

Speech Therapy Clinic Workflow at One of the Government Hospitals in Saudi Arabia: Process Analysis and Recommendations

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Abstract—Background: Speech therapy, one of the rehabilitation specialties, is expected to be in severe shortage—as aging, population growth, and medical advances that prolong life have increased the need for rehabilitation services. However, the integration of telehealth technologies into the provision of health services in general and speech therapy services, in particular, offers effective solutions to this challenge. **Objectives:** To analyze the current workflow in the speech therapy clinic at one of the specialist hospitals in Saudi Arabia and figure out the alternative solutions to maximize the treatment benefits. **Methodology:** Data collection was done for one month using qualitative methods, including process observation and informal conversations with three speech pathologists who work in the clinic. **Result:** The speech therapy provided services according to the general practice guidelines; however, these services can be improved by implementing a new therapy approach. **Conclusion:** Although there are many barriers to the use of telehealth in speech pathology, many of its benefits in clinical practice were identified. These benefits can be used to catalyze the expansion of the role of telehealth role speech therapy.

Keywords—speech therapy; counseling; telehealth; application

I. INTRODUCTION

Globally, there has been a very high demand on health-care systems due to several reasons—including increased prevalence of chronic diseases, an aging population, and limited funding as a result of the economic recession [1]. However, technology can be used to improve the effectiveness of the health system and the health-care services provided to patients [1].

Speech therapy is one of the health services that has experienced growing demand recently [2]. The growing need for speech services can be traced to the increased number of children with speech and language disorders [3]. For example, in Saudi Arabia, the prevalence of language delay, one of the communication disorders, is increasing. A study conducted to measure the prevalence of language delay among preschool-aged children in the Eastern Province of Saudi Arabia revealed that the prevalence of language delay within the study participants is 24.5% [4]. Another study carried out in 2017 in the United Arab Emirates reported the prevalence of language disorders among children to be around 46% in 2017 [5]. This

significant increase in the prevalence of language delay points to the need to recruit more speech pathologists. In a study carried out among speech therapists, 81% of them reported that the number of speech pathologists in the clinics is insufficient to cope with the huge demand for speech therapy services [6]. Thus, adopting technology in speech pathology clinics has been proposed as a solution to overcome the challenge created by an increased prevalence of communication disorders and a limited number of pathologists [7].

In addition to the increased demand for speech therapists, children who live in remote areas and are diagnosed with speech and language disorders find it difficult to access speech pathology services [8]. A study has shown that using technology in health service delivery may have a positive impact on the accessibility of health services [9]. Another study carried out to explore the implications of telehealth for autistic children in rural areas of Saudi Arabia indicated that telehealth services can be used to effectively provide health interventions to children living in rural areas [10]. Moreover, telehealth users, including providers and parents, have reported high satisfaction with its use for providing speech therapy services [11]. Consequently, more attention must be paid to these technical solutions.

However, before adopting telehealth as a solution to meet the increasing demand in speech therapy, the effectiveness of telehealth intervention needs to be compared to face-to-face intervention. As far as the authors know, this area has not been well-covered in the literature. Moreover, only a few studies have been conducted to measure the difference in the quality of services provided to the patient by both methods [12]. Thus, more studies need to be conducted to compare the effectiveness of both methods.

This study aimed at improving the clinical practice in speech therapy clinics by analyzing the current workflow and recommend alternative solutions to maximize the treatment benefits.

II. METHODOLOGY

A. Study Setting

Data were collected from the speech therapy clinic in one of the government specialist hospitals in Dammam. The data were collected while assessment and follow up speech therapy sessions were been conducted for the patients. All the patients were referred from pediatric outpatient clinics in the hospital and primary health-care centers in Dammam and Khobar.

B. Participants

Three speech pathologists who have worked in the speech therapy clinic at the government hospital for more than five years were recruited for this study.

C. Data Collection

Data were collected for one month through daily observation and informal conversations with the speech pathologists in the hospital. Their responses were analyzed using content analysis [13].

III. RESULT

As reported by one of the speech pathologists in the hospital, all the speech therapy services are provided in line with the hospital policies and procedures and the general practice guidelines, which can be summarized as described in the following paragraph (see Fig. 1 for more details).

The patient has to be referred by a physician in outpatient clinics or primary health-care centers. All the referrals are received by the receptionist, who books the

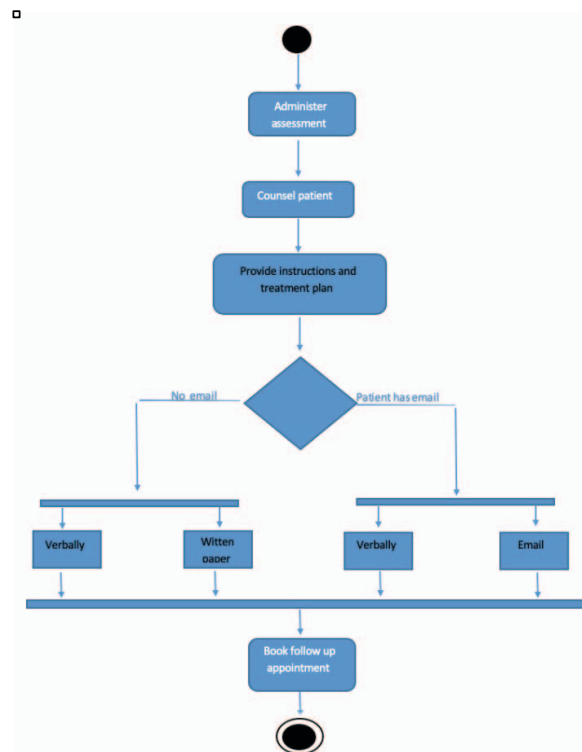


Figure 1. The current treatment plan process in the speech therapy clinic.

assessment appointment according to the available slots in the health information system. During the appointment, the assessment process is administered by obtaining the case history from the patient/caregiver and assessing the patients to determine the diagnosis. Based on the assessment findings, the speech pathologist provides the consultation to the patient and the caregiver—including the treatment plan, the speech session goals, instructions, and the exercise for the next sessions. The consultation is usually done orally and in writing and, rarely, via email if the patient has an email account. The consultation process is repeated at the end of each speech therapy session.

IV. DISCUSSION AND CONCLUSION

Based on the current process, several issues can arise, particularly while providing consultations. For example, oral consultations might lead to a misunderstanding of the treatment goals and the recommended exercises. Although writing down during consultations is more efficient, all the information can be lost if the caregiver loses the consultation paper. Thus, it is recommended to utilize technical solutions in providing consultations to patients who visit the speech clinics.

One of the suggested solutions is designing an individual treatment plan application. The application works as a focal point between the speech pathologist and the patients. After the assessment process, the speech pathologist will verbally explain the treatment plan to the patient and/or caregiver. The treatment plan should include the following: the diagnosis, long- and short-term goals, number of sessions expected to reach the long-term goal, and exercise to be done at home to maximize the treatment outcomes. The speech pathologist will upload the detailed treatment plan to the application, including the information that was explained to the patient verbally. In addition, more specific information will be uploaded—for example, the short-term goal to be achieved by the end of each speech therapy session and all the exercises that must be practiced at home, which will be illustrated by pictograms and videos. Then the patient will be instructed to download the application by using his or her name and medical record number. All the content will be editable by speech pathologists according to the patient's needs, progress, or regression.

This application can positively impact the efficiency of health-care delivery as well as improve the outcomes of the treatment process in several aspects. Continuity of care is one of the most important benefits of this application and it is more valuable for patients that reside in remote areas, as they face difficulties in attending clinic sessions consistently or cannot even attend at all (they only come for assessment because of a lack of services in their place of residence) [14]. Using this application will increase patients' perception of the treatment process, goals, and results. In this way, the patient will be involved in any change or delay in the treatment process. This is consistent with the results of a study that demonstrated that using telehealth to provide speech therapy sessions increases patients' responsibility to the treatment process [15]. Using telehealth in intervention by speech pathologists has also

been found to be highly related to increased satisfaction levels among speech pathologists and parents [11]. Increased satisfaction has also been found to contribute to an increase in patients' commitment to attend clinic sessions, follow the clinician's instructions, and be faithful to their training at home. These factors have a direct and positive impact on the effectiveness of the treatment process [15].

Generally, providing telehealth speech therapy sessions is an effective method for delivering speech services [11]. In addition, utilizing telehealth in speech clinics has contributed to improving several aspects of clinical practice. These include service accessibility, time efficiency, cost efficiency, client focus, and caseload management [15]. These improvements are in the interest of patients and clinicians [15].

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REFERENCES

- [1] M. Ruiz Morilla, M. Sans, A. Casasa and N. Giménez, "Implementing technology in healthcare: insights from physicians", *BMC Medical Informatics and Decision Making*, vol. 17, no. 1, 2017. Available: 10.1186/s12911-017-0489-2.
- [2] S.Reilly,M.Harper and S.Goldfeld,"The demand for speech pathology services for children: Do we need more or just different?," *Journal of Paediatrics and ChildHealth*,vol. 52,no.12, pp. 1057-1061, 2016. Available: 10.1111/jpc.13318.
- [3] E. Syamala Buragadda, "Rehabilitation Services in Saudi Arabia: An Overview of its Current Structure and Future Challenges", *Journal of General Practice*, vol. 02, no. 06, 2014. Available: 10.4172/2329-9126.1000184.
- [4] K. Al-Fadhli and N. Al-Bunaian, "Prevalence and social influences of delayed language development in preschool-age Saudi children", *International Journal of Science and Research*, vol. 6, no. 8, pp. 1712–1720, 2017. [Accessed 24 August 2020].
- [5] L. A Almekaini, T. Zoubeidi, Y. Albustanji, H. Narchi, O. Al Jabri and A. Souid, "Screening for speech-language development in Emirati toddlers.", *Journal of Psychology and Cognition*, vol. 02, no. 01, 2017. Available: 10.35841/psychology-cognition.2.1.26-31.
- [6] A. Alanazi, "Audiology and speech-language pathology practice in Saudi Arabia", *International Journal of Health Sciences*, vol. 11, no. 1, 2017. Available: <https://ijhs.org.sa/index.php/journal/article/view/2055>. [Accessed 24 August 2020].
- [7] L. AlAbdulkarim, "The role of speech-language pathologists and audiologists in the schools in Saudi Arabia", *International Journal of Health and Economic Development*, vol. 1, no. 2, p. 62, 2015. [Accessed 26 August 2020].
- [8] M. Edwards, A. Stredler-Brown and K. Houston, "Expanding Use of Telepractice in Speech-Language Pathology and Audiology", *The Volta Review*,vol.112,no.3,pp.227-242,2012.Available: 10.17955/tvr.112.3.m.704.
- [9] S. Alkhalifah and H. Aldhalaan, "Telehealth Services for Children With Autism Spectrum Disorders in Rural Areas of the Kingdom of Saudi Arabia: Overview and Recommendations", *JMIR Pediatrics and Parenting*, vol. 1, no. 2, p. e11402, 2018. Available: 10.2196/11402.
- [10] P. Mashima and C. Doarn, "Overview of Telehealth Activities in Speech-Language Pathology", *Telemedicine and e-Health*, vol. 14,no. 10, pp. 1101-1117, 2008. Available: 10.1089/tmj.2008.0080.
- [11] S. Grogan-Johnson, R. Alvares, L. Rowan and N. Creaghead, "A pilot study comparing the effectiveness of speech language therapy provided by telemedicine with conventional on-site therapy", *Journal of Telemedicine and Telecare*, vol. 16, no. 3, pp. 134-139, 2010. Available: 10.1258/jtt.2009.090608.
- [12] G. Kelso, B. Fiechtl, S. Olsen and S. Rule, "The Feasibility of Virtual Home Visits to Provide Early Intervention", *Infants & Young Children*, vol. 22, no. 4, pp. 332-340, 2009. Available: 10.1097/iy.0b013e3181b9873c.
- [13] D. Ortiz, "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches [Book Review]", *Qualitative Research Journal*,vol.6,no.2,pp.[205]-207,2007.Available: 10.3316/qj0602205.
- [14] D. Wales, L. Skinner and M. Hayman, "The Efficacy of Telehealth-Delivered Speech and Language Intervention for Primary School-Age Children: A Systematic Review", *Asha.org*, 2020.[Online].Available: <https://www.asha.org/articlesummary.aspx?id=8589979028>. [Accessed: 24- Aug- 2020].
- [15] A. J Hill and L. E. Miller, "A survey of the clinical use of telehealth in speech-language pathology across Australia.", *Journal of Clinical Practice in Speech-Language Pathology*, vol. 14, no. 3, pp. 110-117, 2012. [Accessed 24 August 2020].