



A CASE STUDY ON THE FEASIBILITY OF INDIRECT TRANSFERRING OF SOCIAL COMMUNICATION SKILLS VIA TELE-PRACTICE FOR CHILDREN

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The COVID-19 pandemic created a background for the implementation of innovative techniques to deliver services to the community. The healthcare service sector is a field that used tele-practices for uninterrupted service delivery during the pandemic. Moreover, worldwide research has been conducted to evaluate the effectiveness of integrating healthcare services with technology. With this background, the study was conducted to assess the feasibility of indirectly transferring social communication skills to children via tele-practice. The case study was based on a 5 years and 11 months old child, who was diagnosed with Autism Spectrum Disorder. The indirect transferring of skills was targeted through the caregiver of the child. The initial assessment indicated that the child needed improvement in pre-requisite skills which is essential for effective communication. An intensive indirect transfer of skills was targeted for two weeks. After twenty-one hours of practice over two weeks, an improvement in the child's pre-requisite skills was observed. A descriptive analysis using percentages, means, and frequencies were conducted to demonstrate the effectiveness of indirectly transferring skills via tele-practice. A Likert scale ranging from zero (0) to five (5), was used for the evaluations. The evaluation conducted by the Speech and Language Therapy clinician and the caregiver provided evidence supporting the feasibility of indirectly transferring social communication skills to children via tele-practice. The clinician has observed a twenty per cent (20%) improvement in all the targeted pre-requisite skills after the intervention programme. The evaluation given by the caregiver also reported a similar improvement except for non-verbal turn-taking skills, which reported a 40% increase and choice-making skills, which remained at the same mean score of 4. Hence, this study provides evidence in utilising indirect transferring of social communication skills via tele-practice as a feasible method for children.

Keywords: Indirect Transferring, Social Communication, Tele-practice, Children

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INTRODUCTION

The COVID-19 pandemic creates a background for professionals in frequent adaptations for service delivery. Tele-practice has earned significant attention during the pandemic (Benz et al., 2023). Delivering the services remotely via telecommunication tools is known as “tele-practice” (Parenting Research Centre, 2022). Telemedicine, telehealth and telerehabilitation are a few common terms used in literature to represent the usage of “tele-practice” in the healthcare sector (American Speech-Language-Hearing Association, n.d.). Tele-practice became more prominent in the healthcare sector, prompting healthcare professionals to explore and implement various tele-practice modalities. It has proven to be an invaluable modality in providing quality healthcare services, especially in remote or inaccessible areas (Rajhi et al., 2022).

Synchronous, asynchronous and hybrid modes can be observed during the tele-practice. The services that are provided using real-time audio and/ or video connections are known as the synchronous mode of tele-practice. Transferring captured information, images, video, or data happens in the asynchronous mode of tele-practice. The combination of these two modes is known as the hybrid mode of tele-practice (American Speech-Language-Hearing Association, n.d.). According to the need of the clinician, the mode of tele-practice will be varied.

During the pandemic, research on tele-practice was more prominent as the usage of tele-practice increased (Kollia & Tsiamtsiouris, 2021). When the pandemic subsided, it was observed that people were adapting to the conventional mode of practice. Therefore, this study aims to revive interest in tele-practice as a vital service delivery model. Moreover, it emphasizes the necessity of sustaining and advancing tele-practice in the Sri Lankan clinical context. Therefore, the current research was conducted to emphasize the feasibility of utilizing tele-practice for the rehabilitation process of children.

The Support Center for Children and Adolescents at Risk Situations (SCCARS) is a community-based centre which has been established in 2008, at the Open University of Sri Lanka under the administration of the Department of Special Needs Education of the Faculty of Education (SCCARS – OUSL, n.d.). SCCARS provides healthcare and related services for children and adolescents in Sri Lanka and overseas. Therefore, tele-practice has been significant while eliminating restrictions in geographical boundaries and disseminating the services of SCCARS.

This study aims to assess the feasibility of indirectly transferring social communication skills to children via tele-practice. To achieve this general objective, the researchers have utilised the study with the specific objectives: ¹to assess the feasibility of equipping the caregiver with the skills to address the child's targeted prerequisite skills of social communication, ²to evaluate the effectiveness of the caregiver's practice in transferring the pre-requisite skills of social communication to the child and ³to evaluate the improvement in the pre-requisite skills of social communication of the child through indirect transferring of skills via tele-practice.



METHODOLOGY

The study employed a case study design, focusing on the use of tele-practice during the examination of a single participant (Priya, 2020). An overseas child receiving Speech and Language Therapy (SLT) services via tele-practice from SCCARS was selected for the study.

An English-speaking, 5 years and 11-month-old child who was born to Sri Lankan parents was selected for the study. The child was selected for the study, as the child exclusively received services via tele-practice. His birth happened on term, and he was diagnosed with Autism Spectrum Disorder (ASD) – Level II, after two years of birth. In secondary to the communication diagnosis; Speech and Language Delay, his social communication skills were targeted to develop via tele-practice. The indirect transfer of skills was facilitated through the child's caregiver. The caregiver was the father, a 41-year-old software engineer.

The conducted study was based on the development of the pre-requisite skills of social communication through indirect SLT services via tele-practice. The pre-requisite skills were identified after a detailed assessment conducted by the SLT clinician on communication skills. Pre-requisite skills are essential for the development of the social communication skills of a child (Mohan et al., 2021). Therefore, the program aimed to develop skills such as eye contact, joint attention, joint engagement, choice-making, and non-verbal turn-taking. A Likert scale, developed by the SLT clinician and evaluated by a senior SLT clinician with more than 5 years of experience in the field was used for data collection (Muscad, 2023). The Likert scale is ranging from one (1) to five (5). One (1) denoted the absence of the skill and five (5) denoted the level of a typically developing child, while two (02) is for rarely, three (03) is for sometimes and four (04) is for often (Simply Psychology, 2023). Both caregiver and the SLT clinician evaluated the pre-requisite skills through the Likert scale in three stages.

The transferring of skills to the child was done in an indirect mode. The indirect mode of practice is more prominent when the healthcare professionals do not directly engage with the service receivers (St Clair, 2021). Along with a clear discussion and demonstration, the SLT clinician introduced the targeted pre-requisite skills to the caregiver of the child. Therefore, it is essential to confirm that the caregiver of the child has received the skills given through the discussions and the demonstrations. The caregiver sent five (05) captured videos in five different contexts. The contexts of those videos were; play time, meal time, drawing time, physical activity time and homework time. Along with the videos, the SLT clinician and caregiver rated the child with the given Likert scale. The results of both markings were approximately similar, and the caregiver was not subjected to more discussions and demonstrations on pre-requisite skills. The pre-evaluation was done for the above-mentioned confirmation, and this was the first stage which used the Likert scale.

After the pre-evaluations, the two-week intervention programme was started with a parental training programme. The parental training was on the activities to develop the pre-requisite skills of the child via discussions and demonstrations. The second evaluation was done during the practice of the intervention program. A target of two (02) weeks of interventions was given to the caregiver. The caregiver has to cover forty-two (42) sessions during the given period. There were three sessions per day and each session lasted only thirty (30) minutes. Altogether, there were twenty-one (21) hours in the block of practice. The caregiver was given an instruction sheet to follow. According to the instruction sheet, the caregiver has to send a video of practice on the first, seventh and fourteenth day. The SLT clinician's involvement in the three sessions was conducted via the synchronous mode of tele-practice. Moreover, after the first and seventh sessions of the two-week block, two parental training



programs were conducted to address the mistakes of the indirect interventions conducted by the caregiver. The SLT clinician also rated the child’s targeted pre-requisite skills parallel to the caregiver’s rating via the captured videos and this was the second stage of evaluation.

Finally, a post-evaluation of the pre-requisite skills was done across the above-mentioned five contexts and the improvement was compared with the pre-evaluation. This evaluation was the third stage which used the Likert scale.

The quantitative data analysis was done by using the descriptive statistics (Herrera-Leon et al., 2016). Percentages, means and frequencies were used to represent the quantitative data. Moreover, confidentiality was maintained and the rights of the participants were preserved during the study.

RESULTS AND DISCUSSION

The results of this study have been arranged under the specific objectives.

1. To assess the feasibility of equipping the caregiver with the skills to address the child's targeted prerequisite skills of social communication

Table one (01) displays the pre-evaluation scores on pre-requisite skills done by the SLT clinician and the caregiver before the intervention process. The pre-evaluation was done to assess the feasibility of equipping the caregiver with the skills to address the child's targeted prerequisite skills of social communication.

There was no significant discrepancy between the two evaluations, indicating an acceptable level of inter-rater reliability. Similar results were found in the literature. Evidence suggests that tele-practices are useful in providing caregivers with knowledge and counselling on the appropriate management of health problems (Moreno-Chaparro et al., 2022). Therefore, it is feasible to equip caregivers with the necessary skills to address the child's targeted prerequisite skills of social communication.

Table 01 – Pre-evaluations of the SLT clinician and the caregiver on pre-requisite skills before the indirect transferring of skills via tele-practice

Pre-requisite skills	Evaluation by the SLT clinician	Evaluation by the caregiver
Eye contact	2	3
Joint attention	2	3
Joint engagement	3	3
Choice making	3	4
Non-verbal turn-taking skills	2	2



2. To evaluate the effectiveness of the caregiver’s practice in transferring the pre-requisite skills of social communication to the child

During this block of sessions, the caregiver sent videos of the activities expected by the SLT clinician. The videos were on the first day (D1), the seventh day (D7) and the fourteenth day (D14) of practice. The same Likert scale was used to evaluate the five aspects of the child’s pre-requisite skills during these practice sessions. In addition to the evaluation done by the caregiver, the child was evaluated by the SLT clinician based on the videos of D1, D7 and D14. For a day there were three sessions. The mean scores of the Likert scale during the particular three sessions were calculated and it has been presented in Table two (02).

The results indicate an improvement during the indirect therapy sessions from both evaluations given by the SLT clinician and the caregiver in comparison to the pre-evaluation. Literature also provides evidence about the capacity of parents to deliver effective routine interventions to improve the natural speech of children with ASD and speech impairments (Yuan & Dunn, 2024). Therefore, it can be proven effective to transfer pre-requisite skills of social communication by the caregiver.

Table 02 - Evaluations of the SLT clinician and the caregiver on pre-requisite skills during the indirect transferring of skills via tele-practice

Pre-requisite skills	Evaluation by the SLT clinician			Evaluation by the caregiver		
	D1	D7	D14	D1	D7	D14
Eye contact	3	3	4	3	4	4
Joint attention	3	3	3	3	3	4
Joint engagement	3	3	4	4	4	4
Choice making	3	4	4	4	4	4
Non-verbal turn-taking skills	2	3	3	3	3	4

3. To evaluate the improvement in the pre-requisite skills of social communication of the child through indirect transferring of skills via tele-practice

The third objective of the study was to evaluate the improvement of the pre-requisite skills of the child. The caregiver was asked to send five videos of activities of the child without any influence after the fourteenth day. Based on those videos, both the caregiver and the SLT clinician evaluated the child’s skill development on the pre-requisite skills using the same Likert scale a week after the fourteenth day. Meanwhile, the mean score of all five pre-requisite skills was calculated from five videos. The mean scores of the pre and post-evaluations and the percentage of development were provided in Table three (03). It indicates an improvement in the child’s prerequisite social communication skills through the indirect transfer of skills via tele-practice.

Table 03 – Comparison of the pre and post-evaluations of the SLT clinician and the caregiver on pre-requisite skills after the indirect transferring of skills via tele-practice

Pre-requisite skills	Evaluation by the SLT clinician	Evaluation by the caregiver
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	Pre	Post	Improvement %	Pre	Post	Improvement %
Eye contact	2	3	20	3	4	20
Joint attention	2	3	20	3	4	20
Joint engagement	3	4	20	3	4	20
Choice making	3	4	20	4	4	00
Non-verbal turn-taking skills	2	3	20	2	4	40

CONCLUSIONS/ RECOMMENDATIONS

The findings of this study underscore the feasibility of utilizing tele-practice as a feasible mode for delivering SLT clinical services. Pre and post-evaluations of results demonstrate its effectiveness in facilitating pre-requisite skill development through indirect therapies via tele-practice. Moreover, the literature provides evidence to prove that the training methods and strategies incorporated with expertise skills will create a positive environment for indirect therapy sessions (Graves, 2007). It is recommended that tele-practice, coupled with indirect therapies, can increase treatment frequency or intensity with an effective outcome. This study emphasises the feasibility of indirect transferring of social communication skills via tele-practice for children.

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