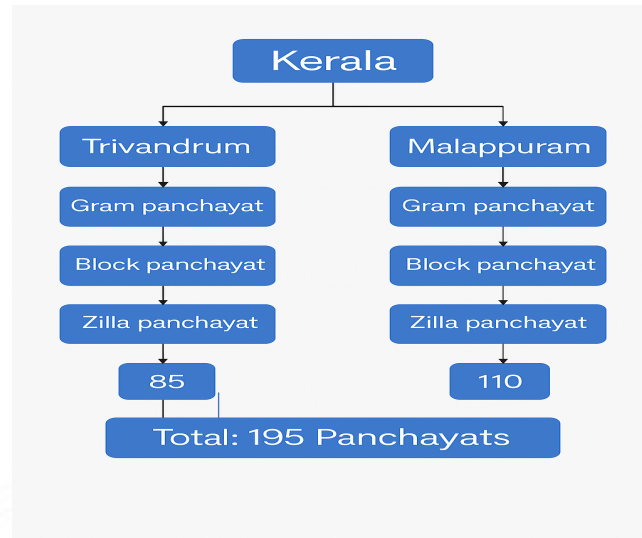


**Figure 1: Sample Selection Procedure**

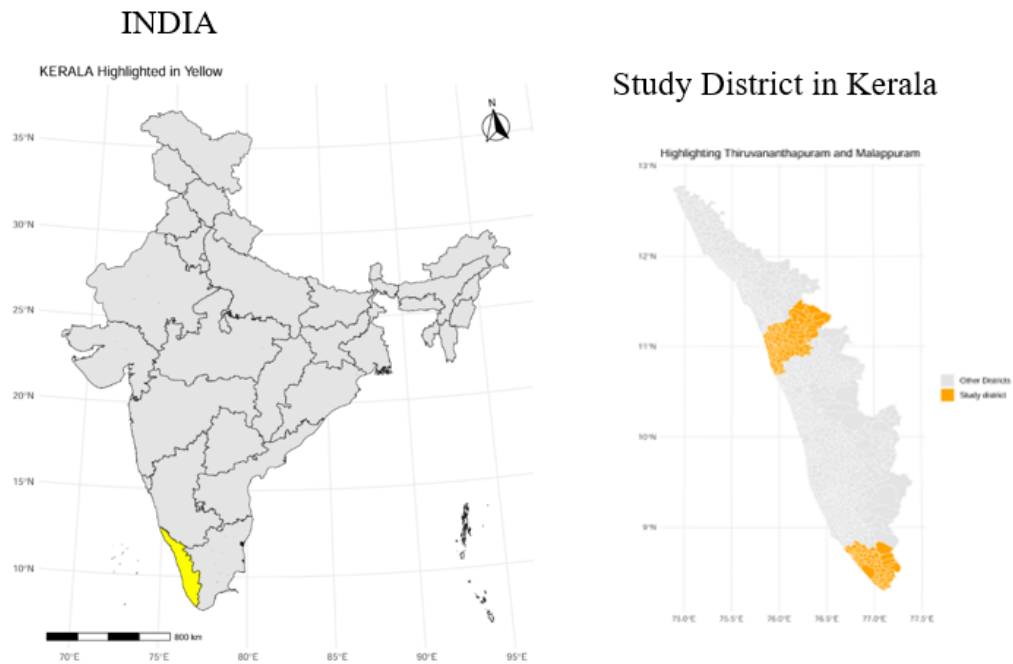


**Figure 2: Location of Study Area: Thiruvananthapuram and Malappuram Districts in Kerala, India**

## **2.5 Inclusion and Exclusion Criteria**

### **Inclusion Criteria**

- Nurses with at least 6 months experience (permanent/temporary).

### **Exclusion Criteria**

- Nurses working only in administrative or training roles without field service duties.
- Nurses unwilling to give informed consent.

## **2.6 Data Collection Techniques**

Data were collected through a structured interview schedule using:

- A sociodemographic questionnaire (translated into Malayalam).
- The Oldenburg Burnout Inventory (OLBI) to assess burnout levels.

The OLBI is a validated tool containing items related to exhaustion and disengagement, suitable for healthcare worker populations.

The tool was translated into Malayalam and pre-tested before final use.

The data collection was carried out by the principal investigator from February 2025 to March 2025.

## **2.7 Data Collection Tools**

### **2.7.1 Structured questionnaire (translated into Malayalam)**

The first part of the structured questionnaire collected, Socio-demographic details (age, gender, marital status, years of experience, training history, working panchayat, distance from worksite, etc.).

### **2.7.2 Oldenburg Burnout Inventory (OLBI)**

The OLBI has two dimensions:

- Exhaustion (measuring the feelings of physical fatigue and emotional exhaustion).
- Disengagement from work (measuring distancing from work and work object).

It consists of 16 items, each rated on a Likert-type scale. Positively worded and negatively worded items were included. Prior to analysis, negatively phrased items were reverse-scored.

## **2.8 Sampling Strategy**

**Multi-stage sampling** was adopted for selecting participants for the study.

## **2.9 Data Collection Procedure**

- Data collection was done through interview schedules administered personally by the principal investigator.
- Nurses were approached during working hours with prior appointments to minimize disruptions to services.
- Written informed consent was obtained from all participants after explaining the study's purpose, confidentiality measures, and voluntary nature.
- Interviews were conducted at locations convenient for the participants ensuring privacy.
- Privacy, confidentiality, and anonymity were strictly maintained throughout the study.

## **2.10 Data Analysis**

The collected data were entered into ODK (Open Data Kit) and exported to R version 4.3.1 and Jamovi software for analysis. Univariate analysis: Frequencies, proportions, mean, and median were computed for sociodemographic and burnout variables. Bivariate analysis: Associations between burnout dimensions and sociodemographic/workplace variables were tested using Chi-square tests or Fisher's Exact tests where appropriate. Multivariable logistic regression was used to identify factors independently associated with higher burnout scores. A p-value <0.05 was considered statistically significant.

## **2.11 Study Variables**

### **Dependent Variable:**

- Burnout level (based on OLBI scores for Exhaustion and Disengagement).

### **Independent Variables:**

- Age
- Gender
- Marital status
- Years of experience
- Type of palliative care unit (urban/rural)
- Distance between home and workplace
- Number of patients cared for
- Hours of work per week
- Training received in palliative care
- Support from supervisors and team

## **2.12 Burnout Cutoff Scores (OLBI Subscales)**

### **2.12.1 Disengagement (OLBI-D)**

Cutoff values adapted from Delgadillo et al. (2018)

Delgadillo et al. provided cutoffs based on mean scores. Since the current study uses sum scores (each subscale contains 8 items), the mean thresholds were multiplied by 8 to convert them into sum-based equivalents:

Low:  $\text{sum} \leq 12.96$  (i.e.,  $\text{mean} \leq 1.62$ )

Medium:  $\text{sum between } 13.04 - 21.36$  (i.e.,  $\text{mean } 1.63 - 2.67$ )

High:  $\text{sum} \geq 21.44$  (i.e.,  $\text{mean} \geq 2.68$ )

### **2.12.2 Exhaustion (OLBI-E)**

Cutoff values based on Peterson et al. (2008)

Peterson et al. defined categories based on mean scores, with the following thresholds:

Low:  $\text{mean score} \leq 2.24$

High:  $\text{mean score} \geq 2.25$

## **2.13 Ethical Considerations**

The study was conducted after obtaining approval from the Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology (Ref. No. SCT/IEC/2348/DECEMBER/2024). Official permission to approach palliative care nurses for data collection was also obtained from the Directorate of Health Services, Government of Kerala. All participants were provided with detailed information about the study through an information sheet and were required to give written informed consent before participation. The information sheet, available in both English and Malayalam, explained the objectives of the study, procedures involved, voluntary nature of participation, and the potential risks and

benefits associated with participation. Participation in the study was entirely voluntary. Participants were informed that they could decline to participate or withdraw at any point during the study without providing a reason and without any negative consequences. Their autonomy and right to refuse or discontinue participation were fully respected. Confidentiality and privacy of the participants were maintained throughout the study. No personally identifiable information was collected. Each participant was assigned a unique five-digit code to ensure anonymity. Access to the collected data was restricted to the principal investigator and designated research team members. Hard copies of completed questionnaires and consent forms were securely stored and will be destroyed properly after one year of dissertation submission or once they are no longer required, whichever occurs first. Participants were assured that the findings would be presented in an aggregated form without disclosing any individual's identity. They were also given sufficient opportunity to ask questions, express concerns, or seek clarifications regarding the study before providing their consent.

## CHAPTER 3

### RESULTS

This chapter presents the results of the study on burnout among palliative care nurses working under Local Self-Government Institutions in Malappuram and Thiruvananthapuram districts of Kerala. The results are organized into three sections. The first section provides a general description of the baseline characteristics of the study participants, focusing on sociodemographic features and occupational details. The second section describes the levels of burnout among the participants. The final section explores the relationship between the independent variables and burnout outcomes, focusing on the domains of disengagement and exhaustion.

#### 3.1 Baseline Characteristics of Study Participants

A total of 209 palliative care nurses participated in the study, with 118 participants from Malappuram and 91 participants from Thiruvananthapuram.

**Table 3.1** shows that the mean age of participants was 40.3 years ( $SD = 7.4$ ), with participants from Malappuram being slightly older (mean = 41.1 years) compared to those from Thiruvananthapuram (mean = 39.3 years). The majority (88.5%) were married, and most lived in nuclear families (60.8%). In terms of educational qualifications, 68.9% had completed General Nursing and Midwifery (GNM) along with Basic Certificate Course in Palliative Nursing (BCCPAN), while 31.1% were Auxiliary Nurse Midwives (ANM) with BCCPAN certification.

**Table 3.1 Sociodemographic Details**

| Variable                     | Category          | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|------------------------------|-------------------|-----------------------|------------------------------|------------------|
| Age                          | Mean (SD)         | 41.1 (7.6)            | 39.3 (7.1)                   | 40.3 (7.4)       |
|                              | Median<br>(Range) | 40 (24-60)            | 38 (23-58)                   | 39 (23-60)       |
| Panchayat<br>level           | Block             | 21 (17.8%)            | 14 (15.4%)                   | 35 (16.7)        |
|                              | Grama             | 97 (82.2%)            | 77 (84.6%)                   | 174 (83.3%)      |
| Marital status               | Married           | 106 (89.8%)           | 79 (86.8%)                   | 185 (88.5%)      |
|                              | Others            | 12 (10.2%)            | 12 (13.2%)                   | 24 (11.5%)       |
| Type of<br>family            | Joint             | 44(37.3%)             | 38(41.8%)                    | 82(39.2%)        |
|                              | Nuclear           | 74(62.7%)             | 53(58.2%)                    | 127(60.8%)       |
| Educational<br>qualification | Gnm,bccpan        | 79(66.9%)             | 65(71.4%)                    | 144(68.9%)       |
|                              | Anm,bccpan        | 39(33.1%)             | 26(28.6%)                    | 65(31.1%)        |

### 3.2 Occupational Profile

Participants had an average of 8.48 years (SD = 4.33) of work experience in palliative care.

The median duration of commute to work was 4 hours. Around 79.4% reported delays in receiving their salary.

Most nurses (85.2%) served in rural areas, and 90.4% had received some form of training in palliative care. Almost all (99%) were working on a contractual basis.

**Table 3.2 Job related characteristics**

| <b>Variable</b>              | <b>Category</b> | <b>Malappuram<br/>(n=118)</b> | <b>Thiruvananthapuram<br/>(n=91)</b> | <b>Total<br/>(n=209)</b> |
|------------------------------|-----------------|-------------------------------|--------------------------------------|--------------------------|
| Average population catered   | Mean (SD)       | 44999(36847)                  | 39928(49487)                         | 42791(42775)             |
|                              | Median (Range)  | 36919(12000-337501)           | 29039(11000-278587)                  | 34000(11000-337501)      |
| Patient cared in a month     | Mean (SD)       | 234(127)                      | 180(97.3)                            | 210(118)                 |
|                              | Median (Range)  | 220(67-869)                   | 165(50-432)                          | 188(50-869)              |
| Houses visited in a day      | Mean (SD)       | 7.97(1.29)                    | 8.38(1.87)                           | 8.15(1.58)               |
|                              | Median (Range)  | 8.00(6-15)                    | 8(6-22)                              | 8(6-22)                  |
| Meetings in a week           | Mean (SD)       | 1.76(1.04)                    | 1.82(1.38)                           | 1.79(1.19)               |
|                              | Median (Range)  | 2.00(0-5)                     | 2(0-9)                               | 2(0-9)                   |
| Number of patients in a week | Mean (SD)       | 43.6(18.1)                    | 48.4(24.9)                           | 45.7(21.4)               |
|                              | Median (Range)  | 40.0(7-135)                   | 45(11-187)                           | 42(70-187)               |

Work responsibilities-A total of 40.2% of participants had additional administrative responsibilities. About 83.7% had a designated place for stock and register management. Nearly 87.1% reported the ability to take leave during emergencies, while 57.9% were able to avail planned leave. Challenges in waste management were reported by 42.6% of participants, and 66% received some form of work allowance.

**Table 3.3 job related Characteristics**

| <b>Variable</b>                          | <b>Category</b> | <b>Malappuram<br/>(n=118)</b> | <b>Thiruvananthapuram<br/>(n=91)</b> | <b>Total<br/>(n=209)</b> |
|------------------------------------------|-----------------|-------------------------------|--------------------------------------|--------------------------|
| Years of working                         | Mean (SD)       | 8.57(4.6)                     | 8.37(4.0)                            | 8.48(4.33)               |
|                                          | Median (Range)  | 9.00(1-16)                    | 8(1-15)                              | 8(1-16)                  |
| Duration of commute                      | Mean (SD)       | 4.66(2.98)                    | 4.55(2.58)                           | 4.61(2.80)               |
|                                          | Median (Range)  | 4.00(1.00-16.0)               | 4.00(1.00-14.0)                      | 4.00(1.00-16.00)         |
| Salary delay                             | Mean (SD)       | 2.16(1.52)                    | 2.30(1.68)                           | 2.22(1.59)               |
|                                          | Median (Range)  | 2.00(0-6)                     | 2(0-6)                               | 2(0-6)                   |
| Timeliness of salary                     | Delayed         | 97(82.2%)                     | 69(75.8%)                            | 166(79.4%)               |
|                                          | Timely          | 21(17.8%)                     | 22(24.2%)                            | 43(20.6%)                |
| Nature of service area                   | Rural           | 97(82.2%)                     | 81(89.0%)                            | 178(85.2%)               |
|                                          | Urban           | 21(17.8%)                     | 10(11.0%)                            | 31(14.8%)                |
| Training received                        | yes             | 111(94.1%)                    | 78(85.7%)                            | 189(90.4%)               |
|                                          | no              | 7(5.9%)                       | 13(14.3%)                            | 20(9.6%)                 |
| Job type                                 | permanent       | 1(50.0%)                      | 1(50.0%)                             | 2(100.0%)                |
|                                          | contractual     | 117(56.5%)                    | 90(43.5%)                            | 207(100.0%)              |
| Additional responsibility                | yes             | 52(44.1%)                     | 32(35.2%)                            | 84(40.2%)                |
|                                          | no              | 66(55.9%)                     | 59(64.8%)                            | 125(59.8%)               |
| Designated place for stocks and register | yes             | 103(87.3%)                    | 72(79.1%)                            | 175(83.7%)               |
|                                          | no              | 15(12.7%)                     | 19(20.9%)                            | 34(16.3%)                |

**Table 3.4** shows the job-related working conditions of the study participants. A majority of the participants (87.1%) reported that they could avail leave during emergencies. Only about half of the participants (57.9%) reported availability of planned leave. Challenges in managing biomedical waste were reported by 42.6% of participants, with a higher proportion observed among those from Malappuram district. Two-thirds (66.0%) of the participants reported that they were provided with a work allowance. Almost half (48.3%) reported that they had to work even on holidays. Regarding work environment safety, only a small proportion (18.2%) rated it as excellent. About one-third (35.4%) of the participants reported that they had better administrative support at their workplace compared to others

**Table 3.4 Job related categorical variables**

| Variable                                  | Category | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|-------------------------------------------|----------|-----------------------|------------------------------|------------------|
| Emergency Leave Availability              | yes      | 101(85.6%)            | 182(87.1%)                   | 182(87.1%)       |
|                                           | no       | 17(14.4)              | 10(11.0%)                    | 27(12.9%)        |
| Planned leave                             | yes      | 74(62.7%)             | 47(51.6%)                    | 121(57.9%)       |
|                                           | no       | 44(37.3%)             | 44(48.4%)                    | 88(42.1%)        |
| Challenges in Biomedical Waste Management | yes      | 69(58.5%)             | 20(22.0%)                    | 89(42.6%)        |
|                                           | no       | 49(41.5%)             | 71(78.0%)                    | 120(57.4%)       |
| Provision of Work Allowance               | yes      | 75(63.6%)             | 63(69.2%)                    | 138(66.0%)       |
|                                           | no       | 43(36.4%)             | 28(30.8%)                    | 71(34.0%)        |
|                                           |          |                       |                              |                  |

|                         |           |            |           |             |
|-------------------------|-----------|------------|-----------|-------------|
| work on holidays        | yes       | 57(56.4%)  | 44(43.6%) | 101(100.0%) |
|                         | no        | 61(56.5%)  | 47(43.5%) | 108(100.0%) |
| Work environment safety | excellent | 17(44.7%)  | 21(55.3%) | 38(100.0%)  |
|                         | others    | 101(59.1%) | 70(40.9%) | 171(100.0%) |
| Administrative support  | better    | 37(50.0%)  | 37(50.0%) | 74(100.0%)  |
|                         | similar   | 81(60.0%)  | 54(40.0%) | 135(100.0%) |

### 3.3 Facilities and Resources

**Table 3.5** shows the details of accompaniment of study participants by various personnel during their field work. Junior Public Health Nurses (JPHN) accompanied 55.0% of the participants, while Accredited Social Health Activists (ASHA) accompanied the majority (93.3%). Nearly half of the participants (47.4%) reported being accompanied by physiotherapists. Volunteers accompanied 53.6% of the participants during their work. Only a small proportion (22.0%) reported being accompanied by elected representatives during their field visits.

**Table 3.5 staff accompanied in field operations**

| Variable        | Category | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|-----------------|----------|-----------------------|------------------------------|------------------|
| JPHN            | yes      | 49(41.5%)             | 66(72.5%)                    | 115(55.0%)       |
|                 | no       | 69(73.4%)             | 25(26.6%)                    | 94(45.0%)        |
| ASHA            | yes      | 112(94.9%)            | 83(91.2%)                    | 195(93.3%)       |
|                 | no       | 6(5.1%)               | 8(8.8%)                      | 14(6.7%)         |
| Physiotherapist | yes      | 39(33.1%)             | 60(65.9%)                    | 99(47.4%)        |

|                        |     |           |           |            |
|------------------------|-----|-----------|-----------|------------|
|                        | no  | 79(66.9%) | 31(34.1%) | 110(52.6%) |
| Volunteer              | yes | 65(55.1%) | 47(51.6%) | 112(53.6%) |
|                        | no  | 53(44.9%) | 44(48.4%) | 97(46.4%)  |
| Elected representative | yes | 25(21.2%) | 21(23.1)  | 46(22.0%)  |
|                        | no  | 93(78.8%) | 70(76.9%) | 163(78.0%) |

### 3.4 Safety precautions in the field

**Table 3.6** shows the availability of safety precautions for the study participants during field visits. A proportion of (20.6%) reported the availability of a personal protective equipment (PPE) kit. A majority (79.4%) of the participants reported practising hand hygiene during their work. Proper biomedical waste disposal practices were followed by 79.4% of the participants. Safe injection practices were reported by 54.1% of the participants. Respiratory hygiene practices were followed by 60.3% of the participants.

**Table 3.6 Safety precautions in the field**

| Variable                          | Category | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|-----------------------------------|----------|-----------------------|------------------------------|------------------|
| Personal protective equipment kit | yes      | 27(22.9%)             | 16(17.6%)                    | 43(20.6%)        |
|                                   | no       | 91(77.1%)             | 75(82.4%)                    | 166(79.4%)       |
| Hand hygiene                      | yes      | 95(80.5%)             | 71(78.0%)                    | 166(79.4%)       |
|                                   | no       | 23(19.5%)             | 20(22.0%)                    | 43(20.6%)        |
| Biomedical waste disposal         | yes      | 87(73.7%)             | 79(86.8%)                    | 166(79.4%)       |
|                                   | no       | 31(26.3%)             | 12(13.2%)                    | 43(20.6%)        |
|                                   |          |                       |                              |                  |

|                     |     |           |           |            |
|---------------------|-----|-----------|-----------|------------|
| Safe injections     | yes | 59(50.0%) | 54(59.3%) | 113(54.1%) |
|                     | no  | 59(50.0%) | 37(40.7%) | 96(45.9%)  |
| Respiratory hygiene | yes | 65(55.1%) | 61(67.0%) | 126(60.3%) |
|                     | no  | 53(44.9%) | 30(33.0%) | 83(39.7%)  |

### 3.5 Medical facilities available

**Table 3.7** shows a proportion of 33.0% reported the availability of free consultation services. Only 9.1% of the participants reported having insurance coverage. Access to medicines was available to 36.4% of the participants. Transportation facilities were provided to 60.3% of the participants.

**Table 3.7 Medical facilities available**

| Variable          | Category | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|-------------------|----------|-----------------------|------------------------------|------------------|
| Free consultation | yes      | 41(34.7%)             | 28(30.8%)                    | 69(33.0%)        |
|                   | no       | 77(65.3%)             | 63(69.2%)                    | 140(67.0%)       |
| insurance         | yes      | 8(6.8%)               | 11(12.1%)                    | 19(9.1%)         |
|                   | no       | 110(93.2%)            | 80(87.9%)                    | 190(90.9%)       |
| medicines         | yes      | 35(29.7%)             | 41(45.1%)                    | 76(36.4%)        |
|                   | no       | 83(70.3%)             | 50(54.9%)                    | 133(63.6%)       |
| transportation    | yes      | 64(54.2%)             | 62(68.1%)                    | 126(60.3%)       |
|                   | no       | 54(45.8%)             | 29(31.9%)                    | 83(39.7%)        |

### 3.6 Facilities in the working area

**Table 3.8** shows the availability of facilities in the working area for the study participants. A proportion of 23.4% reported the availability of a food-eating area at their workplace. Only 9.1% reported the availability of a restroom facility. Drinking water was available to 45.0% of the participants. A resting room facility was available for 16.7% of the participants.

**Table 3.8 Facilities in the working area**

| Variable         | Category | Malappuram<br>(n=118) | Thiruvananthapuram<br>(n=91) | Total<br>(n=209) |
|------------------|----------|-----------------------|------------------------------|------------------|
| Food eating area | yes      | 36(30.5%)             | 13(14.3%)                    | 49(23.4%)        |
|                  | no       | 82(69.5%)             | 78(85.7%)                    | 160(76.6%)       |
| Restroom         | yes      | 12(10.2%)             | 7(7.7%)                      | 19(9.1%)         |
|                  | no       | 106(89.8%)            | 84(92.3%)                    | 190(90.9%)       |
| Drinking water   | yes      | 41(34.7%)             | 53(58.2%)                    | 94(45.0%)        |
|                  | no       | 77(65.3%)             | 38(41.8%)                    | 115(55.0%)       |
| Resting room     | yes      | 19(16.1%)             | 16(17.6%)                    | 35(16.7%)        |
|                  | no       | 99(83.9%)             | 75(82.4%)                    | 174(83.3%)       |

**Table 3.9** shows the availability of various allowances for the study participants.

A proportion of 41.6% reported receiving travel allowance. Around 66.0% of the participants reported receiving a food allowance. Only 4.8% of the participants reported receiving an equipment allowance. Uniform allowance was received by 37.8% of the participants

**Table 3.9 Allowances received**

| <b>Variable</b>     | <b>Category</b> | <b>Malappuram<br/>(n=118)</b> | <b>Thiruvananthapuram<br/>(n=91)</b> | <b>Total<br/>(n=209)</b> |
|---------------------|-----------------|-------------------------------|--------------------------------------|--------------------------|
| Travel allowance    | yes             | 38(49.1%)                     | 49(37.9%)                            | 87(87.0%)                |
|                     | no              | 80(68.9%)                     | 42(53.1%)                            | 122(122.0%)              |
| Food allowance      | yes             | 78(66.1%)                     | 60(65.9%)                            | 138(66.0%)               |
|                     | no              | 40(33.9%)                     | 31(34.1%)                            | 71(34.0%)                |
| Equipment allowance | yes             | 5(4.2%)                       | 5(5.5%)                              | 10(4.8%)                 |
|                     | no              | 113(95.8%)                    | 86(94.5%)                            | 199(95.2%)               |
| Uniform allowance   | yes             | 38(32.2%)                     | 41(45.1%)                            | 79(37.8%)                |
|                     | no              | 80(67.8%)                     | 50(54.9%)                            | 130(62.2%)               |

- Out of the total participants, 14% of palliative care nurses in Malappuram and 9.9% in Trivandrum reported a high level of disengagement, with no statistically significant difference between the districts ( $p=0.338$ ). Most nurses in both districts fell into the low to medium disengagement category.
- Regarding exhaustion, a much larger proportion of nurses reported high levels: 80% in Malappuram and 75% in Trivandrum. Again, this difference was not statistically significant ( $p = 0.397$ ).
- These findings suggest that exhaustion is a more prevalent component of burnout among palliative care nurses than disengagement. However, no significant difference in burnout levels was observed between the two districts.

**Table 3.10 OLDBI Category by district-wise**

| <b>Burnout domain</b> | <b>category</b> | <b>malappuram<br/>N=118</b> | <b>thiruvananthapuram<br/>N=91</b> | <b>total</b> | <b>P value</b> |
|-----------------------|-----------------|-----------------------------|------------------------------------|--------------|----------------|
| Disengagement Level   | high            | 17(14%)                     | 9(9.9%)                            | 26           | 0.338          |
|                       | medium          | 99(83.9%)                   | 78(85.7%)                          | 177          |                |
|                       | low             | 2(1.7%)                     | 4(4.4%)                            | 6            |                |
| Exhaustion level      | High            | 94(80%)                     | 68(75%)                            | 162          | 0.397          |
|                       | low             | 24(20%)                     | 23(25%)                            | 47           |                |

### 3.7 Bivariate analysis- (Disengagement domain)

There was no statistically significant association between disengagement and district ( $p = 0.327$ ) or panchayat level ( $p = 0.447$ ). The mean age of participants with high disengagement (37.3 years) was significantly lower compared to those with low to medium disengagement (40.7 years), with a statistically significant difference ( $p = 0.021$ ). Marital status showed no significant association with disengagement ( $p = 0.992$ ). Participants with high disengagement had significantly fewer years of working experience (mean 6.69 years) compared to those with low to medium disengagement (mean 8.74 years), with the difference being statistically significant ( $p = 0.024$ ). There was no statistically significant association between disengagement and duration of commute ( $p = 0.266$ ) or salary delay ( $p = 0.924$ ).

**Table 3.11 bivariate analysis for demographic characteristics with Disengagement**

| Variable            | Category           | DISENGAGEMENT                 |                     | P value      |
|---------------------|--------------------|-------------------------------|---------------------|--------------|
|                     |                    | Low to Medium<br>N=183(87.6%) | High<br>N=26(12.4%) |              |
| District            | Malappuram         | 101(85.6)                     | 17(14.4)            | 0.327        |
|                     | Thiruvananthapuram | 82(90.1)                      | 9(9.9)              |              |
| Panchayat level     | Block              | 32(91.4%)                     | 3(8.6%)             | 0.447        |
|                     | Grama              | 151(86.8%)                    | 23(13.2%)           |              |
| Age                 | Mean (SD)          | 40.7(7.53)                    | 37.3(5.73)          | <b>0.021</b> |
|                     | Median (Range)     | 39.0                          | 36.0                |              |
| Marital status      | Married            | 162(87.6%)                    | 23(12.4%)           | 0.992        |
|                     | Others             | 21(87.5%)                     | 3(12.5%)            |              |
| Years of working    | Mean (SD)          | 8.74(4.41)                    | 6.69(3.30)          | <b>0.024</b> |
|                     | Median (Range)     | 9.00                          | 7.00                |              |
| Duration of commute | Mean (SD)          | 4.69(2.85)                    | 4.04(2.42)          | 0.266        |
|                     | Median (Range)     | 4.00(1-2)                     | 3.00(16-14)         |              |
| Salary delay        | Mean (SD)          | 2.22(1.57)                    | 2.19(1.77)          | 0.924        |
|                     | Median (Range)     | 2.00                          | 2.00                |              |

There was no statistically significant association between disengagement and average population catered ( $p=0.216$ ), number of patients cared for in a month ( $p=0.105$ ), number of houses visited in a day ( $p=0.520$ ), number of meetings attended in a week ( $p=0.434$ ), and number of patients seen in a week ( $p=0.354$ ).

**Table 3.12 Bivariate analysis for Job related characteristics with disengagement**

|                              |                 | <b>DISENGAGEMENT</b> |              |                |
|------------------------------|-----------------|----------------------|--------------|----------------|
| <b>Variable</b>              | <b>Category</b> | <b>Low to Medium</b> | <b>High</b>  | <b>P value</b> |
| Average population catered   | Mean (SD)       | 43934(44894)         | 34745(21759) | 0.216          |
|                              | Median (Range)  | 34149(1-16)          | 31566(2-14)  |                |
| Patient cared in a month     | Mean (SD)       | 215(120)             | 175(97.1)    | 0.105          |
|                              | Median (Range)  | 200                  | 159          |                |
| Houses visited in a day      | Mean (SD)       | 8.17(1.61)           | 7.96(1.28)   | 0.520          |
|                              | Median (Range)  | 8.00                 | 8.00         |                |
| Meetings in a week           | Mean (SD)       | 1.77(1.23)           | 1.96(0.871)  | 0.434          |
|                              | Median (Range)  | 1.77                 | 1.96         |                |
| Number of patients in a week | Mean (SD)       | 45.2(19.6)           | 49.3(31.7)   | 0.354          |
|                              | Median (Range)  | 40.0                 | 42.0         |                |

There was no statistically significant association between disengagement and type of family (p=0.931), educational qualification (p=0.345), timeliness of salary (p=0.392), nature of service area (p not reported), training received (p=0.076 and 0.144), job type (p=0.592), additional responsibility (p=0.508), or availability of designated storage space (p=0.116).

**Table 3.13 Bivariate analysis for Job related characteristics with disengagement**

| Variable                                 | Category    | DISENGAGEMENT |           | P value            |
|------------------------------------------|-------------|---------------|-----------|--------------------|
|                                          |             | Low to Medium | High      |                    |
| Type of family                           | joint       | 72(87.8%)     | 10(12.2%) | 0.931              |
|                                          | nuclear     | 111(87.4%)    | 16(12.6%) |                    |
| Educational qualification                | Gnm,bccpan  | 124(86.1%)    | 20(13.9%) | 0.345              |
|                                          | Anm,bccpan  | 59(90.8)      | 6(9.2)    |                    |
| Timeliness of salary                     | delayed     | 147(88.6%)    | 19(11.4%) | 0.392              |
|                                          | timely      | 36(83.7%)     | 7(16.3%)  |                    |
| Nature of service area                   | rural       | 159(89.3%)    | 19(10.7%) | 0.064              |
|                                          | urban       | 24(77.4%)     | 7(22.6%)  |                    |
| Training received                        | yes         | 163(86.2%)    | 26(13.8%) | Fishers exact test |
|                                          | no          | 20(100.0%)    | 0(0.0%)   | 0.144              |
| Job type                                 | permanent   | 2(100.0%)     | 0(0.0%)   | Fishers exact test |
|                                          | contractual | 181(87.4%)    | 26(12.6%) | 1.000              |
| Additional responsibility                | yes         | 72(85.7%)     | 12(14.3%) | 0.508              |
|                                          | no          | 111(88.8%)    | 14(11.2%) |                    |
| Availability of Designated Storage Space | yes         | 156(89.1%)    | 19(10.9%) | 0.116              |
|                                          | no          | 27(79.4%)     | 7(20.6%)  |                    |

**Table 3.14** shows the association of leave availability, work-related challenges, and administrative support characteristics with disengagement among the study participants. Disengagement was significantly associated with emergency leave availability ( $p=0.023$ ) and planned leave availability ( $p=0.010$ ). However, no statistically significant association was found between disengagement and challenges in managing biomedical waste ( $p=0.976$ ), provision of work allowance ( $p=0.417$ ), working on holidays ( $p=0.813$ ), work environment safety ( $p=0.348$ ), or administrative support ( $p=0.597$ ).

**Table 3.14 Bivariate analysis for Job related characteristics with disengagement**

| Variable                                | Category | DISENGAGEMENT |           | P value      |
|-----------------------------------------|----------|---------------|-----------|--------------|
|                                         |          | Low to Medium | High      |              |
| Emergency Leave Availability            | yes      | 163(89.6%)    | 19(10.4%) | <b>0.023</b> |
|                                         | no       | 20(74.1%)     | 7(25.9%)  |              |
| Planned leave                           | yes      | 112(92.6%)    | 9(7.4%)   | <b>0.010</b> |
|                                         | no       | 71(80.7%)     | 17(19.3%) |              |
| challenges in managing biomedical waste | yes      | 78(87.6%)     | 11(12.4%) | 0.976        |
|                                         | no       | 105(87.5%)    | 15(12.5%) |              |
| Provision of Work Allowance             | yes      | 119(86.2%)    | 19(13.8%) | 0.417        |
|                                         | no       | 64(90.1%)     | 7(9.9%)   |              |
| work on holidays                        | yes      | 89(88.1%)     | 12(11.9%) | 0.813        |
|                                         | no       | 94(87.0%)     | 14(13.0%) |              |
|                                         |          |               |           |              |

|                         |         |            |           |       |
|-------------------------|---------|------------|-----------|-------|
| Work environment safety | yes     | 35(92.1%)  | 3(7.9%)   | 0.348 |
|                         | no      | 148(86.5%) | 23(13.5%) |       |
| Administrative support  | better  | 66(89.2%)  | 8(10.8%)  | 0.597 |
|                         | similar | 117(86.7%) | 18(13.3%) |       |

**Table 3.15** shows the association of accompanying personnel with disengagement among the study participants.

Disengagement was significantly associated with accompaniment by a Junior Public Health Nurse (JPHN) ( $p=0.016$ ). However, no statistically significant association was found between disengagement and accompaniment by ASHA workers ( $p=0.058$ ), physiotherapists ( $p=0.895$ ), volunteers ( $p=0.197$ ), or elected representatives ( $p=0.518$ ).

**Table 3.15 Bivariate analysis for those who accompany with disengagement**

| Variable        | Category | DISENGAGEMENT |           | p value                   |
|-----------------|----------|---------------|-----------|---------------------------|
|                 |          | Low to medium | High      |                           |
| JPHN            | yes      | 95(82.6%)     | 20(12.4%) | <b>0.016</b>              |
|                 | no       | 94(100.0%)    | 6(6.4%)   |                           |
| ASHA            | yes      | 173(88.7%)    | 22(11.3%) | Fishers exact test(0.058) |
|                 | no       | 10(71.4%)     | 4(28.6%)  |                           |
| Physiotherapist | yes      | 87(87.9%)     | 12(12.1%) | 0.895                     |
|                 | no       | 96(87.3%)     | 14(12.7%) |                           |
|                 |          |               |           |                           |

|                        |     |            |           |       |
|------------------------|-----|------------|-----------|-------|
| Volunteer              | yes | 95(84.8%)  | 17(15.2%) | 0.197 |
|                        | no  | 88(90.7%)  | 9(9.3%)   |       |
| Elected representative | yes | 39(84.8%)  | 7(15.2%)  | 0.518 |
|                        | no  | 144(88.3%) | 19(11.7%) |       |

The bivariate analysis of safety precautions in the field and disengagement found that most safety practices did not significantly impact disengagement levels. Specifically, the use of personal protective equipment ( $p = 0.856$ ), hand hygiene ( $p = 0.169$ ), and biomedical waste disposal ( $p = 0.223$ ) showed no significant association with disengagement. The safe injection practices were significantly associated with disengagement ( $p = 0.038$ ), with those practicing safe injections showing lower disengagement levels. respiratory hygiene also showed no significant association with disengagement ( $p = 0.154$ ). These findings suggest that while general safety precautions may not directly influence disengagement, the practice of safe injections plays an important role in reducing disengagement.

**Table 3.16 Bivariate analysis for Safety precautions in field and disengagement**

| Variable                          | Category | DISENGAGEMENT |            | p value            |
|-----------------------------------|----------|---------------|------------|--------------------|
|                                   |          | Low to Medium | High       |                    |
| Personal protective equipment kit | yes      | 38(88.4%)     | 5(11.6%)   | 0.856              |
|                                   | no       | 145(87.3%)    | 21(12.7%)  |                    |
| Hand hygiene                      | yes      | 148(89.2%)    | 18(10.8%)  | 0.169              |
|                                   | no       | 35(81.4%)     | 8(18.6%)   |                    |
| Biomedical waste disposal         | yes      | 23(13.9%)     | 143(86.1%) | Fishers exact test |
|                                   | no       | 40(93.0%)     | 3(7.0%)    |                    |

|                     |     |            |            |              |
|---------------------|-----|------------|------------|--------------|
|                     |     |            |            | 0.223        |
| Safe injections     | yes | 94(63.2%)  | 19(16.8%)  | <b>0.038</b> |
|                     | no  | 89(92.7%)  | 7(7.3%)    |              |
| Respiratory hygiene | yes | 107(84.9%) | 19(15.1%)  | 0.154        |
|                     | no  | 76(91.6%)  | 183(87.6%) |              |

The bivariate analysis of medical facilities available and disengagement revealed several significant associations. **Free consultation services** ( $p = 0.013$ ) were significantly associated with disengagement, with participants who had access to free consultation showing lower disengagement levels. However, there was no significant association between **insurance** ( $p = 0.791$ ) and disengagement, as both groups (those with and without insurance) had similar disengagement levels. Similarly, **access to medicines** ( $p = 0.526$ ) did not show a significant impact on disengagement. In contrast, **transportation facilities** ( $p = 0.009$ ) were significantly associated with disengagement. Participants with access to transportation had lower disengagement compared to those without it.

**Table 3.17 Bivariate analysis for Medical facilities available and disengagement**

|                   |          | DISENGAGEMENT |           |                          |
|-------------------|----------|---------------|-----------|--------------------------|
| Variable          | Category | Low to Medium | High      | p Value                  |
| Free consultation | yes      | 66(95.7%)     | 3(4.3%)   | <b>0.013</b>             |
|                   | no       | 117(83.6%)    | 23(16.4%) |                          |
| insurance         | yes      | 17(89.5%)     | 2(10.5%)  | Fishers exact test 0.791 |
|                   | no       | 166(87.4%)    | 24(12.6%) |                          |

|                |     |            |           |                                 |
|----------------|-----|------------|-----------|---------------------------------|
| medicines      | yes | 68(89.5%)  | 8(10.5%)  | 0.526                           |
|                | no  | 115(86.5%) | 18(13.5%) |                                 |
| transportation | yes | 104(82.5%) | 22(17.5%) | Fishers exact test <b>0.009</b> |
|                | no  | 79(95.2%)  | 4(4.8%)   |                                 |

The bivariate analysis of work-related facilities and disengagement showed that the availability of **food eating areas** ( $p = 0.126$ ), **restrooms** ( $p = 0.320$ ), **drinking water** ( $p = 0.475$ ), and **resting rooms** ( $p = 0.320$ ) were not significantly associated with disengagement. In each case, although there were differences in disengagement levels between those with and without these facilities, the p-values were all above the typical significance threshold of 0.05, indicating that the presence of these facilities did not have a statistically significant impact on disengagement.

**Table 3.18 Bivariate analysis for Facilities in working area available and disengagement.**

|                  |          | DISENGAGEMENT |           |                          |
|------------------|----------|---------------|-----------|--------------------------|
| Variable         | Category | Low to Medium | High      | p Value                  |
| Food eating area | yes      | 46(93.9%)     | 3(6.1%)   | 0.126                    |
|                  | no       | 137(85.6%)    | 23(14.4%) |                          |
| restroom         | yes      | 18(94.7%)     | 1(5.3%)   | Fishers exact test 0.320 |
|                  | no       | 165(86.8%)    | 25(13.2%) |                          |
| Drinking water   | yes      | 84(89.4%)     | 10(10.6%) | 0.475                    |
|                  | no       | 99(98.1%)     | 16(13.9%) |                          |

|              |     |            |           |                          |
|--------------|-----|------------|-----------|--------------------------|
| Resting room | yes | 18(94.7%)  | 1(5.3%)   | Fishers exact test 0.320 |
|              | no  | 165(86.8%) | 25(13.2%) |                          |

The bivariate analysis of allowances received and disengagement showed that **travel** allowance ( $p = 0.028$ ) was significantly associated with lower disengagement levels, indicating that participants who received a travel allowance had less disengagement. On the other hand, food allowance ( $p = 0.090$ ), equipment allowance ( $p = 0.458$ ), and uniform allowance ( $p = 0.721$ ) were not significantly associated with disengagement, suggesting that these allowances did not have a strong impact on reducing disengagement levels. In conclusion, only the travel allowance showed a significant relationship with disengagement, while the other types of allowances had no notable effect.

**Table 3.19 Bivariate analysis for Allowances received and disengagement**

|                     |          | DISENGAGEMENT |           |                          |
|---------------------|----------|---------------|-----------|--------------------------|
| Variable            | Category | Low to Medium | High      | p Value                  |
| Travel allowance    | yes      | 71(81.6%)     | 16(18.4%) | <b>0.028</b>             |
|                     | no       | 112(91.8%)    | 10(8.2%)  |                          |
| Food allowance      | yes      | 117(84.8%)    | 21(15.2%) | 0.090                    |
|                     | no       | 66(93.0%)     | 5(7.0%)   |                          |
| Equipment allowance | yes      | 8(80.0%)      | 2(20.0%)  | Fishers exact test 0.458 |
|                     | no       | 175(87.9%)    | 24(12.1%) |                          |
| Uniform allowance   | yes      | 70(88.6%)     | 9(11.4%)  | 0.721                    |
|                     | no       | 113(86.9%)    | 17(13.1%) |                          |

### 3.8 Exhaustion – domain

The bivariate analysis of exhaustion and its association with various factors showed that **age** ( $p = 0.006$ ) was significantly related to exhaustion, with older participants reporting higher levels of exhaustion compared to younger participants. However, factors like **district** ( $p = 0.397$ ), **panchayat level** ( $p = 0.616$ ), **marital status** ( $p = 0.754$ ), **years of working** ( $p = 0.439$ ), **duration of commute** ( $p = 0.457$ ), and **salary delay** ( $p = 0.864$ ) did not show significant associations with exhaustion.

**Table 3.20 Bivariate analysis for demographic characteristics with exhaustion**

|                 |                    | EXHAUSTION    |             |              |
|-----------------|--------------------|---------------|-------------|--------------|
| Variable        | Category           | Low to Medium | High        | P value      |
| District        | Malappuram         | 24(51.1%)     | 94(58.0%)   | 0.397        |
|                 | Thiruvananthapuram | 23(48.9%)     | 68(42.0%)   |              |
| Panchayat level | Block              | 9(19.1%)      | 26(16.0%)   | 0.616        |
|                 | Grama              | 38(80.9%)     | 136(84.0%)  |              |
| Marital status  | Married            | 41(87.2%)     | 144(88.9%)  | 0.754        |
|                 | Others             | 6(12.8%)      | 18(11.1%)   |              |
| Age             | Mean (SD)          | 42.9(7.44)    | 39.5(7.26)  | <b>0.006</b> |
|                 | Median (Range)     | 45.0(30-58)   | 38.0(23-60) |              |
|                 |                    |               |             |              |

|                     |                |            |            |       |
|---------------------|----------------|------------|------------|-------|
| Years of working    | Mean (SD)      | 8.91(4.27) | 8.36(4.35) | 0.439 |
|                     | Median (Range) | 9(1-15)    | 8.00(1-16) |       |
| Duration of commute | Mean (SD)      | 3.83(1.59) | 3.63(1.54) | 0.457 |
|                     | Median (Range) | 4.00(1-6)  | 4.00(1-7)  |       |
| Salary delay        | Mean (SD)      | 2.26(1.58) | 2.21(1.60) | 0.864 |
|                     | Median (Range) | 2(0-6)     | 2.00(0-6)  |       |

The bivariate analysis of job-related characteristics and exhaustion revealed no significant associations between most job-related factors and exhaustion levels. Specifically, factors such as the average population catered ( $p = 0.652$ ), patients cared for in a month ( $p = 0.270$ ), houses visited in a day ( $p = 0.531$ ), and meetings held in a week ( $p = 0.170$ ) did not show significant impacts on exhaustion.

Although the number of patients in a week ( $p = 0.066$ ) was close to being significant, it did not reach the threshold for significance. In conclusion, the job-related factors considered did not have a significant effect on participants' exhaustion levels, with only the number of patients in a week showing a marginal association.

**Table 3.21 Bivariate analysis for Job related characteristics with exhaustion**

|  |  |                   |  |
|--|--|-------------------|--|
|  |  | <b>EXHAUSTION</b> |  |
|--|--|-------------------|--|

| Variable                     | Category       | Low to Medium | High         | P value |
|------------------------------|----------------|---------------|--------------|---------|
| Average population catered   | Mean (SD)      | 45279(41907)  | 42069(46029) | 0.652   |
|                              | Median (Range) | 36269         | 33941        |         |
| Patient cared in a month     | Mean (SD)      | 194(106)      | 215(121)     | 0.270   |
|                              | Median (Range) | 185(56-517)   | 195(50-869)  |         |
| Houses visited in a day      | Mean (SD)      | 8.02(0.944)   | 162(1.72)    | 0.531   |
|                              | Median (Range) | 8.00          | 8.00         |         |
| Meetings in a week           | Mean (SD)      | 2.00(0.956)   | 1.73(1.25)   | 0.170   |
|                              | Median (Range) | 2.00          | 2.00         |         |
| Number of patients in a week | Mean (SD)      | 40.6(13.0)    | 47.2(23.1)   | 0.066   |
|                              | Median (Range) | 40.0          | 44.5         |         |

The bivariate analysis of job-related characteristics and exhaustion found no significant associations. Type of family ( $p = 0.881$ ), educational qualification ( $p = 0.117$ ), and timeliness of salary ( $p = 0.340$ ) did not significantly affect exhaustion levels. Similarly, the nature of the service area ( $p = 0.064$ ) showed no significant impact, even though there was a slight difference between rural and urban areas. Factors such as training received ( $p = 0.575$ ), job type ( $p = 0.400$ ), additional responsibility ( $p = 0.062$ ), and the presence of a designated place

for stocks and registers ( $p = 0.874$ ) also did not have significant associations with exhaustion levels

**Table 3.22 Bivariate analysis for Job related characteristics with exhaustion**

|                           |                 | <b>EXHAUSTION</b>    |             |                |
|---------------------------|-----------------|----------------------|-------------|----------------|
| <b>Variable</b>           | <b>Category</b> | <b>Low to Medium</b> | <b>High</b> | <b>P value</b> |
| Type of family            | joint           | 18(22.0%)            | 64(78.0%)   | 0.881          |
|                           | nuclear         | 29(22.8%)            | 98(77.2%)   |                |
| Educational qualification | Gnm,bccpan      | 28(19.4%)            | 116(80.6%)  | 0.117          |
|                           | Anm,bccpan      | 19(29.2%)            | 46(70.8%)   |                |
| Timeliness of salary      | delayed         | 35(21.1%)            | 131(78.9%)  | 0.340          |
|                           | timely          | 12(27.9%)            | 31(72.1%)   |                |
| Nature of service area    | rural           | 44(24.7%)            | 134(75.3%)  | 0.064          |
|                           | urban           | 3(9.7%)              | 28(90.3%)   |                |
| Training received         | yes             | 44(23.3%)            | 145(76.7%)  | 0.575          |
|                           | no              | 3(15.0%)             | 17(85.0%)   |                |
| Job type                  | permanent       | 1(50.0%)             | 1(50.0%)    | 0.400          |
|                           | contractual     | 46(22.2%)            | 161(77.8%)  |                |
|                           |                 |                      |             |                |

|                                          |     |           |            |       |
|------------------------------------------|-----|-----------|------------|-------|
| additional responsibility                | yes | 13(18.9%) | 71(84.5%)  | 0.062 |
|                                          | no  | 34(27.2%) | 91(72.8%)  |       |
| designated place for stocks and register | yes | 39(22.3%) | 136(77.7%) | 0.874 |
|                                          | no  | 8(23.5%)  | 26(76.5%)  |       |

The bivariate analysis of job-related characteristics and exhaustion showed that working on holidays ( $p = 0.026$ ) was significantly associated with higher levels of exhaustion, with those working on holidays reporting greater exhaustion. Additionally, administrative support ( $p = 0.004$ ) was found to significantly reduce exhaustion, with participants reporting better support experiencing less exhaustion compared to those with similar support.

leave in case of emergencies ( $p = 0.147$ ), planned leave ( $p = 0.791$ ), challenges in managing biomedical waste ( $p = 0.734$ ), provision of work allowance ( $p = 0.158$ ), and work environment safety ( $p = 0.532$ ) did not show significant associations with exhaustion levels.

**Table 3.23 Bivariate analysis for Job related characteristics with exhaustion**

| Variable                     | Category | EXHAUSTION    |            | P value |
|------------------------------|----------|---------------|------------|---------|
|                              |          | Low to Medium | High       |         |
| leave in case of emergencies | yes      | 44(24.2%)     | 138(75.8%) | 0.147   |
|                              | no       | 3(11.1%)      | 24(88.9%)  |         |
| planned leave                | yes      | 28(23.1%)     | 93(76.9%)  | 0.791   |
|                              | no       | 19(21.6%)     | 69(78.4%)  |         |

|                                         |         |           |            |       |
|-----------------------------------------|---------|-----------|------------|-------|
| challenges in managing biomedical waste | yes     | 19(21.3%) | 70(78.7%)  | 0.734 |
|                                         | no      | 28(23.3%) | 92(76.7%)  |       |
| Provision of Work Allowance             | yes     | 27(19.6%) | 111(80.4%) | 0.158 |
|                                         | no      | 20(28.2%) | 51(71.8%)  |       |
| work on holidays                        | yes     | 16(15.8%) | 85(84.2%)  | 0.026 |
|                                         | no      | 31(28.7%) | 77(71.3%)  |       |
| Work environment safety                 | yes     | 10(26.3%) | 28(73.7%)  | 0.532 |
|                                         | no      | 37(21.6%) | 134(78.4%) |       |
| Administrative support                  | better  | 25(33.8%) | 49(66.2%)  | 0.004 |
|                                         | similar | 22(16.3%) | 113(83.7%) |       |

The bivariate analysis of exhaustion and accompanying personnel showed that none of the accompanying roles were significantly associated with exhaustion levels. Specifically, having a **JPHN** ( $p = 0.198$ ), **ASHA** ( $p = 0.572$ ), **physiotherapist** ( $p = 0.279$ ), or **volunteer** ( $p = 0.110$ ) did not show a significant impact on exhaustion.

**Table 3.24 Bivariate analysis for those who accompany with exhaustion**

|  |  |                   |  |
|--|--|-------------------|--|
|  |  | <b>EXHAUSTION</b> |  |
|--|--|-------------------|--|

| Variable               | Category | Low to Medium | High       | P value |
|------------------------|----------|---------------|------------|---------|
| JPHN                   | yes      | 22(46.8%)     | 93(57.4%)  | 0.198   |
|                        | no       | 25(53.2%)     | 69(42.6%)  |         |
| ASHA                   | yes      | 43(91.5%)     | 152(93.8%) | 0.572   |
|                        | no       | 4(8.5%)       | 10(6.2%)   |         |
| Physiotherapist        | yes      | 19(40.4%)     | 80(49.4%)  | 0.279   |
|                        | no       | 28(59.6%)     | 82(50.6%)  |         |
| Volunteer              | yes      | 30(63.8%)     | 82(50.6%)  | 0.110   |
|                        | no       | 17(36.2%)     | 80(49.4%)  |         |
| Elected representative | yes      | 7(14.9%)      | 39(24.1%)  | 0.181   |
|                        | no       | 40(85.1%)     | 123(75.9%) |         |

The bivariate analysis of safety precautions in the field and exhaustion showed that none of the safety practices were significantly associated with exhaustion. Specifically, the use of **personal protective equipment** ( $p = 0.340$ ), **hand hygiene** ( $p = 0.076$ ), **safe injections** ( $p = 0.389$ ), and **respiratory hygiene** ( $p = 0.215$ ) did not show significant associations with exhaustion levels. While **biomedical waste disposal** ( $p = 0.056$ ) approached statistical

significance, it was not quite significant. In summary, the safety precautions examined did not significantly affect exhaustion among the participants.

**Table 3.25 Bivariate analysis for Safety precautions in field and exhaustion**

|                                   |          | EXHAUSTION    |            |         |
|-----------------------------------|----------|---------------|------------|---------|
| Variable                          | Category | Low to Medium | High       | P value |
| Personal protective equipment kit | yes      | 12(25.5%)     | 31(19.1%)  | 0.340   |
|                                   | no       | 35(74.5%)     | 131(80.9%) |         |
| Hand hygiene                      | yes      | 33(70.2%)     | 133(82.1%) | 0.076   |
|                                   | no       | 14(29.8%)     | 29(17.9%)  |         |
| Biomedical waste disposal         | yes      | 42(89.4%)     | 124(76.5%) | 0.056   |
|                                   | no       | 5(10.6%)      | 38(23.5%)  |         |
| Safe injections                   | yes      | 28(59.6%)     | 85(52.5%)  | 0.389   |
|                                   | no       | 19(40.4%)     | 77(47.5%)  |         |
| Respiratory hygiene               | yes      | 32(68.1%)     | 94(58.0%)  | 0.215   |
|                                   | no       | 15(31.9%)     | 68(42.0%)  |         |

The bivariate analysis of medical facilities available and exhaustion showed that none of the medical facilities had a significant impact on exhaustion levels. Specifically, the availability of **free consultation** ( $p = 0.601$ ), **insurance** ( $p = 0.116$ ), **medicines** ( $p = 0.754$ ), and

**transportation** ( $p = 0.651$ ) were not significantly associated with exhaustion. In conclusion, these medical facilities did not appear to influence the participants' levels of exhaustion.

**Table 3.26 Bivariate analysis for Medical facilities available and exhaustion**

|                   |          | EXHAUSTION    |            |         |
|-------------------|----------|---------------|------------|---------|
| Variable          | Category | Low to Medium | High       | P Value |
| Free consultation | Yes      | 17(36.2%)     | 52(32.1%)  | 0.601   |
|                   | No       | 30(63.8%)     | 110(67.9%) |         |
| insurance         | Yes      | 7(14.9%)      | 12(7.4%)   | 0.116   |
|                   | No       | 40(85.1%)     | 150(92.6%) |         |
| medicines         | Yes      | 18(38.3%)     | 58(35.8%)  | 0.754   |
|                   | No       | 29(61.7%)     | 104(64.2%) |         |
| transportation    | Yes      | 27(57.4%)     | 99(61.1%)  | 0.651   |
|                   | No       | 20(42.6%)     | 63(38.9%)  |         |

The bivariate analysis of facilities in the working area and exhaustion showed that none of the facilities had a significant impact on exhaustion levels. Specifically, the presence of a **food eating area** ( $p = 0.439$ ), **restroom** ( $p = 0.320$ ), **drinking water** ( $p = 0.774$ ), and **resting room** ( $p = 0.430$ ) did not significantly affect exhaustion. In summary, these working area facilities were not significantly associated with exhaustion among the participants.

**Table 3.27 Bivariate analysis for Facilities in working area available and exhaustion**

|                  |          | EXHAUSTION    |            |         |
|------------------|----------|---------------|------------|---------|
| Variable         | Category | Low to Medium | High       | P Value |
| Food eating area | yes      | 13(27.7%)     | 36(22.2%)  | 0.439   |
|                  | no       | 34(72.3%)     | 126(77.8%) |         |
| restroom         | yes      | 6(12.8%)      | 13(8.0%)   | 0.320   |
|                  | no       | 41(87.2%)     | 149(92.0%) |         |
| Drinking water   | yes      | 22(46.8%)     | 72(44.4%)  | 0.774   |
|                  | no       | 25(53.2%)     | 90(55.6%)  |         |
| Resting room     | yes      | 13(27.7%)     | 36(22.2%)  | 0.430   |
|                  | no       | 34(72.3%)     | 126(77.8%) |         |

The bivariate analysis of various **allowances** and **exhaustion levels** revealed that none of the allowances had a statistically significant impact on exhaustion. Specifically, the presence of a **travel allowance** ( $p = 0.629$ ), **food allowance** ( $p = 0.735$ ), **equipment allowance** ( $p = 0.332$ ), and **uniform allowance** ( $p = 0.546$ ) did not significantly affect exhaustion levels. In summary, these allowances were not significantly associated with exhaustion among the participants.

**Table 3.28 Bivariate analysis for allowances received and exhaustion**

|                     |          | EXHAUSTION    |            |         |
|---------------------|----------|---------------|------------|---------|
| Variable            | Category | Low to Medium | High       | P Value |
| Travel allowance    | yes      | 21(44.7%)     | 66(40.7%)  | 0.629   |
|                     | no       | 26(55.3%)     | 96(59.3%)  |         |
| Food allowance      | yes      | 32(68.1%)     | 106(65.4%) | 0.735   |
|                     | no       | 15(31.9%)     | 56(34.6%)  |         |
| Equipment allowance | yes      | 1(2.1%)       | 9(5.6%)    | 0.332   |
|                     | no       | 46(97.7%)     | 153(94.4%) |         |
| Uniform allowance   | yes      | 16(34.0%)     | 63(38.9%)  | 0.546   |
|                     | no       | 31(66.0%)     | 99(61.1%)  |         |

**Figure 3 Disengagement level by District**

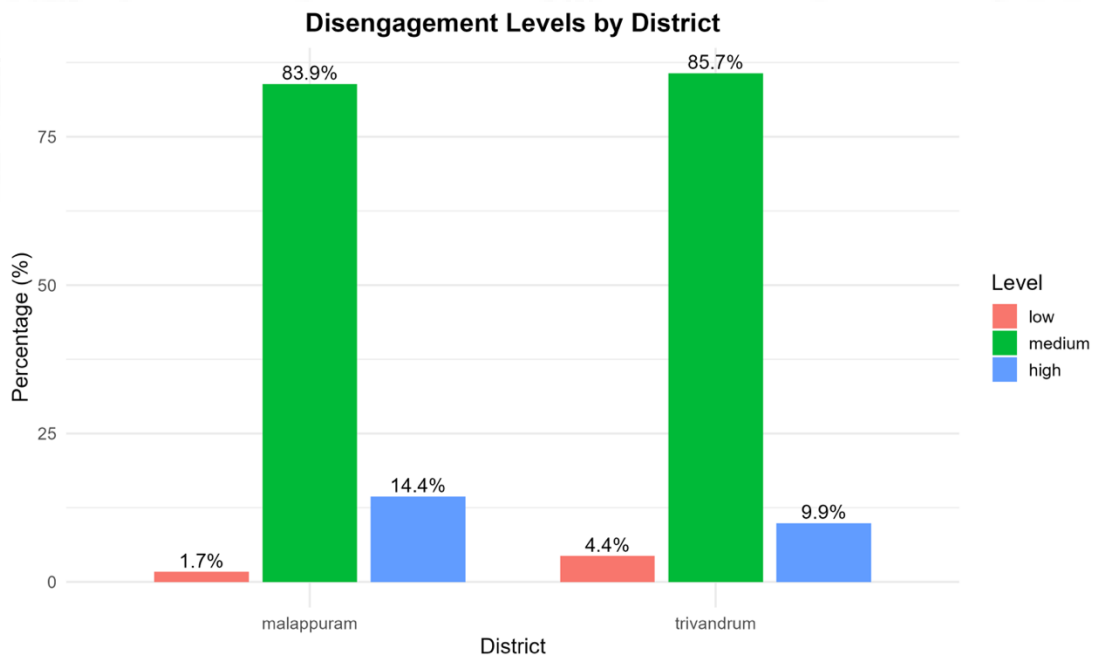
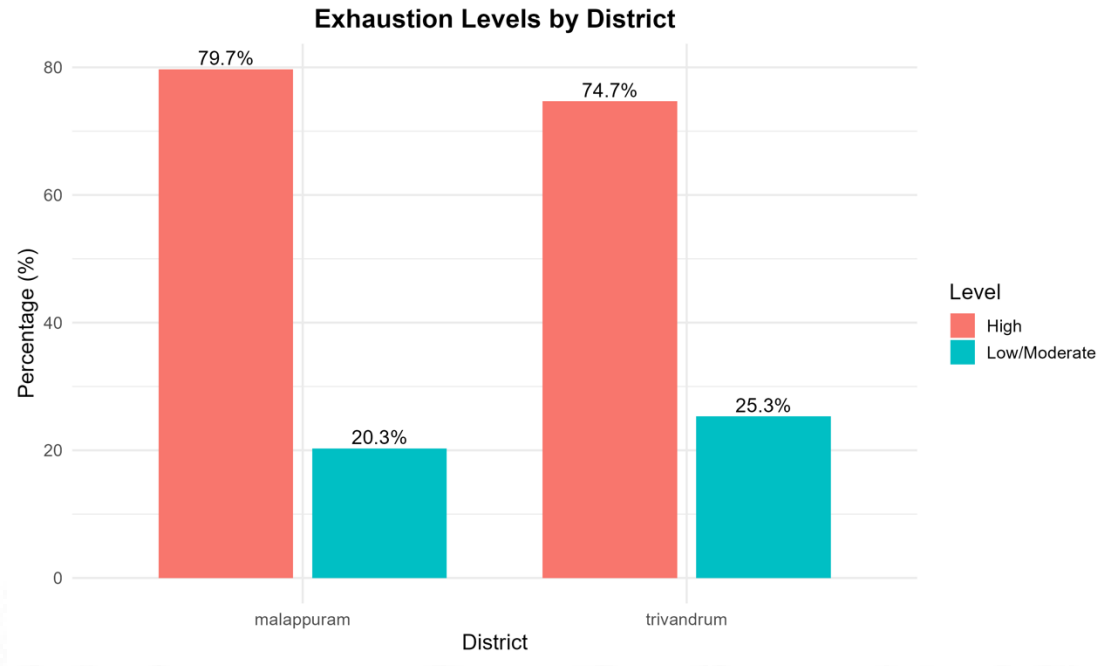


**Figure 4 Exhaustion levels by Districts**



### **3.9 Association between burnout and its domains(disengagement & exhaustion)**

In the multivariate analysis of the exhaustion domain, three variables were found to be significantly associated with high exhaustion levels. Increasing age was associated with a reduced likelihood of experiencing high exhaustion (AOR = 0.926,  $p = 0.002$ ), indicating that older participants were less prone to exhaustion. Conversely, participants who reported working on holidays had significantly higher odds of experiencing exhaustion (AOR = 2.490,  $p = 0.014$ ), highlighting the impact of work overload. Additionally, better administrative support was associated with a significantly lower risk of exhaustion (AOR = 0.364,  $p = 0.004$ ), suggesting that supportive work environments play a protective role against burnout.

**Table 3.29 Multivariate analysis -Association between burnout and its domain  
(exhaustion)**

| EXHAUSTION                |               |                  |                  |                              |                  |
|---------------------------|---------------|------------------|------------------|------------------------------|------------------|
| <u>Variable</u>           | category      | Crude Odds Ratio | p value<br>(COR) | Adjusted Odds<br>Ratio (AOR) | p value<br>(AOR) |
| Age                       | Below 40      | 1                | 0.037            | 0.387                        | <b>0.008</b>     |
|                           | Above 40      | 0.496            |                  |                              |                  |
| work on<br>holidays       | no            | 1                | 0.028            | 2.374                        | <b>0.018</b>     |
|                           | yes           | 2.14             |                  |                              |                  |
| Administrative<br>support | Similar/worst | 1                | 0.004            | 0.356                        | <b>0.003</b>     |
|                           | better        | 0.382            |                  |                              |                  |

In the multivariate analysis of the disengagement domain, several variables showed significant associations in the crude analysis, including age, years of working, availability of emergency and planned leave, accompaniment by a Junior Public Health Nurse (JPHN), adherence to safe injection practices, and availability of consultation and transportation facilities. However, after adjustment, none of these variables retained statistical significance ( $p > 0.05$ ). Although trends suggested that younger age, fewer years of experience, absence of leave options, and lack of administrative support might contribute to higher disengagement, these associations were not robust after controlling for confounders.

**Table 3.30 Multivariate analysis -Association between burnout and its domain  
(disengagement)**

| DISENGAGEMENT                          |          |                  |               |                           |               |
|----------------------------------------|----------|------------------|---------------|---------------------------|---------------|
| Variable                               | category | Crude Odds Ratio | P value (COR) | Adjusted Odds Ratio (AOR) | P value (AOR) |
| Age                                    | Below 40 | 1                | 0.151         | 2.81                      | 0.127         |
|                                        | Above 40 | 0.524            |               |                           |               |
| Years of working                       | Below 8  | 1                | 0.002         | 0.084                     | <0.001        |
|                                        | Above 8  | 0.207            |               |                           |               |
| Emergency leave                        | No       | 1                | 0.028         | 0.328                     | 0.054         |
|                                        | yes      | 0.33             |               |                           |               |
| Planned leave                          | no       | 1                | 0.013         | 0.396                     | 0.055         |
|                                        | yes      | 0.34             |               |                           |               |
| Junior public health nurse accompanied | no       | 1                | 0.021         | -----                     | -----         |
|                                        | yes      | 3.09             |               |                           |               |
|                                        |          |                  |               |                           |               |

|                              |     |        |       |       |       |
|------------------------------|-----|--------|-------|-------|-------|
| Precaution<br>Safe injection | no  | 1      | 0.043 | ----- | ----- |
|                              | yes | 2.57   |       |       |       |
| Facilities<br>consultation   | No  | 1      | 0.021 | ----- | ----- |
|                              | yes | 0.23   |       |       |       |
| facilities<br>transportation | No  | 1      | 0.011 | 4.99  | 0.01  |
|                              | yes | 4.18   |       |       |       |
| Travel<br>allowance          | no  | 1      | 0.032 | 1.615 | 0.377 |
|                              | yes | 2.5239 |       |       |       |

Adjusted OR<sub>3</sub>: Logistic regression adjusted for variables that showed significant associations in bivariate analysis.

## **CHAPTER 4**

### **DISCUSSION AND CONCLUSION**

The present study aimed to determine the level of burnout among palliative care nurses in Kerala, focusing particularly on the two dimensions of burnout: disengagement and exhaustion. Burnout has been widely recognized as a serious occupational hazard in healthcare professions across the world, affecting individual well-being and health system performance (WHO, 2019; Maslach & Leiter, 2016).

#### **4.1 General Characteristics**

In the current study, most of the participants were females, married, and held qualifications such as GNM, ANM and BCCPAN. These findings align with the workforce demographics in public health programs in India, where women form the backbone of community healthcare services, such as the Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) (Sinha, 2020).

The majority worked in rural service areas, which reflects the nature of India's decentralized rural health delivery system (National Health Mission, 2022). Salary delays, lack of infrastructure such as designated eating areas and restrooms, and extensive workloads were common challenges reported by the participants, consistent with the barriers identified in studies among ASHAs and ANMs in other Indian states like Maharashtra and Rajasthan (Kumar et al., 2019; Chattopadhyay, 2017).

## 4.2 Burnout among Study Participants

Burnout was measured using the Oldenburg Burnout Inventory (OLBI), which has been validated across different occupational settings including healthcare in India (Patel et al., 2021). The internal consistency of the tool in the present study was good, comparable to studies in India and abroad (Sinval et al., 2019; Subburaj & Vijayadurai, 2016).

The finding that a high proportion of participants experienced moderate to high levels of burnout resonates with previous studies among Indian healthcare workers. For instance, Ramesh et al. (2021) found high levels of emotional exhaustion and depersonalization among frontline workers in Tamil Nadu during the COVID-19 pandemic. Similarly, Singh et al. (2020) reported burnout in more than 70% of community health workers surveyed in Uttar Pradesh.

## 4.3 Exhaustion Domain and Associated Factors

In the multivariate analysis, three factors were independently associated with exhaustion.

- **Age** was inversely related to exhaustion, with younger participants being more vulnerable. Similar trends were observed in studies by Gupta et al. (2021) among medical interns in Delhi, and Kumar & Kumar (2018) among nursing staff in Karnataka, where younger age groups reported higher levels of exhaustion and stress.
- **Working on holidays** significantly increased the odds of exhaustion. Consistent with this finding, Banerjee et al. (2017) demonstrated that irregular work schedules and holiday duties were significant contributors to burnout among Indian primary healthcare workers.

- **Administrative support** emerged as a protective factor against exhaustion. Studies by Sharma et al. (2020) and Chattopadhyay (2017) also emphasized that supportive supervision and organizational backing reduce the risk of burnout among healthcare workers.

This emphasizes the urgent need to strengthen administrative policies and ensure manageable workloads and adequate breaks, particularly for younger staff.

#### **4.4 Disengagement Domain and Associated Factors**

While several factors such as lack of emergency leave, accompaniment by JPHNs, and poor safe injection practices showed significant associations with disengagement in the crude analysis, none of them remained significant after adjustment. This suggests that disengagement among field health workers may not be determined by isolated job or demographic factors but might instead be influenced by a complex interaction of personal coping mechanisms, intrinsic motivation, and organizational culture. Similar conclusions were drawn by Sahoo et al. (2018) in a study among Indian nurses, where disengagement was found to be multifactorial and less sensitive to individual job characteristics alone. The high prevalence of exhaustion is concerning, as it indicates prolonged emotional and physical strain among nurses who are consistently exposed to end-of-life care situations, often with limited resources. These findings are in line with previous studies in India and other low- and middle-income countries, where palliative care providers report significant psychological burden due to emotional labour, high caseloads, and inadequate organizational support.

- Interestingly, disengagement levels were relatively low in comparison to exhaustion.

This could be interpreted as a sign of **strong professional commitment**, where nurses,

despite being emotionally and physically fatigued, continue to remain connected to their work and patients. Such a pattern has been observed in other studies conducted in emotionally demanding care settings, where healthcare providers experience compassion fatigue but retain a sense of purpose and dedication.

- No statistically significant differences in burnout levels were observed between the two districts. This suggests that the **factors contributing to burnout are systemic** rather than region-specific, possibly rooted in shared challenges such as staff shortages, lack of adequate rest, limited training opportunities, and minimal psychological support.
- Work-related factors such as **inadequate supervision, irregular rest periods, and poor access to emotional support** were associated with higher burnout levels. On the other hand, **supportive team dynamics and opportunities for skill development** were identified as protective factors. These findings highlight the importance of organizational interventions to reduce burnout, including structured debriefing sessions, mental health support, and continuous professional development.
- This study assessed burnout among palliative care nurses working under local self-government institutions in the districts of Malappuram and Trivandrum, using the Oldenburg Burnout Inventory (OLBI). The findings reveal that **77.5% of nurses experienced high levels of exhaustion**, while **12.4% showed high levels of disengagement**. These results suggest that **exhaustion is the more dominant component of burnout** among the study population.

#### 4.5 Recommendations

- **Equitable and Timely Remuneration:** Address the issue of salary delays and ensure timely disbursement of wages. Implement a structured, increment-based salary system, as the current practice of stagnant pay throughout the service period significantly contributes to dissatisfaction.
- **Job Security and Regularization:** Transition contractual or temporary appointments into permanent positions to enhance job security and long-term engagement in the palliative care workforce.
- **Adequate Staffing:** In some districts, **only one nurse is appointed to cover a large population**, leading to burnout and service delivery gaps. Staffing norms must be revised based on population size and service demand, with additional nurses recruited where needed.

#### 4.6 Strengths

##### **complete Participation:**

All eligible palliative care nurses in the selected districts were included in the study, ensuring comprehensive coverage and eliminating selection bias.

**High Response Rate:** The inclusion of all participants increased the reliability and representativeness of the findings

**Dual-Data District Comparison:** collection from both Malappuram and Trivandrum allowed for regional comparisons, enhancing the external validity of the results.

#### **4.7 Limitations of the Study**

The cross-sectional nature of the study limits causal inferences. Recall bias and over-reporting by participants could have led to information bias. Contextual factors, including ongoing public health emergencies (e.g., COVID-19), may have contributed to an overestimation of burnout prevalence. Additionally, personal health or family-related factors among female participants were not explored, which could have provided further insight.

#### **4.8 Conclusion**

The study revealed that burnout is a significant concern among palliative care nurses, with a high prevalence of exhaustion and a comparatively lower—but notable—level of disengagement. These findings underscore the emotional and physical burden faced by nurses in this demanding field. While the commitment to patient care remains strong, systemic support mechanisms are essential to prevent long-term negative impacts on both staff well-being and quality of care. Addressing burnout through structured interventions at both individual and organizational levels is critical for sustaining a healthy, motivated, and effective palliative care workforce.

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## APPENDICES

### ANNEXURE: 1

#### **Participant Information Sheet**

I am Dr Arun Rajan r c , currently pursuing Master of Public Health (MPH) at Achutha Menon Centre for Health Science Studies (AMCHSS), Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala. I am studying **“Burnout Among Palliative Care Nurses in Kerala : A cross sectional study”** as a part of my course work.

You are being invited to participate in this research study. Before you decide on whether to participate in this study or not, you must understand why the research is being done and what it will involve. Please read/listen to the information sheet and the consent form carefully and don't hesitate to ask if you have any doubts.

#### **Purpose of the study**

In April 2008, Kerala became the first state in India to announce a palliative care policy. The state has since effectively implemented this policy, establishing a community-based palliative care model that is widely regarded as the best in the country. The purpose of this study is to find the level of burnout and its factors associated with burnout among palliative care nurses under local self-government institutions.

#### **Procedure**

If you agree to participate in the study, you will be asked to complete an self – structured questionnaire that will include questions focussed on basic details , job related , privileges , demographics . Additionally, we will use the Oldenburg burnout inventory, to assess the burnout. The questionnaire will take approximately 30-35 minutes of your valuable time.

#### **Potential risks and Inconveniences**

Participating in the study imposes no risk to your health. Although while answering some questions you may feel anxious.

#### **Possible benefits**

Your participation in the study will not give any direct benefit to you now other than knowing your burnout levels. However, the findings from the study will help us to understand the level present in the general population.

**Cost and financial benefit**

There is no cost for participation in this study. Participation is completely voluntary, and no payment will be provided. Similarly, money will not be taken from participants in the study.

**Confidentiality**

Information obtained in this study will be kept strictly confidential. A participant identification number will be assigned to each participant which will help to maintain the strict confidentiality of the data collected. Your name will not be used in reporting information in publications or reports.

**Withdrawal from the study**

Your participation in the study will be completely voluntary. You are free and have the right to withdraw at any time during the study. There will be no penalty for withdrawal or not participating in the study.

**Contact information**

If you have any research-related questions, you may contact me

Dr Arun Rajan R C  
Principal Investigator  
MPH 2023, AMCHSS, SCTIMST  
Contact Number: 7994774358  
Email: [drarunrajan7@sc?mst.ac.in](mailto:drarunrajan7@sc?mst.ac.in)

Or the Guide,  
Dr. Srinivas k  
Associate Professor  
Achutha Menon Centre for Health Science Studies  
SCTIMST, Thiruvananthapuram  
Kerala-695011  
Telephone (Office): +91 471 2524243  
Email: [ksrini@sctimst.ac.in](mailto:ksrini@sctimst.ac.in)

Alternatively, the member secretary of our institute's ethics committee at the following address:

Dr Srinivas G  
Member Secretary Institutional Ethics Committee  
SCTIMST, TRIVANDRUM- 695011  
Office: 04712524689  
Email: [iec.mem.sec@sctimst.ac.in](mailto:iec.mem.sec@sctimst.ac.in)

## ANNEXURE: 2

### Informed Consent Form

I confirm that I have read/ heard and understood the information regarding the study **“Burnout Among Palliative Care Nurses in Kerala: A Cross-sectional study”** as provided in the participant information sheet. All my questions concerning this study have been answered satisfactorily. I also understand that my identity and personal information will be kept confidential. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without consequences.

By signing this form, I agree to participate in this study. A copy of this form has been given to me.

Date:

Place:

Name of the participant

Signature/Thumb impression

Principal Investigator

Signature

### ANNEXURE: 3

#### Self-structured questionnaire

Burnout Among Palliative Care Nurses in Malappuram and Trivandrum Districts under local self-government institutions

#### General information

##### Date

District id -

Panchayat id –

Participant id :

#### 1.Basic Details of the Health Care Providers

|       |                                                           |                     |  |
|-------|-----------------------------------------------------------|---------------------|--|
| Sl.no | Please tick the most appropriate option                   |                     |  |
| 1.0   | Age (in completed years)                                  |                     |  |
| 1.1   | Marital status                                            | Currently married   |  |
|       |                                                           | widowed             |  |
|       |                                                           | divorced            |  |
|       |                                                           | separated           |  |
|       |                                                           | unmarried           |  |
|       |                                                           | Any other (specify) |  |
| 1.2   | Number of children's                                      |                     |  |
| 1.3   | Type of family                                            | Nuclear family      |  |
|       |                                                           | Joint family        |  |
| 1.4   | Educational qualification(specify)                        |                     |  |
| 1.5   | How many years have you been working in palliative care ? |                     |  |
| 1.6   | Duration of commutation from home to workplace            |                     |  |
| 1.7   | Average salary per month                                  |                     |  |
| 1.7.1 | Timeliness of salary:                                     | timely              |  |
|       |                                                           | delayed             |  |
| 1.7.2 | If delayed, by how much?:                                 | Weeks -             |  |
|       |                                                           | Months-             |  |

| JOB RELATED                                                                                      |                                                          |                 |                                      |                     |               |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------|--------------------------------------|---------------------|---------------|
| 2.0                                                                                              | Job type                                                 | permanent       |                                      |                     |               |
|                                                                                                  |                                                          | Contractual     |                                      |                     |               |
| 2.1                                                                                              | Average number of Population covered.                    |                 |                                      |                     |               |
| 2.2                                                                                              | number of patients presently taken care.                 |                 |                                      |                     |               |
| 2.3                                                                                              | number of houses do you visit in a day.                  |                 |                                      |                     |               |
| 2.4                                                                                              | Nature of service area                                   | rural           |                                      |                     |               |
|                                                                                                  |                                                          | urban           |                                      |                     |               |
|                                                                                                  |                                                          | Others(specify) |                                      |                     |               |
| 2.5                                                                                              | Who all accompany for home care: (Select all that apply) |                 |                                      |                     |               |
|                                                                                                  | <b>DESIGNATION</b>                                       | <b>Yes/No</b>   | <b>If yes, regular or occasional</b> |                     |               |
|                                                                                                  | JPHN                                                     |                 |                                      |                     |               |
|                                                                                                  | ASHA worker                                              |                 |                                      |                     |               |
|                                                                                                  | Physiotherapist                                          |                 |                                      |                     |               |
|                                                                                                  | Volunteer                                                |                 |                                      |                     |               |
|                                                                                                  | Elected representative                                   |                 |                                      |                     |               |
|                                                                                                  | Other (specify)                                          |                 |                                      |                     |               |
| 2.6                                                                                              | Number of meetings attended in a week                    |                 |                                      |                     |               |
| 2.7                                                                                              | Average number of patients visited in a week             |                 |                                      |                     |               |
| 2.8 Do you have adequate stock of materials and medicines needed for providing care? (tick one ) |                                                          |                 |                                      |                     |               |
| Sl.no                                                                                            | Material & medicine                                      | Excess          | Sufficient                           | Sometimes available | Not available |
| 1.                                                                                               | Medicines                                                |                 |                                      |                     |               |
| 2.                                                                                               | mask                                                     |                 |                                      |                     |               |
| 3.                                                                                               | Sanitizer                                                |                 |                                      |                     |               |
| 4.                                                                                               | Gloves                                                   |                 |                                      |                     |               |
| 5.                                                                                               | uniforms                                                 |                 |                                      |                     |               |
| 6.                                                                                               | Dressing material                                        |                 |                                      |                     |               |
| 7.                                                                                               | register                                                 |                 |                                      |                     |               |
| 8                                                                                                | diaper                                                   |                 |                                      |                     |               |
| 9.                                                                                               | airbed                                                   |                 |                                      |                     |               |
| 10                                                                                               | Wheel chair                                              |                 |                                      |                     |               |

|     |                     |  |  |  |  |
|-----|---------------------|--|--|--|--|
| 11. | Oxygen concentrator |  |  |  |  |
| 12. | catheters           |  |  |  |  |
| 13. | water               |  |  |  |  |

## 2.9 How will the following people treat you

|       |                                                                                                    | Mostly Cooperative | Mostly Competitive | Mostly Quarrelsome |  |
|-------|----------------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|--|
| 1.    | superior at PHC level (MO, HS, HI)                                                                 |                    |                    |                    |  |
| 2.    | subordinates                                                                                       |                    |                    |                    |  |
| 3.    | Co-workers                                                                                         |                    |                    |                    |  |
| 4.    | Patients                                                                                           |                    |                    |                    |  |
| 5.    | Elected representatives                                                                            |                    |                    |                    |  |
| 6.    | Block level palliative care staff                                                                  |                    |                    |                    |  |
| 7.    | District level palliative care staff                                                               |                    |                    |                    |  |
| 8.    | District level supervisors                                                                         |                    |                    |                    |  |
| 9.    | AYUSH staff                                                                                        |                    |                    |                    |  |
| 3.0   | Are you receiving training programs from authorities to enhance and update my skills and knowledge |                    | Yes/no             |                    |  |
| 3.1   | Do you have any additional responsibility ?                                                        |                    | Yes/no             |                    |  |
| 3.1.1 | if yes how many hours do you spend                                                                 |                    |                    |                    |  |
| 3.2   | Do you have a designated place for maintaining your stocks and registers? Yes/No                   |                    |                    |                    |  |
| 3.2.1 | If no ,then how do you manage ?                                                                    |                    |                    |                    |  |

|     |                                                                                     |                           |  |
|-----|-------------------------------------------------------------------------------------|---------------------------|--|
| 3.3 | Do you get leave in case of emergencies ?                                           | Yes                       |  |
|     |                                                                                     | no                        |  |
| 3.4 | Do you get planned leave?                                                           | yes                       |  |
|     |                                                                                     | no                        |  |
| 3.5 | What are the safety precaution used to avoid infections?<br>(Select all that apply) | PPE                       |  |
|     |                                                                                     | Hand hygiene              |  |
|     |                                                                                     | Biomedical waste disposal |  |
|     |                                                                                     | Safe injections           |  |

|     |                                                                                                   |                     |  |
|-----|---------------------------------------------------------------------------------------------------|---------------------|--|
|     |                                                                                                   | Respiratory hygiene |  |
|     |                                                                                                   |                     |  |
| 3.6 | What are the medical facilities available for you                                                 | Free consultation   |  |
|     |                                                                                                   | Insurance           |  |
|     |                                                                                                   | Medicines           |  |
|     |                                                                                                   | transportation      |  |
|     |                                                                                                   |                     |  |
| 3.7 | How would you rate your work environment in terms of safety and comfort?                          | excellent           |  |
|     |                                                                                                   | good                |  |
|     |                                                                                                   | fair                |  |
|     |                                                                                                   | poor                |  |
|     |                                                                                                   |                     |  |
| 3.8 | Do you have access to the following facilities while working in the field                         | Food eating area    |  |
|     |                                                                                                   | Restroom            |  |
|     |                                                                                                   | Drinking Water      |  |
|     |                                                                                                   | Resting room        |  |
| 3.9 | Do you face any challenges in managing biomedical waste during your fieldwork?                    | yes                 |  |
|     |                                                                                                   | no                  |  |
|     |                                                                                                   |                     |  |
| 4.0 | In addition to your salary, are you provided with any work allowance?                             | yes                 |  |
|     |                                                                                                   | no                  |  |
|     |                                                                                                   |                     |  |
| 4.1 | If yes, what type of allowance do you receive                                                     | Travel allowance    |  |
|     |                                                                                                   | Food allowance      |  |
|     |                                                                                                   | Equipment allowance |  |
|     |                                                                                                   | Uniform allowance   |  |
| 4.2 | Do you work on holidays / extra time?                                                             | Yes                 |  |
|     |                                                                                                   | No                  |  |
|     |                                                                                                   |                     |  |
| 4.3 | In terms of cooperation how does the present administration supports the palliative care services | Its better          |  |
|     |                                                                                                   | Its similar         |  |
|     |                                                                                                   | Its worst           |  |

#### ANNEXURE: 4

##### OLDENBURG BURNOUT

name: \_\_\_\_\_ date: \_\_\_\_\_

Instructions: Below you find a series of statements with which you may agree or disagree.

Using the scale, please indicate the degree of your agreement by selecting the number that corresponds with each statement.

|     |                                                                                               | strongly<br>agree | agree | disagree | strongly<br>disagree |
|-----|-----------------------------------------------------------------------------------------------|-------------------|-------|----------|----------------------|
| 1.  | I always find new and interesting aspects in my work (D)                                      | 1                 | 2     | 3        | 4                    |
| 2.  | There are days when I feel tired before I arrive at work (E.R.)                               | 1                 | 2     | 3        | 4                    |
| 3.  | It happens more and more often that I talk about my work in a negative way (D.R)              | 1                 | 2     | 3        | 4                    |
| 4.  | After work, I tend to need more time than in the past in order to relax and feel better (E.R) | 1                 | 2     | 3        | 4                    |
| 5.  | I can tolerate the pressure of my work very well (E)                                          | 1                 | 2     | 3        | 4                    |
| 6.  | Lately, I tend to think less at work and do my job almost mechanically (D.R)                  | 1                 | 2     | 3        | 4                    |
| 7.  | I find my work to be a positive challenge (D)                                                 | 1                 | 2     | 3        | 4                    |
| 8.  | During my work, I often feel emotionally drained (E.R.)                                       | 1                 | 2     | 3        | 4                    |
| 9.  | Over time, one can become dis- connected from this type of work (D.R)                         | 1                 | 2     | 3        | 4                    |
| 10. | After working, I have enough energy for my leisure activities (E)                             | 1                 | 2     | 3        | 4                    |
| 11. | Sometimes I feel sickened by my work tasks (D.R)                                              | 1                 | 2     | 3        | 4                    |
| 12. | After my work, I usually feel worn out and weary (E.R)                                        | 1                 | 2     | 3        | 4                    |
| 13. | This is the only type of work that I can imagine myself doing (D)                             | 1                 | 2     | 3        | 4                    |
| 14. | Usually, I can manage the amount of my work well (E)                                          | 1                 | 2     | 3        | 4                    |
| 15. | I feel more and more engaged in my work (D)                                                   | 1                 | 2     | 3        | 4                    |
| 16. | When I work, I usually feel energized (E)                                                     | 1                 | 2     | 3        | 4                    |

Note: Disengagement items are 1, 3(R), 6(R), 7, 9(R), 11(R), 13, 15. Exhaustion items are 2(R), 4(R), 5, 8(R), 10, 12(R), 14, 16. (R) means reversed item when the scores should be such that higher scores indicate more burnout.

**disengagement**

**exhaustion**

**full scale**

**sub-total:**

**sub-total:**

**total:**

Delgadillo et al (2018) reported “Therapists are identified as having low, medium or high OLBI-D scores, based on scores above or below 1 standard deviation of the mean ( $M = 2.15$ ,  $SD = 0.52$ ;  $\leq 1.62$  = low,  $1.63$  to  $2.67$  = medium,  $\geq 2.68$  = high).”

ized (E) 1 2 3 4

## ANNEXURE 5

### Participant information sheet (Malayalam)

അച്ചുത മേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്  
(AMCHSS)  
ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ്  
ടെക്നോളജി (SCTIMST)  
തിരുവനന്തപുരം -11  
പങ്കെടുക്കുന്നവരുടെ വിവര ഷീറ്റ്

ഞാൻ ഡോ. അരുൺ രാജൻ ആർ സി ആണ്, ഇപ്പോൾ കേരളത്തിലെ തിരുവനന്തപുരത്തെ ശ്രീചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ് ടെക്നോളജിയിലെ അച്ചുതമേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസിൽ (AMCHSS) മാസ്റ്റർ ഓഫ് പബ്ലിക് ഹെൽത്ത് (MPH) പഠിക്കുന്നു. എന്റെ കോഴ്സ് വർക്കിന്റെ ഭാഗമായി “കേരളത്തിലെ പാലിയേറ്റീവ് കെയർ നഴ്സുമാരിൽ പൊള്ളലേറ്റർ: ഒരു ക്രോസ് സെക്ഷണൽ പഠനം” ഞാൻ പഠിക്കുകയാണ്.

ഈ ഗവേഷണ പഠനത്തിൽ പങ്കെടുക്കാൻ നിങ്ങളെ ക്ഷണിക്കുന്നു. ഈ പഠനത്തിൽ പങ്കെടുക്കണമോ വേണ്ടയോ എന്ന് തീരുമാനിക്കുന്നതിന് മുമ്പ്, എന്തുകൊണ്ടാണ് ഗവേഷണം നടക്കുന്നതെന്നും അതിൽ എന്താണ് ഉൾപ്പെടുകയെന്നും നിങ്ങൾ മനസ്സിലാക്കണം. വിവര ഷീറ്റും സമ്മത ഫോമും ശ്രദ്ധാപൂർവ്വം വായിക്കുക/കേൾക്കുക, എന്തെങ്കിലും സംശയങ്ങൾ ഉണ്ടെങ്കിൽ ചോദിക്കാൻ മടിക്കരുത്

പഠനത്തിന്റെ ഉദ്ദേശം

2008 ഏപ്രിലിൽ, പാലിയേറ്റീവ് കെയർ നയം പ്രഖ്യാപിക്കുന്ന ഇന്ത്യയിലെ ആദ്യത്തെ സംസ്ഥാനമായി കേരളം മാറി. രാജ്യത്ത് ഏറ്റവും മികച്ചതായി പരക്കെ കണക്കാക്കപ്പെടുന്ന ഒരു കമ്മ്യൂണിറ്റി അധിഷ്ഠിത പാലിയേറ്റീവ് കെയർ മാതൃക സ്ഥാപിച്ചുകൊണ്ട് സംസ്ഥാനം ഈ നയം ഫലപ്രദമായി നടപ്പിലാക്കി. തദ്ദേശ സ്വയംഭരണ സ്ഥാപനങ്ങൾക്ക് കീഴിലുള്ള പാലിയേറ്റീവ് കെയർ നഴ്സുമാർക്കിടയിലെ പൊള്ളലേറ്ററിന്റെ അളവും അതിന്റെ ഘടകങ്ങളും കണ്ടെത്തുകയാണ് ഈ പഠനത്തിന്റെ ലക്ഷ്യം.

നടപടിക്രമം

പഠനത്തിൽ പങ്കെടുക്കാൻ നിങ്ങൾ സമ്മതിക്കുകയാണെങ്കിൽ, അടിസ്ഥാന വിശദാംശങ്ങൾ, ജോലിയുമായി ബന്ധപ്പെട്ട, പ്രത്യേകാവകാശങ്ങൾ, ജനസംഖ്യാശാസ്ത്രം എന്നിവയിൽ ശ്രദ്ധ

കേന്ദ്രീകരിക്കുന്ന ചോദ്യങ്ങൾ ഉൾപ്പെടുന്ന ഒരു സ്വയം ഘടനാപരമായ ചോദ്യാവലി പൂർത്തിയാക്കാൻ നിങ്ങളോട് ആവശ്യപ്പെടും. കൂടാതെ, പൊള്ളൽ വിലയിരുത്താൻ ഞങ്ങൾ ഓൾഡൻബർഗ് ബേൺഔട്ട് ഇൻവെന്ററി ഉപയോഗിക്കും. ചോദ്യാവലി നിങ്ങളുടെ വിലപ്പെട്ട സമയത്തിന്റെ ഏകദേശം 30-35 മിനിറ്റ് എടുക്കും.

സാധ്യതയുള്ള അപകടങ്ങളും അസൗകര്യങ്ങളും പഠനത്തിൽ പങ്കെടുക്കുന്നത് നിങ്ങളുടെ ആരോഗ്യത്തിന് ഒരു അപകടവും ഉണ്ടാക്കുന്നില്ല. ചില ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകുമ്പോൾ നിങ്ങൾക്ക് ഉതകാൻ തോന്നിയേക്കാം.

സാധ്യമായ നേട്ടങ്ങൾ പഠനത്തിലെ നിങ്ങളുടെ പങ്കാളിത്തം നിങ്ങളുടെ ബേൺഔട്ട് ലെവലുകൾ അറിയുന്നതല്ലാതെ നിങ്ങൾക്ക് ഇപ്പോൾ നേരിട്ട് പ്രയോജനം നൽകില്ല. എന്നിരുന്നാലും, പഠനത്തിൽ നിന്നുള്ള കണ്ടെത്തലുകൾ സാധാരണ ജനങ്ങളിൽ നിലവിലുള്ള നിലവാരം മനസ്സിലാക്കാൻ സഹായിക്കും.

ചെലവും സാമ്പത്തിക നേട്ടവും ഈ പഠനത്തിൽ പങ്കെടുക്കുന്നതിന് യാതൊരു ചെലവും ഇല്ല. പങ്കാളിത്തം പൂർണ്ണമായും സ്വമേധയാ ഉള്ളതാണ്, പേയ്മെന്റൊന്നും നൽകില്ല. അതുപോലെ, പഠനത്തിൽ പങ്കെടുക്കുന്നതിൽ നിന്ന് പണം എടുക്കില്ല.

രഹസ്യാത്മകത ഈ പഠനത്തിൽ ലഭിക്കുന്ന വിവരങ്ങൾ കർശനമായി രഹസ്യമായി സൂക്ഷിക്കും. ഓരോ പങ്കാളിക്കും ഒരു പങ്കാളി തിരിച്ചറിയൽ നമ്പർ നൽകും, ഇത് ശേഖരിക്കുന്ന ഡാറ്റയുടെ കർശനമായ രഹസ്യാത്മകത നിലനിർത്താൻ സഹായിക്കും. പ്രസിദ്ധീകരണങ്ങളിലോ റിപ്പോർട്ടുകളിലോ വിവരങ്ങൾ റിപ്പോർട്ടുചെയ്യുന്നതിന് നിങ്ങളുടെ പേര് ഉപയോഗിക്കില്ല.

പഠനത്തിൽ നിന്ന് പിന്മാറ്റം പഠനത്തിൽ നിങ്ങളുടെ പങ്കാളിത്തം പൂർണ്ണമായും സ്വമേധയാ ഉള്ളതായിരിക്കും. നിങ്ങൾക്ക് സ്വതന്ത്രവും പഠനസമയത്ത് എപ്പോൾ വേണമെങ്കിലും പിൻവലിക്കാനുള്ള അവകാശവുമുണ്ട്. പഠനത്തിൽ നിന്ന് പിന്മാറുകയോ പങ്കെടുക്കാതിരിക്കുകയോ ചെയ്താൽ പിഴ ഈടാക്കില്ല.

ബന്ധപ്പെടാനുള്ള വിവരങ്ങൾ  
നിങ്ങൾക്ക് ഗവേഷണവുമായി ബന്ധപ്പെട്ട എന്തെങ്കിലും  
ചോദ്യങ്ങളുണ്ടെങ്കിൽ, നിങ്ങൾക്ക് എന്നെ ബന്ധപ്പെടാം  
ഡോ അരുൺ രാജൻ ആർ സി  
പ്രധാന അന്വേഷകൻ  
MPH 2023, AMCHSS, SCTIMST  
ബന്ധപ്പെടേണ്ട നമ്പർ: 7994774358  
ഇമെയിൽ: drarunrajan7@sctimst.ac.in

അല്ലെങ്കിൽ വഴികാട്ടി,  
ഡോ. ശ്രീനിവാസ് കെ  
അസോസിയേറ്റ് പ്രഫസർ  
അച്ചുതമേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്  
SCTIMST, തിരുവനന്തപുരം  
കേരളം-695011  
ടെലിഫോൺ (ഓഫീസ്): +91 471 2524243  
ഇമെയിൽ: ksrini@sctimst.ac.in

പകരമായി, ഇനിപ്പറയുന്ന വിലാസത്തിൽ ഞങ്ങളുടെ  
ഇൻസ്റ്റിറ്റ്യൂട്ടിന്റെ എത്തിക്സ് കമ്മിറ്റി അംഗം സെക്രട്ടറി:

ഡോ ശ്രീനിവാസ് ജി  
മെമ്പർ സെക്രട്ടറി ഇൻസ്റ്റിറ്റ്യൂഷണൽ എത്തിക്സ് കമ്മിറ്റി  
SCTIMST, തിരുവനന്തപുരം- 695011  
ഓഫീസ്: 04712524689  
ഇമെയിൽ: iec.mem.sec@sctimst.ac.in

ANNEXURE: 6

Informed Consent Form (Malayalam)

വിവരമുള്ള സമ്മതം

“പങ്കെടുക്കുന്ന വിവര ഷീറ്റിൽ നൽകിയിരിക്കുന്ന "കേരളത്തിലെ പാലിയേറ്റീവ് കെയർ നഴ്സുമാരിൽ ബേൺഓട്ട് : എ ക്രോസ് സെക്ഷണൽ സ്റ്റഡി" എന്ന പഠനവുമായി ബന്ധപ്പെട്ട വിവരങ്ങൾ ഞാൻ വായിക്കുകയും കേൾക്കുകയും മനസ്സിലാക്കുകയും ചെയ്തുവെന്ന് ഞാൻ സ്ഥിരീകരിക്കുന്നു. ഈ പഠനത്തെക്കുറിച്ചുള്ള എന്റെ എല്ലാ ചോദ്യങ്ങൾക്കും തൃപ്തികരമായ ഉത്തരം ലഭിച്ചു. എന്റെ വ്യക്തിഗത വിവരങ്ങളും വ്യക്തിഗത വിവരങ്ങളും രഹസ്യമായി സൂക്ഷിക്കുമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു. എന്റെ പങ്കാളിത്തം സ്വമേധയാ ആണെന്നും ഒരു കാരണവും പറയാതെയും അനന്തരഫലങ്ങളില്ലാതെയും എപ്പോൾ വേണമെങ്കിലും പിൻവാങ്ങാൻ എനിക്ക് സ്വാതന്ത്ര്യമുണ്ടെന്നും ഞാൻ മനസ്സിലാക്കുന്നു. ഈ ഫോമിൽ ഒപ്പുവയ്ക്കുന്നതിലൂടെ, ഈ പഠനത്തിൽ പങ്കെടുക്കാൻ ഞാൻ സമ്മതിക്കുന്നു. ഈ ഫോമിന്റെ ഒരു പകർപ്പ് എനിക്ക് നൽകിയിട്ടുണ്ട്

. തീയതി:

സ്ഥലം:

പങ്കെടുക്കുന്നവരുടെ പേര്.  
പ്രധാന അന്വേഷകൻ.

ഒപ്പ്/തമ്പ് ഇംപ്രഷൻ  
ഒപ്പ്

ANNEXURE 7

Self-structured questionnaire

1. ഹെൽത്ത് കെയർ പ്രൊവൈഡർമാരുടെ അടിസ്ഥാന വിവരങ്ങൾ

|       |                                                 |                                   |  |
|-------|-------------------------------------------------|-----------------------------------|--|
| Sl.no | ദയവായി ഏറ്റവും അനുയോജ്യമായ ഓപ്ഷൻ ടിക്ക് ചെയ്യുക |                                   |  |
| 1.0   | പ്രായം (പൂർത്തിയായ വർഷങ്ങളിൽ)                   |                                   |  |
| 1.1   | വൈവാഹിക നില                                     | ഇപ്പോൾ വിവാഹം                     |  |
|       |                                                 | വിധവ                              |  |
|       |                                                 | വിവാഹമോചനം                        |  |
|       |                                                 | വേർപിരിഞ്ഞു                       |  |
|       |                                                 | അവിവാഹിതരായ                       |  |
|       |                                                 | മറ്റേതെങ്കിലും<br>(വ്യക്തമാക്കുക) |  |
| 1.2   | കുട്ടികളുടെ എണ്ണം                               |                                   |  |
|       |                                                 |                                   |  |
| 1.3   | കുടുംബ തരം                                      | ന്യൂക്ലിയർ കുടുംബം                |  |
|       |                                                 | സംയുക്ത കുടുംബം                   |  |
|       |                                                 |                                   |  |
| 1.4   | വിദ്യാഭ്യാസ യോഗ്യത (വ്യക്തമാക്കുക)              |                                   |  |

|                    |                                                           |               |  |
|--------------------|-----------------------------------------------------------|---------------|--|
|                    |                                                           |               |  |
| 1.5                | നിങ്ങൾ എത്ര വർഷമായി പാലിയേറ്റീവ് കെയറിൽ ജോലി ചെയ്യുന്നു ? |               |  |
|                    |                                                           |               |  |
| 1.6                | വീട്ടിൽ നിന്ന് ജോലിസ്ഥലത്തേക്കുള്ള യാത്രയുടെ ദൈർഘ്യം      |               |  |
|                    |                                                           |               |  |
| 1.7                | പ്രതിമാസം ശരാശരി ശമ്പളം                                   |               |  |
|                    |                                                           |               |  |
| 1.7.1              | ശമ്പള കാലാവധി:                                            | സമയബന്ധിതമായി |  |
|                    |                                                           | വൈകി          |  |
|                    |                                                           |               |  |
| 1.7.2              | വൈകിയാൽ എത്ര?:                                            | ആഴ്ചകൾ -      |  |
|                    |                                                           | മാസങ്ങൾ -     |  |
| <u>JOB RELATED</u> |                                                           |               |  |
| 2.0                | ജോലി തരം                                                  | സ്ഥിരമായ      |  |
|                    |                                                           | കരാർ          |  |

|     |                                                                        |                           |                                           |
|-----|------------------------------------------------------------------------|---------------------------|-------------------------------------------|
| 2.1 | ജനസംഖ്യയുടെ ശരാശരി എണ്ണം                                               |                           |                                           |
| 2.2 | നിലവിൽ ചികിത്സയിലുള്ള രോഗികളുടെ എണ്ണം.                                 |                           |                                           |
| 2.3 | ഒരു ദിവസം നിങ്ങൾ സന്ദർശിക്കുന്ന വീടുകളുടെ എണ്ണം.                       |                           |                                           |
|     |                                                                        |                           |                                           |
| 2.4 | സേവന മേഖലയുടെ സ്വഭാവം                                                  | ഗ്രാമീണ                   |                                           |
|     |                                                                        | നഗരം                      |                                           |
|     |                                                                        | മറ്റുള്ളവ (വ്യക്തമാക്കുക) |                                           |
|     |                                                                        |                           |                                           |
| 2.5 | പരിചരണത്തിനായ്: ആരെല്ലാ ഒപ്പമുണ്ടാകും (ആപ്തിക്കേഷനുകള് തിരഞ്ഞെടുക്കുക) |                           |                                           |
|     | പദവി                                                                   | അതെ / ഇല്ല                | ഉണ്ടെങ്കിൽ, പതിവായി അല്ലെങ്കിൽ ഇടയ്ക്കിടെ |
|     | ജെ പി എച്ച് എൻ                                                         |                           |                                           |
|     | ആശാ തൊഴിലാളി                                                           |                           |                                           |
|     | ഫിസിയോതെറാപ്പിസ്റ്റ്                                                   |                           |                                           |
|     | വോളണ്ടിയർ                                                              |                           |                                           |

|     |                                                |  |  |  |
|-----|------------------------------------------------|--|--|--|
|     | തെരഞ്ഞെടുക്കപ്പെട്ട പ്രതിനിധി                  |  |  |  |
|     | Other (specify)                                |  |  |  |
|     |                                                |  |  |  |
| 2.6 | ഒരാഴ്ചയ്ക്കുള്ളിൽ നടന്ന യോഗങ്ങളുടെ എണ്ണം       |  |  |  |
|     |                                                |  |  |  |
| 2.7 | ഒരാഴ്ചയ്ക്കുള്ളിൽ വന്ന് രോഗികളുടെ ശരാശരി എണ്ണം |  |  |  |

| 2.8 ചികിത്സയ്ക്കായി ആവശ്യമായ വസ്തുക്കളും മരുന്നുകളും നിങ്ങൾക്ക് മതിയായ സ്റ്റോക്ക് ഉണ്ടോ? (ടിക്ക് ഒന്ന് ) |                      |      |             |                   |          |
|----------------------------------------------------------------------------------------------------------|----------------------|------|-------------|-------------------|----------|
| Sl.no                                                                                                    | മെറ്റീരിയൽ & മരുന്ന് | അധിക | മതിയായ അളവി | ചിലപ്പോൾ ലഭ്യമാണ് | ലഭ്യമല്ല |
| 1.                                                                                                       | മരുന്നുകൾ            |      |             |                   |          |
| 2.                                                                                                       | മാസ്ക്               |      |             |                   |          |
| 3.                                                                                                       | സാനിറ്റൈസർ           |      |             |                   |          |
| 4.                                                                                                       | ഗ്ലൗസും              |      |             |                   |          |

|     |                           |  |  |  |  |
|-----|---------------------------|--|--|--|--|
| 5.  | യൂണിഫോം                   |  |  |  |  |
| 6.  | വസ്ത്രധാരണ<br>വസ്തുക്കൾ   |  |  |  |  |
| 7.  | രജിസ്റ്റർ ചെയ്യുക         |  |  |  |  |
| 8   | ഡയപ്പർ                    |  |  |  |  |
| 9.  | ഏയർബഡ്                    |  |  |  |  |
| 10  | വീൽ ചെയർ                  |  |  |  |  |
| 11. | ഓക്സിജൻ<br>കോൺസെൻട്രേറ്റർ |  |  |  |  |
| 12. | കത്തിറ്ററുകൾ              |  |  |  |  |
| 13. | വെള്ളം                    |  |  |  |  |

| 2.9 ഇനിപ്പറയുന്ന ആളുകൾ നിങ്ങളോട് ഏതുവിധത്തിൽ പെരുമാറുന്ന |                                                           |                     |                      |                      |  |
|----------------------------------------------------------|-----------------------------------------------------------|---------------------|----------------------|----------------------|--|
|                                                          |                                                           | മിക്കവാറും<br>സഹകരണ | മിക്കവാറും<br>മത്സരം | മിക്കവാറും<br>തർക്കം |  |
| 1.                                                       | പിഎച്ച്സി<br>തലത്തിൽ സീനിയർ<br>(എംഒ, എച്ച്എസ്,<br>എച്ച്ഐ) |                     |                      |                      |  |
| 2.                                                       | സബോർഡിനേറ്റുകൾ                                            |                     |                      |                      |  |
| 3.                                                       | സഹപ്രവർത്തകർ                                              |                     |                      |                      |  |
| 4.                                                       | രോഗികൾ                                                    |                     |                      |                      |  |
| 5.                                                       | തെരഞ്ഞെടുക്കപ്പെട്ട<br>പ്രതിനിധികൾ                        |                     |                      |                      |  |

|    |                                          |  |  |  |  |
|----|------------------------------------------|--|--|--|--|
| 6. | ബ്ലോക്ക് ലെവൽ പാലിയേറ്റീവ് കെയർ സ്റ്റാഫ് |  |  |  |  |
| 7. | ജില്ലാതല പാലിയേറ്റീവ് കെയർ സ്റ്റാഫ്      |  |  |  |  |
| 8. | ജില്ലാതല സൂപ്പർവൈസർമാർ                   |  |  |  |  |
| 9. | ആയുഷ് സ്റ്റാഫ്                           |  |  |  |  |
|    |                                          |  |  |  |  |

|       |                                                                                                                                          |            |
|-------|------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 3.0   | എന്റേ കഴിവുകളും അറിവും മെച്ചപ്പെടുത്തുന്നതിനും അപ്ഡേറ്റ് ചെയ്യുന്നതിനും നിങ്ങൾ അധികാരികളിൽ നിന്ന് പരിശീലന പരിപാടികൾ സ്വീകരിക്കുന്നുണ്ടോ? | അതെ / ഇല്ല |
| 3.1   | നിങ്ങൾക്ക് എന്തെങ്കിലും അധിക ഉത്തരവാദിത്തമുണ്ടോ?                                                                                         | അതെ / ഇല്ല |
| 3.1.1 | അതെ എങ്കിൽ നിങ്ങൾ എത്ര മണിക്കൂർ ചെലവഴിക്കുന്നു                                                                                           |            |
| 3.2   | നിങ്ങളുടെ സ്റ്റോക്കുകളും രജിസ്റ്ററുകളും പരിപാലിക്കുന്നതിന് നിങ്ങൾക്ക് ഒരു നിയുക്ത സ്ഥലം ഉണ്ടോ? അതെ/ഇല്ല                                  |            |
| 3.2.1 | ഇല്ലെങ്കിൽ, നിങ്ങൾ എങ്ങനെ കൈകാര്യം ചെയ്യും?                                                                                              |            |

പ്രത്യേകാവകാശങ്ങൾ (ട്രിക്ക്)

|     |                                                      |     |  |
|-----|------------------------------------------------------|-----|--|
| 3.3 | അത്യാവിശ്യ ഘട്ടങ്ങളിൽ നിങ്ങൾക്ക് ലീവ് ലഭിക്കാറുണ്ടോ? | അതെ |  |
|-----|------------------------------------------------------|-----|--|

|     |                                                                                                       |                                                                                                         |  |
|-----|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--|
|     |                                                                                                       | ഇല്ല                                                                                                    |  |
| 3.4 | നിങ്ങൾക്ക് ആസൂത്രിതമായ അവധി ലഭിക്കുമോ?                                                                | അതെ                                                                                                     |  |
| 3.5 | അണുബാധ ഒഴിവാക്കാൻ ഉപയോഗിക്കുന്ന സുരക്ഷാ മുൻകരുതലുകൾ എന്തൊക്കെയാണ്?<br>(ബാധകമായതെല്ലാം തിരഞ്ഞെടുക്കുക) | PPE<br>കൈ ശുചിത്വം<br>ബയോമെഡിക്കൽ മാലിന്യ നിർമാർജ്ജനം<br>സുരക്ഷിതമായ കുത്തിവയ്പ്പുകൾ<br>ശ്വാസന ശുചിത്വം |  |
| 3.6 | നിങ്ങൾക്ക് ലഭ്യമായ മെഡിക്കൽ സൗകര്യങ്ങൾ എന്തൊക്കെയാണ്                                                  | സൗജന്യ കൺസൾട്ടേഷൻ<br>ഇൻഷുറൻസ്<br>മരുന്നുകൾ<br>ഗതാഗതം                                                    |  |
| 3.7 |                                                                                                       | മികച്ചത്<br>നല്ലത്                                                                                      |  |

|     |                                                                                                                               |                         |  |
|-----|-------------------------------------------------------------------------------------------------------------------------------|-------------------------|--|
| 3.8 | സുരക്ഷയും സൗകര്യവും കണക്കിലെടുത്ത് നിങ്ങളുടെ തൊഴിൽ അന്തരീക്ഷത്തെ എങ്ങനെ വിലയിരുത്തും?                                         | ന്യായമായ                |  |
|     |                                                                                                                               | Poor                    |  |
|     | ഫീൽഡിൽ ജോലി ചെയ്യുമ്പോൾ താഴെ പറയുന്ന സൗകര്യങ്ങൾ നിങ്ങൾക്ക് ലഭിക്കാറുണ്ടോ?                                                     | ഭക്ഷണം കഴിക്കുന്ന സ്ഥലം |  |
|     |                                                                                                                               | ശുചിമുറി                |  |
|     |                                                                                                                               | കുടിവെള്ളം              |  |
|     |                                                                                                                               | വിശ്രമമുറി              |  |
| 3.9 | നിങ്ങളുടെ ഫീൽഡ് വർക്കിനിടെ ബയോമെഡിക്കൽ മാലിന്യങ്ങൾ കൈകാര്യം ചെയ്യുന്നതിൽ നിങ്ങൾക്ക് എന്തെങ്കിലും വെല്ലുവിളികൾ നേരിടുന്നുണ്ടോ? | അതെ                     |  |
|     |                                                                                                                               | ഇല്ല                    |  |
| 4.0 | നിങ്ങളുടെ ശമ്പളത്തിന് പുറമേ, നിങ്ങൾക്ക് എന്തെങ്കിലും ജോലി അലവൻസും നൽകിയിട്ടുണ്ടോ?                                             | അതെ                     |  |
|     |                                                                                                                               | ഇല്ല                    |  |
|     |                                                                                                                               |                         |  |

|     |                                                                                               |                |  |
|-----|-----------------------------------------------------------------------------------------------|----------------|--|
| 4.1 | ഉണ്ടെങ്കിൽ, ഏത് തരത്തിലുള്ള അലവൻസാണ് നിങ്ങൾക്ക് ലഭിക്കുന്നത്                                  | യാത്രാ അലവൻസ്  |  |
|     |                                                                                               | ഭക്ഷണ അലവൻസ്   |  |
|     |                                                                                               | ഉപകരണ അലവൻസ്   |  |
|     |                                                                                               | യൂണിഫോം അലവൻസ് |  |
| 4.2 | നിങ്ങൾ അവധി ദിവസങ്ങളിൽ / അധിക സമയങ്ങളിൽ ജോലി ചെയ്യുന്നുണ്ടോ?                                  | അതെ            |  |
|     |                                                                                               | ഇല്ല           |  |
|     |                                                                                               |                |  |
| 4.3 | സഹകരണത്തിന്റെ കാര്യത്തിൽ നിലവിലെ ഭരണകൂടം പാലിയേറ്റീവ് കെയർ സേവനങ്ങളെ എങ്ങനെ പിന്തുണയ്ക്കുന്നു | ഇതിലും നല്ലത്  |  |
|     |                                                                                               | സമാനമായ        |  |
|     |                                                                                               | ഏറ്റവും മോശം   |  |

ANNEXURE: 7

OLDENBERG BURNOUT TOOL- MALAYALAM

**ഓൾഡൻബർഗ് ബേൺൗട്ട് ഇൻവെന്ററി**

പേര്:

തീയതി:

നിർദ്ദേശങ്ങൾ : ചുവടെ തന്നിരിക്കുന്ന പ്രസ്താവനകളോട് നിങ്ങളുടെ യോജിപ്പും / വിയോജിപ്പും ക്രമത്തിനനുസരിച്ച് രേഖപ്പെടുത്തുക.

|   |                                                                                                                       | ശക്തമായി<br>യോജിക്കുന്നു | യോജിക്കുന്നു | വിയോജിക്കുന്നു | ശക്തമായി<br>വിയോജിക്കുന്നു |
|---|-----------------------------------------------------------------------------------------------------------------------|--------------------------|--------------|----------------|----------------------------|
| 1 | ഞാൻ എന്റെ ജോലിയിലെ പുതിയതും ആകർഷകവുമായ വശങ്ങൾ എപ്പോഴും കണ്ടെത്താറുണ്ട് (D)"                                           | 1                        | 2            | 3              | 4                          |
| 2 | ജോലി ചെയ്യാൻ തുടങ്ങുന്നതിന് മുൻപ് തന്നെ തളർന്നുപോയതായി അനുഭവപ്പെടുന്ന ദിവസങ്ങൾ ഉണ്ട് (E.R)                            | 1                        | 2            | 3              | 4                          |
| 3 | ഞാൻ എന്റെ ജോലിയെ കുറിച്ച് നെഗറ്റീവായി വളരെയധികം സംസാരിക്കാറുണ്ട് (D.R)                                                | 1                        | 2            | 3              | 4                          |
| 4 | ജോലി കഴിഞ്ഞ ശേഷം, വിശ്രമിക്കുന്നതിനും മനസ്സുത്തേജിക്കുന്നതിനും മുമ്പത്തെക്കാൾ കൂടുതൽ സമയം എടുക്കേണ്ടി വരാറുണ്ട് (E.R) | 1                        | 2            | 3              | 4                          |
| 5 | എന്റെ ജോലിയിലെ സമ്മർദ്ദം ഞാൻ വളരെ നന്നായി സഹിക്കാറുണ്ട് (E)                                                           | 1                        | 2            | 3              | 4                          |
| 6 | സമീപകാലത്ത്, ഞാൻ ജോലിയെക്കുറിച്ച് അൽപം ചിന്തിക്കുന്നതായി തോന്നുന്നു, ജോലി യാത്രികമായിപ്പോവുന്നതു പോലെ തോന്നുന്നു.     | 1                        | 2            | 3              | 4                          |
| 7 | ഞാൻ എന്റെ ജോലിയെ ഒരു നല്ല വെല്ലുവിളിയായി കാണുന്നു (D)                                                                 | 1                        | 2            | 3              | 4                          |
| 8 | എന്റെ ജോലിക്കിടെ, ഞാൻ പലപ്പോഴും മാനസികമായി ക്ഷീണിതനാകുന്നുവെന്ന് അനുഭവപ്പെടുന്നു (E.R.)                               | 1                        | 2            | 3              | 4                          |

|    |                                                                                           |   |   |   |   |
|----|-------------------------------------------------------------------------------------------|---|---|---|---|
| 9  | മുമ്പോട്ട് പോകുന്നതോടും ജോലിയിൽ നിന്ന് അകന്നു പോകുന്നതായി തോന്നുന്നു.                     | 1 | 2 | 3 | 4 |
| 10 | ജോലി കഴിഞ്ഞ ശേഷം എന്റെ വിനോദ പ്രവർത്തനങ്ങൾക്ക് ആവശ്യമായ ഊർജ്ജം എനിക്ക് അവശേഷിക്കുന്നു (E) | 1 | 2 | 3 | 4 |
| 11 | എന്റെ ജോലിയിലെ ടാസ്കുകൾ ചിലപ്പോഴൊക്കെ വിരസമായതായി തോന്നാറുണ്ട് (D.R)                      | 1 | 2 | 3 | 4 |
| 12 | ജോലിയ്ക്കുശേഷം, സാധാരണയായി ഞാൻ ക്ഷീണിതനും ദുഃഖിതനുമായിത്തീരുന്നു (E.R)                    | 1 | 2 | 3 | 4 |
| 13 | എനിക്ക് ചെയ്യാൻ കഴിയുമെന്ന് ഞാൻ കരുതുന്ന ഏക തൊഴിൽ ഇതാണ് (D)                               | 1 | 2 | 3 | 4 |
| 14 | സാധാരണയായി, എനിക്ക് എന്റെ ജോലിയുടെ അളവ് നന്നായി കൈകാര്യം ചെയ്യാൻ കഴിയും (E)               | 1 | 2 | 3 | 4 |
| 15 | ഞാൻ ജോലിയിൽ കൂടുതൽ വ്യാപൃതനായി എന്ന് തോന്നുന്നു .                                         | 1 | 2 | 3 | 4 |
| 16 | ജോലി ചെയ്യുമ്പോൾ, സാധാരണയായി ഞാൻ ഉത്സാഹഭരിതനായി തോന്നാറുണ്ട്                              | 1 | 2 | 3 | 4 |

## ANNEXURE: 8

### IEC Permission letter

**श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेन्द्रम**  
**तिरुवनन्तपुरम - ६९५०९९, 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

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**Institutional Ethics Committee**  
CDSCO Registration No: ECR/189/Inst/KL/2013/RR-24  
DHR Registration No:EC/NEW/INST/2022/2775

SCT/IEC/2348/DECEMBER/2024 15.01.2025

**Dr. R C Arun Rajan**  
MPH Student, AMCHSS  
SCTIMST, Thiruvananthapuram

Dear Dr. R C Arun Rajan,

The Institutional Ethics Committee held on 30<sup>th</sup> December, 2024, reviewed and discussed your application to conduct the study titled "BURNOUT AMONG PALLIATIVE CARE NURSES IN KERALA: A CROSS SECTIONAL STUDY" (IEC /2348) .

|                              |                                                  |
|------------------------------|--------------------------------------------------|
| Principal Investigator       | Dr. R C Arun Rajan, MPH Student, AMCHSS, SCTIMST |
| Co-Principal Investigator(s) | Dr. Srinivasan K, Professor, AMCHSS, SCTIMST     |
| Duration of the study        | 6 months                                         |

The following members of the Ethics Committee were present at the meeting held on 30<sup>th</sup> December, 2024

| SL. No. | Member Name              | Highest Degree                    | Gender | Scientific /Non Scientific                 | Affiliation with Institution(s) |
|---------|--------------------------|-----------------------------------|--------|--------------------------------------------|---------------------------------|
| 1.      | Dr. Manoj Murhekar       | MD (Preventive & Social Medicine) | Male   | Social Scientist                           | No                              |
| 2.      | Dr. Annapurna.Y          | MD                                | Female | Basic Medical Scientist                    | No                              |
| 3.      | Adv. Priya Kaimal        | LLM, MBL                          | Female | Legal Expert                               | No                              |
| 4.      | Dr. Indu PV              | MBBS, DPM, MPhil, PhD             | Female | Clinician                                  | No                              |
| 5.      | Dr. Rejnish Kumar        | MBBS,MD ,DNB                      | Male   | Clinician                                  | No                              |
| 6.      | Smt. Rekha Radhakrishnan | M.A (Eng.); B.Ed                  | Female | Lay person                                 | No                              |
| 7.      | Dr. Biju Soman           | MBBS,MD, DPH, MSc, DLSHTM         | Male   | Basic Medical Scientist                    | Yes                             |
| 8.      | Dr. Syam K               | MBBS, MD, DM                      | Male   | Clinician                                  | Yes                             |
| 9.      | Dr. Srinivas G           | PhD                               | Male   | Basic Medical Scientist (Member Secretary) | Yes                             |

1

**The following documents were reviewed:**

Original submission

1. IEC Application Form
2. Funding details and Budget
3. Covering letter addressed to the Chairperson, IEC, SCTIMST dated 10.12.2024 forwarded by HOD
4. Questionnaire in English and Malayalam
5. Informed Consent Forms in English and Malayalam
6. Participant Information Sheets in English and Malayalam
7. Checklist Form
8. Proposal
9. Declaration Form
10. CV of PI and Co-PI

Revised submission

1. Covering letter addressed to the Member Secretary, IEC, SCTIMST dated 10.01.2025
2. IEC recommendation letter dated 09.01.2025
3. Proposal
4. Participant Information Sheets in English and Malayalam
5. Informed Consent Forms in English and Malayalam
6. Proforma
7. IEC Application Form
8. Questionnaire in English and Malayalam
9. CV of PI and Co-PI

**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.

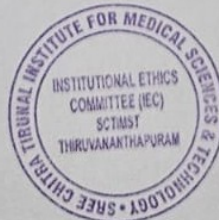
There was no member of the study team / Guide who participated in voting / decision making process. The ethics committee is organized and operated according to the requirements of Good Clinical Practice and the requirements of the Indian Council of Medical Research (ICMR).

Sincerely,



**Dr. G. Srinivas**  
Member Secretary, IEC

**MEMBER SECRETARY**  
INSTITUTIONAL ETHICS COMMITTEE (IEC)  
SCTIMST, THIRUVANANTHAPURAM



**Proceedings of the Additional Director (A&T)**

**Directorate of Health Services, Thiruvananthapuram**

- Sub:- DHS - Permissive Sanction for Study on " Burnout among Palliative Care Nurse in Malappuram and Thrivandrum District' - data collection – Permission granted - orders issued
- Read:-
1. Request from Dr.Arun Rajan R C, Dated 09.10.2024, 21.01.2025
  2. e-Stamp Serial Number : 202125000001771841

**ORDER NO :MC4 /23482/2024 /DHS DATE : 27-02-2025**

Dr.Arun Rajan.R.C has requested for the permission to conduct a study on "Burnout among Palliative Care Nurse in Malappuram and Thrivandrum District"

Hence Permissive Sanction is granted to Dr.Arun Rajan R C, MPH student, Achutha Menon Centre of Health Science Studies, Sree Chitra Thirunal Institute for Medical Science & Technology, TVPM for conducting the study on "Burnout among Palliative Care Nurse in Malappuram and Thrivandrum District"

**Permission is given subjected to the following conditions**

1. The study should be completed within the specified time.
2. It should not affect in any way of the routine function of the department.
- 3.The confidentiality of the patients should be safe guarded
4. Any personal data obtained shall be strictly kept confidential.
- 5.The researcher will be under the strict supervision of the officers concerned.
- 6.The study can be terminated without further notice if necessary.
- 7.The data after the study should be shared to the Director of Health Services,Thiruvananthapuram.
8. Any result/data related to the project will not be published without the permission of the Director of Health Service.

Signed by Jayasree V

Date: 27-02-2025 15:10:08

ADDITIONAL DIRECTOR OF HEALTH SERVICES

**Dr.Jayasree.V**

**Additional Director(A&T)**

To :- Dr Biju Soman,  
Professor & Head,  
Achutha Menon Centre for Health Science Studies

Copy to :- Dr.Arun Rajan R C,  
MPH student, Achutha Menon Centre of Health Science Studies,  
Sree Chitra Thirunal Institute for Medical Science & Technology, TVPM

## DMO approval letter

### മലപ്പുറം ജില്ലാ മെഡിക്കൽ ഓഫീസറുടെ(ആരോഗ്യം) നടപടിക്രമങ്ങൾ

**വിഷയം :** ആരോഗ്യവകുപ്പ് - Master of Public Health വിദ്യാർത്ഥിക്ക് ഗവേഷണ പഠനം നടത്തുന്നതിന് അനുമതി നൽകി ഉത്തരവാകുന്നത്.

**പരാമർശം :** 1. ഡോ. അരുൺ രാജൻ, MPH വിദ്യാർത്ഥി, അച്യുതമേനോൻ

സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ്, ശ്രീ ചിത്തിര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസ് & ടെക്നോളജി തിരുവനന്തപുരം എന്നവരുടെ 20.01.2025 തീയതിയിലെ അപേക്ഷ.

2. എത്തിക്സ് കമ്മിറ്റിയുടെ 15.01.2025 തീയതിയിലെ ക്ലിയറൻസ്.

### ഉത്തരവ് നമ്പർ: DMOH-MLPM/801/2025-B3 തീയതി: 25-01-2025

മേൽ പരാമർശം (1) പ്രകാരം Master of Public Health (MPH) വിദ്യാർത്ഥിയായ ഡോ. അരുൺ രാജൻ എന്നവർക്ക് "Burnout Among Palliative Care Nurses in Malappuram and Trivandrum Districts" എന്ന വിഷയത്തിൽ ഗവേഷണ പഠനം നടത്തുന്നതിന് അനുമതിയായി അപേക്ഷ സമർപ്പിച്ചതിനാൽ താഴെ പറയുന്ന നിബന്ധനകളോടെ അനുമതി നൽകി ഇതിനാൽ ഉത്തരവാകുന്നു.

1. ശേഖരിക്കുന്ന വിവരങ്ങൾ പഠനാവശ്യത്തിനല്ലാതെ മറ്റ് യാതൊരുവിധ ആവശ്യങ്ങൾക്കും കൈമാറുവാനോ ദുരുപയോഗം ചെയ്യുവാനോ പാടുള്ളതല്ല.
2. ശേഖരിക്കുന്ന വിവരങ്ങൾ ആരോഗ്യവകുപ്പ് അധികൃതരുടെ അനുവാദം ഇല്ലാതെ പ്രസിദ്ധീകരിക്കുവാനോ പരസ്യപ്പെടുത്തുവാനോ പാടുള്ളതല്ല.

Signed by  
ഡോ. രേണുക. ആർ  
Dr. Renuka R.  
ജില്ലാ മെഡിക്കൽ ഓഫീസർ (ആരോഗ്യം) മലപ്പുറം  
Date: 25-01-2025 16:24:53

To

Arun Rajan,  
Karakachi vila Veedu  
Rivra -63, Attingal  
Trivandrum, kerala -695101

## Plagiarism Report

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