



Readiness among medical interns for inter-professional collaboration with speech language pathologists

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Abstract

Introduction: Speech-Language Pathologists (SLPs) work in a multidisciplinary environment that frequently necessitates inter-professional collaboration. Speech Language Pathologists frequently collaborate with physicians, nurses, physical therapists, occupational therapists, dieticians, and teachers, to provide the highest quality of treatment to patients. The purpose of this study was to determine the level of awareness, perception, and knowledge of the field of speech-language pathology and its services among aspiring medical practitioners.

Method: A total of 140 participants were chosen at random. The study included all willing compulsory rotatory residential internship (CRRJ)/Medical interns. Only 70 medical interns participated and completed the interview-based questionnaire which was prepared in Google forms and circulated through official email. The response thus obtained, was taken up for further analysis.

Results: The study found that 95.8% of the 70 participants were aware of SLPs. Management of stuttering, voice disorders, pronunciation errors, hearing impairment, autism spectrum disorder, and cleft lip and palate (66.7 %, 66.2 %, 58.5 %, 56.9 %, 55.4 %, and 52.3 %, respectively) was more popular than laryngectomy and swallowing disorders (29.2 percent and 20 percent, respectively).

Discussion: A significant proportion of medical interns strongly believed that patients should be referred to SLPs for a variety of communication disorders, including difficulty speaking (86.4 %), deaf-mute (69.7 %), voice disorders (63.6 %), developmental disorder (51.5 %), and cleft lip and palate (50 %). Nearly half of the medical interns (CRRJ) are aware of SLPs and their services and was a firm believer in the need of speech-language pathology services in all hospitals.

Keywords: awareness, speech-language pathology, speech therapist, medical interns/students

Introduction

Speech-language pathologists (SLP's) work in a multidisciplinary setup that regularly requires inter-professional collaboration. Working along with physicians, nurses, teachers, physical therapists, occupational therapists, and dieticians is typical practice for speech pathologists and supports delivering the utmost quality of care for patients [1]. Therefore, medical practitioners must have sufficient knowledge of SLPs and an understanding of their role in order to support appropriate recommendations and effectively contribute to meeting the patient's demands [2]. In the hospital context, SLPs play a significant role in the diagnosis and treatment of speech-language disorders, and/or swallowing issues, hearing and/or balance related disorders, cognitive-communication impairments and they work as part of multidisciplinary or inter-professional treatment teams. They also provide counselling to patients and their families, as well as training to other healthcare professionals in cognitive-communication, language, and swallowing disorders [3]. In Maternity/Paediatric wards, SLPs are increasingly involved in new-born hearing screening, feeding assistance, early speech stimulation, and counselling the mothers or care givers. They are actively involved in bedside evaluation and in providing speech and language therapy for speech and swallowing difficulties for patients with aphasia, dysarthria, Traumatic Brain Injury, Right Hemisphere Damage, and other neurological conditions, as well as in the department of ENT, Pediatrics, psychology, Plastic Surgery, Physical Medicine & Rehabilitation and cleft palate team. Family physicians, pediatricians and primary health care providers play a fundamental role in early identification and intervention for speech, language and literacy delays. Hence, the physician must be aware about the profession of SLP, who rehabilitate persons with various communication disorders for appropriate and timely referral for early intervention. Most recently, in a pilot survey conducted on medical Practitioner's awareness on Speech-Language Pathologists and their services in India, the results exposed that nearly half of the practitioners are uninformed of the speech-language pathologists and their associated services. Speech disorders such as stuttering and voice concerns were the most common disorders known to practitioners. Furthermore, language disorders were the minimum known. All the practitioners also approved that there should be a sequence of orations for

medical students on communication sciences and disorders ^[4]. In another survey ^[5] conducted on students studying in other healthcare programs, the results showed more comprehensive data on how a speech-language pathologist gets involved therapeutically with speech, language, and voice aspects but participants are unaware about how speech-language pathologists working on cognitive and social skills in stroke and Traumatic-Brain Injury clients. Additionally, current research in medical students' awareness of speech-language pathologists and their role is lacking. Medical students and other health-care personnel are frequently unprepared to address the communication needs of people with communication problems during medical contacts. ^[6]The purpose of this present study is to investigate the level of awareness, perception and knowledge about the profession of speech-language pathology and their services in hospital set up among the medical interns in India.

The Objectives of the Study Are

1. To measure the awareness of the profession of Speech language pathology among medical intern students.
2. To evaluate the medical intern's understanding of the role of Speech language pathologist and to explore the depth of knowledge present about the profession.
3. To determine the Importance of interdisciplinary network in delivering the appropriate treatment to the patients

Material and Methods

Participants: A total of 140 Compulsory Rotatory Residential Interns (CRRRI) from a medical college-affiliated hospital who were performing final year internships, took part in the survey. The majority of them work in Outpatient Department, Intensive care unit and in-patient wards, where they assess and diagnose patients with various diseases and monitor them. Postgraduates and medical students of other years are among those who were excluded from the study.

Survey Development

The survey questionnaire was adapted from Agni and Batin's ^[7] original version, which was later amended by Lokheshwar and Rajasudhakar ^[4], and was used with further modifications for the target subjects in the study. There are three sections to the questionnaire. The participant's demographic information is covered in the first section, which includes their name, e-mail address, age, and gender. The second section addresses a few questions about the participant's awareness of SLP and the course-related information. If the participant is aware, the questions on SLPs and their services were arranged in the third section; and if the participant is unaware about the profession of speech-language pathology, the form skips the third section and will be submitted. The questionnaire started with closed-ended questions like Yes/No, multiple-choice, and open-ended questions and took about 5-7 minutes to complete on an average. Following this, three Speech-Language Pathologists with over ten years of experience performed internal validation (face validity and content validity) of the questionnaire. Accordingly, the expert's suggestions and opinions were taken into consideration. The questions were fine-tuned to guarantee clarity, accuracy, and the absence of ambiguity. To analyze the responses and get feedback for further modifications, a pilot test was conducted on a small group of five medical interns. The survey questionnaire required significant revisions. Questions that were ambiguous were changed to make them clearer and easier to understand. The open-ended questions were excluded as participants seemed to limit themselves to the options provided on the closed-ended forms with apparent ease. Finally, the amended questionnaire was evaluated with five more medical interns in a direct pilot study. The individuals' responses improved, and no more modifications were recommended.

Procedure

The first author emailed the validated questionnaire to 140 medical interns via their official email IDs collected from medical college databases after receiving Institutional Review Board (IRB) approval (SMC/IEC/2021/05/005). All the participants got three emails over the course of three weeks. The first email contained an enrolment statement and explanation of the survey; the second email contained a link to the survey which need to be filled and submitted, and the third email contained a reminder to complete the survey if the participant had not done so already. Only 70 medical interns between the ages of 22 and 23 years responded to the email (37 males and 33 females).

Analysis

The responses in the Google forms were organized in spreadsheet format and subjected to analysis, both individually and pooled. According to the statistician who was contacted, descriptive statistics were used because no other statistical test can be used for the provided data until it is compressed to the needed form, which is not appropriate for the current study.

Results

The results are represented as frequency and percentage in Tables 1 and 2. Table 1 has the demographic details of the participants, and Table 2 reveals the responses of the participants who are aware of the profession of Speech-Language Pathology/speech therapy. Table 2 is attached as Electronic Supplementary Material.

Table 1: Demographic details of the participants.

Section I	Demographic Details	Frequency distribution (out of 70 subjects)
Age	22	30 (42.3%)
	23	28 (39.4%)
Gender	Female	37 (53.5%)
	Male	33 (46.5%)

Table 2: Frequency distribution of items examined in the questionnaire (Out of 70 subjects) Positive response

Section II: Awareness of SLP Profession			
1) Awareness about with respect to term	SLP	a. Speech therapist	68 (95.8%)
		b. Speech Language Pathologist	3 (4.2%)
		c. SLP and Speech therapist terms are different- Yes	38(53.5%)
2) Source of information about SLP profession		a. During clinical posting	13 (18.3%)
		b. Combined	10 (14.1%)
		c. During Class/mass media	8 (11.3%)
3) Awareness about profession of SLP		a. Course duration	17 (23.9%)
		b. Master's program	28 (39.4%)
		c. PhD program	22 (31%)
		d. Scope	16 (22.5%)
		e. RCI approved and recognized course	35 (49.3%)
		f. University/college	14 (19.7%)
		g. Speech therapy centres	18 (25.4%)
		h. Charges for speech therapy	4 (5.6%)
4) Specialization		a. AAC	
		b. Voice disorder	12 (16.9%)
		c. Fluency disorder	20 (28.2%)
		d. Child language disorder	16 (22.5%)
		e. Adult language disorder	17 (23.9%)
		f. Maxillofacial anomalies	12 (16.9%)
		g. Phonological disorder/articulation disorder	6 (8.5%) 10 (14.1%)
		h. Motor speech disorder/swallowing disorder	13 (18.3%)
Section Services	III: SLP		
1) Jobs		a. Manages voice disorder	43 (66.2%)
		b. Prescribe prosthesis	15 (23.1%)
		c. Manage stuttering/stammering	44 (66.7%)
		d. Manage swallowing disorder	13 (20%)
		e. Manage children with pronunciation errors	38 (58.5%)
		f. Manage resonance problem in cleft lip and palate	34 (52.3%)
		g. Rehabilitation of children with children with Hearing loss	37 (56.9%)
		h. Rehabilitation of children with intellectual disability	29 (44.6%)
		i. Rehabilitate children with cerebral palsy	29 (44.6%)
		j. Rehabilitate children with autism	36 (55.4%)
		k. Manage laryngectomee patients	19 (29.2%)
		l. Manage patients at ICU and NICU	7 (10.8%)
		m. Rehabilitation of patient with aphasia	29 (44.6%)
		n. Manage behavioural issue	16 (24.6%)
2) Intervention strategies		a. Behavioral therapy	38 (60.3%)
		b. Cognitive-Communication Therapy	48 (76.2%)
		c. Enhancing pre linguistics and linguistic skills	43 (68.3%)
		d. Pressure points	17 (27%)
		e. breathing and relaxation exercise	26 (41.3%)
		f. Oro-motor exercise	39 (61.9%)
		g. Drugs	14 (22.2%)
		h. Stuttering/Stammering therapy	37 (58.7%)
		i. Physical exercise	23 (36.5%)
		j. Mobilization	14 (22.2%)

3) Perspective about SLP for referral	a. Developmental disorder	34 (51.5%)
	b. Arthritis	1 (1.5%)
	c. Voice disorder	42 (63.6%)
	d. Swallowing difficulties	11 (16.7%)
	e. Psychiatric disorders	12 (18.2%)
	f. Behavioral issues	22 (33.3%)
	g. Deaf-mute	46 (69.7%)
	h. Difficulty to speak	57 (86.4%)
	i. Memory disorder	5 (7.6%)
	j. Pulmonary issues	1 (1.5%)
	k. Tongue-tie	29 (43.9%)
	l. History of late talking	31 (47%)
	m. Cleft lip and palate	33 (50%)
4) Role of speech Therapist in hospital set up	a. Very Important	28 (41.2%)
	b. Important	34 (50%)
	c. Don't Know	6 (8.8%)
5) Need for Speech therapy service in all hospitals	a. Yes	59 (90.8%)
	b. No	6 (9.2%)
6) Need for orientation about Speech therapy during posting/class	a. Yes	55 (83.3%)
	b. No	11 (16.7%)
7) Encourage family member to become Speech therapist	a. Yes	52 (82.5%)
	b. No	11 (17.5%)

Similar number of male (46.5%) and female (53.5%) students in the age range of 22 to 23 years participated in the study. Overall, 95.8% of the interns are aware of the term Speech therapist whereas only 4.2% of the interns were aware of the term Speech-Language Pathology because 53.5% of the participants believe the two terms are unrelated. In terms of awareness about the profession of SLP, there was no significant gender difference found in medical interns' understanding of the profession of speech-language pathology. Among the different services offered by a speech-language pathologist, the most familiar ones are managing persons with stuttering (66.7%), voice disorders (66.2%), managing children with pronunciation errors (58.5%), rehabilitating children with hearing impairment (56.9%) rehabilitate children with autism spectrum disorder (55.4%) and management of children with cleft lip and palate (52.3%). Further, the study found that managing swallowing difficulties (20%) and laryngectomy patients (29.2%) are two lesser-known disciplines. The majority of medical interns' awareness about interventions provided by SLPs were cognitive-communication therapy (76.2%), strengthen pre-linguistic and language skills (61.9%), provide behavioural therapy (60.3%), and provide stuttering/stammering management (58.7%). Most of the interns responded that they will refer a client to SLP in the future when a client has difficulty speaking (86.4%), deaf-mute (69.7%), voice disorder (63.6%), developmental delay (51.5%) and cleft lip and palate (50%). The results of the present study also support the notion that because most of the medical interns are aware of speech-language pathologists and the disorders managed by them, it paves way for a good interdisciplinary network to provide prompt referrals to the patients when they begin practicing.

Discussion

The aim of the study was to determine the level of awareness of speech-language pathology and its services among aspiring medical practitioners, as well as their understanding of speech-language pathologist's role in hospital settings, in order to assess their understanding of holistic healthcare, which must be assessed in cases where inter-professional collaboration is required for patient care. Though email was sent to 140 participants, the questionnaire was completed by only 70 participants. According to the current study's findings, out of 70 medical interns, 41.2% thought the role of SLP was very important, 50% thought it was important, and only 8.8% had no opinion on the role of SLP in a hospital setting because they were unaware of the profession. From the results of the present study, we conclude that medical interns were firmly convinced that SLPs play an important role in the diagnosis and treatment of patients with communication disorders of all ages in the hospital setting. In a pilot study conducted by Lokeshwar *et al* ^[4], they concluded that nearly half of the medical practitioners were ignorant of speech-language pathologists and the services they provide. In a similar study by Farrakh Tariq *et al* ^[9], the authors concluded that the majority of MBBS students lacked sufficient comprehension and knowledge about speech-language pathologists/speech therapists' roles and jobs in the medical set-up. Unlike previous studies, the present study clearly demonstrates that medical interns are aware of the profession of speech-language pathology and possess the required level of knowledge of the roles and responsibilities of a speech-language pathologist in a hospital setting, which could be attributed to their exposure to clinical caseload at the hospital during their clinical postings at the respective departments such as pediatrics,

neonatology, neurology, ENT and psychiatry among others. Supporting the fact that through internship and ward rotations in the related settings, it is possible that the medical graduates would be able to obtain first-hand knowledge about speech and hearing deficits through contact with actual cases^[10]. Hence through this study, one can infer that it is essential that the medical students are provided with the opportunity to visit tertiary medical settings that offer interdisciplinary management of cases during their professional medical training. Such exposure will expand their understanding of the roles and functions of interdisciplinary approaches in the diagnosis accuracy of speech and hearing-impaired patients. On the other hand, according to the findings, there is considerable misunderstanding about the terminologies used to address the profession/professional, as most of the participants were aware of the term speech therapist/ speech therapy rather than Speech-language pathology/speech-language pathologist (present study revealed only 48 percent were aware of the terms and remaining 54 percent were unaware). Hence, a professional orientation program about the profession of SLP would clear the misconceptions prevailing regarding the usage of terminology and will lead to a better understanding of the role of SLPs, as well as prepare future medical practitioners to make timely referrals of patients. Raghavendra Prasad *et al*^[11] observed a difference in post-test and pre-test awareness of speech and hearing disorders among medical students, as well as an improvement in awareness or knowledge following training; consequently, they state that medicos and other medical professionals must be educated in this forum. The outcomes of a study done by Low and Zailan^[10] supported the necessity for mandatory training in medical schools to increase future medical practitioner's knowledge and skills in recognizing and referring persons with speech and hearing impairments. In developing nations like India, such efforts are critical for early detection and intervention of speech, language and hearing impairments. The majority of the medical interns also agreed that having speech-language pathology services available at all hospitals would benefit patients in the long run. This emphasizes the importance of maintaining a constant focus on the varied responsibilities played by SLPs, as well as the importance of valuing the specific knowledge that SLPs bring to the table in order to deliver healthy and quality patient care^[8].

Conclusion

The prevalence of basic awareness regarding speech-language pathologist's roles among medical interns was considered in this study. As students, the medical interns were stationed in diverse departments of the medical college affiliated hospital such as ENT, paediatrics, neonatology, neurology, psychiatry and plastic surgery among others to gain the most knowledge about the roles played by SLPs in a hospital setting and the type of rehabilitation they provide. SLPs play a vital role in diagnosis as well as timely management of infants, children, adults and geriatrics with various speech/swallowing, language and hearing disorders. As a result, the amount of clinical exposure they received during their clinical postings and classes had a significant impact on their knowledge and awareness of the SLP profession. When they begin practising, each medical student will be able to interact successfully and work as a team to meet the requirements of patients by understanding the profession of speech language pathology and the roles and responsibilities of speech language pathologists in hospital and clinical settings.

Limitations and Future Direction

The findings of this study offer a variety of insights into the knowledge and awareness of speech-language pathologists among medical interns. However, the study's limitation was that the subject's participation rates were low. According to Sax *et al* [12] who conducted survey response rate research with 4416 college students, they realized that the willingness to participate in a survey is sometimes linked to the perceived relevance of the survey to one's lived experience. Hence, there might be a possible sampling bias in which the medical students who responded to the survey were indeed more aware and knowledgeable about SLP than those who did not. Due to the difficulty in collecting emails from medical interns from other institutions, the study was limited to one medical college. Because the study's participants were included from a narrow geographic area, the findings should be interpreted with caution when applied to a larger population. In the future, a larger sample size representative of various parts of the country would allow the survey to be more reliable and generalizable to all states of the country, enabling validity can be demonstrated.

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Ethical Approval

This research project proposal has been reviewed and approved by the Institutional review board (IRB) of Saveetha Medical College and Hospital, Institutional Ethics Committee, Saveetha Nagar, Thandalam-602105. Approval Number: SMC/IEC/2021/06/008

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