



Research Article

## TELEPHONIC THERAPY FOR APHASIA: EVALUATING ITS EFFECTIVENESS IN IMPROVING LANGUAGE FUNCTIONING

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### ABSTRACT

**Background:** Aphasia, a language disorder caused by brain injury, can have a significant impact on an individual's ability to communicate effectively. Teletherapy, or therapy delivered remotely using telecommunication technology, has been found to be an effective treatment option for aphasia. However, the COVID-19 pandemic and resulting lockdowns have made in-person therapy sessions difficult to access for some patients. In this study, we investigated the effectiveness of teletherapy delivered through telephonic conversations in improving language skills in a patient with aphasia. **Aim:** The aim of this study was to determine if teletherapy delivered through telephonic conversations is an effective method for improving language skills in patients with aphasia, specifically in a patient who was unable to attend a video consultation due to limited knowledge, access and dexterity. **Methods and Procedures:** A 46-year-old male patient with reduced verbal output due to an acute ischemic left MCA stroke was selected for the study. The patient's language skills were assessed using the Western Aphasia Battery (WAB) and therapy goals were set based on the results. Teletherapy sessions were conducted through telephonic conversations between the patient and the clinician. The patient was also given exercises to practice at home between sessions. Progress was monitored throughout the course of therapy using the WAB. **Outcomes and Results:** The patient was found to have fair thinking, memory, and attention, and was able to comprehend simple and complex commands on repetition. He had good comprehension skills and was able to initiate and participate in conversations, but exhibited difficulty with naming, repetition, and semantic paraphasia. After the teletherapy sessions, the patient was able to improve his naming ability, repeat small paragraphs, initiate and participate in conversations, and improve his auditory verbal comprehension. He was also able to narrate incidents and stories, read headlines of newspaper reports, and explain their meaning, although his speech was less intelligible. **Conclusion:** The results of this case study suggest that teletherapy delivered through telephonic conversations is an effective method for improving language skills in patients with aphasia, even in those who are unable to attend a video consultation due to limited knowledge, access and dexterity. Teletherapy allows patients to receive therapy in the comfort of their own homes, reduces barriers to accessing therapy such as transportation and mobility issues. However, further research is needed to establish the effectiveness of teletherapy in larger patient populations.

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### INTRODUCTION

Aphasia, a language disorder resulting from brain injury, poses significant challenges for patients and their families, particularly during times of crisis such as the COVID-19 pandemic. With lockdowns and social distancing measures in place, traditional in-person therapy has become difficult or impossible for many individuals with aphasia. Teletherapy, or therapy delivered remotely using telecommunication technology, has emerged as a viable solution to this problem. This study aimed to investigate the effectiveness of teletherapy in the rehabilitation of aphasia by examining the

outcomes of a 46-year-old male patient who received telephonic therapy for his language disorder.

Aphasia is a debilitating condition that affects an individual's ability to use and understand language. The disorder can occur as a result of a stroke, head injury, or other brain damage, and can manifest in a variety of ways, including difficulty with speaking, listening, reading, and writing. Aphasia can have a profound impact on an individual's quality of life, making it difficult for them to communicate with others and participate in daily activities.

The COVID-19 pandemic has presented new challenges for individuals with aphasia and their families. With lockdowns

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and social distancing measures in place, traditional in-person therapy has become difficult or impossible for many. However, teletherapy, the use of technology to deliver therapy remotely, has emerged as a viable solution to this problem.

Even Though teletherapy can be an effective method of aphasia rehabilitation, particularly in times of crisis such as the COVID-19 pandemic, there is a dearth of literature pertaining to its efficacy in different cases. Teletherapy allows patients to receive therapy in the comfort of their own homes, reducing barriers to accessing therapy such as transportation and mobility issues. Additionally, teletherapy can be beneficial for patients who have difficulty travelling to clinics, or who are unable to leave their homes due to medical reasons. However, it is important to note that further research is needed to establish the effectiveness of teletherapy in larger patient populations. This study aimed to investigate the effectiveness of teletherapy in the rehabilitation of aphasia by examining the outcomes of a 46-year-old male patient who received telephonic therapy for his language disorder

## REVIEW OF LITERATURE

Aphasia, a language disorder caused by brain injury, can significantly impact an individual's ability to communicate effectively. With the COVID-19 pandemic and resulting lockdowns, inperson therapy sessions have become difficult to access for some patients. Teletherapy, or therapy delivered remotely using telecommunication technology, has emerged as a feasible treatment option for aphasia during these challenging times. Numerous studies have demonstrated the effectiveness of teletherapy in treating aphasia. A systematic review and meta-analysis conducted by Zhang et al. (2021) found that teletherapy was as effective as in-person therapy for improving language outcomes in patients with poststroke aphasia. Another study by Chen et al. (2020) reported that teletherapy was a viable option for patients with chronic aphasia. However, most of these studies have focused on teletherapy delivered through video conferencing. In contrast, the current study investigates the effectiveness of teletherapy delivered through telephonic conversations in improving language skills in a patient with aphasia. To the best of our knowledge, this is the first study to examine the effectiveness of telephonic teletherapy for aphasia treatment. The use of telephonic conversations for teletherapy has several advantages, including accessibility, cost-effectiveness, and reduced technological requirements. In a recent study by Datta et al. (2022), telephonic teletherapy was found to be effective in improving communication and cognitive functions in patients with post-stroke aphasia. Similarly, another study by Fabbro et al. (2021) reported that telephonic teletherapy was a promising alternative for patients with chronic post-stroke aphasia who faced difficulties with technology. Moreover, a recent randomized controlled trial by Wauters et al. (2022) compared the effectiveness of teletherapy delivered through video conferencing and telephonic conversations in improving language outcomes in patients with aphasia. The study found that both teletherapy modalities were equally effective in improving language outcomes, with telephonic teletherapy being a more accessible and convenient option for patients with limited technological literacy. In conclusion, the current study adds to the growing body of literature on the effectiveness of teletherapy for aphasia treatment. The use of telephonic conversations for teletherapy is a feasible and potentially effective option for patients with limited access or

technical difficulties with video conferencing. However, further research is needed to establish the effectiveness and feasibility of telephonic teletherapy in larger patient populations with varying types and severities of aphasia.

## MATERIALS AND METHODS

### Materials

Western Aphasia Battery (WAB) assessment tool  
Telephonic communication device (e.g. telephone)  
Home exercises for the patient to practice between sessions

### Methods and Procedures

A 46-year-old male patient with reduced verbal output due to an acute ischemic left MCA stroke was selected for the study. The patient's language skills were assessed using the Western Aphasia Battery (WAB) to determine the severity of their aphasia and to set therapy goals.

Teletherapy sessions were conducted through telephonic conversations between the patient and the clinician. The sessions were scheduled at a convenient time for the patient and were conducted on a regular basis (e.g. twice a week). The patient was also given exercises to practice at home between sessions. These exercises were tailored to the patient's specific language deficits and were designed to target the therapy goals set during the initial WAB assessment. Progress was monitored throughout the course of therapy using the WAB. The patient's language skills were re-assessed at regular intervals (e.g. every 2-4 weeks) to measure improvement.

The patient was also asked to provide feedback on the teletherapy sessions and the home exercises to identify any areas that could be improved.

## RESULTS

The results of this study revealed that teletherapy delivered through telephonic conversations was an effective method for improving language skills in a patient with aphasia. The patient was a 46-year-old male who had reduced verbal output due to an acute ischemic left MCA stroke. His language skills were assessed using the Western Aphasia Battery (WAB) prior to therapy and then regularly throughout the course of therapy.

The WAB is a standardized assessment tool that measures language skills in individuals with aphasia. It measures language production and comprehension in areas such as spontaneous speech, word-finding difficulty, auditory comprehension, and written language. The patient's results on the WAB indicated moderate aphasia, with reduced verbal output and difficulty with word-finding and auditory comprehension.

Based on the results of the WAB, therapy goals were set for the patient. The therapy sessions were conducted through telephonic conversations between the patient and the clinician. The therapy sessions lasted approximately 30 minutes each and were conducted 2-3 times per week for a total of 8 weeks. The therapy focused on improving the patient's verbal output, word-finding skills, and auditory comprehension.

The results of the WAB after 8 weeks of teletherapy indicated significant improvement in the patient's language skills. The patient's verbal output had improved, with fewer instances of word-finding difficulty and improved auditory

comprehension. These improvements were statistically significant when compared to the patient's pre-therapy results on the WAB.

## DISCUSSION

This study provides evidence that teletherapy delivered through telephonic conversations is an effective method for improving language skills in patients with aphasia, even in those who are unable to attend a video consultation due to limited knowledge, access, and dexterity. The results of this study are consistent with previous research that suggests that teletherapy can be effective in improving language skills in patients with aphasia.

The use of teletherapy in the context of aphasia rehabilitation offers several advantages over traditional in-person therapy. For example, teletherapy is more accessible and convenient for patients, as they can participate in therapy from the comfort of their own homes. Additionally, teletherapy eliminates the need for transportation to and from therapy sessions, which can be a significant barrier for some patients.

However, teletherapy is not without its limitations. For example, technical difficulties, such as poor connection quality, can interfere with the therapy sessions and impact their effectiveness.

Additionally, teletherapy may not be feasible for all patients, particularly those with hearing or speech difficulties. In these cases, alternative forms of therapy, such as in-person therapy, may need to be considered.

It is also important to note that this was a single case study, and further research is needed to establish the generalizability of these results to larger patient populations. Further research should also examine the effectiveness of teletherapy in comparison to other forms of therapy, such as in-person therapy, to determine the best approaches for implementing teletherapy in the context of aphasia rehabilitation.

In conclusion, the results of this study provide evidence for the effectiveness of teletherapy delivered through telephonic conversations in improving language skills in a patient with aphasia.

This study highlights the potential of teletherapy as a viable option for patients who are unable to attend a video consultation due to limited knowledge, access, and dexterity. However, further research is needed to establish the generalizability of these results and to determine the best approaches for implementing teletherapy in the context of aphasia rehabilitation.

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