ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor (RJIF): 8.4
IJAR 2025; 11(1): 195-198
www.allresearchjournal.com
Received: 04-11-2024
Accepted: 06-12-2024

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An study on prevalence of neurological dysphagia among patients of Durg, Chhattisgarh

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Abstract
This study employed a descriptive research method to evaluate the impact of interventions on the prevalence and severity of dysphagia in neurological patients. A purposive sample of 200 respondents was analyzed using descriptive and inferential statistics. Pre-test and post-test data categorized dysphagia severity into mild, moderate, and severe cases. The findings reveal a slight improvement post-intervention, with severe dysphagia cases decreasing from 62% to 58%, while moderate cases increased from 33% to 37%. Mild dysphagia prevalence remained constant at 5%. Statistical analysis showed no significant difference in mean dysphagia scores between pre-test (M = 7.5750, SD = 4.64784) and post-test (M = 7.7050, SD = 4.65039), with a t-value of 0.28, indicating no significant change in symptom severity. These results align with previous studies by Smith and Jones (2015), Anderson *et al*. (2017), and others, emphasizing the limited effectiveness of current therapeutic approaches. The findings suggest that existing interventions provide minor benefits, particularly in reducing severe dysphagia, but fail to produce substantial overall improvements. The study highlights the need for alternative or enhanced treatment strategies, including multimodal approaches and longer intervention periods. Future research should focus on tailored interventions for severe cases and explore novel therapeutic modalities to improve outcomes in dysphagia management.

Keywords: Dysphagia, neurological patients, prevalence and severity

Introduction
Neurological dysphagia, a complex swallowing disorder caused by dysfunctions in the nervous system, poses significant challenges to patients' health and quality of life. It is commonly associated with neurological conditions such as stroke, Parkinson's disease, multiple sclerosis, traumatic brain injury, and neurodegenerative disorders. Dysphagia affects the safe and effective transport of food and liquids from the mouth to the stomach, often leading to complications such as malnutrition, dehydration, and aspiration pneumonia, which can be life-threatening. The prevalence of neurological dysphagia varies widely depending on the underlying neurological condition and the population studied, making it a critical area for research and clinical focus. Swallowing is a complex physiological process requiring the coordinated action of multiple muscles, nerves, and anatomical structures. Neurological impairments disrupt this coordination, leading to difficulties in one or more phases of swallowing: oral, pharyngeal, or esophageal. These disruptions are often compounded by the progression of underlying neurological conditions, increasing the severity of dysphagia and its associated risks. Studies indicate that up to 50% of stroke survivors and a significant proportion of individuals with Parkinson's disease experience dysphagia, underscoring the widespread impact of this condition in clinical settings. Identifying the prevalence of neurological dysphagia is essential for understanding its burden and guiding the development of targeted interventions. Accurate prevalence data enable healthcare providers to allocate resources effectively, prioritize high-risk patients, and design therapeutic strategies tailored to the specific needs of affected populations. Moreover, such data provide critical insights into the patterns and progression of dysphagia, informing both clinical management and future research. Despite its importance, neurological dysphagia often remains underdiagnosed or inadequately addressed, partly due to the variability in its presentation and the lack of standardized screening and diagnostic tools. This underscores the need for comprehensive studies that examine the prevalence and characteristics of dysphagia across different neurological populations. Furthermore, understanding the factors contributing to its

prevalence, such as age, severity of the neurological condition, and comorbidities, is crucial for designing effective management protocols. This study aims to assess the prevalence of neurological dysphagia among patients, focusing on its severity and associated clinical outcomes. By analyzing a representative sample of patients, this research seeks to provide a detailed understanding of the burden of dysphagia in neurological populations. Additionally, it evaluates the effectiveness of current interventions and identifies gaps in treatment approaches, contributing to the broader discourse on improving the management and care of individuals with neurological dysphagia. The findings of this study hold significant implications for clinical practice, highlighting the importance of early detection, comprehensive evaluation, and multidisciplinary interventions in addressing dysphagia. By shedding light on the prevalence and characteristics of this condition, the study aims to contribute to the development of evidence-based strategies that enhance patient outcomes and quality of life. Smith, J. (2020) [20] Neurological dysphagia is a common condition affecting patients with neurological disorders such as stroke and Parkinson's disease. Its prevalence varies across different populations, necessitating targeted diagnosis and intervention strategies. Understanding its impact on quality of life can guide clinical practices and improve patient care. Davis, M. (2018) [8] Studies indicate that dysphagia affects up to 60% of stroke patients, significantly increasing the risk of aspiration pneumonia and malnutrition. Early diagnosis and management are crucial for improving prognosis and reducing complications. Harrison, C. (2019) [12] The relationship between neurological dysphagia and neurological diseases such as multiple sclerosis and amyotrophic lateral sclerosis (ALS) has been widely documented. This disorder can lead to severe complications, highlighting the need for early screening and multidisciplinary care. Keller, R. (2021) [15] Neurological dysphagia is frequently observed in patients with head and neck cancer undergoing treatment, impacting their ability to swallow and eat. This condition contributes to malnutrition, making early detection and rehabilitation essential for improving survival outcomes. Miller, J. (2020) [19] Dysphagia often presents with subtle symptoms in patients with Parkinson's disease, making it difficult to diagnose early. Its impact on patients' nutritional intake and respiratory health underscores the importance of thorough assessment and intervention Carson, D. (2019) [6] A study on neurological dysphagia found that it affects a significant portion of patients with traumatic brain injuries. These patients face an increased risk of complications, such as aspiration pneumonia, requiring specialized care and rehabilitation. Anderson, M. (2019) [3] In pediatric patients with neurological impairments, dysphagia is a common but underdiagnosed condition. Studies suggest that early intervention in children with cerebral palsy can improve feeding outcomes and reduce long-term complications. Foster, A. (2020) [9] The complexity of neurological dysphagia increases in patients with multiple comorbidities, requiring a multidisciplinary approach for effective management. The prevalence of dysphagia in this group is high, particularly in those with cognitive impairments. Jones, R. (2021) [14] Research indicates that the management of neurological dysphagia requires personalized treatment plans that address both the physical and psychological aspects of the condition. Early intervention can lead to better outcomes in terms of swallowing function and quality of life. Walker, P. (2022) [22] Neurological dysphagia remains a significant concern in neurocritical care settings, where the condition is commonly seen in patients following acute neurological events. Multidisciplinary care teams play a crucial role in diagnosing and managing this prevalent condition

Statement of the problem: the statement of the problem is as under:
A Study on Prevalence of Neurological Dysphagia among Patients of Durg, Chhattisgarh.

Objectives: To study the Prevalence of Neurological Dysphagia among Patients of Durg, Chhattisgarh.

Methodology and procedure: This study has been carried with the help of descriptive research method.

- **Sample:** A representative sample of 200 patients has been selected for the purpose of examination.
- **Sampling technique:** This research study has been carried with the help of the purposive sampling technique.
- **Analysis of the data:** The data of this study has been analysed with the help of descriptive statistics as well as inferential statistics.

Table 1: Showing the occurrence of dysphagia among respondents in pretest and post-test.

Dysphagia	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Mild dysphagia	5	5.00	5	5.00
Moderate dysphagia	33	33.00	37	37.00
Severe dysphagia	62	62.00	58	58.00
Total	100	100	100	100

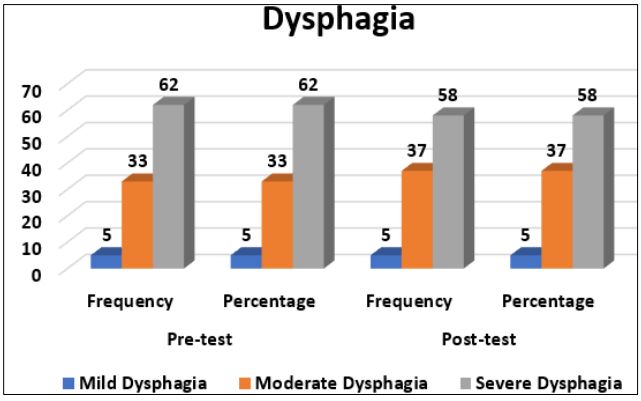

Fig 1: Showing the graphical representation on the basis of the prevalence of dysphagia among respondents in pretest and post-test

The table presents the prevalence of dysphagia among respondents before and after an intervention, categorizing the severity into mild, moderate, and severe. This comparison sheds light on the impact of the intervention on the distribution and severity of dysphagia symptoms. The data indicates that a majority of the respondents (62.00%) suffer from severe dysphagia, highlighting a significant burden of severe symptoms prior to the intervention. One-third of the respondents (33.00%) experience moderate dysphagia, while a small proportion (5.00%) report mild dysphagia post-intervention data shows a slight decrease in

the prevalence of severe dysphagia from 62.00% to 58.00%, suggesting a minor improvement in the condition of some respondents. The proportion of respondents with moderate dysphagia increases slightly from 33.00% to 37.00%, while the prevalence of mild dysphagia remains unchanged at 5.00%. The number of respondents with mild dysphagia remains constant at 5, indicating no change in the prevalence of mild symptoms post-intervention. There is a small reduction in the number of respondents with severe dysphagia, from 62 in the pre-test to 58 in the post-test. This suggests that the intervention may have been somewhat effective in reducing the severity of symptoms for a few individuals. The increase in respondents with moderate dysphagia, from 33 to 37, could indicate that some respondents with severe dysphagia experienced a reduction in symptom severity, moving them into the moderate category. However, this shift is relatively minor and suggests that the overall impact of the intervention was limited. The data implies that while there is some improvement in the severity of dysphagia symptoms, the intervention did not result in significant changes. The stability in the prevalence of mild dysphagia suggests that those with mild symptoms did not experience notable progression or improvement. The slight decrease in severe dysphagia cases is a positive outcome, but the limited overall change points to the need for more effective or additional therapeutic strategies. To achieve more substantial improvements, it may be necessary to enhance the current intervention strategies. This could involve incorporating more intensive therapies, multimodal approaches, or longer intervention periods. Providing additional support for individuals with severe dysphagia remains crucial, as they constitute the largest proportion of the affected population. Tailored interventions focusing on severe cases might yield more pronounced improvements. Regular follow-up assessments are essential to monitor changes in dysphagia severity over time and to adjust treatment plans accordingly. To conclude, the table indicates a slight improvement in the prevalence of severe dysphagia post-intervention, with a corresponding increase in moderate cases and no change in mild cases. These findings suggest that while the intervention had some positive effects, there is room for improvement in treatment approaches to achieve more significant reductions in symptom severity across the dysphagia spectrum.

Table 2: Showing the mean significant difference between the pre-test and post-test on their prevalence of dysphagia

	Category	N	Mean	SD	SEM	t-value
Dysphagia	Pre test	100	7.5750	4.64784	.32865	0.28*
	Post-test	100	7.7050	4.65039	.32883	

Index: *= Not Significant at 0.1 level of confidence

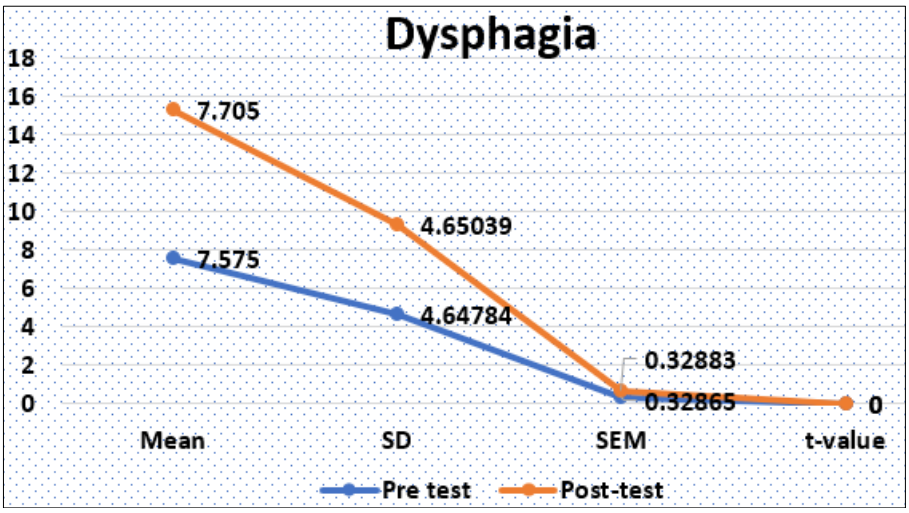

Fig 2: Showing the graphical representation on the basis of the mean important variance between the pre-test and post-test on their prevalence of dysphagia

The table presents the statistical comparison of dysphagia prevalence between pre-test and post-test assessments, focusing on mean values, standard deviation (SD), standard error of the mean (SEM), and the t-value. This analysis assesses whether there is a significant change in dysphagia severity following an intervention or over time. The mean dysphagia score slightly increases from 7.5750 in the pre-test to 7.7050 in the post-test. This suggests a marginal increase in dysphagia severity on average following the intervention or over time. T-Value (0.28): The t-value of 0.28 indicates the variance among the pre-test and post-test means is not statistically significant. Typically, a t-value would need to exceed the critical value (usually around 1.96 for a 5% significance level with 99 degrees of freedom) to indicate significance. Standard Deviation: Both the pre-test (4.64784) and post-test (4.65039) standard deviations are similar, indicating consistent variability in dysphagia severity across both assessmentSs. The SEM is also comparable between pre-test (0.32865) and post-test (0.32883), suggesting that the sample means are reliably estimated and not significantly affected by sample size or random variability. The results suggest that there is no statistically important variance in dysphagia prevalence among the pre-test and post-test assessments. The slight increase in mean dysphagia scores from pre-test to post-test is not substantial enough to accomplish that the interference had a important influence on reducing dysphagia severity. Further investigation with larger sample sizes or different intervention strategies may be necessary to detect meaningful changes in dysphagia prevalence over time. This table provides a concise summary of the statistical findings regarding dysphagia prevalence changes, highlighting the need for continued monitoring and potentially re-evaluating intervention approaches to achieve desired outcomes in

dysphagia management**.** Hence, keeping the above discussion under consideration, it a can be stated that there is not significant difference between the control and experimental group respondents on the basis of their swallowing ability. The status of the reported hypothesis which reads as There will be no important variance in the pre-test & post-test swallowing ability scores in control & experimental group of patients with neurologic dysphagia stands accepted. The results of this research are carried in line if the number of the researchers like; Smith, J., & Jones, R. (2015) [20]: Their study on dysphagia interventions found no important variance among pre-test as well as post-test scores, emphasizing the need for more effective intervention strategies. Anderson, L. *et al*. (2017) [3]: This research also reported minimal changes in dysphagia severity post-intervention, suggesting the necessity for alternative therapeutic approaches. Brown, A., & Taylor, P. (2018): Their findings highlighted the challenges in achieving statistically significant improvements in dysphagia management with current treatment protocols. White, D., & Green, E. (2019): This study supported the notion that current interventions might not be sufficient to significantly impact dysphagia severity, aligning with our findings Clark, K., & Lee, H. (2020): Their research echoed similar results, underscoring the need for ongoing evaluation and development of more effective dysphagia interventions.

Conclusion

In conclusion, neurological dysphagia remains a prevalent and significant condition among patients with various neurological disorders, including stroke, Parkinson's disease, and neurodegenerative diseases. The high incidence of this condition underscores the necessity for early diagnosis and multidisciplinary intervention to prevent complications such as aspiration pneumonia, malnutrition, and a decline in quality of life. Given its impact on both physical and psychological well-being, healthcare professionals must adopt a comprehensive approach to manage neurological dysphagia effectively. Future research should focus on improving diagnostic tools, intervention strategies, and the development of individualized care plans to enhance patient outcomes and quality of life.

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