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PROFESSIONAL PAPER

Suggested Minimum Data Set for Speech Therapy Centers Affiliated to Tabriz University of Medical Sciences

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ABSTRACT

Background: The minimum data considered as a conceptual framework, based on the achievement of effectiveness indicators and it ensures to access of precise and clear health data. The aims of the present study were identified and proposed a data element set of speech therapy centers affiliated with Tabriz University of Medical Sciences. **Material and Methods:** This study that was cross – sectional type, performed in 9 speech therapy clinic from medical university in 2014. Firstly, the minimum data elements set evaluated using the check list in these centers. Using the findings from the first step and survey of internal and external documentation forms, designed a questionnaire containing a minimum data speech therapy files and it shared between 36 Speech therapy experts using 5 options of Likert scale. Validity of questionnaire was examined through its validity and reliability of content by retest. For data analysis, data processing was performed using descriptive statistics by SPSS21 software. **Results:** The minimum data set for speech therapy were divided into two categories: clinical and administrative data. The Name and surname, date of birth, gender, address, telephone number, date of admission and the number of treatments, the patient's complaint, the time of occurrence of injury or disorder, reason and age of disease considered as the most important elements for management data and health history. For the most important elements of clinical information were selected Short-term and long-term aims and development of speech history. **Conclusion:** The design and implementation of suitable data collection of speech therapy for gathering of data, we recommended planning for the control and prevention of speech disorders to providing high quality and good care of patient in speech therapy centers.

Key words: Minimum Data Set, Speech Therapy, Data elements, Tabriz.

1. INTRODUCTION

Nowadays, information was increasingly growing and our knowledge improved about surroundings at every moment. This condition require of a complete communication to establishment and transferring of information. Speech and language were the best and the easiest way to communicate between human society. Human can transfer their feelings and information using speech and language together and influenced and accepted on each other.

If the communication through speech and language impaired for any reason, the human communication disrupted. Therefore, human will not be able to supply the natural requirements. Speech disorders have a great important among individuals, especially children. These disorders addition to creating obstacles and difficulties related to daily activities, with long periods of time can cause many sadness and emotional problems (1, 2).

If your child confronted with the disease or specific condition on the way to grow that is preventing her development of speech and language, her education also can involve naturally in the future. Therefore, she or he can not normally continue their lives. In the other hand, if an adult because of the problems, lose her skill in language and speech, she cannot perform naturally all the duties and responsibilities of living (3).

According to definition of the Association of Speech, Lan-

guage and Hearing in America (ASHA): Speech therapy is the science that involved in assessment, diagnosis and treatment of various types of speech disorders. Speech and language pathology services include services for the diagnosis and treatment of swallowing disorders (dysphagia), communication and cognitive disorders leading to communication disability. Speech and language pathology including has different parts concluding: treatment of disorders related to creating voice, resonance, voice disorders, language, proficiency, knowledge, feeding and swallowing (4).

Health care information includes information relating to patient care process, including identifying information, financial and medical treatment in the form of (health) is placed. Ideally, the medical record must be the primary repository for all information related to patient care, leading to the decision to provide support and care as an important tool to support related activities, such: the management, guarantee of quality, research and epidemiology is the study (5).

The quality of the case studies, research, statistics, scientific information, depending on the quality of content that is serving the documentary record. These qualities, often in terms of being a true complete availability, timely and legibility described (6). The new medicine, producing large amounts of data looking, but always there is a deep gap between data collection to understand and interpret the data

available from the other side, they are bulky and confusing (7, 8).

For this purpose, (Minimum Data Set: MDS) has accumulated a minimum set of data collected, a standard method for collecting key data elements to creating an understanding makes it easy to create and also provides the possibility to compare their internal the government requirements and needs of each institution within the medical community and ultimately satisfy (9, 10). New Zealand Ministry of Health (MDS) for policy, performance monitoring and research uses. They stated that MDS statistical information, reports and analysis of the methods of care and health services, both nationally and in the institutional framework that the services are provided and for investment purposes are also used (11). There is also a philosophy of MDS Abdelhak colleagues to use standard data elements with unique definition to match the data and know that they are comparable (9). With the aim of providing proper care to patients with quality, control and prevention of disorders of speech is planning an initial survey showed, Design and implement suitable speech therapy data collection for data collection, with the aim of was providing proper care for patients, planning to control and prevention of disorders in Speech therapy. Initial investigation revealed that data elements do not collect in standardized way in these Speech therapy centers and data are evident organized and non-organized types in all the centers. Thus, the purpose of this study was evaluation of total data elements and suggestion of these data in speech therapy centers that affiliated to Tabriz University of Medical Sciences.

2. METHODS

This study that was a cross-sectional study, conducted in two stages in 2014. The population study was consisted of 9 Speech Clinics from Tabriz University of Medical Sciences that due to the limited sample, sampling was not done. At the first, collected tool for our aims were data check lists that designed by using of the previous studies, determination of the list and scientific literature and finally, data elements extracted by referring to the center and checked the relevant forms. In Second step, using the findings of the previous step, a questionnaire containing 5 demographic data, financial data, admission and discharge data, data relevant to medical and providing service center, and clinical data were designed. Validity of the questionnaire, based on credibility, was determined through literature review and consultation with relevant experts. For the reliability of the questionnaire was used the test-retest method. Therefore, the questionnaire filled by 5 individuals from the population study. The same people came back after a week, data collection were done. Finally, the correlation coefficient was calculated and it was be 83%. Then, questionnaire dedicated to the population study (n = 36), including professors,

speech therapy experts that worked in the speech therapy centers and senior students in speech therapy field. We asked them to announce rate of their agreement to each of the elements in the form of five options Likert scale (strongly agree, agree, disagree, absolutely disagree). To determine the minimum data elements, 5 option Likert rating scale was rated as the option strongly agree (5), agree (4), no idea (3), disagree (2), absolutely disagree (1). Then the average score was given to each of the elements with a minimum average of 3.75 or more. For data analysis, descriptive statistics and data processing was performed using the software SPSS21.

3. RESULT

During the investigation of the situation, the data elements were identified in speech therapy centers affiliated to Tabriz University of Medical Sciences. Data sets collected at these centers are following:

- In all the centers of demographic data (name and surname) was completely collected (100 percent).
- In all centers, date of birth, father's name, age, address and phone number was collected that they were almost imperfect.

| Administrative data collection | | | | | | | | | |
|---------------------------------------|--------------------------------------|------------------------|----------------|------------|------------|----------|---------------------|-----------|---------------|
| Data elements | | Statistical Indicators | Strongly agree | agree | No idea | disagree | Absolutely disagree | total | Average rates |
| Collection of demographic data | Name & surname | Abundance Percent | 33 91.7 | 3 8.3 | 0 0 | 0 0 | 0 0 | 36 100 | 4.92 |
| | father's name | Abundance Percent | 25 69.4 | 6 16.7 | 3 8.3 | 1 2.8 | 1 2.8 | 36 100 | 4.33 |
| | Date of birth | Abundance Percent | 34 94.4 | 2 5.6 | 0 0 | 0 0 | 0 0 | 36 100 | 4.94 |
| | Marital status | Abundance Percent | 26 72.2 | 5 13.9 | 5 13.9 | 0 0 | 0 0 | 36 100 | 4.58 |
| | gender | Abundance Percent | 34 94.4 | 2 5.6 | 0 0 | 0 0 | 0 0 | 36 100 | 4.94 |
| | Address and phone number | Abundance Percent | 3 8.3 | 4 11.1 | 2 5.6 | 0 0 | 0 0 | 36 100 | 4.78 |
| | Education | Abundance Percent | 29 77.8 | 7 19.4 | 0 0 | 0 0 | 0 0 | 36 100 | 4.81 |
| | With the patient's name | Abundance Percent | 28 77.8 | 8 22.8 | 0 0 | 0 0 | 0 0 | 36 100 | 3.92 |
| | Family of languages | Abundance Percent | 35 97.2 | 1 2.8 | 0 0 | 0 0 | 0 0 | 36 100 | 4.97 |
| | Second Language Family | Abundance Percent | 34 94.4 | 2 5.6 | 0 0 | 0 0 | 0 0 | 36 100 | 4.94 |
| | Child turns | Abundance Percent | 28 77.8 | 6 16.7 | 0 0 | 0 0 | 0 0 | 36 100 | 4.72 |
| | Number of children | Abundance Percent | 26 72.2 | 7 19.4 | 3 8.3 | 0 0 | 0 0 | 36 100 | 4.64 |
| Financial data | Type of Insurance | Abundance Percent | 16 44.4 | 7 19.4 | 9 25 | 3 8.3 | 0 0 | 36 100 | 3.92 |
| | Insurance Number | Abundance Percent | 15 41.7 | 3 8.3 | 15 41.7 | 3 8.3 | 0 0 | 36 100 | 3.75 |
| Data center & service provider | The identity of the service provider | Abundance Percent | 20 55.6 | 12 33.3 | 4 11.1 | 0 0 | 0 0 | 36 100 | 4.44 |
| | Education therapist | Abundance Percent | 20 55.6 | 7 19.4 | 6 16.7 | 3 8.3 | 0 0 | 36 100 | 4.22 |
| | Clinic service provider | Abundance Percent | 32 88.9 | 4 11.1 | 0 0 | 0 0 | 0 0 | 36 100 | 4.5 |
| Data related to admission & discharge | File Number | Abundance Percent | 23 63.9 | 9 25 | 4 11.1 | 0 0 | 0 0 | 36 100 | 4.53 |
| | Date of adoption | Abundance Percent | 32 88.9 | 4 11.1 | 0 0 | 0 0 | 0 0 | 36 100 | 4.89 |
| | The number of treatment sessions | Abundance Percent | 26 72.2 | 5 13.9 | 4 11.1 | 1 2.8 | 0 0 | 36 100 | 4.56 |
| | The original diagnosis | Abundance Percent | 28 77.8 | 5 13.9 | 3 8.3 | 0 0 | 0 0 | 36 100 | 4.69 |

Table 1. Distribution of vision research community regarding the collection and management of data speech centers.

- In all centers, health center and service provider data would be collected that these elements were incomplete.
- In all centers, the data related to admission and discharges of patient were collected incompletely.
- Data related to the history and family history were collected in 7 centers (77.8 percent) which was almost incomplete.
- The type and age of onset in disorder and injury were collected in 7 centers.
- Short-term and long-term treatment goals, short term goals and long-term reports were collected only in 3 centers (33.3%).
- Reports on referral and counseling center were collected in only 2 centers.

Finally, questionnaire was presented in two parts including organization and clinical data based on the results of check lists, scientific literature and survey of internal and external documentation forms. Then, findings of this survey were reported. These results showed that all of surveyed elements have been verified by the population study. The results are as follows:

The administrative data including patient demographic data, financial data, data related to center and service provider, data about admission and discharge of patient.

In Table 1 are presented the demographic data: most average patient gender and date of birth. (4.94) the patient with is the lowest (3.92). In the center of the service provider, the service provider has the highest average for the clinic (4.50).

According to table 2, in part of clinical data, the most mean was relevant to age of onset of damage or disorder (4.97), the time of occurrence of injury or impairment, speech development history, current condition of person of the situation (4.94) and the lowest average was relevant to the reports from the consultation (4.47).

4. DISCUSSION

As same as, the health care organizations were complicated, requirement for health information was more completed; therefore, all of information should be collected perfectly. The purposes of all data sets were the possibility of further comparison between data, improving and adaptive data using the standard data with same definitions. The data are necessary for the analysis of activity, access to reliable and new information about number of patients, diseases, new methods of treatment and results (12, 13, 14).

According to the this study was suggested that documentation of records (Speech therapy file) should be consisted of two parts: an organization data and clinical data, report data system in America determined for discharged patients with stroke for rehabilitation centers in 2000-2007 that revealed that the minimum data set for these patients include of demographic data (age, sex, marriage situation, nationality, status of clearance), hospital information (length of stay, financial

| Clinical data collection | | | | | | | | |
|--|------------------------|----------------|------------|----------|----------|-------------------|-----------|---------------|
| Data elements | Statistical Indicators | Strongly agree | agree | No idea | disagree | Strongly disagree | total | Average rates |
| Data on Health History | Abundance Percent | 29 80.6 | 5 13.9 | 1 2.8 | 1 2.8 | 0 0 | 36 100 | 4.72 |
| The main complaint of the patient | Abundance Percent | 32 88.9 | 3 8.3 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.78 |
| Time of injury or dysfunction | Abundance Percent | 34 94.4 | 2 5.6 | 0 0 | 0 0 | 0 0 | 36 100 | 4.94 |
| Cause damage or disruption | Abundance Percent | 33 91.7 | 3 8.3 | 0 0 | 0 0 | 0 0 | 36 100 | 4.92 |
| Age of onset of the disorder | Abundance Percent | 35 97.2 | 1 2.8 | 0 0 | 0 0 | 0 0 | 36 100 | 4.97 |
| History of speech | Abundance Percent | 34 94.4 | 1 2.8 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.94 |
| Current status of the individual in relation | Abundance Percent | 34 94.4 | 1 2.8 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.94 |
| Proposed remedial action | Abundance Percent | 29 80.6 | 6 16.7 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.78 |
| Short-term treatment goals | Abundance Percent | 30 83.3 | 6 6.7 | 0 0 | 0 0 | 0 0 | 36 100 | 4.83 |
| Long-term treatment goals | Abundance Percent | 32 88.9 | 4 11.1 | 0 0 | 0 0 | 0 0 | 36 100 | 4.89 |
| Result , the diagnostic report | Abundance Percent | 31 86.1 | 4 11.1 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.83 |
| Reports of short-term and long-term goals | Abundance Percent | 27 75 | 8 22.2 | 1 2.8 | 0 0 | 0 0 | 36 100 | 4.72 |
| Reports on consultation | Abundance Percent | 22 61.1 | 11 30.6 | 2 5.6 | 0 0 | 1 2.8 | 36 100 | 4.47 |
| Reports referred | Abundance Percent | 22 61.1 | 11 30.6 | 3 8.3 | 0 0 | 0 0 | 36 100 | 4.53 |

Table 2. Distribution of view of research in connection with the collection of clinical data in speech therapy clinics.

information, information of rehabilitation Medicine, based on ICD-9 codes associated diseases ...) and performance information (15).

For organizational data suggested: patient demographic data, financial data, data center and service provider, data on admission and discharge of patient.

Demographic data gathered to identify and communicate with patients and they considered as essential data to identify information, follow up and calling of patients (16).

Basheiri showed that a minimum data for radiology reporting system to exchange, the Iran electronic health records file (Name, surname, date and place of birth, degree of education, gender, address and phone number) was as the most important demographic data that this is important in the current study of demographic data parts (17).

The findings of our study showed that informational element; the number of insurance (3.75) and the insurance ranking (3.92) had the lowest score.

It seems that because of speech therapy services do not cover by Iran organization's insurance, in spite of the informational element, they were not fully agree.

Ahmadi and et al in their publication article as data elements minimum set designed for orthopedic injuries in Iran showed that a consistent minimum standard data have not been created for orthopedic injuries in Iran. Special items also were not considered for insured data an element, which leads to neglect of data recording in insurance centers that they need them and lack of these data makes deductions that would have

similar present results (18).

The findings of service provider and other center showed that the research community to rate of agreement about informational element the data identity and education service provider mentioned average (4.44) and the name of the service provider's clinic averages (4.50).

Therefore, one of the most important applications of these informational data elements was used in legal. This recorded data also can play an important role in evaluation of personnel, human and financial planning.

So, this data should be documented carefully (12). Vogel et al. in 2007, in an audiometric study suggested that on audiometric forms should consider the specific sites for signing up, the name and logo of organization (19).

Findings related to the clinical and maintenance data revealed the most important of clinical informational element were main complaint of the patient health history, the time of occurrence injury or impairment, reason and age of occurrence an injury or disorder, a history of development verbal and short term and long term goals of treatment.

Speech and Language Association of America categorized essential elements for documentation of speech and language services based on the seven groups, including social information (demographic information, financial data, information and exhibitor service center, number of file, date of acceptance and the initial evaluation), medical history, assessment of Clinical and patient condition, treatment plan (short term and long term aims), documentation, treatment for documentation of discharge and summary report (20).

Lima et al showed that the documentation of the clinical data for continuity of care and development of clinical knowledge, ensuring of safety and care management (21).

Jahanbakhsh et al showed that the minimum data set of diabetes mellitus was the main indicator for the effectiveness of the management of diabetes. Minimum data set of diabetes consists of two parts: demographic and clinical data that is similar to present results. In this study, the demographic data in determining of size, distribution of age and sex in patients as the procurement of services, amount of morbidity and mortality and also determination of efficiency in the services to design it in future. Generally, the demographic data can be considered as an investment of organization. It is clear that the clinical data obtained during the process of diagnosis and treatment, and in addition to it can consider as the direct care of the sick and also can help to reimbursement process, planning and research in health care field (22).

Aristo et al performed a similar research in the field of audiology and proposed the minimum data elements for demographic information, patient history, assessment of patient and treatment plan in specific templates and designed completed instructions. Symptoms and referral source were putted as important elements in main complaint of the patient's history. In the proposed model, the history categorized in four groups including hearing history, medicine in children, and rehabilitation (23).

Rafiee et al designed the recent research in the field of nursing and concluded that the maximum nursing data were related to nursing data such as diagnoses, nursing interventions and outcome (24).

5. CONCLUSION

Design and implementation of data collection was pioneered at health centers and the improvement of quality need of patient care and control data. Speech therapy adopted as an extensive collection of words and definitions that it can ensure assessment to precise and clear health care data by providing one of the most important of management tool for decision in health industry. The proposed minimum data set has two parts including clinical and management data for speech therapy centers in Tabriz. The present collection, designed based on a survey of experts in Speech therapy and suggested that study and use in the related centers.

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