PREVALENCE OF DEPRESSION AND BURNOUT IN OLD AGE HOME INDIVIDUALS: A CROSS SECTIONAL STUDY

INTRODUCTION

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Aging is a natural process that comes with various physical, social, and psychological changes. Throughout the 20th century, the number of older individuals in both developed and developing countries has significantly risen [(3)].

The global population is undergoing a notable shift towards aging[(1)]. This trend is also apparent in correctional facilities around the world. Human life comprises five distinct stages: infancy, childhood, adolescence, adulthood, and old age, each presenting its own unique challenges[(1)]. Old age, in particular, is a universal experience marked by physical decline, social isolation, and a range of health issues [(2)].

Geriatrics is concerned with the medical care of older adults, whereas gerontology examines the physical and psychological changes that come with aging [(1)]. India is experiencing a demographic shift, marked by a growing elderly population (aged 60 and above) as a result of lower mortality rates, decreased fertility, and increased life expectancy [(1)].

- Aging

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- A gradual diminution in physiological capacity of various systems like musculoskeletal, cardiovascular, neuropsychiatry and immune

↓

- An increase in prevalence of diseases like arthritis, hypertension, stroke, dementia, and infectious diseases

↓

- A reduction in functional capacity

↓

- Obesity, falls, social isolation and depression

↓

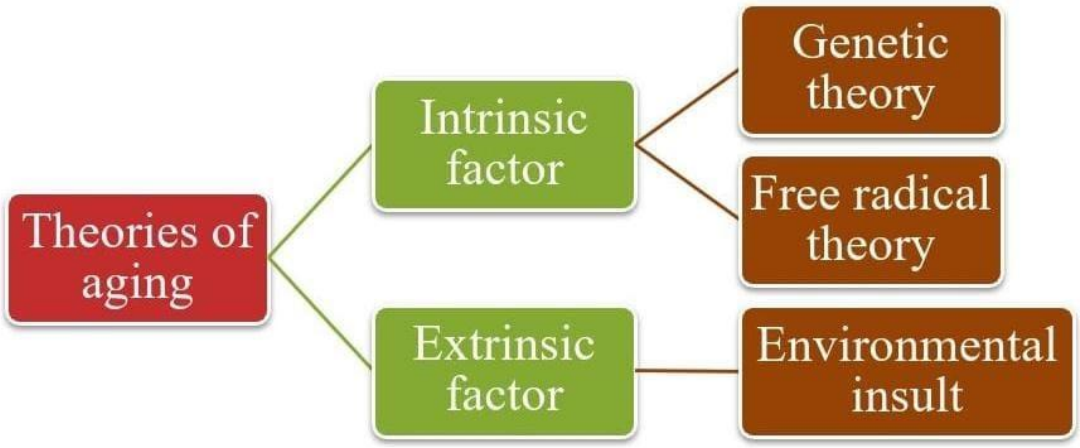
- Chronic disability

↓

- Death

Fig. 1.1: Schematic presentation of relationships between disease, disability and death [(2).]

THEORIES OF AGING [(2)]



DEFINITION OF ELDERLY

By convention, elderly is defined as being 65 years of age or older. [2]

Health issues in the elderly can begin as early as their 40s or 50s. Conversely, we often see individuals who remain healthy and active well into their 70s. These contrasting images of aging highlight the need to define this demographic in terms of health [2].

This group is characterized by the common occurrence of multiple health issues and the unusual ways in which illnesses can manifest, such as confusion, falls, and a decline in mobility and daily functioning as patients grow older [3]. As patients age, the focus of healthcare shifts from primary prevention and curative treatments to secondary prevention and managing chronic diseases [2]. To grasp the complexities faced by aging patients and to assist them in achieving the best possible quality of life, they are categorized into smaller age groups. This classification partly emerged because the goals of patient care evolve as individuals age [2].

CLASSIFICATION OF ELDERLY [2]

- Three groups have been identified:

A. Young-old: This group consists of individuals aged 65 to 75 years. People in this age range often have similarities with middle-aged individuals, usually experiencing little to no disability. Considering their life expectancy is around 15 to 20 years, they are in a relatively stable phase of life.

B. Middle-old: This group consists of individuals aged 75 to 85 years. During this stage of life, chronic health conditions frequently arise, and life expectancy tends to decrease, with fewer additional years anticipated.

C. Old-old: This category consists of individuals who are older than 85 years. Considering their limited life expectancy, which is around 5 to 6 more years,.

The global and Indian demographic trends show that countries are facing a significant increase in their aging populations. This change creates a considerable strain on the working-age demographic. Data from the 2011 census, the sample registration system, and various studies reveal that India has experienced significant demographic shifts.

Proportion of elderly population – 8.2%
Geriatric population growth rate – 1.9%
Old age dependency ratio – 14.2
Physically disabled elderly – 5177 per 1 lakh.

FACTORS RESPONSIBLE FOR DEMOGRAPHIC CHANGES [(2)].

Following factors contributed in the demographic changes occurred in the last century:

* Progress in medical science.

* Adoption of healthier habits.

* Greater access to healthcare services.

* Significant decrease in perinatal and infant mortality rates.

* Continuous drop in the death rate from infectious diseases throughout adulthood.

* Overall improved health prior to age 65.

* Enhanced sanitation and nutrition standards.

* Strengthened economy.

* Increased engagement of individuals in their own health through diet, exercise, and active participation in healthcare.

* Readily available information on health, diseases, and treatments through traditional media and online platforms.

* A strong societal emphasis on maintaining youthfulness.

* A desire to take an active role in healthcare.

* The aspiration to promote health and mitigate the effects of aging.

* Curiosity about innovative approaches to health challenges.

HEALTHY AGING [4].

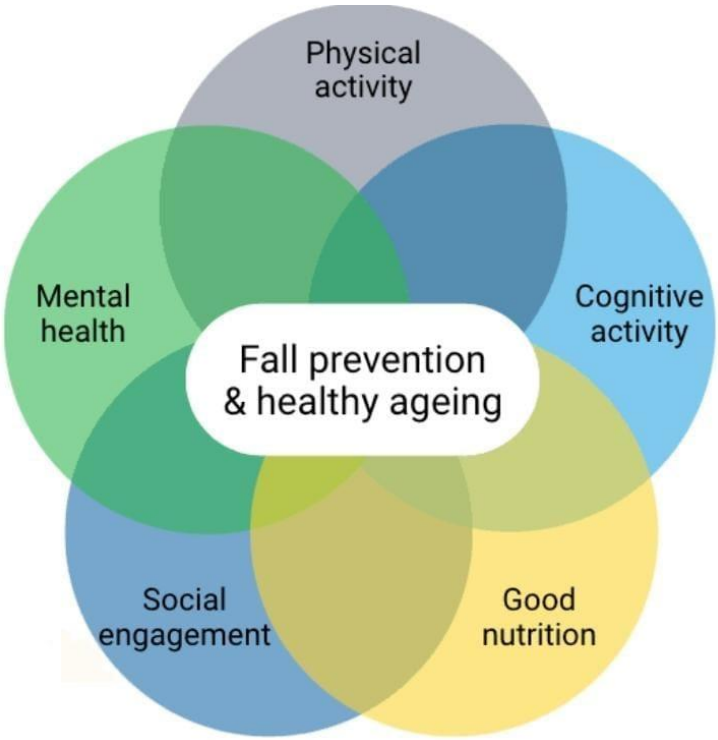


Fig. 1.2: Systemic illustrates key factors for healthy aging.

DEPRESSION:

It is the mood disorder resulting from persistent feelings of sadness, hopelessness, and lack of interest or pleasure in previously enjoyed activities. It affects how a person thinks, feels, and behaves; it can lead to a variety of emotional and physical problems. The functions of daily life such as work, relationships, and other aspects of life experience an interference [5].

Symptoms:

Among the most fought diseases, common symptoms include persistent sadness or low mood, irritability, the loss of interest in activities, fatigue, a change in appetite or

sleep, feelings of worthlessness or guilt and difficulty concentrating leading to thoughts of death or suicide [5].

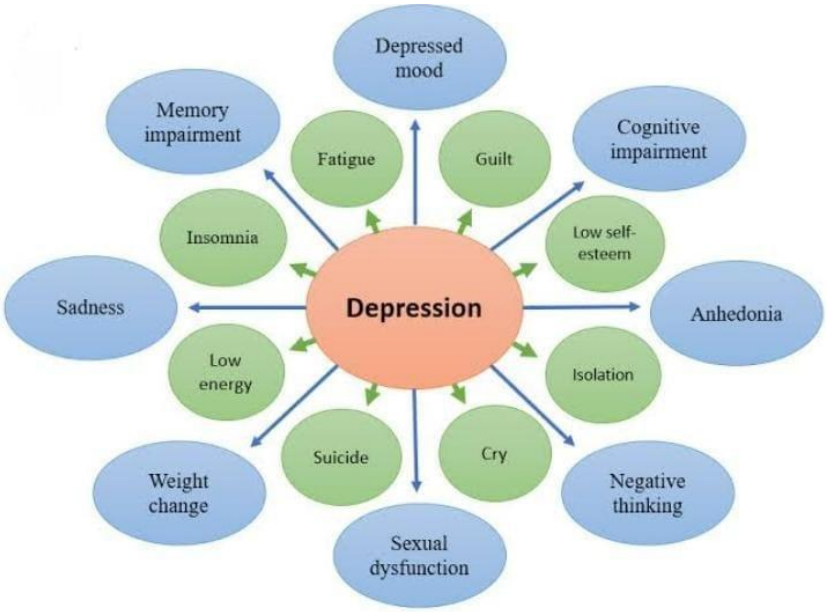


Fig. 1.3: SYMPTOMS OF DEPRESSION

BURNOUT:

Persistent stress, especially in work environments, results in a number of emotional, physical, and psychological exhaustion known as 'burnout.' It primarily manifests as feelings of energy depletion or exhaustion, an increased mental distance from one's job, and a sense of ineffectiveness or lack of accomplishment. Burnout can lead to lower performance and has negative effects on the person's well-being [6].

Symptoms:

The three main symptoms of burnout are emotional exhaustion, depersonalization, and reduced personal accomplishment. This can cause feelings of frustration, cynicism, and lack of motivation, leaving many affected individuals unable to cope with stress [6].

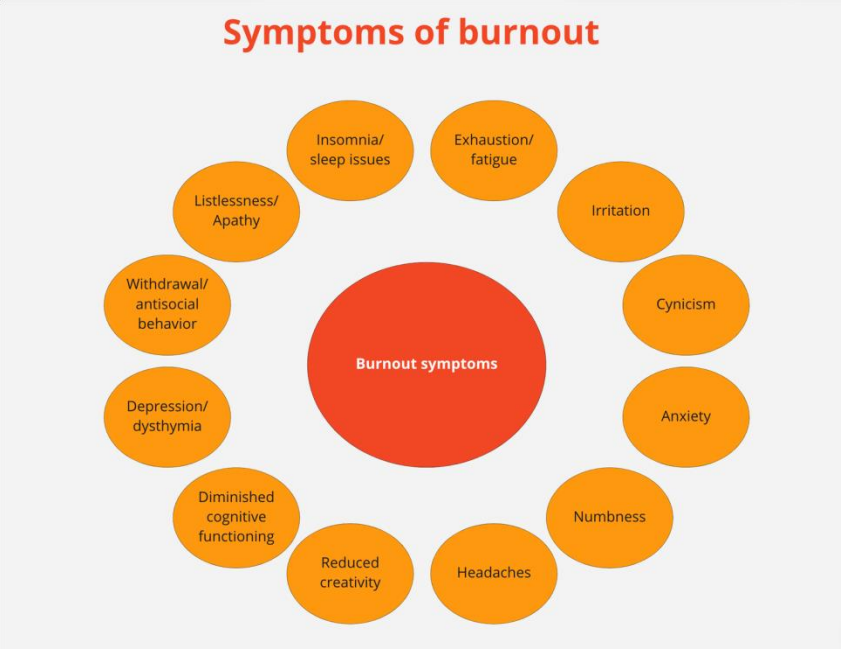


Fig. 1.4: SYMPTOMS OF BURNOUT.

NEED OF STUDY

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There is a need to investigate the prevalence of depression and burnout among individuals residing in old age home, as this vulnerable population may be at increased risk due to factors such as social isolation, loss of loved ones, elder abuse and declining health. This study will help to understand the magnitude of this issue (i.e: depression and burnout) and encourage the health care professionals for development of targeted interventions and improve the mental health and well-being of this population.

AIMS AND OBJECTIVES

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To study the prevalence of depression and burnout among individuals residing in old age home**.**

OBJECTIVES:

1. To evaluate prevalence of depression among old age home individuals using geriatric depression scale.

2. To evaluate prevalence of burnout among old age home individuals using maslach burnout inventory.

HYPOTHESIS

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NULL HYPOTHESIS (H_0): There is a no significant prevalence of depression among individuals residing in old age homes. ($H_0{}^a$)

There is a no significant prevalence of burnout among individuals residing in old age homes. ($H_0{}^b$)

ALTERNATIVE HYPOTHESIS (H_1): There is a significant prevalence of depression among individuals residing in old age homes.($H_1{}^a$)

There is a significant prevalence of burnout among individuals residing in old age homes.($H_1{}^b$)

REVIEW OF ARTICLE

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1. **M. Pilania et al** in 2019 conducted a study on **prevalence of depression among the elderly population in india a systemic review and meta-analysis** . Fifty-one studies from 16 States of India were included as 56 datasets, which estimated the prevalence of depression among Indian elderly population as 34.4% (95% CI: 29.3–39.7). In sub-group analysis, the pooled prevalence was higher among females, rural populations, and in the eastern part of the country. Studies using non-probability sampling, and GDS and CES-D screening tool showed higher prevalence. Exclusion of the studies with sample size less than 100 and low-quality studies (score < 5/8) had no effect on the estimate of the prevalence. The studies that excluded dementia before assessment of depression had lower prevalence. Authors concluded about one third elderly population of India suffered from depression with female preponderance. The estimates varied with type of study tool, geographic region, sampling methods, and presence of dementia. The pooled estimate should be interpreted with caution as the studies included in this review had varied methodological approach and screening tools.

2. **Zhi Xuan Low et al** in 2019 conducted a study **on prevalence of burnout in medical and surgical residents a meta analysis.**the aggregate prevalence of burnout was 51.0% in 22,778 residents. Meta-regression found that the mean age ($\beta = 0.34$, 95% CI: 0.28–0.40, $p < 0.001$) and the proportion of males ($\beta = 0.4$, 95% CI = 0.10–0.69, $p = 0.009$) were significant moderators. Subgroup analysis by specialty showed that radiology (77.16%, 95% CI: 5.99–99.45), neurology (71.93%, 95% CI: 65.78–77.39), and general surgery (58.39%, 95% CI: 45.72–70.04) were the top three specialties with the highest prevalence of burnout. In contrast, psychiatry (42.05%, 95% CI: 33.09– 51.58), oncology (38.36%, 95% CI: 32.69–44.37), and family medicine (35.97%, 95% CI: 13.89–66.18) had the lowest prevalence of burnout. Subgroup analysis also found that the prevalence of burnout in several Asian countries was 57.18% (95% CI: 45.8– 67.85); in several European countries it was 27.72% (95% CI: 17.4–41.11) and in North America it was 51.64%(46.96 – 56.28) Authors concluded our findings suggest a high prevalence of burnout among medical and surgical residents. Older and male residents suffered more than their respective counterparts.

3. **T Woo et al** in 2020 conducted a study **on global prevalence of burnout symptoms among nurses**. amongst healthcare workers, nurses are known to struggle with burnout symptoms the most, carrying serious consequences for patients, other healthcare professionals and healthcare organisations. 113 studies were included for systematic review and 61 studies for the meta- analysis, consisting 45,539 nurses worldwide in 49 countries across multiple specialties. An overall pooled-prevalence of burnout symptoms among global nurses was 11.23%. Significant differences were noted between geographical regions, specialties and type of burnout measurement used. Sub-Saharan African region had the highest burnout symptoms prevalence rate while Europe and Central Asia region had the lowest. Paediatric nurses had the highest burnout symptoms prevalence rates among all specialties while Geriatric care nurses had the lowest. This study is the first study to synthesize published studies and to estimate pooled-prevalence of burnout symptoms among nurses globally. Authors concluded the findings suggest that nurses have high burnout symptoms prevalence warranting attention and implementation. This study serves as an impetus for intervention studies and policy change to improve nurses' work conditions and overall healthcare quality.

4. **Filippo Sanfilippo et al** in 2020 conducted study on for **prevalence of burnout among intensive care physicians .** We found 31 studies describing burnout in intensive care unit staff and including different healthcare profiles. Among these, 5 studies focused on physicians only, and 12 others investigated burnout in mixed intensive care unit personnel but provided separate data on physicians. The prevalence of burnout varied greatly across studies (range 18% - 49%), but several methodological discrepancies, among them cut-off criteria for defining burnout and variability in the Likert scale, precluded a meaningful pooled analysis.authors concluded the prevalence of burnout syndrome among intensive care unit physician is relatively high, but significant methodological heterogeneities warrant caution being used in interpreting our results . The lower reported levels of burnout seem higher than those Found in study investigating mixed intensive care unit personnel. There is an urgent need for consensus recommending a consistent use of the Maslach Burnout Inventory test to screen burnout in order to provide precise figures on burnout in intensive care unit physicians.

5. **D Moreno-Agostino et al** in 2021 conducted a study on **global trends in the**

prevalence and incidence of depression a systematic review and meta-analysis. 19 studies provided information on the change in depression prevalence over time, whereas none provided such information regarding incidence. The pooled odds ratio (OR) and confidence interval (CI) were estimated by using 17 studies: OR=1.35 (95% CI: 1.14, 1.61). Similar pooled effects were obtained for females and males, separately. The high heterogeneity across studies was not explained by any of the design variables considered. No evidence for publication bias was found.there is a predominant increasing trend in the likelihood of experiencing depression over time that seems not to be explainable by study design differences or publication bias alone.

6. **Yosef Zenebe et al** in 2021 Conducted a study on **prevalence and determinants of depression among old age a systematic review and meta analysis .**a search of the electronic and manual system resulted in 1263 articles. Nevertheless, after the huge screening, 42 relevant studies were identified, including, for this meta-analysis, n = 57,486 elderly populations. The average expected prevalence of depression among old age was 31.74% (95% CI 27.90, 35.59). In the sub-group analysis, the pooled prevalence was higher among developing countries; 40.78% than developed countries; 17.05%), studies utilized Geriatrics Depression Scale-30(GDS-30); 40.60% than studies that used GMS; 18.85%, study instrument, and studies having a lower sample size (40.12%) than studies with the higher sample; 20.19%. A high prevalence rate of depression among the old population in the world was unraveled. This study can be considered as an early warning and advised health professionals, health policymakers, and other pertinent stakeholders to take effective control measures and periodic care for the elderly population.

7. **A Oprisan et al** in 2022 conducted a study on **prevalence of burnout syndrome during the covid-19 pandemic and associated factors**. This study demonstrates that burnout syndrome increased significantly in radiologists during the COVID-19 pandemic, affecting nearly half of all those who responded to the survey. These results underline the need to assess support for professional wellbeing of radiologists in Spain. No correlations were identified between burnout and gender, age, number of calls, years in the job, annual income, teaching, marital status, number of children, or type of contract. The prevalence of burnout syndrome increased during the COVID-19 pandemic (49.3% vs. 33.6%, p = 0.002). No risk

factors or protective factors that were valid both before and after the pandemic were identified. No correlations were identified between sociodemographic or work-related characteristics and burnout syndrome

8. **Y Shoman et al** in 2022 conducted a study on point **prevalence of burnout in Switzerland .**We identified 23 studies about workers in Switzerland and estimated the prevalence of clinical or severe burnout at 4%(95% confidence interval [CI] 2–6%). The average prevalence estimates for overall burnout and emotional exhaustion were similar at 18%(95% CI 12–25%) and 18%(95% CI 15–22%), respectively. When stratified by occupation, the clinical or severe burnout rates were higher among the healthcare workers than the general working population. These estimates of prepandemic (baseline) prevalence of occupational burnout are comparable with those available in the other countries where it is recognised and treated as a disease. They may prove useful in planning and assessing the effectiveness of interventions for prevention of occupational burnout and in minimising its negative consequences on individuals and on societies during and after the pandemic.

9. **KV Bykov et** al in 2022 conducted a study on **prevalence of burnout among psychiatrists** : Thirty-six studies involving 5481 participants were included. The prevalence of overall burnout was 25.9% [11.1%–40.7%] as measured by a Maslach Burnout Inventory (MBI) and 50.3% [30.9%–69.8%] as measured by a Copenhagen Burnout Inventory (CBI). The pooled prevalence was 43.5% [27.9%–59%] for high emotional exhaustion (EE), 28.2% [17.5%–38.9%] for high depersonalization (DP), and 32.4% [3.4%–61.3%] for low personal accomplishment (PA). The mean scores of 22-item MBI subscales were 21.51 [18.64%–24.38%] for EE, 6.57 [5.53%–7.62%] for DP, and 31.83 [25.73%–37.94%] for PA. European psychiatrists revealed ($p = 0.045$) lower EE score (20.82; 95% CI 7.24–24.41) measured by 22-item MBI compared to their non-European colleagues (24.99; 95% CI 23.05–26.94). Other results include mean scores for 16 item MBI general survey , burnout rates, and scores in CBI subscale. Burnout is highly prevalent among psychiatrists. Future research should focus on finding consensus on burnout screening, longitudinal evaluation of psychiatrists' burnout predictors, and development of effective intervention strategies.

10. **LN Kong et al** in 2023 conducted a study on **prevalence and associated factors of burnout among nursing students a systematic review and meta-analysis.** total of 21 studies were included, involving 10,861 nursing students. In the random-effects

model, the pooled prevalence of burnout was 23.0 % (95 % CI = 15.6–30.5 %) in nursing students. The pooled prevalence of emotional exhaustion, depersonalization,and reduced personal accomplishment was 47.1 %, 32.2 %, and 43.5 %, respectively. Main associated factors of burnout included demographic (e.g., age and grade), educational (e.g., workload, academic satisfaction, and incivility experience), physical (e.g., sleep quality and physical activity) and psychological (e.g., self-efficacy and personality traits) factors. Burnout is common in nursing students, with demographic, educational, physical, and psychological factors affecting their burnout. Early screening of burnout and interventions to prevent and reduce burnout should be considered for nursing students.

11. **Rk Rokaya et al** in 2023 conducted a study **on prevalence of depression drug use pattern among elderly people in living in old age homes in Kathmandu.**among 150 respondents, 25 [16.67%] respondents were normal. Out of theses 25respondents, 98 [65.33%] and 27 [18%] respondents had mild and severe depression respectively according to GDS**.** Regarding the socio-demographic information of the respondents, 7.33% were of age 60-64yrs, 10.66% were of 65-69 yrs, 31.33% were of 70-79 yrs, and 51.33 were of> 80 yrs. 100 percent of the elderly people were regularly using drugs, and the average patient was regularly using more than 21 drug classes. The most common classes of drugs used by the older people living in Old Age Homes were antihypertensive agents [9.33%], vitamins [8.67%], cardiac drugs [3.33%], cardiovascular dilators [2%], laxatives [6%], and tranquilizers [4%], diuretics [6.67%], and least class of drug us class of drug used was sedatives ie [0.67%], and following drugs classes were hypnotics [6%], antidepressants [2.67%], anti-arrhythmic drugs [3.33%], pulmonary drugs [4.67%], antacids [5.33%] and antisecretary agents [4%].

12. **V. V. Botiakova** in 2023 conducted a study on **prevalence of burnout syndrome in healthcare workers in north and south America, and Asia from 2018 to 2022.**based on the conducted research, the following conclusions can be reached: the research carried out to identify prevalence of burnout syndrome in healthcare workers in North and South America, and Asia from 2018 to 2022 found out the presence of burnout syndrome in healthcare workers ranging from 1,3% to 82,1%. Moreover, prevalence of burnout syndrome in healthcare workers in North and South America varied from 1,3% to 73,5. The study by Botiakova (2023) found that burnout syndrome prevalence among healthcare workers in North and South America and

Asia ranged from 1.3% to 82.1%. North and South America had rates between 1.3% and 73.5%, while Asia had higher variability (5.2% to 82.1%). High-risk groups included intensivists, oncologists, and emergency medicine physicians. The study highlighted the need for further research and interventions to address burnout in healthcare professionals.

13. **Annu Antony et al in 2023 conducted a study on prevalence and its associated factors in rural Odisha.** Among the sample of 520 older adults identified by our study, 497 were found to be eligible for the study. Out of the 497 participants, 21 did not give consent for participation. Thus, the non-response rate was only 3.6% for our research, and coverage of 96.4% (479) was achieved. Gender was almost equally distributed among our participants, with 55.8% (267) women and 44.2% (212) men, and 73% (350) of the participants were in the younger age group (60–74 years old). In comparison**,** only 7% (15) of the participants were in the older age group (> 85 years). Older adults residing in joint or three-generational families constituted 59.5% (285), and older adults living with their spouses constituted 66.2% (194). Most of them were also illiterate (41.9%, 201), unemployed (52.4%, 251), and had lower socioeconomic status (53.2%). It was also observed that 48.5% of our participants had medical among our participants, with 55.8% (267) women and 44.2% (212) men, and 73% (350) of the participants were in the younger age group (60–74 years old). In comparison, only 7% (15) of the participants were in the older age group (> 85 years). Older adults residing in joint or three-generational families constituted 59.5% (285), and older adults living with their spouses constituted 66.2% (194). Most of them were also illiterate (41.9%, 201), unemployed (52.4%, 251), and had lower socioeconomic status (53.2%). It was also observed that 48.5% of our participants had medical **.**

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4. **T Woo et.al (2020) :** This study conducted for global prevalence of burn out symptoms among nurses . recently declared burnout as a "occupational phenomenon" in the International Classification of Diseases 11th revision (ICD-11), recognizing burnout as a serious health issue. Amongst healthcare workers, nurses are known to struggle with burnout symptoms the most, carrying serious consequences for patients, other healthcare professionals and healthcare organisations. Evidence has suggested that burnout symptoms in nurses is high across specialties and countries, but no meta-analysis have been performed to investigate burnout symptoms prevalence in nurses globally. We conducted a systematic review and meta-analysis to examine burnout symptoms prevalence in nurses worldwide using 8 academic research databases. Risk of bias, heterogeneity and subgroup analyses were further conducted in the meta-analysis. 113 studies were included for systematic review and 61 studies for the meta-analysis, consisting 45,539 nurses worldwide in 49 countries across multiple specialties. An overall pooled-prevalence of burnout symptoms among global nurses was 11.23%. Significant differences were noted between geographical regions, specialties and type of burnout measurement used. Sub-Saharan African region had the highest burnout symptoms prevalence rate while Europe and Central Asia region had the lowest. Paediatric nurses had the highest burnout symptoms prevalence rates among all specialties while Geriatric care nurses had the lowest. This study is the first study to synthesize published studies and to estimate pooled-prevalence of burnout symptoms among nurses globally. The findings suggest that nurses have high burnout symptoms prevalence warranting attention and implementation. This study serves as an impetus for intervention studies and policy change to improve nurses' work conditions and overall healthcare quality.

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METHODOLOGY

MATERIALS AND METHEDOLOGY

1. **Study design:** A cross sectional study
2. **Sample size**: n = 120.

   Formula : $n = \backslash frac\{Z^2 \cdot \sigma^2\}\{E^2\}$

3. **Source of data** : the study will be conducted in following places :
   - Sandhya Old age home , Irana
   - Anand Old age home , nanikadi
   - Old age home , Kalyanpura
   - Swarg Old age home
   - Shiv Home Care
   - Krishna Old age home
4. **Study duration** : 6 months
5. **Sampling technique** : consecutive sampling technique

Inclusion and Exclusive Criteria

:

Inclusion criteria:

- Age : adults aged ≥ 65 years
- Subjects diagnosed with hypertension and diabetes mellitus
- Both male and female
- Willingness to participate

Exclusion criteria:

- Subjects with cognitive impairment
- Subjects with cardiopulmonary , Musculoskeletal or neurological disorders: (e.g., parkinson's disease, stroke, multiple sclerosis, head injury) that may affect functional mobility .
- Subjects on anti-depressent / tranquilizer drugs within last one year
- Subjects with visual or hearing problems
- Subject diagnosed with severe psychological disorder within last one year
- Recent injury or surgery : individuals who have undergone recent major surgery or experienced a significant injury that may affect their ability to participate within last one year.
- Subject going on any Psychological counselling session.
- Subjects with history of substance abuse

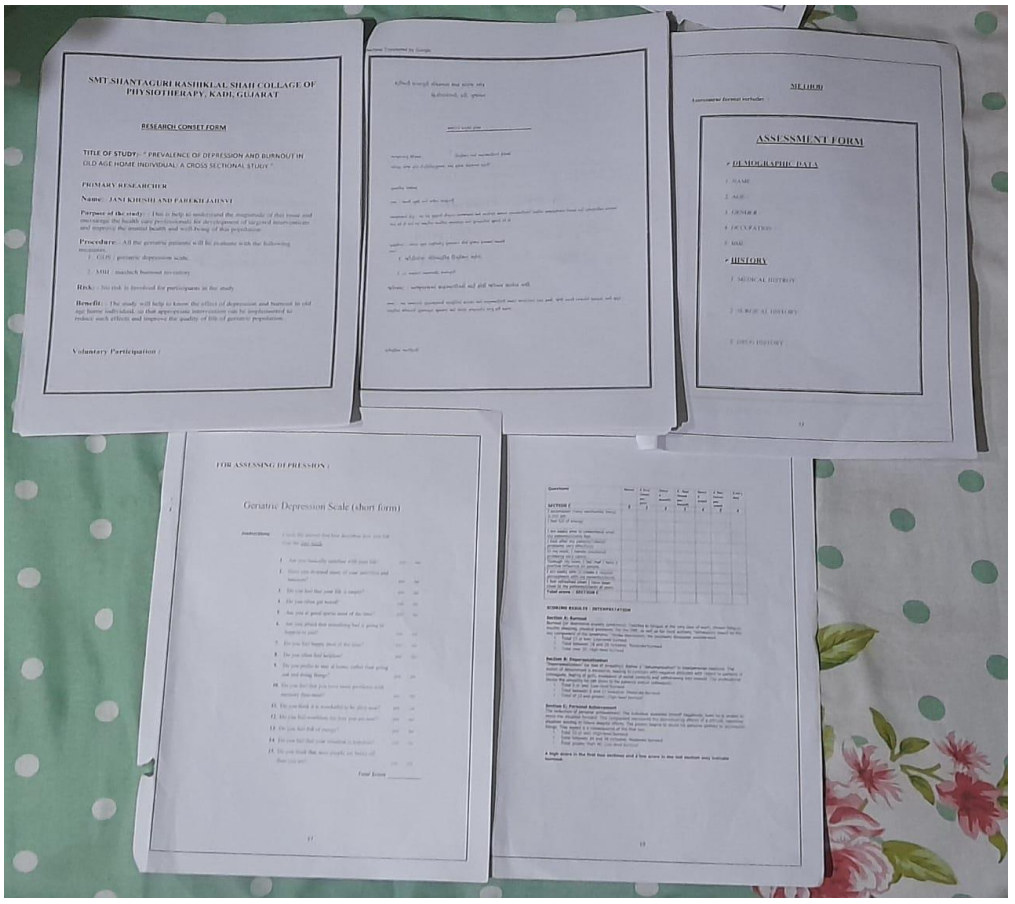
4. Materials and apparatus used in study :

- Pen / Pencil
- Paper
- Writing pad
- Calculator
- Chair
- Table
- Subject information sheet
- Assesment form
- Consent form(Gujarati and English)

- **Scales** :

    - Geriatric Depression Scale (GDS)
    - Maslach Burnout Inventory (MBI)

PHOTOGRAPH NO : 1 TOOLS



PHOTOGRAPH NO : 2 CONSENT FORM AND COLLECTING SHEETS

5. Outcome measure :

- Geriatric Depression scale (GDS) :

  Reliability : 0.80 to 0.90

  Validity : 80% to 90%

- Maslach burnout inventory(MBI):

  Reliability : 0.70 to 0.90

  Validity : 0.70 to 0.90

METHOD

For Assesing Depression :

The geriatric depression scale (GDS) is a screening tool used to identify synptoms of depression in elderly adults the GDS has been tested and used extensively with the older population .

A short form GDS cosisting of 15 questions . questions from the short form GDS which had the highest correlation with depressive symptoms in validation studies where selected for the short version. ask the patients for yes or no of the following questions if you feel from past week ? for example of the 15 items 10 indicated the presence of depression when answered positively while the rest (questions numbers 1 , 5 , 7, 11, 13) indicated depression when answered negatively . scores of 0 to 4 are considered normal depending on age , education and complains 5 to 8 indicated mild depression , 9-11 indicate moderate depression 12-15 indicate severe depression . the short form is more easily used by physically ill and mildly to moderately demented patients who have short attention spans and or feel easily fatigued . it takes about 5 to 7 minutes to complete .

For Assessing Burnout :

The maslanch burn out inventory is a screening tool used to identify symptoms of burn-out in elderly adults. The MBI has been tested and used extensively with the older population

The MBI consist of 22 items divided into 3 sub-scales

1. Emotional Exhaustion (EE): 9 items, assessing feelings of depletion, exhaustion, and fatigue.
2. Depersonalization (DP): 5 items, assessing feelings of detachment, cynicism, and reduced empathy.
3. Personal Accomplishment (PA): 8 items, assessing feelings of competence, effectiveness, and accomplishment.

Scores are calculated for each subscale by summing the ratings for each item. Higher scores indicate higher levels of burnout.

1. Low burnout: Scores below the 25th percentile.
2. Moderate burnout: Scores between the 25th and 75th percentiles.
3. High burnout: Scores above the 75th percentile.