AWARENESS REGARDING SPEECH-LANGUAGE PATHOLOGIST DOMAIN AMONG GENERAL PHYSICIANS

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ABSTRACT

We examine the extent to which General Practitioners (GPs) have knowledge of the speech language pathology field. This was pilot research where 20 pilots were selected through convenience sampling techniques because it is suitable for both. Another study it was a structured questionnaire-based study for general physicians about awareness regarding Speech-Language Pathologist (SLP) domain. This pilot study found mixed results that, All the doctors have an understanding of the speech therapy requirements and no doctor (0%) were in the category of "No to Little Knowledge" Most of these general physicians have enough knowledge about SLPs field, about 60% of the doctors required further updated knowledge and education about the best practice speech therapy requirements/treatment. The general practitioners 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. 25% of the doctors classified under the Reasonable knowledge, these doctors 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. 15% of the doctors 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 general physicians. The study results showed that in Pakistan, the medicines curriculum (MBBS) has been updated with any chapter regarding the rehabilitation / habitation of this sort. So, most of the general practitioners are unaware about SLP domain, which is basically the key point that plays a significant role in rehabilitation. So, the researcher suggested Pakistan health council to review the official MBBS curriculum and government sector health ministry to work on this specificity.

KEYWORDS

Psychological capital, hope, resilience, optimism, self-efficacy, Smart PLS-SEM.

INTRODUCTION

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 speech language pathologist works with the age groups, children and adults, facing speech disorders, language difficulties, voice disorders and swallowing disorders. World Health Organization (WHO) estimated the error that hundreds of thousands of children, each year struggle with disability in communicating due to the unfortunate disablement and it is noted that 15% of the world's population lives with some kind of disability; about 2% to 4% significantly encounters difficulties in functioning. The world disability prevalence is on top of previous WHO estimates, which date back the 1970s and suggested a figure of around 10% by Anima Dhanjee (hosted by ACES in Royal, AR, YES 2013-2014, Pakistan,)

World Health Organization stated that, 5% population of each country faces some form of hearing problem. Today, total population of Pakistan is the estimated 200.81 million; this statement is indicating that there are round about 10 million hearing impaired resident in Pakistan. With hitting such a large margin, country woefully still inadequacy when it involves providing accessibility to those ten million people. This eventually results in marginalization, misery, and lack of opportunities for this population. In Pakistan, the speech–language pathology 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 domain among the general physicians, it has become verily problematic, they must have to have basic understanding about this domain, which is why the researcher wanted to shed light on this specific pilot study.

According to (Rayes (1), 2014), the core to strengthening the health system in any country, interactions between team members must take place. Every service has valuable individual role in their own sector, but when they work as a team they

understand the value of each other's specialism.

Rayes study of 2014 states that within different community's physicians have close proximity to patients because they are the first respondents in the health care system. But in Pakistan general physicians are not intentionally/unintentionally mentally ready to work with other health professionals, they do not prefer to collaborate or interact with other health professionals.

So, the researcher needs this pilot study design to facilitate the awareness that is needed among these general physicians regarding the Speech-language pathologist domain.

- Awareness regarding Speech Language Pathologist domain among general health practitioners.
- Still there is no study available on "Awareness among general health physicians regarding Speech Language Pathologist domain (field) in Karachi, Pakistan.
- This study would be helpful for finding the attitudes and expectation among health professionals about the domain of Speech and Language pathologist.

To evaluate, how the awareness programs on speech therapy among the general health physicians 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 pathologist. Still there is no pilot study available on "The Awareness Regarding Speech-language pathologist domain among general health practitioners (GPs)" 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 general physician (GPs). The researcher takes 20 pilots 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. This study was carried out through a questionnaire. A total of 20 pilots were survey about their knowledge of the field of Speech language pathology and communication disorders inside private clinic or hospital setup. Information will be collected based on pilots' experience. The researcher trying to access original resources for this study, however due to limited resources investigator face difficulty. Therefore, the researcher has limited experience with techniques and strategies in term of the practical aspects of research. So, there were some mistakes.

Speech and Language Pathologists

Speech and Language Pathologists (SLPs), often called speech therapists, are professionals who specialise within the study of human communication, its

development, and abnormalities. Speech-language pathologists evaluate speech, language, cognitive-communication, and oral / feeding / swallowing abilities. This enables them to acknowledge a difficulty determine the simplest course of action. (Google)

Speech and Language Development

Speech and language are the abilities we use to speak with others. We form these skills during the primary years of life. By age 6, most children learn the fundamentals skills.

Speech language Therapy

Speech therapy is that the assessment and treatment of communication problems and speech disorders. It's performed by speech-language pathologists (SLPs), which are often mention as speech therapists. Therapy techniques are accustomed communication. Speech Language Pathologists (SLPs) work to prevent, evaluate, identify, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults. (ASHA, 2019)

Some participants due to lack of knowledge were not willingly participating. Researcher faced difficulty due to limited resources. It is a pilot project for the researcher so she has limited experience with techniques and strategies in term of the practical aspects of research or there might be some errors that can be overlooked by the supervisor and teacher

LITERATURE REVIEW

The speech-language pathology is a scientific and rehabilitative of communication disorders. Communication disorders have based on speech / language disorders, cognition, and voice and swallowing disorders. Speech language pathology has many disciplines such as: curative, preventive and provide rehabilitation to communication disorders I mentioned above. Speech-language pathologist deal with born child to adults who have degree of deficit with communication difficulties. First of all, they will be trying to treat independent communication, if difficulty to handle it then uses alternating methods such as, Augmentative Alternative Communication (AAC) system, for patient's intervention they affect to physically, intellectually and socially well-being living. According to (Steptoe (2), 1999) and (Crystal (3), 2002) the foremost common settings that SLTs are add schools, hospitals, and clinics. While working in these settings SLTs interconnect with physicians, educator, psychologists, nurses, community workers, and occupational and physiotherapists. Each SLT shares information with clients and caretaker and so must form a working partnership with patients and relation likewise. (Steptoe et al, 1999). Although a SLT might not be a core member of a hospice team, their role in hospice care remains important. Pollens' research suggested that an SLT's role in hospice care is concentrated consultation. Per Pollens a SLT's suggestions are wont to help the family increase communication with their dears, also as helping the core hospice team improve the patient's quality of endure life.

American Speech-Language Hearing Association (ASHA) stated that, speechlanguage pathologist practice in a very large choice of labour settings including schools, hospitals, clinics, private homes, nursing homes and more (ASHA, 2007). SLTs mostly add work in a medical setting like a hospital or home. Here the SLTs work with physicians, nurses, and other health professionals to supply take care of patients of all ages. As a results of the various environments during which Speech Language Therapists' work, (SLTs) they are available into contact with people from many other professions (Morten, 2001). Since SLTs add close collaboration with such a good form of individuals, it is important to grasp the relationships between the practicing SLT and their co-workers. It is necessary to grasp each other's attitudes towards the profession and therefore the practice of speech and language pathology so as for a successful professional relationship to extend. (Hall, 2005). This research paper would investigate the role of the SLT, furthermore because the role of those working with the SLTs across various works settings. During 2006 research, Greenwood, Wright, and Bethell raised various questions as regards the physiotherapist's knowledge of domain of speech language Therapy. Greenwood et-al. looks for to understand how the qualified SLT is understand by the physiotherapy profession, and the consequence these perceptions have on the practice of speech language Therapy. The (Greenwood et-al, 2006) research study, found that the physiotherapist did value the role and skills of speech therapist. (Morten, 2001), found that in the developed world SLTs worked as a part of a multidisciplinary group, beside other health professionals like physicians, physiotherapist, Nurses and occupational therapist. They might be also work with professionals in education and social services. Morten (2001), conducted research about Co-operation and Conflict in an exceeding hospital, interdependent differences in perception and conflicts of management. The objective of this research study would to search out how hospital professional act managing their differences. Analysis of this study revealed that this can be important to professional's perception of your time, and the way such differences in time perception may influence work behaviour, including conflict management. This is able to also distinguish by other studies, (Amy nelson, 2008; Crystal, 2002).

Described the part of the SLP in palliative care as being multifaceted. In hospice care physician and nurse are the most members of the core palliative team. Speech language Pathologist work in a secondary team that gives extra services to the patient. (Hawk 2002). (Hawk 2002) also explained that the SLP's part as a member of a palliative team should addition educating co-workers with approaches for patient care, and receiving information a couple of care plan from the team and also the patient's family. An

additional part of the speech language Pathology is to produce consultation for other representatives of the interdisciplinary palliative care team and to receive clinical input from the team regarding the general plan of take care of the patient". The studies above revealed that there is conflict between different professionals and a lack of knowledge about the role of allied health professionals. (Lew , 1993).

According to (Rogenberg 2007), reported that there would a different opinion the knowledge regarding the part of Speech Language pathology in health care service but the problem and conflict still in all around the world which is shown by many British studies where they focus on ideas, knowledge, skills such as collaboration and decision to highlight the need for collaboration between the health care professionals. Many examples are good, many are innovative for collaborative working and should have knowledge about the individual role of health professionals in health care services. (West & Poulton, 1997), suggested that working together provide positive outcome for patient care. According to (Crystal 2002), explored the inter-professional relationship between the physician and nurses. From this study data would collected from 130 participants where study revealed that the physicians and nurses never committing a colleague for removing the conflict and supporting each other as a result they did not ensure the quality of treatment for the patient betterment. Although allied health professionals are already well established in the developed world, some studies reveal that there is still a lack of knowledge between team members. But other studies show the importance of research in helping health professionals to gain insight into each other expertise. As Bangladesh is a developing country there is a great need for a survey about the role of speech therapy in health care.

RESEARCH OBJECTIVES

- 1. To identify the General physician knowledge about Speech- Language pathologist domain
- 2. To identify the need of Speech and Language pathologist for early intervention.
- 3. To achieve the goals of the study, the client/patient will be affected to delayed diagnosis.

RESEARCH HYPOTHESIS

- 1. General health physicians are not aware of speech therapy and speech and language pathologists.
- 2. General health physicians are aware of speech therapy and speech and language pathologists.

RESEARCH METHODOLOGY

This was a pilot study where 20 participants (general physicians) were selected through convenience sampling techniques because it is suitable for both. It absolutely was a

structured questionnaire-based study for general physicians about awareness regarding SLP's domain. This pilot study conducted on a voluntary basis.

Study Design

This was a pilot study where 20 pilots selected with convenience sampling techniques because it is easy and convenient for both. It is questionnaire-based data structured study with general physicians about awareness regarding SLP's domain.

Study Location

The study place was at Karachi, Pakistan. This pilot study was conducted among General Physicians (GPs), who are related with speech and language pathology to treat the patients in Karachi. This area was selected purposively.

Study Population

Target population of this research is parents of speech disabled or delayed children and SLT professionals and/or trainees, those have been working in different speech therapy institutions and clinic of Karachi.

Sample Technique

Pilots of this study are 20 Pilots (General physicians) from Karachi city. Those pilots were selected using convenience sampling method. This sampling method is beneficial because pilots can recruit more easily, cheaply and quickly (Bailey, 1997). This pilot study conducted on a voluntary basis.

Data Collection Tool

The researcher herself had collected all the data and no assistant were used during data collection, conducted through questionnaire forms.

Procedure of Data Collection and Analysis

Used semi structured interviewing system by face to face with open ended question. Face to face interview would perform because it allows the interviewer to interact directly and to develop rapport with the interviewee (Bailey 1997) and also permits a full range of nonverbal behaviours to be observed in more natural setting. To conduct the interview the researcher made a time schedule for individual participant as they said of their availability of all took place in a clinic or hospital.

For the purpose of the interpretation of data collected through survey, along with test of null hypothesis and alternative hypothesis. T-test has been conducted for assessing the significance of hypothesis as the sample size is 20, therefore, t-test is considered to be the best for a sample size, which is less than 30. Whereas, descriptive statistics has been used to evaluate the responses collected against structured questionnaires.

Testing of Hypothesis – (T-Test)

A t-test may be a statistical test that's accustomed compares the means of two groups. It is often employed in hypothesis testing to work out whether a process or treatment actually has an impression on the population of interest, or whether two groups are different from each another.

Level of Signification

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

FINDINGS

Demographic Presentation of Respondents

Demographic presentation of the data pertaining to respondents have displayed in graphical and tabular form as follows:

Table 1: Gender

Data Range		Frequency	Percent	Cumulative Percent
	Male	12	60.0	60.0
Valid	Female	8	40.0	100.0
	Total	20.0	100.0	

The characteristics of respondents presented in table 1.1., represents that the 60% of the respondents were male. Whereas, remaining 40% were female.

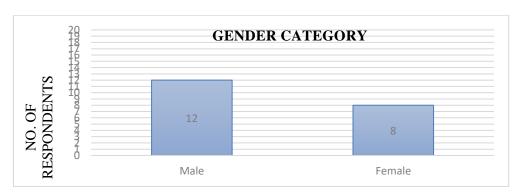
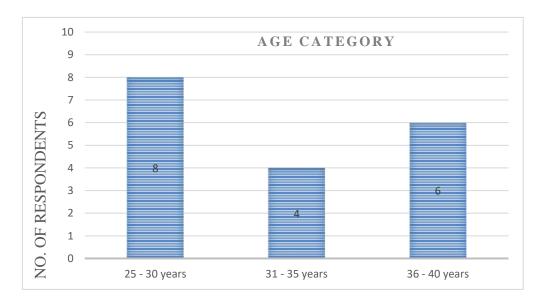


Table 2: Age

Dat	ta Range	Frequency	Percent	Cumulative Percent
Valid	25-30 years	8	40.0	40.0
v and	31-35 years	4	20.0	60.0

36-40 years	6	40.0	100.0	
Total	20.0	100.0		

The age details of respondents are shown in table 1.2; Out of the total 20 participants, 40% respondents belonged to the age group of 25-30- and 36-40-years' age group each, while remaining 20% fall under the age group of 31-35 years.



Rule of Decision

To evaluate the results of t-test, the level of signification for example P value of 0.05 has been selected and the results have been drawn on the basis of responses collected through the survey conducted using self-structured questionnaire. At the level of significance of 0.05, the critical value of t is less than the calculated standard of t, it interprets that the significance of null hypothesis is not valid and vice versa.

Data Analysis

As per the Table 2 below, t- test has been applied on the responses obtained through questionnaire. The result has been obtained using Statistical Package for the Social Sciences (SPSS), which interprets that the null hypothesis has been rejected and the alternative hypothesis has been accepted.

As per the statistical analysis, the obtained worth of P is less than the evaluative value of P (i.e. 0.027 < 0.05), as well as, the estimated value of t is greater than the critical value of t for a signification level of 0.05 and 19 degrees of freedom (i.e. 2.387 > 2.093).

Table 3: Statistical Results

	Independent Variable
Mean	30
Standard Deviation	8.242380852
Observations	20
Degree of freedom	19
t(value)	2.387343967
P(value) one-tail	0.027519374
P Critical one-tail	0.05

Table 4: Content Analysis

	Criteria	No of Doctors in each category	% of Doctors
0-25%	No to little Knowledge (about SLP)	0	0.0
25-50%	Reasonable Knowledge	5	25.0
50-75%	Need improvement and education	12	60.0
75-100%	Expert Knowledge	3	15.0
	Total	20	

Content analysis would use to analyze data collected from questionnaire. For content analysis collected data were prepared for analysis. According to (Shortall, 2000), 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 (Shortall, 2000). 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 wants 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 analyzes the data by looking for repetitive words and concept (Bailey, 1997).

DISCUSSION

The major purpose of the study is to explore the perception among physician about Speech-Language pathologist in Karachi city. 20 samples were selected for this study.

- 1. Total 20 doctors participated in the survey and answered the questions. Based on their replies it is concluded that:
- 2. All the doctors have an understanding of the speech therapy requirements and no

doctor (0%) were in the category of "No to Little Knowledge".

- 3. 25% of the doctors classified under the "Reasonable knowledge", these doctors have knowledge about all the basic requirement of the speech therapy patient requirements. However, the need refresher courses/knowledge to be an expert in the field.
- 4. About (60%) of the doctors required further updated knowledge and education about the best practice speech therapy requirements/treatment
- 5. 15% of the doctors have "expert level knowledge" and they have clear concept and requirement of the best practices for the speech therapy treatment.

Bangladesh on same guideline but the slice is different croakers like Neurologist, pediatrician, ENT specialist, and dentist. (Razia Sultana 2015 BPHT, B.Sc. in SLT). A study of speech language pathology in Amman. (Jordan, 2014) public actors in shopping boardwalk. Hana Mahmoud / Aya Alazi/ Dr. Rana Alkharama (University of Jordan, 2014) (Awareness and perception of SLP by Allied Health provider particular in the critical care sanitarium setting). (Mississippi university for women, 2017) share within the study included registered nurses, certified nursing sidekicks, registered dietitians, croakers, respiratory therapists, occupational therapists, and physical therapists. Professionals from the subsequent units were included within the study postsurgical, neurological, orthopedics, surgical ferocious care, women and children, general medical, medical ferocious care, neurological/ pediatric ferocious care, senior/ psychiatric, adult psychiatric, oncology, cardiology, and critical recuperation). Jamuna Dayalan/ suman Maji/ Jeruha Biju atall 2020) (croakers/ post graduate undergraduate students) (mindfulness of audiologists and SLP among Croaker, India).

In this study, conversations are presented with the necessary bibliographic support. No literature is available for the same study yet. Experimenter's plant in the outside world, especially in developed countries, has some exploration related to the interdisciplinary cooperation of medical professionals and the connections between them. The purpose of the study is to understand the croakers' perception of the specialty of the speech therapist. In this study, experimenters seek to discover the ascendance of pathologists' speech mindfulness among Pakistani general interpreters (GPs). When an experimenter finds results through qualitative exploration, obtains information, and compares it with affiliated exploration in other countries.

This pilot study found mixed results that, All the doctors understand the speech therapy requirements and no doctor (0%) were in the category of "No to Little Knowledge" Most of these general physicians have enough knowledge about speech language pathologists' field, about 60% of the doctors required further updated knowledge and education about the best practice speech therapy requirements/treatment. The general

practitioners 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. 25% of the doctors classified under the "Reasonable knowledge", these doctors 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. 15% of the doctors 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 speech language pathologists should perform the main role in health domain collaboration with general physicians the study results showed that in Pakistan, the medicines curriculum (MBBS) has been updated with any chapter regarding the rehabilitation/habilitation of this sort. So, most of the general practitioners are unaware about SLP domain, which is basically the key point that plays a significant role in rehabilitation. So, the researcher suggested Pakistan health council to review the official MBBS curriculum and government sector health ministry to work on this specificity. When it comes to a client's perception of speech language pathologists, future discussion "ask clients for proposal on how to increase Service delivery instead of to express their level of happiness". Suggested (Pershey and Reese, 2002). All of the research studies accept that more research study may be done to disclose often held perceptiveness of the domain of Speech language pathologist and that this knowledge may be used by SLP to enhance others' belief of the field. Moreover, multidisciplinary team are very important role play in rehabilitation and habilitation for communication disorders and overcome disability ratio in Pakistan which is irreversible.

RECOMMENDATIONS

Upcoming research should target on various field. To extend understanding of students' approach of the field, future research should specialize in the result of promoting the profession, expending awareness of speech language pathology by



visiting academic institute to inform students of the career's existence, furthermore as its many work settings and competitive reward. The researchers in addition recommendation increasing the community's knowledge that the field requires a complicated degree and relies in science. To extend other health professions' knowledge about the domain of speech language pathology, SLTs should enhance their involvement with other professions in addition advocate for programs that might build acknowledgement of the field. Although it is important for more professions to grasp the part of SLTs it is equally significant that SLTs understand other occupations' part in providing resources. When it involves a client's concept of speech language pathologists, future interviews "ask client for recommendation on better assistance delivery, instead of to explain their degree of pleasure. Suggested by (Pershey and Reese, 2002) that everyone the studies agree that more study may be done to discover commonly held perceptions of the domain of speech language therapy which this information may be utilized by SLTs to enhance more point of view of the field.

REFERENCES

- American Psychiatric Association (2013) Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: Author
- American Speech-Language-Hearing Association. (2005). Evidence-based practice in communication disorders [Position statement]. Available from www.asha.org/policy/ American Speech-Language-Hearing Association. (2014). Interprofessional education/interprofessional practice (IPE/IPP) Azima Dhanjee (YES 2013-2014, Pakistan, hosted by ACES in Royal, AR)
- Amy Nelson, M A, (2008), Speech Language Therapy. Retrieved from http://kidshealth.org/parent/system/ill/speech_therapy.html
- American Speech-Language-Hearing Association, (2007). Fact Sheet: Speech-Language Pathology. Retrieved from ASHA Website: http://www.asha.org/students/professions/overview/slp.html
- Bridges, D. R., Davidson, R. A., Odegard, P. S., Maki, I. V., & Tomkowiak, J. (2011). Interprofessional collaboration: Three best practice models of interprofessional education. Medical Education Online, 16. doi:10.3402/meo.v16i0.6035. Retrieved from www.ncbi.nlm.nih.gov/pmc/articles/PMC3081249/
- https://www.nidcd.nih.gov/health/speech-and-language March, 2017
- Baily, D.M (1997). Research for the health professionals.(2nd Ed.). Philadelphia: F. A. Davis Company. Calnan, M. (1988). Images of general practice: the perceptions of the doctor. Social Science & Medicine, 27(6), 579-586. Retrieved from http://www.sciencedirect.com/science/article/pii/0277953688900056
- Crystal, D (2002), Introduction to Language Pathology, Whorr Publisher Ltd, England. Dalley J. (2001). Nurses" perceptions of physiotherapists as rehabilitation team members. Clinical rehabilitation, 15(4), 380-389.
 - Retrieved from http://cre.sagepub.com/content/15/4/380.short
- D'amour, D., & Ivy O. "Interprofessionality as the field of interprofessional practice and

- interprofessional education: An emerging concept." Journal of interprofessional care 19.S1 (2005): 8-20
- Retrieved from wiley.com/doi/10.1002/14651858.CD000072.pub2/pdf/.
- Greenwood, N., Wright, J. A., & Bithell, C. (2006). Perceptions of speech and language therapy amongst UK and college students. International Journal of Language and Communication Disorders, 41(2), 83-94.
- Hall, Pippa. "Interprofessional teamwork: Professional cultures as barriers." Journal of Interprofessional Care 19.S1 (2005): 188-196.
 Retrieved from http://informahealthcare.com/doi/abs/10.1080/13561820500081745
- Hawk, Cheryl, et al. "Health professions students' perceptions of inter professional relationships." Academic Medicine 77.4 (2002):35435

 Retrieved from:
 - http://journals.lww.com/academicmedicine/Abstract/2002/04000/Health_Professions_Students_Perceptions_of.20.aspx_Hicks, C.M. (1999).Research_methods for clinical therapists: Applied project design and analysis (3rd Ed.).
- Edinburgh: Churchill Livingstone. Hind M., Norman, I., Coopers, S., Gill, E., Hilton, R., Judd (2003) .Inter-professional perceptions of health care students. Journal of Inter-professional care, 17(1), 21-34, retrieved from: http://informahealthcare.com/doi/abs/10.1080/1356182021000044120
- Lew, Kenneth K. "Attitudes and perceptions of adults towards orthodonti treatment in an Asian community." Community dentistry and oral epidemiology 21.1 (1993): 31-35. Retrieved from wiley.com/doi/10.1111/j.1600-0528.1993.tb00715.
- Morten (2001), an introduction to the therapy profession in Bangladesh, in V a Taylor & S Nazmul (eds), Centre for the rehabilitation of the paralysed, Dhaka. Outlook Handbook, (2006-07), Speech Language Pathologist, Retrieved from http://www.bls.gov/oco/ocoso99.html
- Rayes I. K., Hassali, M.A., &Abdulkarem, A.R. (2014). A qualitative study exploring public perception on the role of community pharmacist in Dubai.Pharmacy practice,12(1),363. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3955864/Professional profile of the Speech and Language Therapist, (1997), Retrieved from
 - http://www.cplol.org/eng/profile professionale.html
- Rosenberg, Ellen, YvanLeanza, and Robbyn Seller. "Doctor—patient communication in primary care with an interpreter: physician perceptions of professional and family interpreters." Patient Education and Counseling 67.3 (2007):286-292. Retrieved from
 - http://www.sciencedirect.com/science/article/pii/S0738399107001061
- Shipley, K., G., &McAfee, J., G., (2004), Assessment in Speech Language Pathology, 3rd edition, Toronto, Thomson Delmer Learning Speech and Language Pathology, (2014), retrieved from:
- http://en.wikipedia.org/wiki//Speech Language Pathology in clinical setting Speech and Language Therapy Role, (2014), Retrieved From
- http://thechildrentrust.nemisys.uk.com/page.asp?section=00010001000300100
 003§ionTitle=Speech+and+Language+Therapy, Speech and Language Therapy

- Leaflet, (2004), Bangladesh Health Professions
- Institute (BHPI), CRP: Savar. Steptoe, A., Doherty, S., Kendrick, T., Rink, E., & Hilton, S. (1999). Attitudes to cardiovascular health promotion among GPs and practice nurses. Family Practice, 16(2), 158-163. Retrieved from http://fampra.oxfordjournals.org/content/16/2/158.full.
- Shortell, Stephen M. "Occupational prestige differences within the medical and allied health professions." Social Science & Medicine (1967) 8.1 (1974): 9.Retrieved from, http://www.sciencedirect.com/science/article/pii/0037785674 900031 Wikipedia, (2007), Speech pathology, retrieved from http://en.wikipedia.org/wiki/Speech_Pathology.
- World Health Organization, (2000 and 2007), Meeting on International collaborative research on speech difficulties, Geneva, Switzerland, Retrieved from http://libdoc.who.int/publications/9241590386.pdf.
- Zwarenstein, Merrick, Joanne Goldman, and Scott Reeves."Inter-professional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes." Retrieved from wiley.com/doi/10.1002/14651858.CD000072.pub2/pdf/.