Prevalnce of Burnout Syndrome in Farmers

Dr.Sandesh Londhe [1], Mr.Sushil Chavan [2,] Dr Krishna kumar sing [3], Dr Amar Damle[4]
[1]*Professor Ojas Collage of Physiotherapy Jalna*
[2]*Intern Ojas Collage of Physiotherapy Jalna*
[3]*Principle Ojas Collage of Physiotherapy Jalna*
[4]*Assistant Professor Ojas Collage of Physiotherapy Jalna*

Abstract—**Background- Burnout syndrome is recognized globally as an occupational phenomenon resulting from prolonged exposure to chronic workplace stress, manifesting as a state of physical, emotional, and mental exhaustion. Individuals in physically and emotionally demanding occupations, such as agriculture, are increasingly affected. Farmers face unique occupational stressors, including long working hours, unpredictable weather, fluctuating market prices, and debt, which predispose them to burnout. This study addresses a recognized need for comprehensive research exploring the prevalence and contributing factors of burnout among Indian farmers.**

Methodology: - This Observational study utilized a convenience sampling method on a sample size of 158 farmers. Burnout syndrome was assessed using the Oldenburg Burnout Inventory (OLBI) scale. Data analysis was performed using SPSS Statistics 20.0, which included descriptive statistics and Multiple Linear Regression to investigate the association between socio-demographic variables and burnout levels.

Result: - The study revealed an overall prevalence of 61.18% of farmers exhibited symptoms of burnout (Moderate: 52.4%; High: 6.9%). The mean Total OLBI Score was 45.37 ± 8.06. Multiple Linear Regression analysis showed that Age had a significant positive correlation ($p = 0.034$) with burnout scores, suggesting older farmers experience slightly higher burnout levels. Conversely, working hours showed no significant association ($p = 0.746$) with burnout.

Conclusion: - The study concluded that there is a moderate to high prevalence (61.18%) of burnout syndrome among the farming population. These findings emphasize the urgent need for physiotherapists and other health professionals to incorporate periodic screening, stress management, and mental health support programs. Policy interventions are also necessary to reduce work-related and financial stressors in the agricultural sector.

Index Terms—**Burnout syndrome, farmers, occupational stress, Oldenburg inventory.**

I. INTRODUCTION

Burnout syndrome is a psychological condition resulting from prolonged exposure to occupational stress and has been recognized as a major global health concern since its introduction by Freudenberger in the 1970s [1]. It manifests as a state of physical, emotional, and mental exhaustion caused by chronic work-related stressors. The condition affects individuals across various professions and is increasingly being identified among those engaged in physically and emotionally demanding occupations, including the agricultural sector [2,3]. According to the World Health Organization, burnout is classified as an occupational phenomenon resulting from chronic workplace stress that has not been successfully managed [4] Maslach and Jackson defined burnout as a multidimensional construct comprising three key components—emotional exhaustion, depersonalization, and reduced personal accomplishment [5]. Emotional exhaustion refers to the depletion of emotional and physical energy, depersonalization involves a detached or cynical attitude toward one's work or clients, and reduced personal accomplishment is the tendency to evaluate one's work negatively, leading to feelings of incompetence and inefficacy [6]. In recent years, burnout among farmers has gained increasing attention due to the growing evidence of mental health challenges in agricultural workers [7]. Farmers face unique occupational stressors such as long working hours, unpredictable weather conditions, fluctuating market prices, debt, and limited access to healthcare services [8,9]. Studies have demonstrated that persistent exposure to these factors can result in psychological strain, decreased productivity, and even suicidal tendencies in extreme cases [10]. The rural lifestyle often leads to social isolation, lack of peer support, and reduced opportunities for stress relief, further predisposing farmers to burnout [11]. Burnout among farmers is associated with a range of physiological and psychological symptoms, including fatigue, sleep disturbances, muscle tension, and emotional instability [12]. Chronic stress activates the hypothalamic-pituitary-adrenal (HPA) axis, resulting in hormonal imbalance, reduced immune function, and cardiovascular risk [13]. Over time, this continuous physiological strain contributes to diminished mental health and overall well-being. Research suggests that individuals with burnout exhibit higher levels of anxiety, depression, and psychosomatic symptoms, which in turn affect work performance and quality of life [14]

A study conducted in Canada found that approximately 44% of farmers were categorized as ineffective, overextended, or disengaged, while 12% were identified as having clinical burnout [15]. Similarly, a Swiss study reported that 6.1% of farmers experienced severe burnout symptoms due to the interrelation of family and occupational responsibilities [16]. In Morocco, 18.96% of farmers were found to suffer from burnout, with financial insecurity and lack of leisure time identified as major contributors [17]. Romanian data showed that nearly two-thirds (63.13%) of farmers experienced moderate burnout levels, primarily due to emotional exhaustion [18]. These findings collectively indicate that farming is one of the most psychologically demanding professions globally

In the Indian context, agriculture remains the primary source of livelihood for a majority of the rural population, and farmers face significant economic and environmental challenges [19]. Limited government support, inconsistent rainfall, debt accumulation, and market uncertainty exacerbate occupational stress. These factors contribute to a growing prevalence of mental health issues, including depression and burnout. Despite the high risk, there remains a lack of comprehensive studies exploring burnout among Indian farmers, highlighting the need for further research to assess its prevalence and contributing factors [20]. The Oldenburg Burnout Inventory (OLBI) is a validated tool frequently used to measure burnout across various occupational settings, including the farming profession [21]. It assesses two primary dimensions—exhaustion and disengagement—and provides a reliable measure of work-related stress. Using this scale allows for better identification of at-risk individuals and supports the development of targeted preventive interventions.

Therefore, understanding the prevalence of burnout syndrome among farmers is essential to inform preventive health strategies, guide policy interventions, and enhance occupational well-being. Early recognition and management of burnout can not only improve mental health outcomes but also promote productivity, sustainability, and quality of life among farming communities.

II. METHODS METHODOLOGY

Source of the data: Jalna rural area

Study Design: The study design for this research is Observational Study.

Study Type prevalence study.

Sampling Design Convenient Sampling

Sample Population Farmers

Duration of Study: 6 months

Sample Size: 158

Burnout Level	Range	Frequency	Percentage
Low	44	64	40.5%
Moderate	44–59	83	52.4%
High	>59	11	6.9%
Overall,61.18% of farmers (moderate + high) showed evidence of burnout symptoms.			

III. STATICAL ANYLISIS

Data analysis process involved using SPSS Statistics 20.0 software and consisted of two stages.

Stage 1: Sample Description

Quantitative variables: mean and standard deviation were calculated. Qualitative variables: frequency distributions were calculated- Burnout levels were classified into "high", "moderate", and "low" based on score (thirds)

Stage 2: Multiple Linear Regression- Investigated associations between socio-demographic variables and burnout. Threshold for statistical significance in Age showed a significant positive correlation ($p = 0.034$) with burn out score in working hours ($p=0.746$).

This analysis aimed to describe the sample and identify relationships between socio-demographic factors and burnout levels.

IV. RESULT

The study found that burnout is moderately prevalent among farmers, with 52.4% showing moderate burnout and 6.9% high burnout. Overall, 61.18% exhibited some level of burnout symptoms. (table 1) Component-wise analysis revealed that 51.9% of farmers experienced moderate exhaustion and 41.8% moderate disengagement, indicating emotional fatigue but continued work engagement. (table 2)

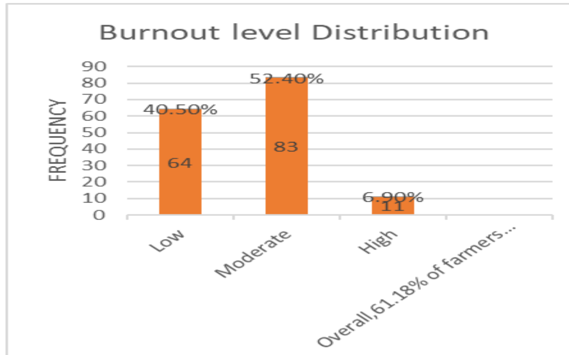
Regression analysis showed that age significantly predicted burnout ($p = 0.034$), while working hours had no significant effect. The average OLBI score (45.37 ± 8.06) placed farmers in the moderate burnout range, highlighting emotional exhaustion as the dominant factor influencing their well-being.

Table no 1

- Burnout level distribution

Table No. 1 presents the distribution of burnout levels among the farmers based on the burnout score ranges. Out of the total participants, 64 farmers (40.5%) were found to have a low level of burnout, indicating relatively better coping ability and lower stress. 83 farmers (52.4%) were in the moderate category, suggesting noticeable signs of emotional exhaustion, depersonalization, and reduced personal accomplishment. Only 11 farmers (6.9%) demonstrated a high level of burnout, Overall, 61.8% of farmers (moderate + high burnout levels) showed evidence of burnout symptoms.

GRAPH NO 1 Burnout level distribution



This bar graph shows the overall distribution of burnout levels (Low, Moderate, High) among farmers. The vertical axis represents the Frequency (the count or number of individuals), while percentages are displayed at the top of each bar. 40.50% farmers are having low level burnout ,83 farmers (52.4%) were in the moderate category and 11 farmers (6.9%) demonstrated a high level of burnout.

Table no – 2 Component-wise Analysis

Component	Level	Frequency	Percentage
Exhaustion	Low (<21)	53	33.5%
Exhaustion	Moderate (21–29)	82	51.9%
Exhaustion	High (>29)	23	14.6%
Disengagement	Low (<24)	91	57.6%
Disengagement	Moderate (24–31)	66	41.8%
Disengagement	High (>31)	1	0.6%

The table breaks down the sample population based on their scores for each component into specific Level categories, showing the raw Frequency (count) and the corresponding Percentage for each level.

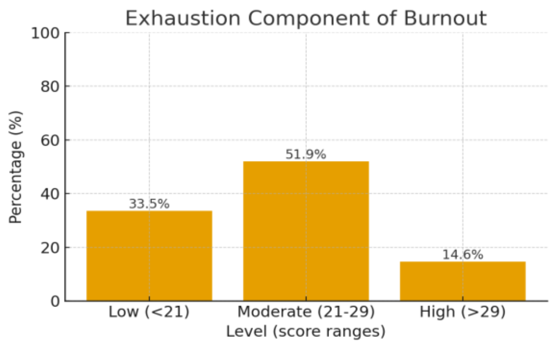
1. Exhaustion Component This component measures the level of reported exhaustion in the sample. The total frequency for this component is 53 + 82 + 23 = 158.Low (<21): 53 participants (33.5%) scored in the low range, Moderate (21-29): 82 participants (51.9%) scored in the moderate range. This is the most frequent level. High (>29): 23 participants (14.6%) scored in the high range.

2. Disengagement Component

This component measures the level of reported disengagement in the sample. The total frequency for this component is 91 + 66 + 1 = 158.Low (<24): 91 participants (57.6%) scored in the low range. This is the most frequent level, Moderate (24-31): 66 participants (41.8%) scored in the moderate range, High (>31): Only 1 participant (0.6%) scored in the high rang

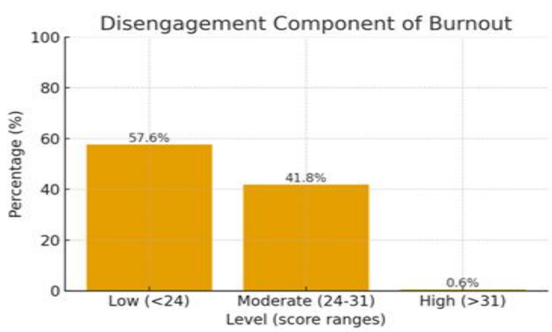
GRAPH NO 1.1

GRAPH NO -2 -Exhaustion component of burnout syndrome.



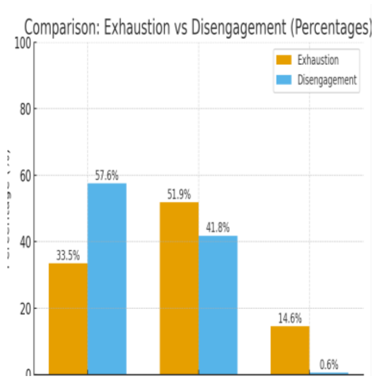
This graph represents the exhaustion levels (Low, Moderate, High) among the farmers. The graph indicates that the majority of the surveyed population experiences a moderate level of the exhaustion component of burnout (51.9%). About a third (33.5%) experience a low level, and a smaller, but significant, portion (14.6%) reports a high level of exhaustion.

GRAPH NO 3 Disengagement component of burnout



This chart displays the disengagement levels (Low, Moderate, High) among farmers. - Low disengagement (57.6%) is the most common, indicating that many farmers remain motivated and connected to their work. - Moderate disengagement (41.8%) is present among a smaller proportion. - High disengagement (0.6%) is rare.

GRAPH NO 4 – Comparison graph: Exhaustion vs Disengagement.



A comparative stacked bar graph showing the relationship between exhaustion and disengagement levels.

Low Burnout: The defining characteristic is significantly higher Disengagement (57.6%) compared to Exhaustion (33.5%).

Moderate Burnout: Exhaustion (51.9%) is the dominant factor, though Disengagement (41.8%) is still substantial.

High Burnout: Both dimensions are low, but Exhaustion (14.6%) is far greater than Disengagement, which is almost non-existent (0.6%)

Table No- 3

- The impact of socio demographic factors on burnout
- Multiple Linear Regression Analysis

Model: OLBI Score = $\beta_0 + \beta_1$(Working Hours) + β_2(Age) + ε				
Variable	Coefficient (β)	Std. Error	t	p-value
Constant	47.45	2.58	18.43	0.000
Working Hours	-0.10	0.32	-0.33	0.746
Age	0.09	0.04	2.14	0.034
Model Summary: R^2 = 0.03, Adjusted R^2 = 0.017, F = 2.368, p = 0.097				

The table no3 present a impact of socio demographic factors on burnout, Table Details Regression Model: OLBI Score = $\beta_0 + \beta_1$(Working Hours) + β_2(Age) + variables Included: Working Hours, Age" presents the results of a Multiple Linear Regression analysis examining how Working Hours and Age predict the OLBI Score (a measure of burnout).

The overall model, summarized by R^2 = 0.03 and p = 0.097, suggests that these two variables together explain only 3% of the variance in burnout scores, and the model is not statistically significant at the conventional \alpha=0.05 level, though it is borderline significant.

Individually, Working Hours has a negative coefficient (\beta = -0.10) but is not a statistically significant predictor (t = -0.33).

Conversely, Age is associated with an increase in the burnout score (\beta = 0.09) and appears to be a statistically significant predictor (t = 2.14), as its t-value exceeds the typical threshold of \pm 1.96.

Table no 4 Descriptive statistics of Demographic and burnout variables

Variable	Mean	SD
Age	43.80	9.96
Working Hours	5.39	1.22
OLBI-D (Disengagement	22.74	4.31
OLBI-E (Exhaustion)	22.63	5.32
Total OLBI Score	45.37	8.06

Gender Distribution: Male = 97 (61.4%), Female = 61 (38.6%)

The table presents the mean and standard deviation (SD) values of the key variables included in the study. The average age of the participants was 43.80 years (SD = 9.96), indicating that most participants were middle-aged adults with a moderate variation in age. The average working hours per day were 5.39 hours (SD = 1.22), suggesting that participants generally worked moderate hours with little variability.

In terms of burnout dimensions, the mean score for Disengagement (OLBI-D) was 22.74 (SD = 4.31), and the mean score for Exhaustion (OLBI-E) was 22.63 (SD = 5.32). The Total OLBI Score, which reflects the overall burnout level, averaged 45.37 (SD = 8.06). These results indicate a moderate level of burnout among the study participants.

Gender Distribution

Out of the total participants, 97 (61.4%) were male and 61 (38.6%) were female, showing that the majority of respondents were male. This gender distribution suggests a higher participation rate of men in the sample population

V. DISCUSSION

The present study aimed to determine the prevalence of burnout syndrome among farmers using the Oldenburg Burnout Inventory (OLBI). The findings revealed that 61.18% of farmers exhibited symptoms of burnout, with 52.4% showing moderate and 6.9% showing high levels of burnout and 40.55% showing low level of burnout syndrome in farmers. These results indicate that more than half of the farming population studied experiences significant occupational stress and emotional fatigue, suggesting that burnout is a growing concern in the agricultural sector. The results are consistent with previous studies that have identified agriculture as a high-stress profession. For instance, Andria Jones-Bitton et al. (2019) reported that 44% of Canadian farmers showed burnout symptoms, while Nabyl Berried et al. (2020) found 18.96% of Moroccan farmers with burnout, largely due to lack of leisure and financial stress. Similarly, Luliana Zaharia et al. (2018) reported a medium level of burnout in 63.13% of Romanian farmers. The slightly higher prevalence in our study could be attributed to socioeconomic challenges, unpredictable climate, and limited access to mental health resources in rural Indian settings. In the present study, age showed a significant positive correlation (p = 0.034) with burnout levels, suggesting that older farmers experience higher burnout compared to younger ones. This could be due to prolonged exposure to occupational stress, physical strain, and the accumulation of financial responsibilities over time. On the other hand, working hours did not show a significant correlation (p = 0.746) with burnout. This indicates that while long working hours contribute to fatigue, other factors such as economic insecurity, market uncertainty, and environmental changes may have a stronger influence on farmers' mental health. The component-wise analysis showed that exhaustion was higher than disengagement, with 14.6% of farmers reporting high exhaustion but only 0.6% showing high disengagement. This finding implies that while farmers remain committed to their work, they often experience severe physical and emotional fatigue. This pattern aligns with the traditional value placed on hard work in agricultural communities, where individuals continue working despite exhaustion and stress. The findings of this study are supported by Branagh R. O'Shaughnessy (2022), who reported that long-term exposure to economic stressors and environmental uncertainty can lead to chronic fatigue and emotional exhaustion among farmers. Similarly, Reissig et al. (2019) found that burnout among Swiss farmers was associated with the interrelation of family and work demands, limited social support, and financial pressure. These factors closely resemble the challenges faced by Indian farmers, including unstable crop yields, market fluctuations, and debt burdens. Furthermore, social isolation and lack of psychological support appear to be major contributors to burnout. Many farmers live in remote areas with limited access to healthcare and mental health professionals. The stigma associated with mental illness also prevents individuals from seeking help. This aligns with Sanne et al. (2004), who reported that farmers face a higher risk of anxiety and depression due to isolation and lack of resources. In our study, qualitative feedback from participants also suggested feelings of hopelessness and emotional fatigue related to continuous financial and environmental hardships.

In overall over all distribution of burnout levels (Low, Moderate, High) among farmers 40.50% farmers are have low level burnout ,83 farmers (52.4%) were in the moderate category and 11 farmers (6.9%) demonstrated a high level of burnout. Graph no 1.1

The component wise graph no shows. in exhaustion graph (graph no 1.2) indicates that the majority of the surveyed population experiences a moderate level of the exhaustion component of burnout (51.9%). About a third (33.5%) experience a low level, and a smaller, but significant, portion (14.6%) reports a high level of exhaustion. Disengagement graph shows (graph no 1.3) – Low disengagement (57.6%) is the most common, indicating that many farmers remain motivated and connected to their work. Moderate disengagement (41.8%) is present among a smaller proportion High disengagement (0.6%) is rare.

Another important consideration is the potential physiological impact of chronic stress on farmers. Continuous exposure to stress activates the hypothalamic-pituitary-adrenal (HPA) axis, leading to hormonal imbalances, cardiovascular strain, and reduced resilience to physical illness. Pauline Cursoux et al. (2020) also highlighted that burnout contributes to cardiovascular risk through sustained sympathetic nervous system activation, which could further deteriorate farmers' overall health.

The low R^2 value (0.03) in the regression analysis indicates that age and working hours explain only a small portion of burnout variance, suggesting that other psychosocial and environmental variables—such as debt, crop loss, or lack of government support—play a more significant role. Hence, future studies should include a broader range of psychosocial factors to better understand predictors of burnout among agricultural workers. Overall, this study highlights the urgent need for mental health interventions, awareness programs, and policy reforms targeted toward farmers. Regular screening for burnout and stress should be incorporated into rural health programs. Physiotherapists, community health workers, and mental health professionals should collaborate to design preventive interventions including stress management workshops, exercise programs, and counseling sessions to improve farmers' psychological well-being. Moreover, government policies should focus on reducing the burden of debt, ensuring fair pricing for agricultural products, and providing social and financial security schemes. Promoting community-based support systems and farmer cooperatives can also reduce isolation and foster a sense of belonging. Addressing burnout is not only vital for farmers' mental health but also essential for sustaining agricultural productivity and rural economic stability.

In conclusion, the current study provides valuable insights into the prevalence and correlates of burnout among farmers in rural India. The moderate to high prevalence underscores the necessity for immediate attention to this occupational health issue. Implementing preventive strategies and providing psychological support could play a crucial role in improving farmers' quality life and productivity

VI. CONCLUSION

The study found a 61.18% prevalence of burnout syndrome among farmers, predominantly of moderate severity. The findings emphasize the need for stress management and mental health support programs, periodic screening, and policy interventions to reduce work-related and financial stressors among agricultural workers.

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