



The Knowledge of Allied Health Professionals (AHPs) about Speech Language Pathology/Therapy (SLP/T) in Pakistan

Nadia Minhas¹, Maroof Khan², Miaad Fatima³

¹ Speech Language Pathologist, University of Karachi, Pakistan. & Qatar Rehabilitation Institute, HMC, Qatar.
Email: minhasnadia@yahoo.com

² Speech Language Pathologist, Sindh Institute Of Physical Medicine And Rehabilitation, Sindh, Pakistan.
Email: sltmaroofkhn@gmail.com.

³ Pharmacist (Pharm. D), University of Karachi, Pakistan. Email: miaadfati6@gmail.com

ARTICLE INFO

Article History:

Received: August 21, 2022

Revised: October 03, 2022

Accepted: October 09, 2022

Available Online: October 10, 2022

Keywords:

Speech Language Pathologist

Allied Health Professionals

Physiotherapist

Occupational Therapist

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

SLP is a client-based health profession set up as part of a multidisciplinary team. AHP's acknowledgment of the role of another professional in the team results in quintessential referral among the professionals that can thoroughly benefit clients to receive finer quality services/care. This research focuses on surveying the insight and misconceptions of AHPs regarding SLP responsibilities. One central discussion was conducted among 20 AHP on the basis of a descriptive survey. Semi-structured face-to-face interviews were conducted to explore the perception of AHP's role in SLP. We examined the extent of AHP's knowledge of the speech-language pathology field. In research 20 AHP (P.T, O.T) were selected through convenient sampling techniques because of suitability for both. The study found mixed results, AHPs (0%) were in the category "No to Little Knowledge", and AHPs 25% required further updated knowledge and education on best speech therapy requirements/treatment practices. AHPs are merely aware of the existence of this field, they do not know what sort of cases are dealt with by the professionals. AHPs 30% are classified under "reasonable knowledge" for being aware of the patient's basic speech therapy requirements, but will not refer to SLP, or AHPs, and 45% have expert-level knowledge, a clear concept regarding SLP requirements and practices. The study results showed that in Pakistan, AHPs' apprehension regarding clients' speech needs and SLPs' role still remain deficient. SLP needs to be promoted constantly for the client's peak benefit and for the overall field's progression as it is still a very new profession in Pakistan.

© 2022 The Authors, Published by iris. This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License

Corresponding Author's Email: minhasnadia@yahoo.com

1. Introduction

A health professional is such a person who dedicates his/her whole life to the service of the health of the people. Speech and Language Therapist are health professionals who serve the people for their whole working life. Speech Language Pathology is the empirical and rehabilitative therapy for human communication disorders. A health provider professional serves their profession in such a way that they often go beyond with infinite dedication for the people facing health problems. The SLPs works with different age groups i.e. adults and children, facing speech disorders, language difficulties, swallowing disorders and voice disorders.

In Pakistan, the SLP ideology is still quite new so it eventually would take some time for it to get enough exposure and accredited demand. Even though in Pakistan the SLP need is highly required but due to lack of knowledge about the SLP field among AHP, it has become verily problematic, they must have to have basic understanding about this field, which is why

the researcher wanted to shed light on this specific study. This involves disorders and difficulties of speech, voice, swallowing and language (Ahmad, Hashmi, Shehzadi, & Nawaz, 2021). Even as an established profession all around the world, it is still a very new profession in Pakistan. The World Health Organization (WHO) estimated that each year hundreds of thousands of children suffer from disability in communicating due to the impairment, (WHO) also evaluated that 10% of the world's population is disabled (WHO, 2011).

Speech language therapists (SLTs) work firmly with other professional workers such as, dieticians, nurses, physicians, social workers, case managers, and other rehabilitation providers (Association, 2016). No matter the place of employment, the main perspective of each speech language pathologist is to simply step up or enhance individuals ability to swallow and communicate, by improving their quality of life" (Association, 2016). Most relevant obstacles to this study are those which may arise when team members are unaware of each discipline's specific role. When professionals receive interdisciplinary curriculum, their overall recognition of "how each discipline relates to the continuum of client care" improves, and their knowledge "allowance for proper referrals to be made and setting the foundation for collaborative practice" (Loy, Micheff, Nguyen, & O'Brien, 2015).

The domain of SLP in the medical genre is effectual and remains to bloom other co-workers of the acute care multidisciplinary team whom may not fully be aware of complete understanding of the SLP's role. The profession of speech language pathology is subjected to "constant reconsideration and realignment" and progresses to expand, because "new evidence-based research for diagnosis and treatment is transpiring on a regular basis" (Jacobson, 2007). Therefore, scope of SLP practice remains to change, those professional workers working with SLPs may not be aware of all which they are qualified to do. Due to the essence of a team based approach to patient treatment, any misunderstandings and misconceptions of any professional's role, including that of the speech language pathologist, may delayed the nature of care provided to the client (Loy et al., 2015; Sullivan & Cleave, 2003).

In rehabilitation, the necessary member of multidisciplinary rehabilitation team, accompanied by physiatrist, physiotherapy, and speech language pathology, is the occupational therapy (Singh, Küçükdeveci, Grabljevec, & Gray, 2018). As a team of professionals working together, boosts client's outcome and enhances their quality of care, alas affordability (McPherson, Headrick, & Moss, 2001). The diagnosis and treatment of conditions and illnesses are not only seen by doctors and medical professionals. Certain pathologies require the specialized assistance of Allied Health professionals as they have the preparation, the knowledge and the experience to treat that specific problem and grant the patient a better quality of life.

Allied health professionals focus mostly on prevention and resolution of issues connected to our musculoskeletal apparatus, like physical therapists or chiropractors, mental health, like psychologists, and more specialized pathologies and cures, like Occupational, Speech therapist, arts or music therapists. This is why general practitioners and hospital staff members often refer patients to these specialized professionals for after-care and follow-up. Allied Health provider comprises all those workers who take care of patients in their social environment, such as occupational therapists, social workers, and Speech therapist, music or art therapists. Speech pathologists treat communication disorders in many different situations: a toddler that has difficulties being understood, a teenager who stutters and therefore suffers from a complicated social acceptance issue, or people experiencing difficulties speaking properly as a consequence of a brain injury, a stroke or an accident.

It has been noted that the connection between having an understanding on Speech language therapy facilities and the referrals to speech language therapists is lower in numbers. It was discovered that about 30 % of AHP didn't fully know about the services that the speech language pathologists can provide to mental health patients. The services provided are extensive and unlimited cognition activities, role change and daily living. This determines that AHP's comprehension impacts the numerals of referrals to Speech language pathologists. The research also noted that Allied Health providers solicited for additional diverse mastery education and act of assistance that speech language pathology can provide to secure towards clients, and that the highest number of services can be given.

To evaluate, how the knowledge and perception programs on speech therapy among the Allied health providers can contribute in the speech development of special children. This study is set out to explore the delayed diagnosed mostly converted into disability which is irreversible/non-reversible and expectation of role, about Speech- Language pathology. Still there is no study available on "The knowledge and perception of Allied Health Providers about Speech language Pathology in Pakistan. This study would be helpful for finding the attitudes and Expectation among health professionals about the domain of Speech and Language pathologist. The study place is Karachi in Pakistan. Study population normally participants from (AHP) physiotherapist and Occupational therapist. The researcher takes 20 participants in this study. The researcher herself had collected all the data and no assistant were used during data collection. The main tool to collect data in convenience sampling, Qualitative study. The objective of the study is to analyse the Allied Health professional's knowledge about speech language-pathology/Therapy.

2. Literature Review

If a group of healthcare professionals are determined to provide the best and most effective care for their patients, then everyone in the group must understand the role of other professionals in order to work together in the best possible way (Loy et al., 2015). The level of perception of the professionals about the scope of work of his colleagues can affect the discharge time of patients, the size and adequacy of recommendations, as well as the adequacy of the surroundings for staff and clients concerned (Loy et al., 2015). Because of such undeviating influence on the patient, several studies have been carried out to assess the public's perception and information of certain professions and the impact of such factors on multidisciplinary cooperation. All these researches include a series of studies that examine the role and perceived value of speech therapists. The general consensus of this study is that not all healthcare professionals often fully understand the role of the speech therapist, and this lack of apprehension can contribute to greater problems in the workplace.

Relevant for this study is the study conducted on the attitude towards speech therapists among other professions in the field of health care. In the study of the younger and Asian study (Lesser & Hassip, 1986). Classifying the opinion and knowledge of speech therapy among the 3 that could be recommended, nurses were better informed in relation to professors and doctors also interviewed. However, all three professions gave wrong answers about the training needed to practice speech pathology, the places where speech therapists work, the age of the patients and the types of disorders that speech therapists are certified to treat (Lesser & Hassip, 1986). By Medina (2006), similar results were obtained in his research, where he seeks to regulate the level of information of neonatal nurses about the role of speech therapists. She discovered that as the role of the speech therapist has been increased, which allows speech therapists to provide services in many different areas for e.g. neonatal intensive care unit, however the vast preponderance of nurses are not in this position and are aware of the role of the speech therapist with clients and staff in this ward (Medina, 2006).

In one of the other research, the attitude of nurses toward speech language pathologists was evaluated, Boyd, Hooker, Reynolds, and Byrne (2006) revealed that most nurses couldn't completely comprehend the scope of speech therapy services. They were unable to identify which diagnostic evaluation the speech therapist was or wasn't supposedly certified to treat, it was discovered that nurses do have positive views on speech therapists (Boyd et al., 2006). Physicians in addition work alongside speech therapists and a number of researches have been conducted to assess their knowledge of the role of speech therapists. McCauslin, Florance, and Rabidou (1980) discovered that those physicians who concluded their research were not so sure about the variety of clients and disorders that were treated by speech language therapists. Jeanne, Phillips, and Molt (2011) found that although physicians who included speech-language research were highly valued and knowledge of the scope of speech-language practice has increased exponentially since 1980, there are still disorders that clinicians do not recognize the disorders treated by speech therapy.

Perception of students on health in the role of speech therapist is another area that has been studied in several studies. In a study that asked contributors to grade occupational assistance for a variety of well-being situations. Sullivan and Cleave (2003) found that, while

students in nursing, medicine, physiotherapy, and occupational treatment learned about the role of discourse, a language pathologist, some inaccuracies remain in his knowledge. Participants' understanding of the role of speech therapy in language and cognitive therapy was particularly limited (Sullivan & Cleave, 2003). Among the occupations covered by the research, occupational therapy and physical therapy students were more inclined towards speech therapy services than other students (Sullivan & Cleave, 2003). The same methodology was utilized to evaluate the attitude of physiotherapy and occupational therapy undergraduates towards speech therapists in stroke ward. Resultant showcased that participants generally had sufficient knowledge of the perception and knowledge of the role of speech therapist 7, however they did not identify some key treatments that speech therapists were very much certified to offer to stroke patients (Byrne & Pettigrew, 2010).

Cited researches examine the information and insights of expert groups of professional workers including nurses, physicians, and educators with whom speech therapists work, or in case of contributing students, may they someday perform with. This was the objective of this study which was fabricated to acquire interchangeable knowledge. However, the blueprint also provided useful statistics to compare the knowledge of emergency care staff in similar hospital environment. Factors involving occupancy, turnover and allocation units were compared and evaluated to present fresh information that wasn't provided in any of the researches mentioned above. In the study by Hand (2006) participants and families interviewed for the Griffer (1997) study, felt poorly informed about the data on their children's therapy. According to the fact that patients often cooperate with a speech therapist, their views and needs are verily important for the profession. All researchers gathered that the improved information sharing would improve patients' perceptions and knowledge of speech therapy. "Such a provision is likely to enhance parents and others understanding of what is happening and therefore their confidence in the profession" (Hand, 2006).

3. Data & Methodology

This study was designed to explore which AHP are knowledge regarding Speech-language pathologist field. This study where 20 participants were selected through convenience sampling techniques because it suitable for both. It was a structured questionnaire based study for AHP's about perception regarding Speech-language pathologist field. This study conducted on a voluntary basis. Combined results from this study found that most of them specialize in the field of SLPs, about 25% of AHPs have never heard of this feature and only 30% of AHP's have heard of it. Know that this feature is real. I have but I still don't know what the professionals in the field deal with. However, everyone suggested that an SLP healthcare provider should play an important role in collaborating with AHP's on healthcare. Qualitative study is the study of nature that provides insights into another person's thoughts, ideas, feelings and beliefs in their own natural order (Hicks, 2009).

The research site was Karachi, Pakistan. This research study was conducted among Allied health professionals (AHP), who is concerned with speech and language pathology to treat patients in Karachi. This area was deliberately chosen. This sampling method is useful because participants can recruit more easily, cheaper and faster (Hissong, Lape, & Bailey, 2014). All data were collected by the researchers themselves and no assistants were used during data collection. The researcher is the main data collection tool for special research (Hicks, 2009). This was a small research study where 20 participants (physiotherapist and Occupational therapist) were selected through convenience sampling techniques because it's suitable for both. It absolutely was a structured questionnaire-based study for AHP about knowledge regarding SLP's field. This study conducted on a voluntary basis.

3.1 Definition of Technical Terms

3.1.1 Speech and Language Pathologist

It provide services to children and adults to prevent, assess, diagnose, and treat speech, language, social communication, cognitive communication, and swallowing issues.

3.1.2 Physiotherapist

A person who is trained to use physical therapies such as massage, heat therapy, and exertion to treat sickness, injury, or deformity.

3.2 Limitations

We can't generalise the whole Pakistani population by using a sample size of this research. Hence, the people participating were mostly from one locality and were working at high level educational institutions and rehabilitation, offering restricted opportunity and corresponding exposure. As for addition, the research doesn't incorporate rehabilitation nurses and physiatrists in a hospital environment. According to time constraints, setting, budget, we can't boost the effort.

3.3 Level of Significance

Significance level, also referred to as alpha, is that the probability of refuse the null hypothesis when it's true.

4. Results

Participant characteristics presented in bulk were male/ female, from different occupations such as occupational therapy and physiotherapy, where 20 members volunteered in the session. They belonged to a public rehabilitation centre. This study found mixed results that, All the AHP have an understanding of the speech therapy requirements and no AHP (0%) were in the category of "No to Little Knowledge" Most of these general physicians have enough knowledge about SLPs field, about 25% of the AHP required further updated knowledge and education about the best practice speech therapy requirements/treatment. The AHP's are merely aware that this specialty indeed exists but still do not know what sort of cases that are dealt with by the professionals of this field. 30% of the AHP classified under the "Reasonable knowledge", these AHP have knowledge about all the basic requirement of the speech therapy patient requirements but no referring to Speech-language pathologist. However, the need refresher courses/knowledge to be an expert in the field. 45% of the AHP's have expert level knowledge and they have clear concept and requirement of the best practices for the speech therapy treatment. Although they all suggested that a health care provider SLP should perform the main role in health domain collaboration with Allied Health professionals the study results showed that in Pakistan, The AHP's curriculum has been updated with any chapter regarding the rehabilitation/ habilitation of this sort. So, most of the AHP's are unaware about SLP field, which is basically the key point that plays a significant role in rehabilitation. So the researcher suggested Pakistan health care council to review the work on this specificity. And enhance knowledge with multidisciplinary team in any setup.

5. Descriptive Statistics

Demographic presentation of the data pertaining to participants of the study has elaborated in graphical and tabular form as follows;

Table 1: Distribution of AHPs on the Basis of Gender

| | Data Range | Frequency | Percent | Cumulative Percent |
|-------|------------|-----------|---------|--------------------|
| Valid | Male | 13 | 65.0 | 65.0 |
| | Female | 7 | 35.0 | 100.0 |
| | Total | 20.0 | 100.0 | |

According to table 1, it has been observed that the 65% of the respondents were male whereas, the remaining were female i.e. 35%.

Figure 1

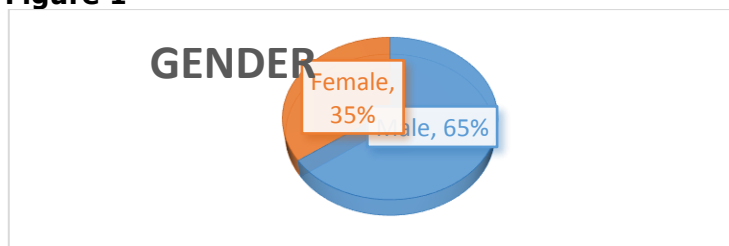
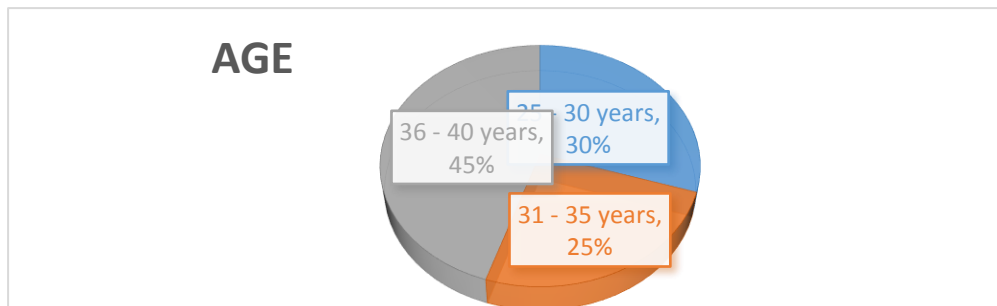


Table 2: Distribution of AHPs on the Basis of Age

| | Data Range | Frequency | Percent | Cumulative Percent |
|--------------|--------------------|------------------|----------------|---------------------------|
| Valid | 25-30 years | 6 | 30.0 | 30.0 |
| | 31-35 years | 5 | 25.0 | 55.0 |
| | 36-40 years | 9 | 45.0 | 100.0 |
| | Total | 20.0 | 100.0 | |

Figure 2



As per Table 2, 45% of the participants belonged to the age group of 36 – 40 years, 30% lies between the age group of 25 – 30 years and the remaining 25% fall under the age group of 31-35 years. The results of hypothesis has been drawn, based on the responses obtained from the participants of the study, using t-test, at the level of significance i.e. P value of 0.05. At the level of significance of 0.05, the critical value of t should be less than the calculated value of t, which interprets that the significance of null hypothesis is not valid and vice versa. Considering the sample size of the study, t-test is considered to be most appropriate to perform the statistical analysis for assessing the validity of the instrument.

Table 3: Statistical Results

| | Variable 1 | Variable 2 |
|----------------------------|-------------------|-------------------|
| Mean | 24.6 | 27.6 |
| Known Variance | 12.2666 | 16.0444 |
| Observations | 10 | 10 |
| Hypothesized Mean | | 0 |
| Df | | 9 |
| t Stat | | -1.51265 |
| P(T<=t) one-tail | | 0.08232 |
| t Critical one-tail | | 1.8331 |
| P(T<=t) two-tail | | 0.1646 |
| t Critical two-tail | | 2.0280 |

As per the results presented in table 3, the results of t-test conclude that the null hypothesis has been rejected and the research hypothesis has been accepted as they are valid. Statistically, the obtained value of P is less than the critical value of P (i.e. $-1.51 < 0.05$), for a significance level of 0.05 and 19 degrees of freedom, which interprets that the hypothesis developed for our research studies are valid. Content analysis would use to analyse data collected from questionnaire. For content analysis collected data were prepared for analysis. According to Shortell (1974) content analysis is very helpful way to acquire knowledge that describes an issue or topic and it is helpful in validating of the study According to Shortell (1974), the analysis of the data would begin with transcription of the questionnaire. At first transcript were made then it would transcribed into English. Then English transcripts were given to two individual who were good in translate. Then the investigator would be verifying the accuracy of data ad read out the transcripts for several times to recognize what the participants want to say. When data would fully familiar with investigator then the data would started to analysis. Category and category were made from transcript on the basis of the study and summarize it under the keyword. "Content analysis is a process where researcher analyses the data by looking for repetitive words and concept (Hissong et al., 2014).

Table 4

| Knowledge of Physiotherapists about SLP | | No of Physiotherapists in each category | %Doctors |
|---|------------------------------------|---|----------|
| 0-25% | No to little Knowledge (about SLP) | 0 | 0% |
| 25-50% | Reasonable Knowledge | 3 | 30% |
| 50-75% | Need improvement and education | 4 | 40% |
| 75-100% | Expert Knowledge | 3 | 30% |
| Total | | 20 | |

Figure 3

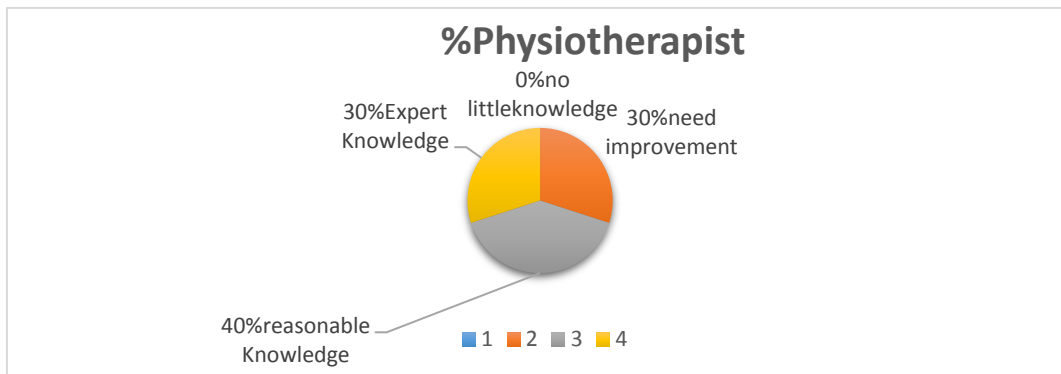


Table 5

| Knowledge of Occupational Therapists about SLP | | No of Occupational Therapists in each category | %Doctors |
|--|------------------------------------|--|----------|
| 0-25% | No to little Knowledge (about SLP) | 0 | 0% |
| 25-50% | Reasonable Knowledge | 2 | 20% |
| 50-75% | Need improvement and education | 2 | 20% |
| 75-100% | Expert Knowledge | 6 | 60% |
| Total | | 20 | |

Figure 4

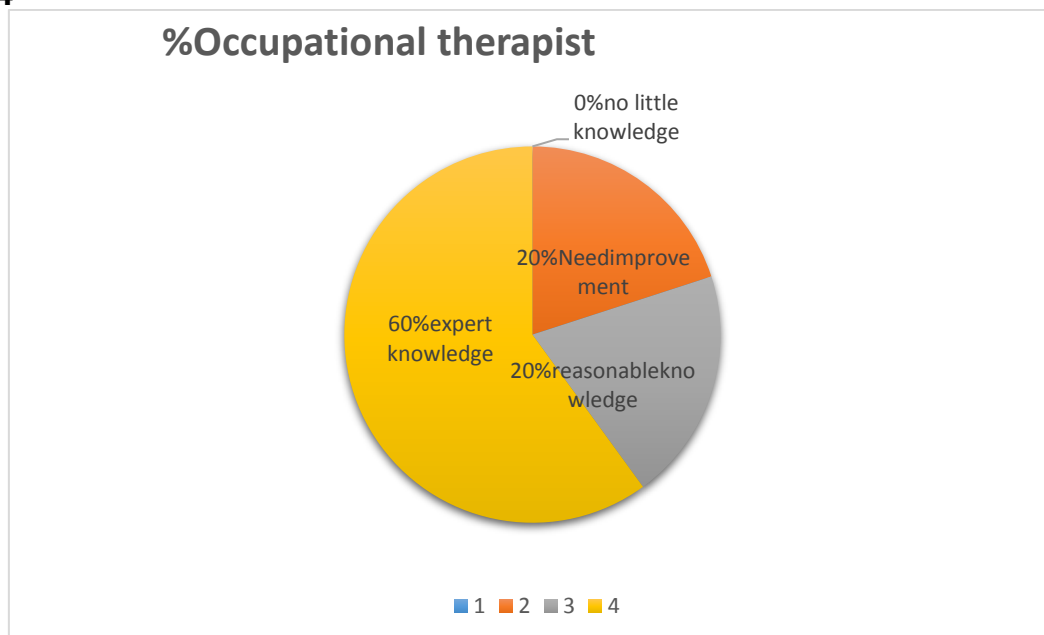


Table 6

| Knowledge of AHPs about SLP | | No of Allied Health Professionals in each category | % Allied Health Professionals (Physio Therapist and Occupational Therapist) |
|-----------------------------|------------------------------------|--|---|
| 0-25% | No to little Knowledge (about SLP) | 0 | 0% |
| 25-50% | Reasonable Knowledge | 5 | 25% |
| 50-75% | Need improvement and education | 6 | 30% |
| 75-100% | Expert Knowledge | 9 | 45% |
| | Total | 20 | |

Figure 5



Total 20 Allied health professionals participated in the survey and answered the questions. Based on their replies it is concluded that all the Allied health professionals have an understanding of the speech therapy requirements and no AHP (0%) were in the category of "No to Little Knowledge", 25% of the Allied health professionals classified under the "Reasonable knowledge", these AHP's have knowledge about all the basic requirement of the speech therapy patient requirements. However, there is need for refresher courses/knowledge to be an expert in the field. About 30% of the AHP's required further updated knowledge and education about the best practice speech therapy requirements/treatment, 45 % of the AHP's have "expert level knowledge" and they have clear concept and requirement of the best practices for the speech therapy treatment.

6. Discussion

Following research determines that healthcare providers are aware up to a certain level regarding the duties of speech language pathology, but they are restricted to the exposure that is available. Under the rehabilitation team, professions including audiology, occupational and physiotherapy have a better apprehension regarding the role of speech language pathology. Even declared by the participants, a simple quarrel means that each regulation has different intercession goals, even providing similar care. Nonetheless, this is partially correct as each regulation intervention is approached differently on the basis of potency of the curative value, clinical reasoning, although it might seem the same to the lay eye. Incomplete, fragmented or absence of information regarding other regulations isn't accommodating to make other controls understand values, roles and subscriptions which the speech treatment can fabricate. Inter-professional pedagogy touches all health profession regulations, philosophy, and widespread should conventionally be constructed in the academic syllabus and continual executive education to provide exposure and to modify the project of each individual of health care (Turner & Knight, 2015).

This perspective is crucial as health care operational implementations are now joining forces i.e. collaboration centered functioning, which sounds even more advantageous for patients (Schot, Tummers, & Noordegraaf, 2020; Ward, Zagoloff, Rieck, & Robiner, 2018).

Insight to other professions, in the allied health education system is lacking and their focal point is only on their own disciplines.

7. Conclusions

Participants of these researches dispensed valuable occurrences and an understanding on how speech language pathology is perceived amid allied health care providers, patients and the public. Although speech pathologists are recognized as important members of the multidisciplinary team, their characterization among AHPs still remain deficient, which is necessary for SLPs to promote the profession's responsibility and specifications continually for peak aid of patients and for overall development. Moreover, multidisciplinary team is very important role play in rehabilitation and habilitation for communication disorders and overcome disability ratio in Pakistan which is irreversible.

Suggestively, future studies should verily be directed in a divergent setting i.e. in private and government hospitals, industrial and community surroundings, and should also involve other professional workers such as nurses, doctors, social workers, and a case manager, to be able to supply affluent knowledge of the affairs and insight on the character of SLP. In this research, many challenges were faced such as, involvement of a wider environmental spectrum due to unpredictable nature of the course. Yet, one constraint bar showcases that researchers, who were speech pathologists themselves, may have been biased in their exposition of data. However, we suppose and, consider that influence to be negligible.

The AHPs curriculum has been updated regarding the rehabilitation of this sort. So, most of the AHPs are unaware about SLP field, which is basically the key point that plays a significant role in rehabilitation .The researcher suggested Pakistan health care council to review the work on this specificity. And enhance knowledge with multidisciplinary team in any setup.

Conflicts of Interest

By authors, no conflict of interest has been declared.

References

- Ahmad, M. A., Hashmi, A., Shehzadi, K., & Nawaz, M. A. (2021). The Role of Language Style, Perceived Services and Medical Qualities on the Tourism Development in Malaysia: Mediating Role of Customer Satisfaction. *Review of Economics and Development Studies*, 7(1), 25-36. doi:10.47067/reads.v7i1.316
- Association, A. S.-L.-H. (2016). Scope of Practice in Speech-Language Pathology. *Scope of Practice*, 1-18. doi:10.1044/policy.SP2007-00283
- Boyd, J., Hooker, L., Reynolds, A., & Byrne, M. (2006). *Nurses' perceptions of speech-language pathologists in health care settings*. Paper presented at the ASHA Convention, Miami Beach, FL.
- Byrne, A., & Pettigrew, C. M. (2010). Knowledge and Attitudes of Allied Health Professional Students Regarding the Stroke Rehabilitation Team and the Role of the Speech and Language Therapist. *International Journal of Language & Communication Disorders*, 45(4), 510-521.
- Griffer, M. R. (1997). A Competency-Based Approach To Conducting Family-Centered Assessments: Family Perceptions of the Speech-Language Clinical Process in Early Intervention Service Delivery. *Infant-Toddler Intervention: The Transdisciplinary Journal*, 7(1), 45-65.
- Hand, L. (2006). Clinicians as "Information Givers": What Communication Access Are Clients Given to Speech-Language Pathology Services? *Topics in Language Disorders*, 26(3), 240-265.
- Hicks, C. M. (2009). *Research Methods for Clinical Therapists: Applied Project Design and Analysis*: Elsevier Health Sciences.
- Hissong, A. N., Lape, J. E., & Bailey, D. M. (2014). *Bailey's research for the health professional*: FA Davis.
- Jacobson, B. H. (2007). *Medical Speech-Language Pathology: A Practitioner's Guide* (T. Hiscock Ed. 2 ed.). New York: Thieme Medical Publishers.

- Jeanne, N., Phillips, D., & Molt, L. (2011). Internal Medicine and Family Medicine Physicians' Perceptions of Speech-Language Pathology. *Journal of Medical Speech-Language Pathology*, 19(4), 49-57.
- Lesser, R., & Hassip, S. (1986). Knowledge and Opinions of Speech Therapy in Teachers, Doctors and Nurses. *Child: care, health and development*, 12(4), 235-249. doi:10.1111/j.1365-2214.1986.tb00503.x
- Loy, B., Micheff, H., Nguyen, K., & O'Brien, V. (2015). *Interprofessional collaboration between occupational therapists and nurses in an acute care setting: an exploratory study*. (Master of Science in Occupational Therapy), University of California, California.
- McCauslin, L. S., Florance, C. L., & Rabidoux, P. C. (1980). *Evaluation of Physician Understanding of Aphasia and the Role of the Speech Pathologist*. Paper presented at the Clinical Aphasiology: Proceedings of the Conference 1980.
- McPherson, K., Headrick, L., & Moss, F. (2001). Working and Learning together: Good Quality Care Depends on it, but how can we Achieve it? *BMJ Quality & Safety*, 10(suppl 2), ii46-ii53.
- Medina, L. A. (2006). *Nurses' Opinions of Speech Pathologists Working in Neonatal Intensive Care Units*. (Master), San Jose State University, Retrieved from <https://www.proquest.com/openview/8fc52fe8054955ab0434c8f25c619c0c/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Schot, E., Tummers, L., & Noordegraaf, M. (2020). Working on Working Together. A Systematic Review on how Healthcare Professionals Contribute to Interprofessional Collaboration. *Journal of interprofessional care*, 34(3), 332-342. doi:10.1080/13561820.2019.1636007
- Shortell, S. M. (1974). Occupational Prestige differences within the Medical and Allied Health Professions. *Social Science & Medicine (1967)*, 8(1), 1-9. doi:10.1016/0037-7856(74)90003-1
- Singh, R., Küçükdeveci, A. A., Grabljevec, K., & Gray, A. (2018). The Role of Interdisciplinary Teams in Physical and Rehabilitation Medicine. *Journal of rehabilitation medicine*, 50(8), 673-678. doi:10.2340/16501977-2364
- Sullivan, A., & Cleave, P. L. (2003). Knowledge of the Roles of Speech-Language Pathologists by Students in other Health Care Programs. *Journal Of Speech Language Pathology and Audiology*, 27(2), 98-107.
- Turner, A., & Knight, J. (2015). A Debate on the Professional Identity of Occupational Therapists. *British Journal of Occupational Therapy*, 78(11), 664-673. doi:10.1177/0308022615601439
- Ward, W., Zagoloff, A., Rieck, C., & Robiner, W. (2018). Interprofessional Education: Opportunities and Challenges for Psychology. *Journal of Clinical Psychology in Medical Settings*, 25(3), 250-266. doi:10.1007/s10880-017-9538-3
- WHO. (2011). *World Report on Disability*. Retrieved from <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability>