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MESSAGE OF THE EDITORIAL BOARD CHAIRMAN

Welcome to the Armenian Journal of Special Education (AJSE). This journal is a peer reviewed journal in English for the enhancement of research in different areas of special, inclusive education and rehabilitation. The aim of the AJSE is to give a highly readable and valuable addition to the special education literature which will contribute to the decisive reference tool for years to come. Key to our aim is a vow to enlighten international authors, readers, and reviewers to become highly qualified and skilled writers, critics, and users of special and inclusive education research on international level, as well as advanced researching practices.

We are delighted to publish AJSE in English to reflect different issues of international and national special, inclusive education and rehabilitation fields that are relevant for up-to-date dispute. We are more than pleased to receive contributions for our next issue from special educators, rehabilitation field specialists, researchers, scholars and practitioners to ensure the reliability and the success of the Journal.

We highly appreciate any comments, feedback and suggestions that would help us to advance the objectives of the Journal. Always keeping in mind that education without innovative research and expansion is pointless for the community, we are keeping the track to interwove universally and contribute to global knowledge as much as it is possible.

Sincerely,

RUBEN MIRZAKHANYAN

CONTENT

PECULIARITIES OF ORGANIZING THE EDUCATION OF CHILDREN WITH SPEECH DISORDERS FROM THE PERSPECTIVE OF SPEECH THERAPY ASSESSMENT AND INTERVENTION

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ABSTRACT

Early diagnosis of various speech disorders and the process of timely organization of speech therapy intervention has remained in the limelight. Using the sensitive areas of child development for effective speech therapy intervention period, taking into consideration the fact that each stage of development creates a basis for further development was highly recommended.

It is known that the diagnosis or assessment is based on the examination of the child, detailed anamnestic data collected, which presents the features of the child's early development, starting from prenatal, natal, and postnatal development. In this case, it is very important to pay attention to the existence of harmful effects that occurred during pregnancy, traumas occurred, asphyxia, etc. It is a fact that early diagnosis of various speech disorders in children, as well as the organization of appropriate speech therapy intervention, allows avoiding more complex problems that may arise already at school age.

Based on this the main aim of this paper is to review the existing literature in regards to organization education of children with speech disorders and speech therapy assessment and intervention within this frame and analyze the standpoint of different authors and sources.

Keywords: speech disorders, children with speech disorders, speech therapy assessment, speech therapy intervention, education, early diagnosis,

REVIEW OF THE LITERATURE

In the modern literature, a certain sequence of speech diagnosis or assessment is distinguished as follows: orientation, diagnosis, analytical, output, and final stage is awareness (providing information about the child to the parents) (Harutyunyan & Hovyan, 2018; Hovyan, 2015; Babina, 2014; Paramonova, 2002). During the analysis of the scientific-methodological literature carried out within the framework of this research, it was referred to the peculiarities of each stage: starting from the orientation stage, when anamnestic data are still collected through interviews with parents, the study of pedagogical and medical documents is conducted. Early diagnosis and assessment of various speech disorders allow avoiding more complex problems that may arise already at school age. In other words, it can be confidently said that the main goal of psycho-pedagogical assessment is to contribute to the most effective course of speech therapy intervention, as well as the selection of appropriate methods and techniques (Harutyunyan, Hovyan, Saratikyan, Azaryan, Muradyan, & Tanajyan, 2019; Artyomova, 2014). It provides an opportunity to identify the type, severity, nature of the existing speech disorder. The below-described principles are distinguished in the process of speech therapy assessment while working with children with a speech disorder.

Principle of the child's systematic assessment.

In this case, the cause of the speech disorder can also be investigated. The principle of systemic approach presupposes the examination of the child by different specialists: doctor, psychologist, educator. In other words, the cooperation of these specialists is possible and necessary not only during the intervention but also during the assessment and evaluation process. For example, effective assessment of rhinolalia and further intervention actions may require not only the participation of a speech therapist, but also a psychologist, maxillofacial surgeon, dentist, orthodontist, and otorhinolaryngologist.

Principle of a comprehensive approach.

It involves a comprehensive, thorough examination of the child. In this case, not only the study of verbal and cognitive activities is conducted, but also emotions, behavior, as well as the state of sight, hearing is observed. For example, in the case of differential diagnosis of autism, by studying only

the verbal symptoms (speech perception, early speech development, echolalia, expressive speech, etc.), the speech therapist will not be able to identify what problem he/she is dealing with, so the specialist should pay attention to it. The child's behavior, emotional sphere, psychopathological symptoms, peculiarities of mental development, use of facial expressions, gestures, motor skills should be assessed and evaluated. Taking into account the above-mentioned principle, it is necessary to consider speech as a complete system (vocabulary, grammar, phonetic side).

Principle of dynamic assessment.

This principle involves not only the use of diagnostic methods but also the identification of the child's potential - the nearest developmental zones (Volkova, 2014). Adherence to this principle is especially important in the assessment and evaluation of children with systemic speech disorders because it allows for a differential diagnosis. For example, to distinguish general speech impairment from speech disorders due to mental retardation (difficulties with learning skills and abilities). In addition, the observance of this principle is also important when the assessment is performed with a stuttering child, in this case, it is necessary to distinguish the type of stuttering: neurotic or neurosis alike. Studies have shown that children with neurosis-like stuttering have a slower mental development than those with neurotic stuttering.

The principle of dynamic assessment implies that it is necessary to single out not only the child's problems, difficulties, or weak points but also his/her strengths, based on which effective work can be organized. In the case of stuttering, such qualities can be the child's purposefulness, organization, independence, high efficiency, etc.

Principle of age and individual characteristics accounting.

In this case, both the assessment and the further speech therapy intervention are organized based on the individual and age characteristics of the child. For example, referring to the above-mentioned problem, Gvozdev (2007) linked the importance of speech therapy work with children with speech disorders to the more intense development of the brain during the first years of life.

Many authors emphasize the use of different forms of activity in diagnostic, интержентион with children with speech disorders: object-play,

play, educational, etc. (Babina, 2014; Hovyan, Vardanyan, Amirbekyan, Grigoryan, 2008; Kalyagin, 2004). But more attention needs to be paid to the age-leading activities of the child. It is necessary to organize the speech assessment process based on the following requirements:

- given the age and individual characteristics of the child, it would be more appropriate if the assessment takes only 5-10 minutes.
- to avoid tension, it is necessary to organize the process of speech assessment in the educational process.
- to avoid fatigue, assessment is done giving the child possibility to be in different positions (sitting, standing, around the table, etc.).
- it is necessary to consider the availability of speech material, which should be appropriate for the age characteristics of the child.
- if the child does not follow the instructions immediately, it should be repeated.
- the speech therapist can keep an "Observation Diary".
- parents can have a "Mother Diary", where peculiarities of different stages of verbal development will be presented.

Principle of qualitative analysis of the received data.

In this case, the correct diagnosis and assessment of speech disorders are essential because certain conditions or symptoms such as speech disorders can be confusing. In this case, it is necessary to correctly combine the available data to determine the type of speech disorder.

The clarification of the above-mentioned principles that stand out in the process of assessing a child with a speech disorder below, for example, is given from the point of view of the assessment of sound pronunciation disorders.

As it is known, the effectiveness of their educational activities is conditioned by the correct position of the speech therapy works aimed at overcoming the verbal problems of children with speech disorders in the educational institutions of the Republic of Armenia (Grigoryan, 2021; Hovyan, 2019; Hovyan, 2011; Paylozyan & Tadevosyan, 2009; Volkova, Lalaeva & Mastyukova, 2009; Karapetyan 2001), as the speech therapy work carried out in these institutions pursues one important goal - the development of the ability to reproduce the sounds of speech correctly.

Studies conducted in public schools show that many professionals find it expedient to apply the psychological-pedagogical classification of speech disorders in their work, according to which there are developed perspective plans. According to that classification, the following are separated: (a) sound underdevelopment (SU); (b) phonological underdevelopment (PhU); speech general underdevelopment (SGU).

The perspective plans for the correction of speech disorders in elementary school children include in detail the sequence, content, shapes, and accessories of the speech therapy work with children with speech disorders. Plans can be applied to both individual and group exercises. The length of work on each topic depends on the child's knowledge and skills, the next topic is passed only if the previous one is fully mastered. Experience shows that the correction of PhU takes 1 academic year on average (Paylozyan & Tadevosyan, 2007).

Some authors, to organize speech therapy intervention in educational institutions, first of all, use perspective plans for the organization of that work, aimed at developing the abilities of students with speech disorders. According to the plan, children with speech disorders should be able to perceive, differentiate sounds according to acoustic features, master the regulated pronunciation of a given language, as well as perform auditory control over one's pronunciation, and after all evaluate the quality of pronunciation of one's speech sounds (Volkova, 2014; Hovyan, Vardanyan, Amirbekyan, Grigoryan, 2008; Paylozyan & Tadevosyan, 2007).

The issue becomes more complicated when it comes to the organization of speech therapy assessment and intervention in the regions of the Republic of Armenia, to the existence of appropriate programs for the development of children's speech, to the availability of speech therapists, and ensuring the sufficient training of native language teachers.

As the development of speech of children with speech disorders is often complicated by a variety of problems with the external articulative organs, many authors recommend the use of expressive, articulative exercises in speech therapy, which mainly help to strengthen the position of the speech articulation external organs, their participation in the pronunciation of each sound, as well as in the implementation of conscious actions aimed at sound analysis in the development of this or that property of sounds (Harutyunyan

& Hovyan, 2016; Babina, 2014; Volokova, 2014; Hovyan, Vardanyan, Amirbekyan, Grigoryan & 2008; Paylozyan & Tadevosyan, 2007; Paramonova, 2002).

In contrast to this analysis, the World Health Organization International Classification of Functioning and Disability, Children and Youth (2008) present the International Classification of Functioning, Disability, and Health (ICF) as a basis for assessing a person's disability level and needs, and in this case, from the point of view of the assessment of speech disorders, it refers mainly to the assessment of abilities and skills, and the ICF database, with sufficient fields, component, and the corresponding codes give possibilities:

1. to have more accurate, comparable statistics to assess the current level of learning ability of a child with a speech disorder to explore his/her speech development opportunities;
2. to monitor the services provided to a child with a speech disorder;
3. to develop a policy based on data analysis;
4. to make an assessment and identify a need.

At the same time t is essential to mention, that as the first step of implementation in the Republic of Armenia, the ICF is called to serve as a new model for defining disability, which will help to implement legislative reforms enshrining social inclusion policy, as well as to create equal and accessible conditions through the introduction of a social model, taking into account that it should not be based only on the existing status of a person with a disability, as different people with the same diagnosis may have different needs and participation in public life due to individual and environmental factors.

Depending on the person and environment's relationship, speech disorder and communication limitation can affect human activities in different ways. Consequently, as a result of a comprehensive assessment of a person, by his/her abilities and needs, it is necessary to provide appropriate professional services to ensure his/her participation and social inclusion (WHO, 2008).

Based on the reforms, recently, Armenia has changed its positions and approaches to addressing the issues of persons with disabilities. As with the prevailing stereotypes in society, disability is no longer seen as a problem of

the individual or only one department in state policy, it requires a multidisciplinary approach (Harutyunyan, Hovyan, Saratikyan, Azaryan, Muradyan, & Tanajyan, 2019). Within this scope, the most important issue is that the settlement of disability issues is based on the priority of human rights protection and the idea of accepting people as a supreme value (Unicef Armenia, 2012).

According to the Protocol Decision No. 1 of the Government of the Republic of Armenia of January 9, 2014, a new concept, suggested by WHO (2008) for the introduction of a disability definition model is based on the principles of a comprehensive assessment of a person, which is currently used in general education to assess speech disorders also. After this Decision, many structural changes have taken place in the regard to children's evaluation within the context of education and social protection. According to the RA Law on General Education, Article 17.1, point 1 for implementing universal inclusive education policy in RA, Services of pedagogical and psychological support for the organization of education are provided in 3 levels: school level, regional level, and republican level (13.04.2017, N 370-N Order of RA Minister of Education and Science cited from Harutyunyan, Hovyan, Saratikyan, Azaryan, Muradyan, & Tanajyan, 2019, p. 17).

Within the framework of educational reforms, in terms of regional level assessment, certain problems arise in the process of speech therapy (assessment or diagnosis), as such assessment process is currently based on five main dysfunctions: voice and speech, hearing, sight, intellectual (mental), motor (13.04.2017, N 370-N Order of RA Minister of Education and Science, Form 4). Still, functional classification cannot be used as a basis for determining the type, duration, period, and scope of pedagogical and psychological support services provided, as function assessment is itself a medical process that requires narrow professional intervention. Assessment of speech disorders is a key precondition for organizing speech therapy intervention; and consequently, the effectiveness of speech therapy assessment depends on the accurate organization of the whole intervention process.

According to the Order of the Minister of Education and Science of the Republic of Armenia of November 23, 2016, N 1202-A (Annex 1), the criteria of pedagogical-psychological assessment of the need for special

educational conditions of a child are applied to the organization of education of children with special educational needs to determine the increased amount of funding. These criteria have been developed by the requirements of the Law of the Republic of Armenia "On General Education".

Assessment of the need for special educational conditions at different stages of a child's development is a process of collecting a variety of information about the child and coordinating this data. Assessment is carried out in the normal environment of the child to ensure proper planning of the child's curriculum and implementation of necessary professional services. Speech therapy assessment is also done similarly (Harutyunyan, Hovyan & Harutyunyan, 2018).

FOLLOW-UP AND CONCLUSION

Existing scientific studies aimed at organizing speech assessment according to the peculiarities of functional assessment are not completely sufficient for the diagnosis of speech disorders in Armenian-speaking children, and then for the organization of speech therapy intervention organized based on that diagnosis (assessment), still need multilevel and large-scale studies.

The above-mentioned review is relevant in the sense that for the first time in Armenia the model used in the speech assessment process in regional pedagogical-psychological centers is scientifically substantiated.

The new model of speech therapy assessment (based on WHO ICF CY, 2008) will enable the diagnosis of speech disorders from the point of view of functional assessment, and the implementation of the process of overcoming the speech difficulties of children with speech disorders in educational institutions, supporting opportunities to raise new research issues.

To solve the problem, it is necessary to first analyze the current system of education for children with special educational needs, to determine the increased amount of funding, and apply the criteria of pedagogical-psychological assessment of the child with special educational needs by clarifying the characteristics, qualifications of the above-mentioned problems, proposing a new model of speech therapy assessment. To provide speech therapy support at the proper level, professionals in the field must be able to assess the child's speech problems first. This process needs to be

organized according to the general criteria for the classification of speech disorders accepted in modern speech therapy. At the regional level, pedagogical-psychological support centers the above-mentioned patterns are not considered, which justifies the need for further research and situation analysis.

Of course, the Order N 370-N of the RA Minister of Education and Science of April 13, 2017, on approving the procedure for providing pedagogical-psychological support services for the organization of education refers to the provision that regional support centers should support the child and organize professional intervention at school at least once a week (13.04.2017, N 370-N Order of RA Minister of Education and Science, Part III, point 16). But this point of the above order is more than tricky, especially because there are schools that do not have a support team, or there is a teacher assistant in the school who is, for example, an English or biology teacher. In this regard, specialized support t children with special educational needs become not possible. This indicates that children who need professional, in this case, speech therapy support does not receive adequate quality and quantity of appropriate services, which in itself contradicts the ideology of full inclusion (Harutyunyan, Hovyan, Saratikyan, Azaryan, Muradyan, & Tanajyan, 2019).

Protocol Decision No. 6 of the Government of the Republic of Armenia (18.02.2016) on approving the action plan for the implementation of the full inclusive education system defined the transition to full inclusive education starting from 2016 in 3 regions in Armenia: Syunik, Lori, and Tavush. Then, already in 2017, the order N 370-N of the RA Minister of Education and Science of April 13 defined the type, period, line, and volume of support services envisaged by the individual education plan. Here the degree of need for special conditions of education is defined as mild, moderate, severe, and profound.

The order clearly states that in case of a mild degree, control is established, in case of moderate degree - frequent support is needed, in case of severe problems - support of high frequency is needed, and in case of profound degree - permanent support should be provided (13.04.2017, N 370-N Order of RA Minister of Education and Science, Annex 1). Inappropriately, the same order does not specify the grounds on which, for example, in the

case of a mild degree, a total of 90 minutes of weekly support is provided (including special pedagogical (45 minutes), psychological (20 minutes), and socialization services (25 minutes); in case of moderate cases frequent support provides 180 minutes per week (including special pedagogical (90 minutes), psychological (40 minutes) and socialization services (50 minutes); in case of high-frequency support - 250 minutes (including special pedagogical (100 minutes), psychological (60 minutes) - socialization services (90 minutes), and at last, for permanent support - 390 minutes (including special pedagogical (130 minutes), psychological (60 minutes) and socialization services (200 minutes). If someone tries, for example, to divide the service period for a child who needs frequent support into days of the week, it will be 25.7 minutes per day, and in the case of a child who needs high-frequency support, it will be calculated as 35.7 minutes per day. Several questions arise here. First, is support provided to these children on time, and second, is it sufficient, even if it is provided? The expert opinion is negative. Especially because the families living in the rural, why not in the urban areas of the region have serious socio-economic problems, in most cases, the school becomes the only institution providing support services to the child with special educational needs (Harutyunyan, Hovyan, Saratikyan, Azaryan, Muradyan, & Tanajyan, 2019).

The above mentioned becomes a subject of serious consideration for both state and non-state institutions of the Republic of Armenia, which operate within the framework of inclusive education, social and educational issues of children with special educational needs, and/or children with disabilities. As the process of transition to full inclusion has changed, the process of determining the type, period, duration, and scope of pedagogical and psychological support services, questions related to a child's speech problems, and the type and degree of speech disorder should be assessed by a speech therapist.

The support group includes the institution's teacher assistant (s), special pedagogue (s), psychologist, social pedagogue, and nurse (13.04.2017, N 370-N Order of RA Minister of Education and Science). If the mentioned specialists are not present in the institution, they are invited from the regional center to serve the given institution. The support team at the school level, in close cooperation with the teachers and the student's parents,

organizes the need assessment of children with special educational needs at the school level and the effective organization of education.

After summarizing the results of the school level assessment of the child's needs within a maximum of 15 days, the support group, with the participation of the parent, develops a learner's Individual Learning Plan. The type, duration, line, and scope of support services included in the Individual Learning Plans are determined based on the information gathered during the child's school or regional level assessment. The schedule of support services provided to the learner is approved by the director of the school, and the copy is provided to the learner's parent.

Usually, support services are provided to the learner after classes, according to a set amount, but not more than 1.5 hours per day. The support group conducts observations during lessons (at least 3 lessons per day), adjusts educational materials, develops suggestions for the next day's lesson plans related to the pedagogical methods and tasks implemented other works provided by the support services of learner (Harutyunyan & Hovyan, 2018).

After conducting the regional level assessment within at least 5 days, specialists of the regional center responsible for the assessment, conclude and submits it to the regional center director for approval. Still, based on the existing situation, it becomes clear that the modern educational system must become flexible and innovative in nature to solve the problems it faces. The innovation system must provide functions in accordance disclosure of changes and urgent needs in the pedagogical system; design of innovative activity system; as well as the practical implementation of innovations.

Perception of developmental tendencies is a feature of an educational institution, which shows his ability to identify the objective possibilities of educational activity, to evaluate them adequately. Modern society is facing several global issues, and the world community is looking for solutions (in particular, the UN Children's Fund - UNICEF, EU).

Based on the analyses presented above, it is ordinary that the principles and concepts of these programs must be reflected in the content of pedagogical education in the form of a content supplement for individual subjects or separate courses. But there is a danger of a constant increase in the volume of programs, therefore, is more preferable the approach to integrate the ideas in the existing courses. Current educational standards of

pedagogical education do not fully reflect the standards of education and the principle of continuity in the dynamics of the pedagogical education system development. Therefore, they do not always correspond to the substantive reforms in the field of general education, to the requirements of the teaching profession. At the same time, there are no effective levers to bring the pedagogical professional programs in line with the educational outcomes, which significantly complicates the control of educational outcomes and objective assessment of the quality of the specialists.

In this regard, it is important to emphasize the involvement of the scientific potential leading experts of the Faculty of Special and Inclusive Education, in this ongoing process of these educational reforms, as only scientific-based research can be the basis for legislative changes that will solve problems in the field.

Emphasizing the rights of children with special educational needs on the way to spreading the ideology of full inclusion and moving to this curriculum are ignored quite serious problems, such as speech and language pathology research, peculiarities of its prevention, organization of speech therapy intervention according to the functional assessment. The organization of speech therapy intervention based on that diagnosis (assessment) and needs still, requires multilevel and large-scale studies.

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THE IMPORTANCE OF SELF-CARE SKILLS DEVELOPMENT FOR CHILDREN WITH AUTISTIC SPECTRUM DISORDER FROM THE PARENTS' PERSPECTIVE

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ABSTRACT

This research aims to explore the awareness of parents of children with autistic spectrum disorder about rehabilitation services developing self-care skills. A quantitative research method was used in this work, which allows to form knowledge based on precise logic, mathematical-statistical calculations. The study included an online and paper-based questionnaire survey where 35 parents of children with autistic spectrum disorder have participated. The use of the quantitative method for data collection and analysis made it possible to rigorously adhere to the aim and the objectives of the study as well as to obtain objective results, test the accuracy of the hypothesis, and establish causation.

The summary of the results showed that the majority of parents of children with autistic spectrum disorder (81.8%) have a clear idea of the services aimed at improving self-care activities and realize the importance of performing them independently. For 6.7% of parents, it was important that their children can perform self-care activities independently, but they did not take steps in that direction, and only 26.7% wanted to seek professional help. However, as parents of children with autistic spectrum disorder, select rehabilitation services for enhancing their children's skills, being aware of appropriate services, and suitable intervention approaches were considered to be important points for approving children's future independent life.

Keywords: Autistic spectrum disorder, self-care, occupational therapy, occupational therapy service, independency, rehabilitation.

INTRODUCTION

Autism is characterized as a complex developmental disorder that is distinguished by the peculiar manifestations of the child's behavioral-emotional spheres, communication limitations, problems in language skills, difficulties in games, and social interaction. It is considered a spectrum disorder, as the abilities of children with autism may vary greatly from one child to another (Koenig & Rudney, 2010). These children, adolescents, and adults often have difficulty in adjusting to social relationships and interpersonal relationships because they perceive the environment completely differently. They can have limited interests, ability to initiate and perform daily activities, often have difficulty in engaging in self-care, games, and learning processes effectively (Taylor & Mailick, 2014). However, it should be noted that every individual with autism is unique.

Due to complex developmental dysfunction, individuals with autism very often have difficulty in realizing the roles they are expected to accomplish in their life and they can display behaviors that can hinder their participation in daily life. Being the mother of a child with autistic spectrum disorder and facing the difficulties of performing self-care activities in everyday life it became clear that over-care and continuously doing self-care instead of a child may reduce the development of the child's abilities and independence. It has been approved that early intervention and many educational and rehabilitation services that children with autism are intended to develop their skills and abilities for overcoming difficulties in daily life. Particularly, the primary aim of occupational therapy practice ensures that individuals with autism can take part in daily situations by minimizing the difficulties in the daily activities they experience at home, school, or in the community (Christiansen, Baum, & Haugen, 2005). Occupational therapists believe that the use of client-centered and holistic therapeutic interventions can facilitate children’s participation in meaningful and purposeful activities. Also, they can provide a considerable advantage in dealing with the problems individuals with autism, and their families face in daily life, to accomplish the aims that they have during the day (Novak & Honan, 2019).

For this reason, this study aims to explore the awareness of parents of children with autistic spectrum disorder about self-care services provided for their children, as well as to understand how they perceive the role of occupational therapy for developing necessary skills and abilities to perform self-care activities to be as independent as it is possible. Therefore, the research question has the following formulation: Are the parents of children with autistic spectrum disorder aware and informed about the services that are aimed at developing skills to perform self-care activities?

LITERATURE REVIEW

According to the literature, Autism Spectrum Disorder (ASD) is the most common developmental disability and neurological disorder affecting people across their lifespan (APA, 1994). ASD is considered a developmental disability, which is defined by behavioral characteristics, and the primary features of ASD are described as problems in language skills, games, and social interaction (Cebula, 2011). Since ASD is a unique form of psychological developmental disorder, it is accompanied by the disturbance of various mental functions' development, with unique emotional-behavioral, verbal, and sometimes intellectual disorders (Nikolskaya & Vedenina, 2014). Symptoms begin in early childhood and in addition to the primary features, individuals with autism generally have sensory processing and sensory integration dysfunction, which affect adaptive behavior and involvement in daily activities.

According to the 10th International Classification of Diseases (ICD-10), autism is defined under the broader category of pervasive developmental disorders (PDD) and are defined as a group of neurodevelopmental disorders characterized by qualitative deficits in reciprocal social interactions, qualitative deficits in communication, and presence of restricted, stereotypic, and repetitive behavioral interests and activities (WHO, 1992).

Since autism has a wide range of severity and symptoms which are different from one person to another, the abilities and needs of people with autism always vary and can evolve.

ASD is a lifelong condition with varying degrees of severity and prognosis. It presents differently in every individual, impacting all aspects of an individual's development and occupational performance, including their

ability to perform activities of self-care, daily living, and to participate in productive work (education for children), leisure and recreation activities, as well as overall, their ability to communicate and participate socially (Bumin, Huri, Salar, & Kayihan, 2015). Some people with ASD can live independently, others have severe disabilities and require life-long care and support. Autism often has an impact on education and employment opportunities. In addition, the demands on families, providing care, and support can be significant. Societal attitudes and the level of support, care provided by families and specialists are important factors determining the quality of life of people with autism (Rodger & Umaibalan, 2011).

Due to the peculiarities of ASD, the development of self-care activity performance skills of children can be very slow, and in some cases, these skills may be completely absent, due to the specifics of the disease (Reinhard, Given, Petlick & Bemis, 2008). For people with autism, learning life skills is essential to increase independence at home, at school, in the community. By introducing these skills at an early age, step by step people with autism gain the tools that will allow him or her to increase self-esteem and lead to more happiness in all areas of life.

As these skills are learned over time, beginning from home at a very young age and developing further throughout adolescence and adulthood, it leads to the fact that without proper help, the child becomes more dependent and has less participation in daily life. According to the definition of "participation", it is defined as involving oneself in a life situation (WHO, 2001), is considered one of the important outcomes of rehabilitation interventions (Coster & Khetani, 2008), and a critical indicator of the quality of life. Individuals with ASD generally have the risk of limited engagement in activities and have weaker daily life skills when compared with individuals with other developmental disorders or with typical development. The engagement of individuals with the autistic spectrum disorder in daily living activities may be affected by core characteristics specific to autism as well as sensory processes (Kientz & Dunn, 1997). Depending on the level of developmental disorder, children may have some difficulties at different phases of life. However, they are all able to learn to master self-care activities (dressing, brushing their teeth, eating on their own, crossing the road safely,

etc.), though for someone it happens quite quickly, and for the others - gradually (Gal, Meir & Katz, 2013).

According to Merluzzi et al., self-care can include maintaining one's health and well-being, actively seeking support, and maintaining some activity apart from the caregiving situation (Merluzzi, Philip, Vachon, & Heitzmann, 2011). Self-care skills, which include feeding, toileting, dressing, bathing, and grooming, are classified as Activities of Daily Living (ADL's) because they are a critical part of a child's overall health and participation every day. In order to participate in self-care, a child must have component skills within a variety of performance areas, and delays in any of these areas can make seemingly simple tasks feel nearly impossible. These activities are "fundamental for living in a social world as they enable basic survival and wellbeing" (AOTA, 2008). Usually, children and young people learn to perform ADL activities with socially appropriate ways to be engaged in education in the family and society, game playing, leisure, social participation, and work occupations (LeVesser & Berg, 2011).

It is important to mention, that learning life skills are very important for children with ASD, whether at home, at school, in the community, it increases self-confidence and independence. Early intervention for the development of these skills gives children with autism the tools they need to increase their self-esteem and develop feelings of happiness in larger areas of life (Tanner, Hand, O'Toole & Lane, 2015). According to the International Classification of Functioning (ICF), a person's "activity and participation" is the performance of a task or action by an individual, it covers the complete range of domains denoting aspects of functioning from both an individual and a societal perspective (WHO, 2001). Out of these domains, special attention is paid to self-care, which includes the following activities:

- Washing oneself
- Caring for body parts
- Toileting
- Dressing
- Eating
- Drinking
- Looking after one's health

Developing self-care activities' performance skills are important for a child's development as they require functional skills to plan and sequence the tasks, and physically control motor skills. However, studies have shown that individuals with ASD are less likely to participate in daily life, and will have self-care activities' performance skills than people with other developmental disabilities (Roger & Umaybayla, 2011).

Because children, adolescents, and adults with ASD often have difficulty in adapting, developing interpersonal relationships, learning new skills, and difficulties in living independently, therefore the role of multidisciplinary intervention is considered to be significant to advance their lives and participation in daily routines.

It should be noted that occupational therapy offers a way of intervention that restores the meaningful activities and working capacity of people with physical and mental disabilities (Tomchek & Koenig, 2016). Occupational therapists believe that participation is supported or constrained by the physical, emotional, or cognitive abilities of the person, the characteristics of the activity, the physical, cultural, social, behavioral, and legal environment. For this reason, occupational therapy focuses on increasing the competence of individuals by organizing the person, activity, environment, or all of these to increase social participation.

Occupational therapists bring a unique and comprehensive perspective in the treatment of a person with ASD. They are highly educated and experienced to evaluate and provide intervention, both direct treatment, and consultation to families, educators, and caregivers, in the areas of physical, sensory processing, and social-emotional health in all environments of the person with an ASD (Kuhaneck & Watling, 2014). Occupational therapists know that involvement as a participant in self-care and daily living activities, productive engagement and participation in social and communication-oriented events, leisure and play activities affect the development and live performance of every person with an autism spectrum disorder, which will markedly differ in the individual (Case-Smith & Arbesman, 2008).

It is noteworthy that family members play a key role in the development of these children's skills and self-care activities, so the role of the parents/caregiver in choosing a child rehabilitation intervention is

considered an important factor and only productive cooperation can bring positive results. Since family support and time management are very important in building skills and making intervention smoother occupational therapists will try to understand and assess the daily life of the family and the tasks that children have to perform (Lord, Rutter, DiLavore, Risi, Gotham & Bishop, 2012). Parents need to maintain a balance in developing self-care activities, performance skills in a child with ASD; they need to help them when they really need it, but not doing instead of them. Taking into consideration the importance of the involvement of the family in the development of self-care activities and skills, the aim of the research is to explore the awareness of parents of children with autistic spectrum disorder, rehabilitation services developing self-care skills.

METHODOLOGY

The quantitative research method has been used in the work, which allows to form knowledge based on precise logic, mathematical-statistical calculations. The procedure for applying the method is clearly stated. The quantitative method used for data collection and analysis in this work made it possible to be objective, to acquire accurate knowledge of social reality. In the framework of the research, a survey was conducted for data collection and analysis (Yadov, 2007).

The research was conducted to find out the level of awareness of parents about self-care services and their general perceptions of them. Through the survey, parents will be able to find out which self-care activities are currently performed by them, or by their children. In addition, parents' perception and knowledge will be exposed regarding the services and intervention approaches that are aimed at developing self-care activities, performance skills for children with autism.

Participants

In total 35 parents of children with autistic spectrum disorder have participated in the current survey that aimed at exploring the awareness of parents about the services helping children and their families to develop self-care activities' performance skills. Participants were informed that the survey was anonymous and before the study, the agreement from the participants for taking part in this survey was gained. To ensure an adequate level of

confidentiality for both the participants and the survey data they have been informed that the collected data would be used only in a generalized form. The survey was conducted while using an online and hard copy questionnaire, where parents had an opportunity to answer the questions and give their opinion about the suitable subject. The study involved different age groups of children with ASD, including parents of children from ages 4 to 17.

Data collection

A questionnaire was developed and used to collect the survey data using the modern Google Forms e-survey tool, as well as the documented survey of the same questionnaire. Formulated questions allowed obtaining demographic data and to study the parents' perception and understanding about the importance of developing self-care skills for children with ASP as well as their considerations about the rehabilitation services in that field. The questionnaire was posted on the online platform and Facebook domain within 5 months, also some participants were handed over the hard copies.

Data analysis

The analysis of the survey data was carried out according to a quantitative methodology, as a result of which the answers of the 35 parents who took part in the survey were generalized and presented in the form of numerical patterns. The open-ended questions, which included the respondents' personal opinions and awareness in particular about the self-care services, were coded according to the relevant categories, grouped, and presented in numerical percentage (Yadov, 2007).

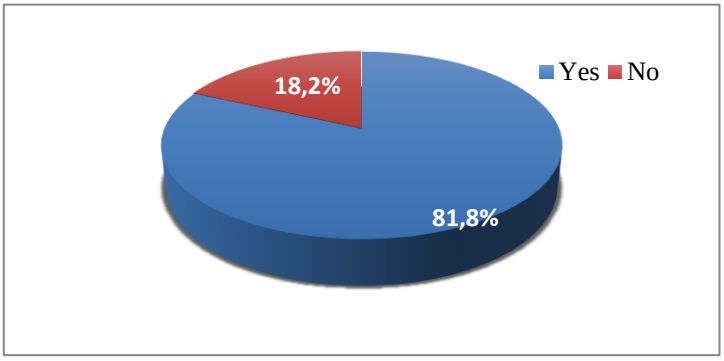
RESULTS AND DISCUSSION

As a result of data analyses, it was possible to study the awareness of parents of children with ASD on self-care skills, their opinion, and perceptions of professional approaches and used methods as well as current rehabilitation services that were focused on the development of those skills. Concluding the data provided by parents became clear that the majority of children with ASD were involved in various rehabilitation services, in particular, speech therapy (78.8%), special education (90.9%), psychological (81, 8%) services. Rehabilitation services such as occupational therapy and art therapy received accordingly 24.2% and 30.3% of responders. Only two parents have mentioned that their children have not got any services yet.

It is well known that children with ASD experience many challenges in their lives and generally have the risk of limited engagement in different activities. Occupational therapy interventions, which are designed according to standardized assessment tests, questionnaires, skilled observations, provide a considerable advantage in dealing with the problems children with autism and their families face in daily life (Miller-Kuhaneck, 2004). In Armenia, the need for occupational therapy is very high but, many parents are not aware of these services and provided possibilities. The study has shown that about 24.2% of children with autism receive occupational therapy intervention only in the capital city.

Data analysis of the survey has shown that 81.8% of parents were aware of the services and the main approaches that are directed to develop and improve self-care skills. Though they were aware of occupational therapy, some of the parents presented the main principles and functions of occupational therapy service in a completely different way - for example, brain development work or the provision of special knowledge. 18.2% of respondents were not aware of the services provided in the area of this profession and believed that self-care activities and skills could be developed by the other MDT members such as by a special educator or a social educator (Figure 1).

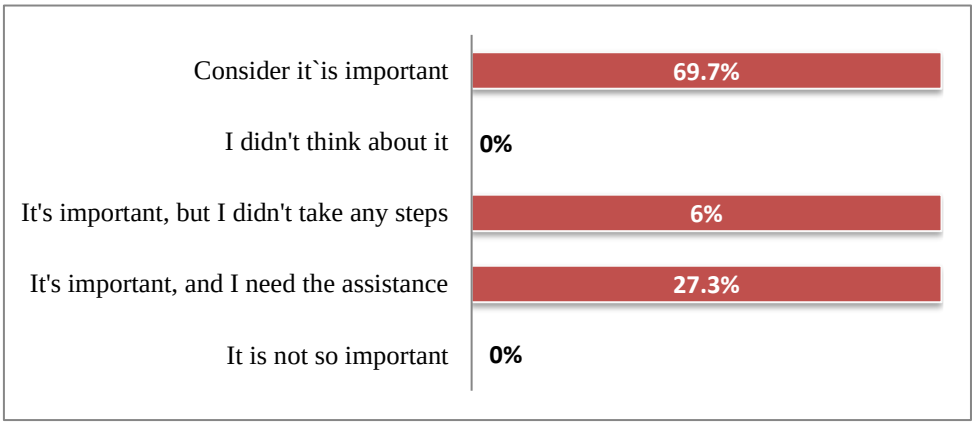
Figure 1.
Awareness about the functions of self-care improvement services.



To the question of the importance of self-care activities, the summary of the parents' answers suggested that in their opinion, growing up a child with autism is a unique challenge for them, and to perform any activity independently was perceived

as a victory. According to the data, about 69.7% of the parents considered the independent performance of their children's self-care activities were very important, the 27.3% were willing to seek help to overcome these skills through reciprocal cooperation, and only 6.1% considered that important but did not take steps for overcoming that problems (Figure 2).

Figure 2.
Parents' perception about the importance of performing self-care activities.



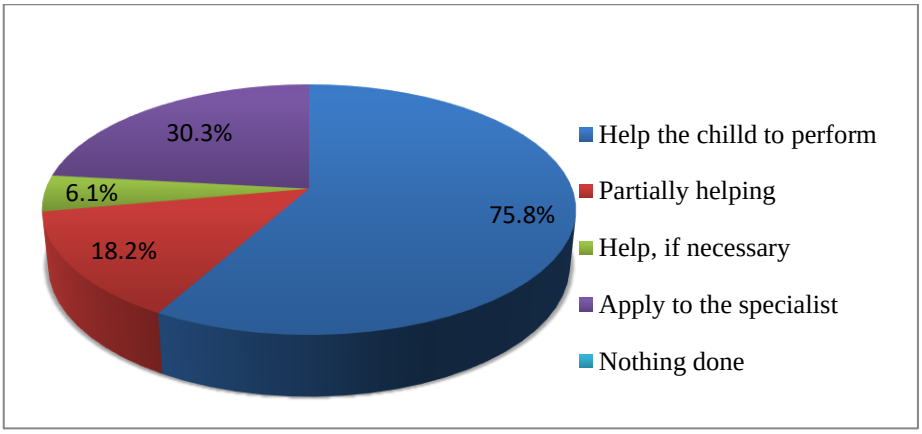
Numerous studies have shown that parental involvement in improving self-care activities advanced the generalization of skills and increased the outcomes of intervention received by the child (Rogers & Dawson, 2010). The integration of all aspects of a child's life increases the chances of having more successful outcomes. It is known that the family environment has a great influence on a person's learning, so children perceive and accept the norms of social cohesion through their parents. However, the over-care provided by the parents also raises many problems. The parent by helping the child to perform daily activities prevents the dangers and does not allow them to overcome the difficulties of developing those skills on their own (Polatajko & Cantin, 2010). While exploring to what extent parents interfere in the child's daily activities, 45.5% of them said that they usually help the child with daily activities, about 45.5% have mentioned that they help only if there was a need, 9, 1% tried not to intervene, and only 6.1% did instead of children justifying that they were not able to perform any actions.

As it is well known, the development of a lifelong daily routine for a child with autism is a priority and necessary point for their development (Bagatell, Cram, Alvarez & Loehle, 2014). Daily routine should have a certain sequence and repetition of the activities, so at that time, the child's anxiety will gradually decrease and daily arrangements can help to organize his behavior. Taking into consideration this fact during this study parents were asked about the daily routine of their children, and 36.4% of the surveyed parents had established a routine for their children, 33.3% were still unable to organize the child's daily life, and 30.3% of the respondents find it difficult for children to adapt to the changes, but parents realize the need of special work to organize and establish a daily routine for children.

Exploring how and what steps did the parents take to overcome the difficulties in performing daily activities 30.3% of the respondents have mentioned that they apply to a specialist, but did not specify that professional assistance was convenient for the case. 75.8%, unfortunately, have mentioned that they help the child to perform these activities, reducing the existing difficulties, and 18.2% partially help the child to perform daily tasks, only if necessary, 6.1% of the respondents refrained from answering. According to the results of the research, it can be assumed that parents perceive the importance to apply to the specialist to get assistance and help in the development of self-care skills, but they were not aware of what specialists and professional assistance can be relevant for that (Figure 3).

Figure 3.

The means and ways of parents' overcoming the problems of performing daily activities.



As Occupational therapy has its permanent place and role in rehabilitation services the awareness of occupational therapy profession and service was explored among the parents. Accordingly, 65.6% of the participants were aware of the special role of Occupational therapy service and intervention possibilities that were aimed at raising the independence of person in life, but despite that, they have considered other specialists of the multidisciplinary team who were responsible for self-service activities development. Other 34.4% of the participants were not aware of the Occupational therapy profession at all.

In general, to grow up a child with ASD is a unique challenge for parents, and when the child is doing something on his own it is already considered a victory. Mothers of children with autism have higher levels of stress due to their child's low level of independence, behavioral problems, and physical development, so for them, it is very important to be able to orient themselves in choosing specific support and services. Parents mainly focus on getting support from a multidisciplinary team, giving importance to speech development and other directions while providing over-care instead of the child; for many of the parental care prevents the opportunity to develop independence in their children. It is important to highlight that self-care is an important element in everyone’s daily life. Taking time to maintain a healthy balance in life is a key factor in overall health (Dabrowska & Pisula, 2010). For parents with an ASD child, is even more important, than for the others. Since children with ASD can perform self-care independently or with less support this will allow parents to take time for themselves, other family members and will have positive benefits.

Thus, the study revealed the level of awareness of parents of children with ASD about the importance of performing self-care activities, as well as the role and importance of rehabilitation intervention in this area. In particular, the survey revealed the awareness of parents about the occupational therapy profession and general perceptions of occupational therapy intervention that strive for collaborative service delivery to meet the diverse challenges experienced by the individual with ASD across the lifespan. It is noteworthy that family members play a key role in developing the skills and self-care activities of children with autism, as well as while applying for professional assistance. Accordingly, the role of the caregiver in choosing children's rehabilitation services is an important issue in enabling them to become and act as more independent members of society.

CONCLUSION

This study outlined that the majority of parents having children with ASD were not aware of occupational therapy and the intervention approaches that can be beneficial for their children to become more independent in daily situations. They used to apply to a different specialist to overcome “main” difficulties and help children to do self-care as a parental responsibility. This study has shown that self-care may be important for parents however, some obstacles may prevent them from making self-care a priority. But at the same time, occupational therapists can help parents improve their physical, emotional, spiritual, or social wellbeing. “Whether helping parents find coping mechanisms that fit their family lifestyle, creating a weekly routine that schedules ‘spouse time or ‘alone-time while meeting their child’s needs, or searching for local parental support groups,” occupational therapists can help parents find balance in their life (Razon, 2019).

As a person's self-care skills are assessed in everyday life, the parent's knowledge about the abilities of the child allows them to find out what the child is doing best, what he or she is just beginning to master, what he or she is unable to do, and so on. Parents will succeed in overcoming the problems if they choose the right, directed and relevant professional intervention.

Occupational therapists may refer to different approaches to improve the performance of activities of the daily routine of children with autism while establishing and maintaining performance, as well as activity adaptations or

compensatory methods (Miller-Kuhaneck, 2004; Shepherd, 2005). Also within the frame of occupational therapy intervention parents can receive family training on how to build daily routine and facilitate the participation of children in selected self-care activities besides teaching the most needed skills for that (Bagatell, Cram, Alvarez & Loehle, 2014; Kuhaneck & Glennon, 2001).

During the research, it became clear that the most common areas reported by families were limited independence in dressing, eating routines, limited independence and discomfort in many hygiene tasks, obvious difficulty in toilet training, limited engagement in chores, and continuous intense supervision to provide safety. Though 69.7% of the parents considered the independent performance of their children's self-care activities to be very important, they have almost no idea about the treatment and services necessary for the development of self-care activities. Parents give huge importance to the development of skills that are needed for performing daily activities, but mainly use the support of other specialists rather than occupational therapy.

However, occupational therapy may combine a variety of strategies which include modification of task or task method, use of assistive technology, or modification of the environment to help the child better perform daily tasks and achieve a higher level of independence in completing self-care activities (Polatajko & Cantin, 2010). Occupational therapists work as part of a team collaborate with parents, teachers, and other professionals. Therefore, occupational therapy as the rehabilitation and client-centered profession is considered to be extremely important for children with ASD to help them to facilitate the individual’s maximum independence and participation in meaningful activities (Case-Smith & Arbesman, 2008). Since the stress on families with ASD children is quite considerable. It is very important to raise parents’ awareness of finding appropriate and valuable self-care interventions and rehabilitation services which can be essential for children and families as it will increase the children’s participation in daily activities and enhance their independent living prospects.

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ROLE OF OCCUPATIONAL THERAPY WHILE WORKING WITH CEREBRAL PALSY CHILDREN USING ORTHOPEDIC ASSISTIVE DEVICES

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ABSTRACT

The main aim of the following research paper is to identify and interpret the preconditions and instructions for the implementation of effective Occupational Therapy intervention during the use of orthopedic assistive devices. In trying to highlight the role, professional skills, and perspectives of the occupational therapist, it will be possible to identify the key provisions that, if applied, will encourage the maximum participation of a child with Cerebral Palsy in several activities that are meaningful to him/her, thereby improving his/her quality of life and well-being.

The methodology of data collection, processing, and analysis of the research is based on a combined method approach, which allows combining quantitative data collection and use of quantitative methods to later conclude the data obtained through certain numerical patterns. Structural interviews and designed questionnaires were used with 50 children having Cerebral Palsy and their parents or caregivers.

The results showed that today in Armenia, due to the problems of obtaining and using orthopedic assistive devices, as well as the lack of professional supervision and monitoring, it is limited or does not ensure the maximum independent participation of children with Cerebral Palsy in community life, self-care, and professional activities.

Key words: orthopedic assistive devices, Occupational Therapy, Occupational Therapy intervention, children with Cerebral Palsy (CP), assessment, participation, rehabilitation.

INTRODUCTION

The problem of child development disorders is addressed in almost all spheres of health and public life, requiring a systematic approach, close cooperation, and an effective combination of resources (Babloyan, 2010).

Orthopedic rehabilitation is aimed at providing rehabilitation or orthopedic assistive devices that are important to the integration of families and children with special needs in the process of inclusion in community life.

In trying to highlight the role, professional skills, and perspectives of the occupational therapy intervention in this regard, it might be possible to identify the key provisions that, if applied, will encourage independence and participation of a child with Cerebral Palsy (CP) in several daily activities that are important to him/her, thereby improving his/her quality of life and well-being.

LITERATURE REVIEW

There are several orthopedic conditions that a child might have or might be developed over time, including all disorders that directly affect small-large movements, balance, muscle tone, mouth function, posture, reflexes, and coordination. Orthopedic conditions refer to everything related to the musculoskeletal system: bones, muscles, tendons, ligaments, joints, or their articulations. It is the system of the body that allows a person to move. When one component in this combined work is damaged or disrupted, as a result, movement limitation and discomfort may occur. All this, in turn, has a direct impact on the performance of the child, the child is not able to fully participate not only in all the activities that are significant, meaningful for his well-being, but also is unable to perform several daily activities vital to his life (Turner, 2014). Orthopedic assistive devices include aids that feature to compensate for or eliminate barriers to community participation in self-care or professional activities (Andreyeva, 2014). They must be necessary from a medical point of view and meet the following criteria: serve any medical

purpose; resist continuous use; be helpful to the person for any illness, injury, physical disability, or birth defect; not be useful to anyone who does not have an illness, injury, physical disability or birth defect, as well as to be suitable for use both indoors and outdoors (Wielandt & Strong, 2000).

One of the urgent issues of the state policy of the Republic of Armenia in the field of protection and promotion of population health is to ensure full participation in daily living activities and community life of persons with disabilities. This is mainly because the number of people with disabilities, including children, is growing every year. In this regard, the processes of socialization, adaptation, and rehabilitation of children with disabilities in modern society are becoming more urgent, actual, and significant (Nizova & Pirogova, 2013).

The main goal of rehabilitation is to improve the quality of life of people who have temporarily or permanently lost their ability to work through special actions, and specialized multilateral approaches (Tutarishev, 2012).

According to the statistical data provided by the Medical-Social Expertise Agency (ESIA) of the RA, there are 192.411 registered persons with disabilities in Armenia, as of 01.06.2021. 8861 out of this number are children having different types of disabilities (https://hhbsp.am/). Among children with disabilities, a large group consists of children with various disorders of the nervous system, sensory organs, mental disorders, autism spectrum disorder, as well as CP. Considering the CP from the orthopedic condition point of view, it is seen that CP holds a leading position and occurs in the ratio of 1.6: 1000 (Shipitsina & Mamaychuk, 2004). Assistive devices and technical rehabilitation aids play an important role in the integration of children with disabilities in community life, especially those with CP. Several rehabilitation therapies developed today aim to enable the child to reach his maximum potential. Children with CP may grow up to become adults and be able to work and live as independently as it is possible (Babloyan, 2010).

Persons with disabilities following the procedure established by the Government of the Republic of Armenia, have the right to free order of special prosthetic orthopedic shoes, all kinds of prosthetic items (except for prostheses made of precious metals) at the expense of the state budget (RA Governmental Decision N 1035-N, 10.09.2015). Still, this decision includes more information about providing particular devices and not the sufficient

number and quality of intervention services that are required for persons with disabilities.

Children with CP are required to receive Occupational therapy services throughout their lives: from early childhood to adulthood. Occupational therapy with these groups of clients pursues the following goals:

- the intervention aimed at improving the activities of daily life and recovery (eating, dressing, washing, using the toilet, etc.);
- positioning (lying down, sitting, standing) to prevent deformities, contractures, correct positioning of the body or any part of it for therapeutic purposes, promoting functionality and mobility;
- ensuring the normal development of the child, through the provision of assistive devices, accessories, aids with a simple structure that supports the function of the body;
- using therapeutic exercises aimed at preventing muscle atrophy, improving healing, restoring muscle and joint function, etc.
- using orthesis and splinting with immovable functions to help to restrict movement or support body function (Varlamov, 2016).

In this regard, it is important to state, that many researchers emphasize not only the role of Occupational Therapist in the process of preparation and provision of the orthopedic supplies but also the need for consultation, prescription, and further supervision (Korshikova-Morozova, Trukhacheva & Zablotskis, 2018; Varlamov, 2016; Hansen & Atchison, 2000).

Besides all this, the evaluation and assessment of orthopedic conditions are very important, as it is directly related to the child's ability to walk and move, which in turn is directly related to the child's development. Otherwise, the absence of necessary assessment and further intervention can lead to limited mobility, discomfort, and in some cases pain in the child.

Many authors consider the involvement of the client in the process of choosing orthopedic assistive devices, determining the ways of use, advising to evaluate the person's functional abilities, medical condition, diagnosis, socio-emotional needs, home conditions, daily habits, values, and goals before prescribing the particular assistive devices. An assessment of all these components can provide a complete picture of a person's unique needs about orthopedic support requirements. And the authors see the guarantee of all this

effective process only in the presence of expert supervision (Saratikyan & Harutyunyan, 2017; Hansen & Atchison, 2000).

Based on the following review the purpose of this study is to identify and analyze what are the main preconditions and key features for the use of assistive devices necessary for the effective organization of Occupational therapy intervention.

METHODOLOGY

The methodology of this study is based on the quantitative methods approach, which allows using quantitative data collection methods, later having the opportunity to conclude certain numerical patterns (Kielhofner, 2006). A specially designed questionnaire was used with 50 children with CP and their parents/caregivers.

The participants of the study are 50 children and their parents/caregivers from Yerevan, the capital of Armenia, and Gyumri and Artik cities in Shirak region with whom a survey has been conducted using a specially designed structural questionnaire. The age limit of children varies from 3 to 18 years old (boy, girl). Table 1 and Table 2 presents detailed information about the children who have participated in the study and their parents.

Table 1.
Participants – children with CP.

Gender		Age			Cities			Visits school or kindergarten			
M	F	3-5 y.o.	6-12 y.o.	13-18 y.o.	Yerevan	Gyumri	Artik	Yes	No	Not school age	Home study
31	19	13	25	12	15	20	15	29	14	3	4

Before completing the questionnaire each of the 50 parents/caregivers has been provided a content letter with information related to the research. The permission to participate in the study was gained from each of the participants.

Table 2.

Participants – parents/caregivers.

Number of participants		Age		Education	
Mother	40	20-30	13	Secondary	20
Father	7	30-40	31	Secondary professional	18
Grandmother	3	40 and older	6	Higher	12

Data collection and analyses

In this study, a standardized survey method belonging to a series of quantitative methods was used, the process of which is formal, the researcher interacts with the respondent to a minimal extent to have as little effect on his answers as possible. That is, in this case, the purpose of the study is to measure and interpret the phenomenon through numbers (Kielhofner, 2006).

A designed structural questionnaire included 7 open-ended and close questions. It has a purpose to understand the main difficulties and problems experienced by children with CP while using orthopedic assistive devices and challenges experienced by the parents in the process of obtaining this aids. Survey also gave a possibility to assess the possible impact of orthopedic aids on children's daily activity, participation, and independence in daily life.

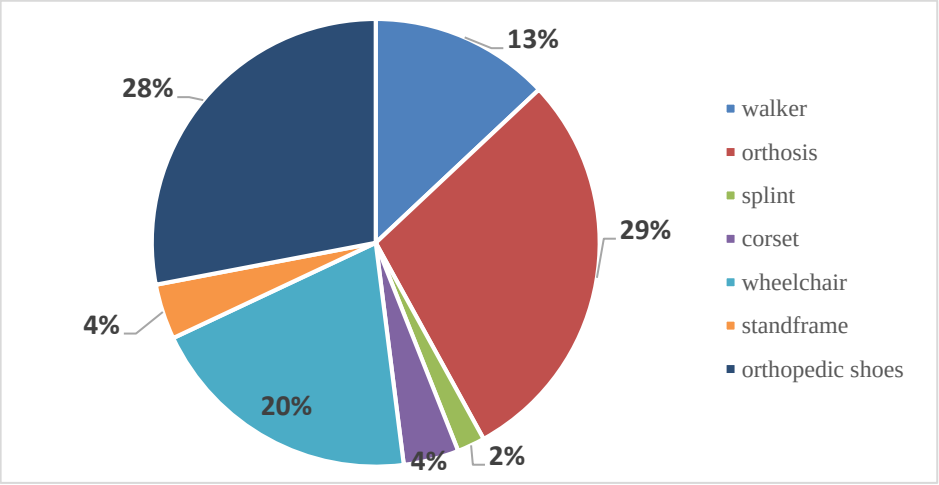
All the answers received from the questionnaire were downloaded into the appropriate software database (Microsoft Excel), where the stored data was analyzed using the FX function in the program, the method of obtaining the numerical and the percentage has been chosen.

RESULTS

Results of the current research have shown that all children – participants of the study have or use assistive orthopedic devices. The detailed analyses of the types of aid are described below in Picture 1.

Picture 1.

Types of assistive devices used by children.



The second question was related to the difficulties that parents/caregivers might have while purchasing assistive orthopedic devices or accessories, as well as to the process of purchasing orthopedic accessories, in particular, it was necessary to find out what problems parents/caregivers face in this process, even if the devices are provided by the state. The answers of 50 interviewed parents/caregivers were distributed as shown in Picture 2. To the question – "do you know where to apply for assistance to get" 25 (50%) of the parents/caregivers answered that yes they know exactly where to apply for the assistive device provided by the state for their child; 25 (50%) of participants are aware that the child receives the appropriate support item by the governmental decision of the country, but, at the same time they are not informed where to apply, what documents are needed to be provided, most importantly, they are not informed that the item is provided free of charge, which is often an obstacle for the parent to avoid from being involved in the process of item purchasing. As total, 25 (50%) of the participants mentioned that they were not familiar with the process of obtaining items related to their children's rights and legislation, in particular, the parents interpreted this omission as the result of incorrect and even "unfair" organized awareness work of the relevant bodies.

To the other question regarding whether they receive the assistive devices in proper condition, 19 (38%) of participants have mentioned that

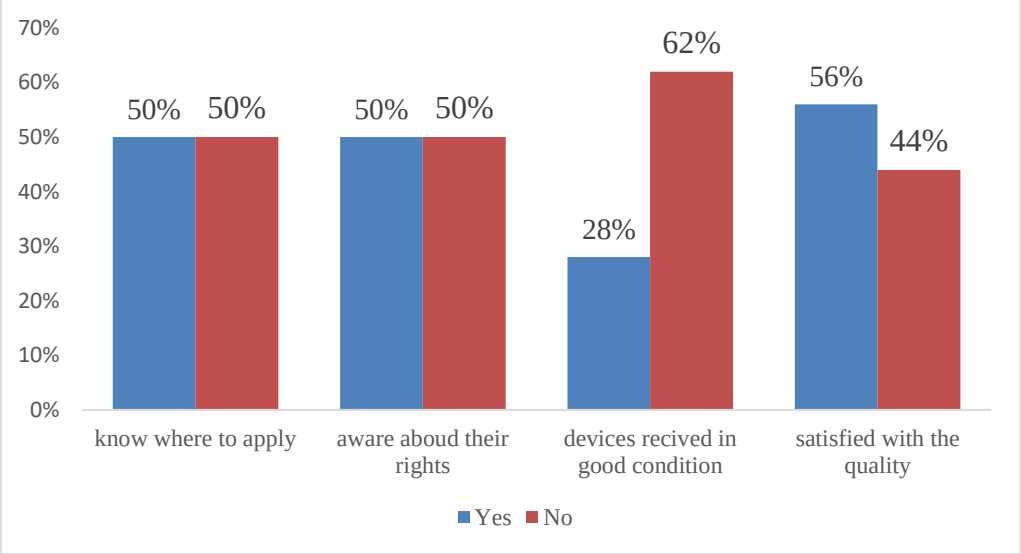
they receive orthopedic accessories in good condition, 31 (62%) the parent was not satisfied with the quality of device, justifying that it was damaged or did not fit the child's needs.

While talking about the quality of orthopedic accessories, 28 (56%) participants were satisfied with it, while 22 (44%) were not satisfied, giving the following explanations: the too big size of the wheelchair, wrong size and not comfortable or thesis, etc. In this regards only 2 parents (4%) have mentioned that they do not have any problems with the above-mentioned issues.

Thus, the data obtained show that exactly half of the surveyed parents/caregivers are not aware of their rights from the global perspective.

Picture 2.

Parents' awareness and satisfaction.

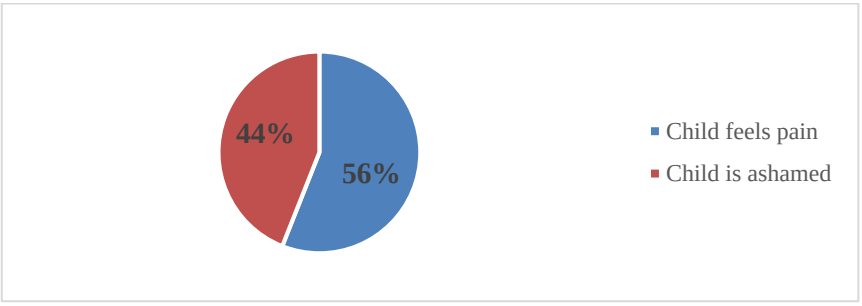


While talking about the difficulties and problems that children experience while using orthopedic assistive devices in school or outside, special attention was given to the answers of children. 28 children (56%) mentioned that they do not want to wear any assistive devices because they cause them pain, this of course can be the result of incorrect orthopedic accessories (wrong size, improperly prepared condition). It should be noted that there are cases when the child continues to wear or use the orthopedic

device for more than the prescribed time, sometimes the device does not correspond to the child's age and structure, which in turn can cause pain and anxiety. In addition, 22 children (44%), participants of the study, pointed that they did not want to use the assistive devices. They were ashamed, especially outside, at school, because they thought that their friends and teachers would make fun of them. Regarding the situation whether the parents need the help of a specialist, 5 (10%) of parents/caregivers mentioned that they need the help of a specialist, in particular, to know how long the child should wear it, how often, how to help the child in daily routine, etc.

Picture 3.

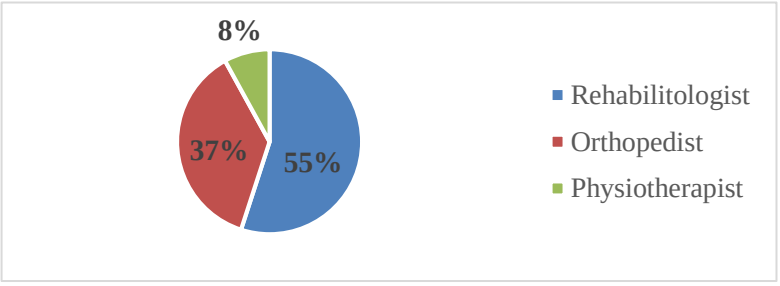
Difficulties experienced by children while using assistive devices.



Reflecting on the inquiry "Which specialist has prescribed the assistive orthopedic device to your child?" it became clear that doctors or rehabilitologists have prescribed it (11 parents, (55%)), 7 parents (37%) have mentioned the orthopedist and only 2 (8%) mentioned physical therapist.

Picture 4.

Specialist prescribing orthopedic assistive devices.

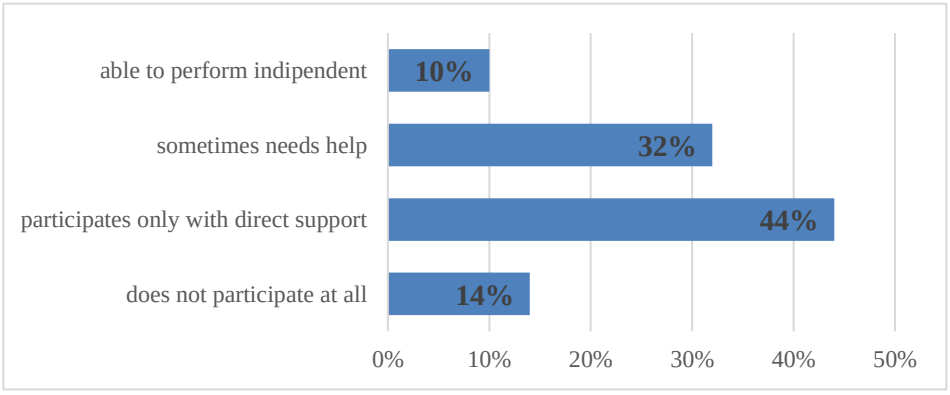


While talking about the introduction of the usage methods and principles after receiving an orthopedic item, in particular, how to wear or use it, how many hours a day can be worn, how to avoid injuries, swelling, how to clean, etc., 25 (50%) of parents/caregivers mentioned that the specialist showed how to wear/take off or use the item, they have also explained the aim and the schedule of wearing orthopedic items. These results show that a significant proportion of parents surveyed were unaware of the orthopedic assistive device's usage rules, which can lead to several problems, such as pain, injury, swelling, misuse.

At the same time, the other 25 participants (50%) has mentioned that they didn't receive any guidance at all. Still, the participants from both groups have mentioned that they turn to for counseling to a physiotherapist while attending a rehabilitation center.

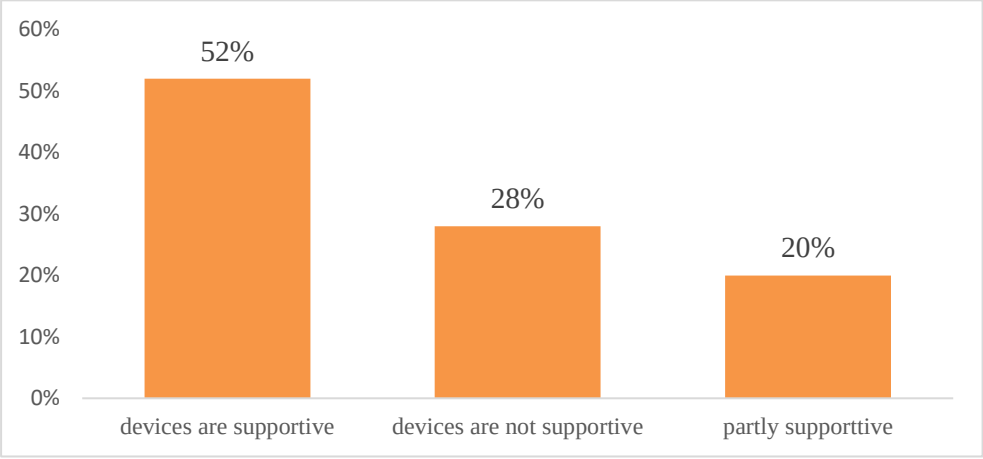
To the question related to child's independence and participation in daily activities, 22 (44%) of parents/caregivers pointed that child can participate only with parent's assistance, 16 (32%) have answered that sometimes child needs assistance, and only 5 (10%) of participants mentioned that the child can participate in self-care activities independently, while 7 parents/caregivers (14%) answered that they are not able to participate in the self-care activity at all.

Picture 5.
Children's participation in activities of daily living.

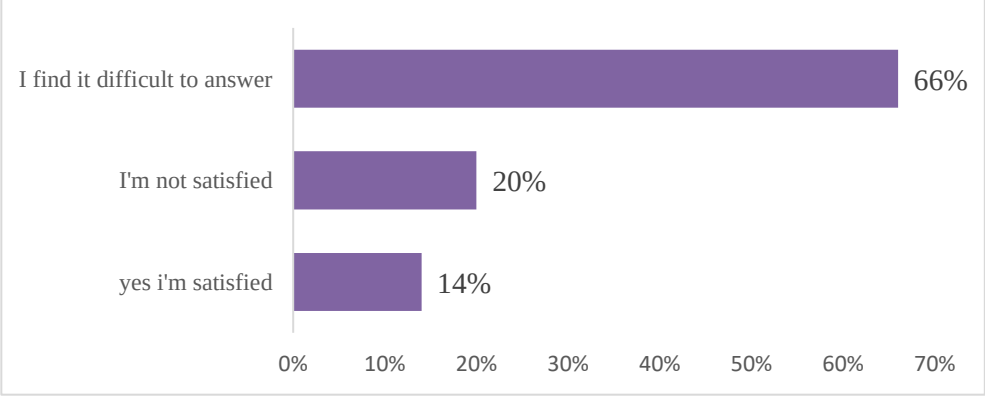


Results of the inquiry regarding the meaning and usefulness of assistive devices are described below in Picture 6. Picture 6a shows the answers of parents/caregivers, while Picture 6b reflects children's point of view.

Picture 6a.
Parents' satisfaction with the usage of assistive devices.



Picture 6b.
Children's satisfaction with assistive devices.



Quantitative analysis of the collected data allowed us to summarize and come to the following conclusion:

1. The most widely used orthopedic assistive devices among 50 children with CP, participants of the research are orthopedic shoes, orthoses, and wheelchairs.
2. Exactly half of the parents/caregivers who took part in the survey are not aware of their children's rights, in particular, where to get the assistive devices, on what grounds it is provided by the state, etc.
3. Most of the children surveyed refuse to use orthopedic assistive devices because they cause pain while using them, but of course, the source of the pain must be clarified, which can also be the result of incorrect measurement or preparation of the device.
4. Half of the participants (parents/caregivers) of the survey were not informed about the assistive orthopedic device's usage rules, which obviously can lead to several problems, such as pain, long-term injury, swelling, misuse, premature use, etc.
5. The rate of self-involvement in child self-care activities is relatively low, with the majority engaging in self-care activities only with full or partial support or assistance.
6. According to the parents/caregivers, the orthopedic assistive devices used by their children do not always allow them to be more independent in their daily life. Half of the participants in this regard think that their existence is either completely ineffective or partially supports their children's participation.
7. Further study of the answers given by the children will allow identifying all the obstacles that the child has while using an assistive orthopedic device so that their further use will help the child to be more independent while performing activities of daily living.
8. The vast majority of parents/caregivers surveyed need professional guidance, especially on what to do if the item hurts the child, how many hours a day to use it, especially at what hours, when to do or not to use the item. Often they feel the need to visit a specialist, study on the spot, and get sufficient guidance and assistance.

DISCUSSION

The process of providing the necessary assistive devices to people with disabilities has been going on since the Soviet years. The distribution of

needed devices was carried out as social assistance, among other financial, material and in-kind assistance, people with disabilities were provided with wheelchairs, hearing aids, and other orthopedic aids. Later, along with the study of international experience, the adoption of several international documents, and the development of NGO activities in the field, the process of providing items was based on the individual need of a person with a disability (Wielandt & Strong, 2000).

According to the results of the study, 52% of parents/caregivers surveyed believe that orthopedic assistive devices that their children use or wear allow them to be more independent in their daily lives, while 48% believe that their impact is either completely ineffective or partially supports their children's participation in daily living activities. This may be due to the following reasons:

1. **Orthopedic assistive devices do not meet the individual needs of children with CP.**

This may be because the person did not choose himself the most convenient, most effective supply or device, but several organizations provide it to the person without pre-measurement, for example, large wheelchairs, orthopedic shoes, crutches, walkers. Referring to the current procedure for the provision of orthopedic assistive devices, the existing types, it is important to note that RA Government Decision N 1035 - N of September 10, regulates the relations related to the provision of rehabilitation assistance, which also includes the procedure of providing rehabilitation services, technical means, and other assistive devices. The complete list of supplies provided is listed in the same document (as a total of 19 groups of equipment, tools, and accessories) (RA Government Decision N 1035 - N of September 10, 2015). It should be noted that in the past, hearing aids and wheelchairs were provided based on certificates, the person could choose a hearing aid suitable for him and a wheelchair of suitable size within the amount set by the state, while the companies providing prosthetic orthopedic assistive devices provide only the existing items. Those items were provided to the citizens without prior adjustment, and there were many cases when the item simply did not meet the needs of the person, and thus didn’t serve its main purpose (large wheelchairs, uncomfortable orthopedic shoes, etc). And the new law already states from January 1, 2019, in addition to wheelchairs, hearing aids, prostheses, orthoses,

walkers, crutches, canes, eye prostheses will be provided based on state certificates (RA Government Decision N 1516 - N of December 20, 2018). Based on this new legislation the number of organizations providing assistive devices to persons with disabilities through the issuance of certificates will increase in the country, which will also help increase the selection and improve the quality of items and provided services. If in the past the devices could be purchased by a limited number of companies that won the competition, today the person is free in his choice and many other organizations will spare no effort to be constantly competitive and to provide quality items and services. Thus, it is possible to prove that the state has already solved this issue.

2. **Due to the small variety of assistive devices provided by the state, they do not provide compensation or eliminate barriers that hinder a person's participation in the community, self-care, or professional activities.**

   Quantitative analysis of the data obtained as a result of the current research showed that orthopedic shoes, orthoses, and wheelchairs are the most widely used orthopedic items among the 50 children with CP who participated in the study. It is important to state that the orthopedic assistive devices by their very nature, provide compensation or remove barriers that hinder a person's participation in the community, self-care, or professional activities. If we compare the types of devices provided to children with disabilities in Armenia, in general, with the types of devices included in the Assistive Technology Act (known as the Technical Act) approved by the United States Congress in 2004, it could be stated that people with disabilities in the United States have possibilities to receive very wide variety list of aids. In particular, the assistive devices provided to children with disabilities provide maximum compensation or eliminates the obstacles to the participation of the person in the community, self-care, and professional activities (ATA, 2004). The same situation can be observed in Russia as well, where persons with disabilities receive a large and broader scope of services and devices (RF Government Decision N 86- N of February 13, 2018).

Thus, it can be concluded that the presence of orthopedic assistive devices' types of accessories in Armenia does not ensure the maximum independent participation of people with disabilities in the community, self-care, and professional activities.

3. **There is a lack of awareness regarding the purchase of orthopedic assistive devices.**

   Exactly half of the parents/caregivers who took part in the survey are not aware of their children's rights, in particular, where to get the orthopedic assistive devices, on what grounds it is provided by the state, etc. This problem is most pronounced in the most rural communities in the regions, where there is a serious lack of awareness about social services provided by the state. Relevant employees of village administrations, municipalities, marzpetarans (Regional govern structures), NGOs, and state agencies responsible for disability determination should have their role in this matter. The low level of awareness leads to the fact that these children are generally deprived of the opportunity to receive necessary orthopedic assistive devices and live independently.

4. **When providing orthopedic assistive devices, the person is not provided with relevant information regarding its use and care issues.**

   The RA Government Decision N 1035-N of September 10 (2015) clearly states that the assistive devices are provided by the organization to a person with a disability after individual adjustment and training on how to use them. While 36% of the surveyed parents were not at all aware of the orthopedic assistive device’s use’s rules and regulations, 38% were only aware of how to use it, which of course can lead to several problems such as pain, injury in case of prolonged use (for example, swelling), misuse, premature loss of usefulness, etc. In other words, not only is the child unable to participate in activities of daily life, which directly hinders the goals set by the Occupational therapist, but this also directly affects the emotional state of the child. Many authors argue that client’s involvement is one of the most important components of the process; the use of orthopedic assistive devices should be in line with the

client's lifestyle, especially if they are intended for long-term use (Korshikova-Morozova, Trukhacheva & Zablotskis, 2018; Varlamov, 2016; Andreyeva, 2014; Turner, 2014). Orthopedic assistive devices that are fully developed with the direct involvement of clients can change a person's life, reducing pain, ensuring safety, joint stability, and as result participation in meaningful activities.

5. **There is a lack of monitoring and control.**

During the survey, 80% of parents/caregivers stated that they needed professional help, in particular, with matters related to using, caring for, preventing pain, as well as assessing the child's condition and recording changes. Here the need for monitoring and control seems to be vital. Monitoring and assessment of orthopedic conditions are very important, as it is directly related to the child's ability to walk and move, which in turn is directly related to the child's development and quality of life (Wielandt & Strong, 2000). At the same time, it should be noted that the procedure for monitoring and further control is not reflected in the Governmental decision and is not regulated in any other document.

The study found that the rate of self-involvement in children's self-care activities is relatively low, with the majority engaging in self-care activities only with the direct, sometimes partial, assistance of a parent or caregiver. This may be because there is no control over the usage period of the device, there are no intermediate assessments performed to determine if the device serves properly. Here it is possible also to state that the prescription of devices is not a long-term intervention mean, but just a presence or existence f the device, never watched after by the specialist who has prescribed it (Oskoui Coutinho, Dykeman, Jetté & Pringsheim, 2013). And each specialist carrying out the intervention is responsible for monitoring, situational assessment, teaching optimal methods of application, as well as defining the results. Several international studies have concluded that some policymakers and employers seem to be inclined to think that orthoses/splints are purely technical, do not require professional skills and competence. On the other hand, Occupational therapists, during their work, have the right and responsibility to assess the need for

orthopedic assistive devices for the client, and, if necessary, to measure and prepare them (Saratikyan & Harutyunyan, 2017; Nizova & Pirogova, 2013).

6. **The importance of personal involvement in the selection of orthopedic supplies as well as in the process of its preparation or prescription.**

   The studies argue that a client's participation and engagement is one of the most important components in the process of assistive device selection. The use of orthopedic accessories should be in line with the client's lifestyle, especially if they are intended for long-term use (Tutarishev, 2012; Hansen & Atchison, 2000). Orthopedic items that are fully developed with the direct involvement of clients can change a person's life, reducing pain, ensuring safety, joint stability, and participation in meaningful activities (Oskoui Coutinho, Dykeman, Jetté & Pringsheim, 2013). Many authors point out that orthopedic assistive devices are often used as a means of intervention. The main aim of their prescription by an Occupational therapist is to improve the functional abilities of the clients and ensure their participation in activities of daily living (Babloyan, 2010; Shipitsina & Mamaychuk, 2004). From this point, of course, the opinion of a specialist should be taken into account, and the specialized needs to be authorized to assess the child's condition based on his/her professional skills and knowledge.

Taking into account the existing situation in regards to providing the necessary assistive devices to people with disabilities in Armenia, and in particular to children with CP it is highly recommended:

- to expand the scope of the research and to study the situation of the related process of orthopedic assistive devices provision in all regions in Armenia, especially in rural communities, as well as in the border communities;
- to activate and expand the maximum participation of beneficiaries in the selection process and provision of orthopedic assistive devices;
- to raise the awareness of people with disabilities, mostly in rural areas, in border areas, regarding the procedures for obtaining, repairing, exchanging, orthopedic assistive devices provided free of charge by the

state;

- to expand orthopedic support services to other regions of Armenia besides the capital Yerevan, delegating such services to private organizations operating in the regions, as there is a clear difference in both the awareness of the beneficiaries and the distance issues;
- to organize a short "training meeting-discussion" when providing orthopedic assistive devices and provide relevant information regarding the use of the accessories and its care on regular basis;
- to develop a special assessment questionnaire (which will include functional and pain assessment components), in some cases self-assessed questionnaires for assistive devices users, to monitor daily performance while using the device;
- to provide state-financed Occupational therapists for rehabilitation centers, medical-social expertise agencies, resource centers, or NGOs in the provinces, who will not only be competent to assess the need for orthopedic assistants based on their professional skills but also to participate in their prescription, measurement, and training, as well as final monitoring.

CONCLUSION

Thus, this work was aimed at identifying all the necessary preconditions that are necessary for the Occupational therapist to plan and carry out an effective intervention in the use of orthopedic assistive devices while working with children with CP. The small number of participants might be considered as a limitation within the frame of this study, as the data received from a bigger number of participants could have been more comprehensive, more reliable, and more inclusive of information related to the research.

The research showed that today in Armenia, due to the problems of obtaining and using orthopedic assistive devices, as well as lack of professional supervision, the monitoring is limited or does not ensure the maximum independent participation of children with CP in community life, self-care, and professional activities. In this regards Occupational therapy intervention and supervision is highly recommended.

And the solutions to these existing problems and obstacles are the essential preconditions for effective Occupational therapy intervention planning, implementation, to maximize the functional capabilities of the person, to ensure his/her safety, and to participate in activities of daily life.

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THE ANALYSES OF POSSIBLE INDICATORS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS EARLY DIAGNOSIS

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ABSTRACT

Nowadays autism spectrum disorders (ASD) are on the list of most frequent childish disorders. It is characterized by communicational, behavioural, and emotional difficulties, unique manifestations of cognitive processes, lack of communicational initiative. ASD is a developmental disorder that occurs in early childhood, persists into adulthood, and affects three areas of development: communication, social partnership, and behavior.

So, when the means of communication are incomplete or absent, the normal course of the child's development is being disrupted, social adaptation becomes impossible. For the effective organization of speech therapy intervention of children, it is necessary to start child`s rehabilitation work as possible of the child's development:

The author's long time professional experience (15 years) in working with these children indicates that one of the keys to the best effectiveness of communication and speech development is early intervention, which can be organized only after the early detection and diagnosis of children with ASD.

One of the prerequisites for early diagnosis is to ensure the continuity of the awareness process among parents, which is the main goal of our article.

Key words: autism spectrum disorders (ASD), autism, speech therapy, early intervention, indicators of early diagnosis, early diagnosis.

INTRODUCTION

Some warning signs of autism are being observed at the earliest age. It is difficult to reach eye contact with a baby because he/she avoids direct gaze. There is no attachment to the parents, the child does not cry when the mother or father leaves, does not raise his/her hands in their direction, may not like hugs and touches.

A child with autism prefers to play with only one toy and is completely absorbed in that toy. There is a delay in speech development: a 12–16-month-old child does not make any sound, does not repeat short words. Children with autism smile less. Sound or light signals can in some cases have a negative effect due to these children`s hypersensitivity. The child does not try to communicate with other children at an early age, shows inappropriate behavior.

Anyway, only the mentioned symptoms cannot prove the existence of autism without professional diagnostic measures (Bayesnskaya, 2007).

The main manifestation of autism in both early and adulthood is interpersonal communication, because people with autism are unable to distinguish the emotions and non-verbal signals of others, so comes the communicational fail. A small child finds it difficult to express his/her feelings towards relatives, avoids playing with others, does not show interest in new people.

Children with autism are partially or completely speechless, they start speaking much later, have limited vocabulary, confuse pronouns and endings, do not understand humour. Echolalia is often observed. These children have unusual gestures, repetitive movements, stereotyped behavior. For example, a child who always walks the same path has difficulty either refusing to deviate from his familiar path or enter a new store. This child can create some ritual and never deviate it (always puts on the right glove, then the left one). Any attempt to deviate from the casual situation can provoke a strong reaction and resistance in these children (Bashina,1999).

LITERATURE VIEW

In professional and methodological literature, the term “autism” (Greek: autos - self) is used as a mental disorder that implies the development

of a person's verbal, social, behavioural, personal, and communication skills. In general, this disorder is often characterized by a tendency to be detached from reality, to seek solitude, to immerse in the personal inner world, to repeat stereotyped behaviours and to prefer inanimate objects to people, as well as to have complete or partial speech (Freitag, 2007).

"Autism" was first mentioned by Bleuler in 1912 to describe a non-reality-specific mindset based on a person's emotional needs (APP, 2015).

"Childhood autism syndrome" was used as a separate clinical unit by Leo Kanner in 1943, although works and efforts to correct children with such problems have been known since the early 19th century.

Kanner, in particular, was one of the first researchers to view autism as a syndrome, or a set of unique behavioural manifestations. In his research, autism was considered a type of emotional disorder. At the same time, Kanner studied the peculiarities of verbal communication in children with "normal or almost normal" mental abilities and focused on their unusual social and communication disorders. He considered that children with autism were characterized as isolated and closed, with a tendency to make repetitive expressions, interested only in inanimate objects, and intolerant of any change in their agenda. The "complicated" type of early childhood autism was named "Kanners'autism" or "Kanner's syndrome" (Oller & Oller, 2009).

The Austrian psychiatrist Asperger (1944) and the Soviet scientist Mnukhin (1947) also dealt with the problems of autism. In particular, in 1947 H. Asperger introduced a milder type of autism spectrum disorder, which was accompanied by a lower level of emotion and intellect. This type of autism was called "Asperger syndrome" (Asperger, 1991).

The results of researchers in the following years showed that the range of autism spectrum disorders is quite wide and different. At the same time, it is noteworthy that the variety of characteristics of general ASD causes that each child with ASD is individual, and therefore it is not necessary that all the characteristics of autism must be seen in the same child. (Kharatyan & Hovyan, 2021). The World Health Organization (WHO) defines ASD as a group of complex brain development disorders that involve difficulties in social communication and interaction, as well as a limited and repetitive range of interests and knowledge (ICD-10).

However, in the May 2013's article in the "DSM5" Diagnostic Manual all specific boundaries of autism were formally merged into one syndrome: Autism Spectrum Disorders (ASD), including Autism, Asperger Syndrome, Childhood Autism, and Developmental pervasive disorder (PDD-NOS) (APP, 2015).

According to the Tenth Revised International Classification of Diseases (ICD), which was approved in Armenia in 2005, autism belongs to a rather diverse group of diseases: General disorders of psychological development, which includes childhood autism (F84.0), Atypical autism (F84.1), Rett Syndrome (F 84.2), Other Disintegrative Disorder (F84.3), Asperger Syndrome (F84.5), etc (ICD-10).

Later, according to the ICD-11 review, the WHO has identified an ASD as a diagnostic unit (code 6A02), in which these disorders are divided by the presence/absence of a person's mental disorder and the ability to use language functionally. In particular, speech, orally or in writing, is viewed as a means of expressing a person's desires and needs.

Often, people with ASD have only some of the symptoms that are qualified as atypical autism, a type of general developmental disorder that differs from early childhood autism at the onset of the disorder (the child's age) or lack of pathological disorders to diagnose childhood autism. Talking about different theoretical approaches to early childhood autism, it can be generalized that early childhood autism is a unique form of psychological development disorder, which is accompanied by several mental dysfunctions, unique emotional, verbal, and sometimes intellectual disorders.

Thus autism has its characteristics, it can also be accompanied by other physical and/or mental problems. Therefore, the presence of some or all of these features makes the diagnosis quite difficult, preventing from discovering the causes of the manifestations of childish autism. Because each person with autism has his/her characteristics, it is quite difficult to perform a diagnostic method that would suit all people with autism (Kharatyan & Hovyan, 2019).

This means that to make a correct diagnosis, field professionals need to be able to clearly and accurately distinguish the wide range of behavioural characteristics of these children through observations, studies, and research.

This reflects child development. As a sample when it is obvious that from the earliest age, the child's play does not develop, there is no plot or role play. A child with autism does not build houses for a doll, the game with cars is limited to back-and-forth (Ivanov, Demyanchuk & Demyanchuk, 2004).

In addition, children with autism can often be hyposensitive/hypersensitive to many stimuli (light, sound). Thus, loud noises often cause anxiety and pain. A similar situation is in the emotional sphere. The child cannot walk barefoot on the grass, which confuses the concepts of cold and hot. Nutritional characteristics in the case of autism also begin in early childhood, when the child, for example, refuses to eat food of a certain colour or prefers only one type of food.

It should be noted that there are no easy, accurate, and obvious methods and indicators, especially at an early age, when the child is just beginning to show his/her features and personal qualities. For early detection and early intervention, a Russian researcher Yeremeev (Yeremeev, 2019) in his works has included the field of comparing the autism-specific features of all areas of normal development in early childhood, which will be mentioned below.

RESULTS AND DISCUSSION

The basis of this research was the analysis of the tables proposed by this author, as the developmental stage is more noticeable from a pedagogical point of view, and our goal is to facilitate the discovery of ASD not only from a medical point of view. Yeremeev compares normal childish development to the developmental characteristics of ASD covering almost all areas of child development: speech, motor, hearing, sight, social behavior and perception, sensory-motor development, play stages (from 3 months to 24 months). Analyzing these fields can be a good basis for effective early diagnosis and intervention of children with ASD.

The tables clearly show the importance of the child's harmonious development, from the sensory-motor sphere, motor skills, perception to the stage-development of play, which during normal development is combined with the formation of communication and speech. At the same time, the inconsistent development of the above-mentioned areas is sharply noticeable in children with ASD. For example, from early childhood, it is noticeable that

the child does not maintain eye contact with the communication partner, which is one of the first steps in the formation of communication. When a one-year-old year child instead of responding actively to the sounds of others doesn't respond even to his name.

By pointing out the norms of social and play behavior typical for normal development, our goal is to find out and to show at what stages a child with ASD has a delay, especially in early childhood, which directly affects the development of his/her speech.

The next field of our study and analysis includes additional information provided by parents based on pathological symptoms to be assessed at the appropriate age. Russian authors Lebedinsky and Bardishevsky researched this direction (Lebedinski & Bardishevsky, 2006), the analysis of which will summarize our research work.

The evasive behavior of children towards mothers, the difficulties of speech perception, which is the basis for expressive speech, the predominance, and persistence of stereotyped movements, the almost lack of imitation skills, which is the main precondition for learning speech, are characteristic of children with ASD. One of the characteristic features of children with ASD is the communicational regression or delay of the child starting from 18 months, even if he/she has had verbal-non-verbal communication skills before.

A detailed study of all mentioned allowed us to analyze from a speech therapy point of view because without knowing the stages of a child's normal development, it is impossible to organize a correct, effective speech therapy intervention.

Our research will enable specialists of the field and parents of children with ASD to notice earlier the pathological manifestations in the child's development. The discovery of the phenomena that hinder the normal development of a child’s communication and possible early overcoming is one of the main goals of speech therapy rehabilitation treatment.

At an early age, autism can also be manifested by a lack of independence and life skills, typical aggressive behavior or self-aggression, and unfounded stubbornness. Table 1 shows the manifestations of ASD in a 3-24-month-old child suggested by Yeremeev (2019).

Table 1.
Developmental characteristics of a three-month-old baby.

Normal development	**ASD**
Motor skills development	
• Is able to lie on his bally for a few minutes, holding his/ her head well • Stretches towards the object, but usually can not catch it	• Is not able to lean firmly on the bally, holds his/her head with difficulty • Temporary movement of the head and shoulders from side to side • Stretching the legs to the bally, kicking in bed • He pulls his mother's hair with stereotypical turns with his index finger • Periodic wave movements of the fingers
Hearing	
• Tilts head towards the sound source	• Ignores the sound source, is not ready to hear and react
Sight	
• Looks carefully at the moving object for a few seconds, sees from a distance of 20-25 cm • Follows hand movements • Observes small objects from a distance of 25-30 cm	• Does not focus the glance • Does not follow movements • Does not fixate on the adult's face • The glance is "empty"
Social behavior and perception	
• Activated when interacting with an adult • Laughs in response to the game • Recognizes the mother • Recognizes recurring situations:	• Tendency to take an embryonic position • Crying is replaced by indifference, weakness • Does not feel comfortable in the

feeding, bathing • Dissatisfied with loneliness • Shouts the vowels	mother's arms

Considering the Table 1 data, it should be noted that these symptoms are attributed not only to autism and can indicate several other diseases, from central nervous system problems to infectious diseases. In the case of wave movements of the three fingers, the presence of possible epileptic seizures should be ruled out.

In case of mood swings and weakness, it is necessary to examine the gastrointestinal tract and the diet of the breastfeeding mother. Perhaps the most characteristic symptoms of early manifestation of autism (at 3 months) are the lack of visual contact with the mother and resistance to contact, "empty eyes".

Table 2.
Developmental characteristics of a six-month-old baby.

Normal development	**ASD**
Motor skills development	
• Rotates from the bally to the back and vice versa • Creeps • Sits with minimal support	• No desire to take the toy and use it • Absence of initiatively in any activity • The habit of swinging on the feet and elbows • Repetitive movements
Fine motor skills	
• Holds the bottle • Moves the object from one hand to the other • Catches everything, takes it to the mouth	• Hardly holds the toy • Holding an object in one hand without specific actions
Hearing	

• Distinguishes the direction of the sound source • Tilt the head towards the sound	• Ignores the source of out-of-sight sounds • Hypersensitivity to some sounds
Sight	
• Observes moving objects from a distance of 1m • Follows adult's glance • Follows the movement of a small ball from a distance of up to 3 meters	• Fear of light
Social behavior and perception	
• Activates by seeing his/her mother • Extends the arms when he/she wants a hug • First attempts of imitation • Dissatisfied with loneliness • Happy to see himself/herself in the mirror • Glad to see acquaintances • Eats well from a spoon. Loves playing with paper • Has a positive attitude towards strangers	• Does not distinguish mother • Does not ask for a hug • Does not copy others behavior • Does not distinguish emotionally the family from strangers • May have a fixed gaze on the mother's face, but not on her eyes
Speech	
• Sings using vowels	• The first syllables are missing • Low throat screaming is maintained • Often cries

It should be noted that the above-mentioned symptoms also may indicate other diseases. For example, if a child is unable to hold a toy, this may indicate a slow development of fine motor skills. In the same way, the fear of light can indicate the presence of epileptic seizures.

Besides, according to the US Centers for Disease Control, 7-48% of children with autism are diagnosed with epilepsy (Sorokin & Davidova, 2017).

So, a six-month-old baby with ASD usually has a stereotypical aimless activity, swaying on the knees and elbows, hypersensitivity/indifference to sounds, difficulty recognizing the mother's face, does not reach adults.

Table 3.
Developmental characteristics of a twelve-month-old baby.

Normal development	**ASD**
Motor skills development	
• Sits on his own • Creeps • Tries to stand or get up from a sitting position • Walks with the help of an adult or on his own • Catches and raises the small ball with the thumb and index finger	• Usually walks only with the help of an adult, avoids walking on his own at home • The gait is robotic, not flexible • Walking and running occur temporarily • Muscle tone is generally low or very high
Hearing	
• Responds to his/her name • Distinguishes the tone of voice • Tilts the head towards the sound source	• Ignores the source of out-of-sight sounds • Does not respond to own name
Sight	
• Compares two different subjects • Follows the movement of a small ball from a distance of more than 3 meters	• Focuses on running water, falling sand • Visual contact is missing or too short

Social behavior and perception	
• Applauses • Eats with own fingers, drinks from a cup looks for a toy • Indicates the subject he/she wants • Observes the speaker's face • Resists, when adults do not understand him/her • Shows joint research attention • Worries when strangers approach familiar adults • Trying to comb, eats with a spoon • Shows interest in simple mechanisms, water, and small objects	• Indifferent towards mother • Touches people like inanimate objects • Shows aggression or indifference towards peers • Does not point to the subject he wants • Does not share emotions, impressions • Wrong use of toys and objects • Not neat
Speech	
• Attempts to imitate sentences • Voice imitation • Says the first simple words: mom, dad • Understands several words and instructions accompanied by gestures	• Inappropriate use of words • Delay incomprehension of the other person's speech • Selective response to words

According to the information in Table 3, it is necessary to single out the most typical symptoms of ASD in a 12-month-old child, such as not responding to his name, hypo/hypersensitivity to sounds. Children with autism often do not respond to sounds, even if they do not have any hearing problems (Lebedinski, 2008).

Lack of sight or short duration is one of the most common characteristics of autistic spectrum disorders in a 12-month-old child. Not using pronouns, speech development delays and the absence of desire to share emotions with an adult is also a signal for the child's parents and professionals.

Table 4.
Developmental characteristics of an eighteen-month-old baby.

Normal development	**ASD**
Sensory-motor skills development	
• Walks and runs • Stops intentionally throwing toys and taking them to the mouth • Lifts a small object with two fingers with precise movements • Uses a spoon, drinks from a glass on his own • Distinguishes small particles in a picture	• Walks too cautiously or too impulsively • Has stereotypical repetitive behavior • Strikes with a thumb and index fingers on different surfaces • Stable behavior occurs only in a familiar environment • Motor skills development is slow and disproportionate • Avoids light, prefers darkness • Tendencies to smell and lick
Speech development	
• Distinguishes several subjects' names and methods of use • Shows body parts perform simple instructions • Uses more than 20 words	• Speech development is distorted and varying: mutism, echolalia, misuse of words, remembers and repeats rhyming texts • Delayed perception of the other person's speech, but disguises it by combined reactions • Verbal hearing delay
Communicational skills	

• Points to the objects, expecting interest from an adult • Asks for help • Uses gestures and facial expressions	• Does not seek help • Absence or lack of gestures, facial expressions • Memorizes texts without understanding the meaning • Outbursts of painful attachment or ignore of the mother
Social behavior and play	
• Imitates adult's behavior • Likes to sit in the arms of an adult and explore books together • Starts using the potty • Emotionally dependent on adults • Playing with toys is conscious, contains a scenario	• Excessive dependence or total ignore of adults in life skills training • Motor imitation is not developed • Strives for a stable, familiar, and ordinary environment • Stress in an unknown situation • A primitive stereotypical game without scenario and imitation

Despite all these symptoms, the most common features of ASD in 18-month-old children are: activation of stereotyped movements and behavior (spins, shaking hands, jumps), the dominance of peripheral vision, lack of eye contact, manifestations of echolalia: repetition of words; faces, gestures, position changes are not used in communication, or are used unnecessarily; toys and objects are used for non-target purposes, absent; imitation and scenario game.

Table 5.
Developmental characteristics of a twenty-four-month-old baby

Normal development	**ASD**
Sensory-motor skills development	
• Runs kick the ball • Gets down: climbs the stairs • Tries to catch the ball • Builds a tower consisting of 6-7 parts • Draws with a pencil • Recognizes and points to objects, names them	• Total developmental delay • Frequent regressive behavior • Careless movements or excessive agile movements • Stereotypical actions with objects: hand-to-hand movement, rotation, etc. • Often manifestations of fears in the emotional sphere • Difficulty in concentrating
Speech development	
• Uses more than 50 words • Recognizes and names body parts and common objects • Forms short phrases and sentences	• Sometimes regression of speech development • Stamp words incorrectly constructed words or phrases • Very rarely, normally developed non-verbal communication elements
Communicational skills	

• Seeks help, asks questions about the environment • Recognizes family members on a photo • Uses gestures and facial expressions	• Occasionally, regression of speech development: increase of echolalia, impoverishment of prosody, mispronunciation • Mainly - speech developmental delay or delay in speech communication functions • Lack of non-verbal communication • Does not recognize relatives on the photos
Social behavior and play	
• Plays social-imitation games with toys (makes tea, pours into a cup, entertains the doll) • Sometimes plays a game with a simple scenario • Requires parental attention, emotionally attached to them • Negatively reacts to the rejection of requests • Can demonstrate neatness, partially applies dressing skills	• Fear of peers • Indifference towards other children • Communication with relatives is limited or formal • Often does not respond to his/her name • Does not seek the interest of others in the subject • In some cases, may show tidiness Delays or declines household skills • The desire for independence is weak

The most common symptoms of ASD in Table 5 are many manipulative actions with objects (rotation, hand-to-hand transfer), obvious difficulties in focusing on the details, impaired speech development or speech

communication functions delay, limited and formal communication with relatives not responding to own name.

Let's consider other criteria for early detection of autism (Table 6) based on an age-appropriate assessment of additional information by parents and pathological symptoms.

Table 6.

Age-appropriate assessment of additional information by parents and pathological symptoms

Three-*month-old baby*	**Six-*month-old baby***	***Twelve-month-old baby***
• No visual focus • Delay in motor development • Has difficulties with holding the head • Pulls the mother's hair with a thumb and forefinger in stereotypical turns • Periodic wavy movements of the fingers	• Has difficulties with catching the toy • Holding an object in one hand without specific actions • Ignores the sound source that is out of sight • Does not distinguish mother • Does not ask for a hug • Does not seek for imitation • Swings on knees and elbows	• Robotic, not flexible glance • fine motor skills development delay • Focuses on flowing water, falling sand • Does not follow simple instructions • Does not understand the words addressed to him/her • Eye contact is missing or too short • Avoidance or aggression towards peers • Does not point to objects • Does not share emotions with others • Uses inappropriate words
Eighteen-month-old baby		***Twenty-four-month-old baby***

• Speech development is distorted and varies: mutism, echolalia, misuse of words • Speech development is generally delayed • Deepening stereotypical repetitive behavior - jumps, turns • Strikes with different thumb and forefinger on different surfaces • Stable behavior occurs only in a familiar environment • Motor imitation is not developed • Development of independence and self-care skills is delayed • Remembers and repeats the rhyming word	• Extremely frequent stereotyped activity: hand-to-hand movement, rotation, etc. • The sharp growth of echolalias and agrammatism • Does not seek the interest of others • Regression or delay in speech development • The desire for independence is weakly expressed or absent

"ARBES" Health Center, where the author has been conducting her professional speech therapy activity for about 15 years, is the first institution of the Republic of Armenia that in 1999 has started working with children with autism, children with ASD, and providing the early intervention.

The child psychiatrist diagnoses the child and directs him/her to the appropriate specialist of the team - a speech therapist, psychologist, special education pedagogue, physical or occupational therapist, according to the primary need of the child. The ultimate goal of early diagnosis and screening of children with ASD is to provide them fundamentally scientific and professional approach that will promote the development of children with ASD and improve the results of professional intervention. Moreover, for children under 2- 3 years old, professional intervention should include developmental methods, therefore, such intervention should take place as soon as possible, based on the study of a detailed individual picture of the child's abilities and difficulties.

Early intervention can have a significant impact on a child's quality of life, leading to lasting, positive, ongoing changes. Such programs have already proven to be effective in reducing or eliminating the main symptoms of autism, as well as helping to improve the child's social, mental communication, and attention skills. The intervention of the ASD problem should be aimed at the child, the family և environment, uniting all the parties

involved in the problem: relatives, kindergarten, family, all social and medical resources.

Early interventional professional teams should work with the parents of children with ASD to develop comprehensive intervention programs, taking into account the fact that the child develops with age. Programs provided in this context should also consider changes according to the child's n maturational needs and capabilities. Considering all mentioned above we made current research on the stages of a child's normal development, their obvious comparison with the features of the ASD.

Early diagnosis of ASD is the key to early intervention, which, according to several studies, and our experience in the field, have a significant impact on the recording of positive "long-term" results in children with ASD.

Appropriate ASD intervention should begin with a detailed study of the child's strengths and needs. A clear diagnosis is made based on systematic observations, surveys, the level of communication, social interaction, behavior, and developmental stage of the child, so it is necessary to have a high level of awareness of specialists and parents about the stage of normal development. For this purpose, we present the analysis of the comparison tables of the Russian researcher.

Speech therapists often collaborate with other professionals to develop a more effective correctional program. Each specialist performs correctional work in his or her area of influence: the speech therapist promotes communication and speech development; the psychologist – behavioural correction: the special pedagogue stimulates the development of the child's mental activity and play, etc.

So, it is obvious, that at each age stage (from 3 months to 24 months) the children with ASD had developmental difficulties in all these areas.

Only with early detection of the problem, team analysis u through collaborative work is it possible to achieve the best possible results.

The mission of our professionals is to understand the world of children with ASD, to develop their communication skills. The purpose of the intervention is to improve the quality of their lives through social changes, speech, or other means of communication and behavioral changes. Therefore, the ultimate goal of specialists is not only to develop the skills of the child but also to improve the quality of life of his family, which, as we have mentioned

many times, is possible only due to a correct approach, which presupposes early organization of complex intervention.

CONCLUSION

In conclusion, the first symptoms of autism appear at the age of three months, so raising awareness of parents and early intervention professionals about these symptoms can significantly improve the life skills, socialization, and quality of life of children with autism or ASD.

One of the prerequisites for early diagnosis and early speech therapy intervention for children with ASD is to ensure the continuity of the awareness process among professionals in the field, which is based on the different researches, including the current one, and is one of the best guarantees to help these children.

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SPEECH THERAPY INTERVENTION AS A WAY FOR MAKING DIFFERENTIAL DIAGNOSES OF COMMUNICATION SKILLS FOR PRESCHOOL CHILDREN WITH SHY BEHAVIOUR AND CHILDREN WITH AUTISM

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ABSTRACT

The aim of this study is to categorize the differential diagnostic criteria of communication skills for preschool children with shy behaviour and children with autism within the speech therapy intervention process.

For the current study during the speech therapy intervention process 23 preschool children from 3-5 years old were studied who had communication problems and no speech. To establish the differential diagnostic criteria of communication skills for preschool children with shy behaviour and children with autism observation and complex speech therapy methods were used while combining practical and verbal/non-verbal approaches. The quantitative research methodology was used to generalize and conduct a comparative analysis of the results, in order to emphasize the behavioural characteristics and to outline the existing differences between the means of communication of these children.

The analysis of the research results made it possible to compile a comparative description of communication features and indicators of the quality of communication of children with shy behaviour and children with autism. Communication and behavioural problems which are typical for children with shy behaviour and children with autism were clarified and differentiated, as well as the criteria for differential diagnosis of speech and communication features of children with shy behaviour has been established, and speech therapy intervention rules have been developed to overcome those problems.

Keywords: Shy behaviour /shyness/, sociophobe, alienation, echolalia, false echolalia, stereotype movements, false stereotypes, speech development delay.

INTRODUCTION

It is known that the effectiveness of speech therapy intervention with preschool children depends on many factors. Very often at first sight the obvious difficulties of speech development, may not be related to the core speech processes at all. Such factors, often characterizing the child as having a special behaviour or not yet developed person, can be the main cause of speech development disorder.

Out of these factors, we were most interested in the manifestation of preschoolers' behaviour, such as shyness, as we have repeatedly faced this problem during speech therapy intervention processes. In addition, theoretical and practical analysis have indicated that despite the achievements in age-psychology and extensive research in this field, still the problems of shy children have not been fully explored (Bogachinka, 2008; Sirenko & Bogachkina, 2008; Zimbardo, 2005). Besides that, regarding the organization of speech therapy intervention with them, the system of psychological-pedagogical approaches and the rule of speech therapy intervention still are missing (Murray & John, 2018).

It is well-known that among children with speech development disorders often can be found children with autism, self-contained children, whose first symptom of behaviour is a desire to be isolated. In addition, such children generally avoid communication and choose solitary activities. However, a number of observations have shown that sometimes some children who initially show these symptoms in their behaviour do not have autism spectrum disorder, but simply are shy (Sirenko & Bogachkina, 2008).

This research provides an opportunity to strengthen interdisciplinary connections and to activation of suitable information exchange processes between specialists. Therefore, the aim of this study is to categorize the differential diagnostic criteria of communication skills for preschool children with shy behaviour and children with autism within the speech therapy intervention process.

LITERATURE REVIEW

The first three years of life, once the brain is developing and maturing, is considered to be that the most intensive period for deep speech and language skills development. These skills develop best in an exceeding world that's made with sounds, sights, and consistent exposure to the speech and language of others (Sikula, 2013). The first stage of development in a way youngsters learn to use language is the pre-linguistic stage. Babies use this stage to find out the way to communicate with others. During the primary stage of life, babies vocalize and try to find out how to speak with their caregivers, so by the age of twelve months, most babies perceive what's being aforesaid to them and are beginning to communicate their needs by informing or by showing objects to their caregivers (Cameron-Faulkner, Lieven & Tomasello, 2003).

Biological and social causes are most often mentioned in the etiology of speech disorders. Such a social cause may be a feature of the behaviour of preschool children, such as shyness (it may also have a hereditary character). Researches have shown that such behavioural manifestations can seriously affect a child's speech development and communication needs. It should be noted, that sometimes they cause delays in speech development, sometimes can be considered as a result (Mishina, 2012).

In the special literature, it is possible to find out some hints about the ways and need for the development of the speech of shy children, which are generally reflected mainly in the context of overcoming communication difficulties. However, as speech has the function of regulating behaviour and because in terms of speech therapy intervention importance in this field is not sufficiently studied, the basic rules of speech therapy intervention to address this issue still are missing.

During the practical speech therapy, it became obvious that children with shy behaviour, in terms of communication skills, had a number of similarities and differences in comparison with children having autism, self-conscious children, and stuttering children.

In practice, the concept of shyness is perceived and explained differently especially by non-professionals and parents (it is seen as something "innocent"…"The child is just shy", and in some cases, even the positive and exemplary quality of the child's personality). But shyness is a

unique manifestation of behaviour that can seriously impede the full development of the child's personality, speech and socialization (Sikula, 2013). According to psychologists, shyness is a state of a person's inner world that gives great importance to public opinion (Sirenko & Bogachkina, 2008). Samuel Johnson in his Dictionary of the “English Language” (1804), described it in three words: "self-contained", "caution", " suspiciousness". Some others considered it as "having shyness by birth (Zahavi, 2014). As a result of this research, comparative analyzes have been conducted, especially with the quality of communication of children with autism, taking into account the fact that the self-consciousness, being dissolved with this unique dysontogenesis of child development, exhibits almost the same symptoms. On the other hand, many other psychophysiological mechanisms underlined in the communication characteristics of stutterers and were the subject of a separate study (Harutyunyan, 1993). This fact confirms that current research is relevant not only in terms of speech therapy but also in all aspects of the organization of psychological and pedagogical support.

In addition to the above stated, it would be important to mention, that famous people such as former US President Carter, American actor John Travolta, American virtuoso guitarist Jimi Hendrix, Hollywood star Charlton Heston, famous American actress Lonnie Anderson, king of pop music Michael Jackson considered themselves to be shy. They had told that on the stage and in front of the audience they did not ashamed, because they were able to control the situation in professional matters, but in real-life situations, they were not able to do that, and because of it had felt uncomfortable.

Shyness can lead to varying degrees of sociophobia: from light distrust to undisguised cowardice and fear of communication that interferes with social interactions. All of these fears are accompanied by physical tension, profuse sweating, redness, and other manifestations of the autonomic nervous system, which are very similar to the fears that arise to the stuttering person before a speech (Zimbardo, 2005; Harutyunyan, 1993).

According to the authors Bizarre and Spremberg (2019), shyness as a typical symptom of autism spectrum disorder (usually it is a resonance emotion which associated with the properties of the self) allied with their peculiarities about the worldview and the unique way of reacting to the social environment (Bizarre & Spremberg, 2019).

A number of authors have presented in-depth studies regarding the feeling of shame as an emotional problem, discussed the socio-moral philosophy of it as a complex that underlay in "Self" formation process (which arises first of all in the basis of the multi-sensory system regarding self-recognition of the body) (Tsakiris, 2017, Zahavi, 2014; Deonna, Rodogno, & Teroni, 2012). They have identified the primary role of this feeling in the development of behaviour, interpreting it as a unique type of negative mark of self-esteem that can cause many emotional displays. These studies more thoroughly emphasize the need to differentiate shyness from such similar situations, particularly in the area of autism spectrum disorder.

Therefore, these kinds of analyses are very important for distinguishing this symptom from similar conditions. However, a special literature review did not point out any specific criteria that could help to differentiate such behaviour as a primary disorder from shyness which can be demonstrated as a secondary disorder while having autism. The absence of such clear distinctions may lead to the application of inappropriate principles for the organization of psychological and pedagogical work with the child, most importantly, to fix other symptoms typical of autism spectrum disorder (ex., mechanical operation or behavioural aggravation, increased desire for isolation, regression of the need for verbal communication, etc.).

Taking into account the fact that the age of 3-5 years old is considered as a sensitive period for a person’s development, at this age the child's psychological problems can be related to many hereditary, typological features of a person, therefore, experts avoid to definite psychological, psycho-neurological final diagnoses. This circumstance also causes objective difficulties for the differential diagnosis of these and other similar symptoms. From this point of view, speech therapy intervention acquires screening significance.

The theoretical-practical significance of this study is related to the collection and completion of theoretical-practical facts according to the subject of the research, expanding the possibilities of differentiated diagnosis in practice and offering methodological support to the specialists. Accordingly, this article stresses the need to study and discover speech and communication peculiarities of preschool children with shy behaviour. The scientific interest in this issue lies in the fact that this study allows

distinguishing such a condition from communication and behavioural disorders which are typical to children with autism, as well as to develop speech therapy ethical rules for identifying speech and communication peculiarities of children with shy behaviour and overcoming them. It is important to note that this is the first study that focuses on developing these kinds of practical approaches in speech therapy.

METHODOLOGY

For this current study, the quantitative and qualitative research methods have been combined. In the frame of the quantitative method, the behavioural and communication skills characteristics of 23 preschool children aged 3-5 have observed, who lacked in speech and communication and have applied to a speech therapist due to lack of speech or delay, as well because of having communication needs and peculiarities of social contacts.

The application of the quantitative method made it possible to form knowledge based on precise logic, based on mathematical-statistical calculations. The study aims at establishing the criteria for differential diagnosis of communication skills of preschool children with shy behaviour and for children with autism, and for that reason, speech therapy complex methods have been combined including practical and verbal/non-verbal approaches and conducting a semi-structured interview with parents of children.

The analysis of research results made it possible to define and make a comparative analysis of the behavioural characteristics of children with autism and for children with shy behaviour, to study children's means of communication and the differences between them.

Participants

In this study 23 preschool children from 3-5 years old have been observed, who lacked in speech and communication and have applied to a speech therapist due to having no speech or speech delay. The participants also had communication problems and diverse peculiarities of social contacts. All these children had not only straight verbal disorders but also symptoms that were typical to autism, such as not communicating visually, avoiding the new social environment (socio phobia, distrust, anxiety, etc.). They especially used the word - low voice using, telegraphic speech, echolalia, etc. Also, some

manifestations were typical to selective mutism such as behavioural - motor features, stubbornness, aggression (not permanent, but in the presence of a factor that exacerbates a certain discomfort), restless shaking of hands, turn around with head down, etc.

Data collection

A number of complex speech therapy intervention methods were used with 23 preschool children to collect research data, which were:

- Practical methods (games, exercises).
- Verbal methods (storytelling, conversation, explanation).
- Non-verbal methods (action demonstration and imitation techniques).

The combination of these methods was aimed at studying the behavioural characteristics of children with autism and children having shy behaviour, identifying main differences in communication between them, which was the basis for defining the criteria for differentiating diagnostic of communication skills of preschool children with shy behaviour and autism.

Very often families of children with these symptoms were in a difficult situation, especially in terms of the need for a differentiated diagnosis, since for them, first of all, it has a psychological meaning (to reject or confirm autism), also for choosing the right intervention. Hence, these were the circumstances that have been taken into account for emphasizing the principle of feedback in parent-specialist collaboration in this study. That was the main motivation, that during the initial consultation through an in-depth interview based on the parents' "complaints", the systematic record of the speech therapy intervention results was conducted to "neutralize" a number of symptoms typical of autism spectrum disorders.

Data analysis

The data analysis was carried out according to quantitative and qualitative methodology. As a result of the quantitative data analysis, the outcomes and results of speech therapy intervention with 23 children were concluded and summarized in the form of numerical patterns, the behavioural features of these children, communication forms and the differences between them were categorized and grouped, which have been presented in relation to the numerical percentage (Yadov, 2007).

To analyze the data which was obtained as a result of used speech therapy complex intervention methods the following specific criteria have been set:

- Determining the permissible threshold for establishing tactile contact with children.
- Identify the need for visual communication.
- Identify the need for a use of pointing gestures.
- Defining the need for cooperation.
- Identify the dynamics of the need for verbal communication and other personal characteristics (for example, shy children speak in fact, but in a low voice - looking secretly).

RESULTS/DISCUSSION

The results of the research described the speech-communication features of preschool children with shy behaviour, which intended to develop and define psychological-pedagogical and speech therapy practical rules for overcoming those difficulties. Therefore, this was the first study in speech therapy that anticipated to advance theoretical and practical approaches in this field which led to expanding the possibilities of differentiated diagnosis in practice and offering methodological support to the specialists.

Based on the analysis of the research results, it should be noted that for the effectiveness of speech therapy with such children, it is first necessary to:

- Recognize shy behaviour and distinguish it from similar situations.
- Define the nature of shy behaviour (is it a primary or secondary developmental disorder? It can sometimes be a consequence of speech development delay (Sakula, 2013; Bogachkina, 2008).
- Identify the nature and type of speech development disorder.
- Develop a complete system of psycho-pedagogical and speech therapy approaches.

Thus, the results of theoretical-practical analysis shown that it was difficult to detect children's shy behaviour, very often they were left out from professionals' attention. In this sense, speech therapy was an excellent opportunity to discover this type of behaviour - it provided an opportunity to accurately assess the real picture of children's displayed behaviour.

The reasons for communication fear that shy people had could be concluded in the following way:

- To avoiding reprimands from people around or from the negative public remark.
- Inability to orientate in the current situation or anticipate difficulty.
- To have premonition or fear to be rejected.
- Inability to trust.
- To avoid blushing.

The reasons might be caused because of:

- Heredity
- Sensitive nervous system
- Upbringing patterns, social environment and living conditions
- The model of family relationships
- Peculiarities of gender education
- Over care or under-care
- Excessive demands or indifference to the child's needs and emotions
- The nature of verbal forms of behaviour modelling - "educative words"
- Delay in speech and psychophysical development.

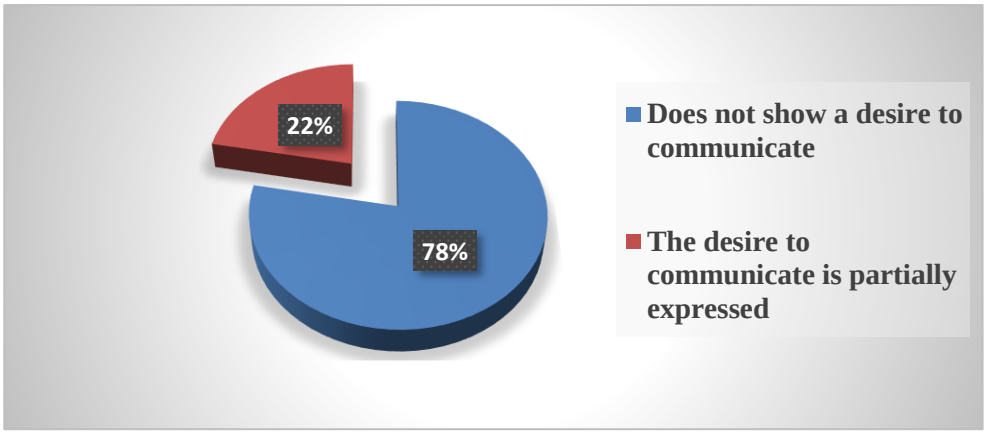
It is important to mention that the content of speech therapy intervention with preschool children with shy behaviour is conditioned by the degree and nature of their speech disorder. These children, as a rule, have a preserved intellect, which gives a very high compensation opportunity to both the specialist and the child. It is generally based on the principles of speech disorders' correction and basic methods, speech therapy intervention rules, approaches and principles for overcoming that (Nelson, 2006).

In this study, the process of data collection and analysis was held in 2019-2020, and about 23 children from 3 to 5 years old with normal development and at the same time having shyness took participation in this study. As a result of the implementation of speech therapy intervention and observation, the phenomena of communication needs were registered among all children. Comparing the data before and after speech therapy, it was possible to declare that before the survey 78% of them did not show any desire to communicate with the speech therapist or others at all *(they did not react*

or respond negatively to other people's words, attitudes, ran away from the speech therapist's room or refused it without a parent, etc.,), (Figure 1).

Figure1.

Indicators of the quality of communication of preschool students with shy behaviour before speech therapy intervention



It should be noted that these indicators were based on the severity of the child's psychological problems and the degree of effectiveness of speech development intervention. As a result of the current study, it was possible to affirm, that speech therapy helped to overcome shyness more quickly when shyness was based on a delay in speech development or was a result of general developmental delay. In other cases, speech therapy was accompanied by psychological support.

Out of 30% of children involved in speech therapy had "false echolalia" ("false echolalia" had been considered the echolalia, which was not a result of the unique work of the right hemisphere of the brain, but was a protective mechanism for not expressing its own "Self" and thoughts, which manifested in the mechanical repetition of other's words. Such echolalia disappears completely as a result of well-organized speech development intervention. It was considered to be echolalia of psychological origin).

Thus, after speech therapy intervention, all children's "false echolalia" became into lexical-logical communicative speech. It is important to emphasize the fact that as a result of the work the children's posture was corrected, they stopped performing unnecessary, "hiding, closing"

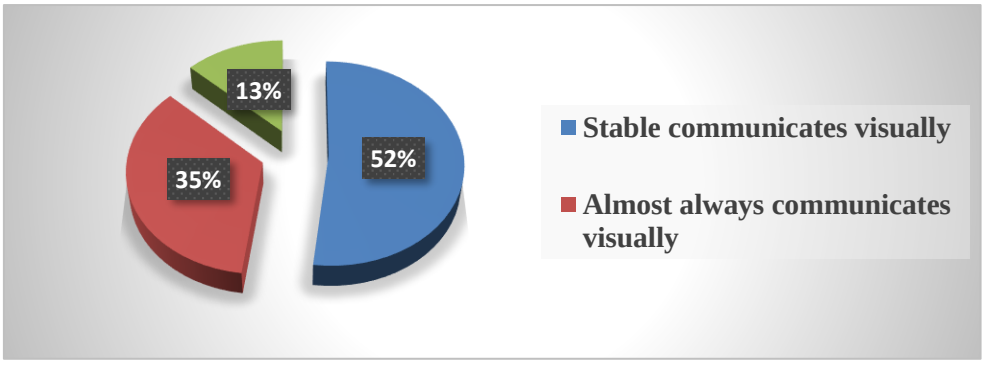
movements and "false stereotypes". All the children began to occupy the "space allotted to them", the use of the demonstrative gesture became more active, they began to use the pronoun "I", the directorial games became role-playing, the children's cooperation with both the speech therapist and the strangers was increased (the last data was confirmed by parents and based on the group work observations).

If before speech therapy intervention about 5 children (22%) made short attempts to communicate visually (1-2 minutes, unstable, timid), then after some time (after speech therapy that lasted from 2 to 8 months) 12 children (52%) were able to look at the speaker's eyes stably and communicated visually, 8 children (35%) almost always started communicating, and an overall improvement in the quality of communication was registered among other three children (13%).

For example, *the attempts to look "secretly" increased, the gaze was fixed on the speaker's face through special exercises, and that period gradually was getting longer. In addition, children were timid but eager to answer the speech therapist's questions (by the way, the answering word was given in the rhythmic arrangement of the vowel, which was completely meaningful, corresponded to the tempo-rhythmic logic of the required word, had the correct verbal tone. Later, these types of answers became answers given at the full verbal level)* (Figure 2).

Figure 2.

Indicators of the communication quality improvement of preschool children with shy behaviour registered as a result of speech therapy intervention



Current research showed that differential diagnostics helped to change the approaches used in speech therapy (Appendix 1). For example, if strictly regulated (mechanical) and symbolic approaches were used to interact with a child with autism to stimulate communication needs or to develop speech (vocabulary development, enhancing general progress, development of auditory or visual perception, etc.), then, in this case, it was the opposite, the emphasis was given on creative and lexical-logical thinking, child's imagination.

As well as within this study the speech therapy intervention rules have been developed and used with children to overcome communication and behaviour problems which effectiveness had been substantiated experimentally (Appendix 2). In addition, speech therapy exercises and games that were designed to stimulate the child's imitative needs and abilities, to develop non-verbal communication skills, voice, verbal breathing, rhythmic speech, sound processes, should be quickly implanted into practice as they release the child from a number of complexes that he has precisely because of shy behaviour. During speech therapy, especially the exercises that were aimed at feeling the space, taking one's place in it, expanding the motor/movement skills, contribute to the formation and development of the ability to get rid of constraints, to shift the gaze, to fixate and hold the face of the speaker, and finally to communicate with the gaze. Such stimuli, in contrast to a child with autism, strongly promote the verbal speech of a shy child.

The results of this research have approved that these approaches helped to develop well organized and targeted speech therapy, which rapidly stimulated the speech development of children with shy behaviour, increased communication needs with both adults and peers, as well as helped to overcome socio-phobias and encouraged social adaptation.

According to the parents, after effective speech therapy intervention, children even overcome their socio-phobias. They have approved that before the speech therapy the children while being on the street were forced to hug them so that they would not have the opportunity to communicate with others (the situation of avoiding contact was similar to autism, which frightened the parent).

While comparing the results before speech therapy and after it, significant changes were achieved in shy children's behaviour. As a result, during the speech therapy intervention, the children were already "gaining the courage" to walk holding their mothers' hands, and then independently, even a little bit away from them. Such data were recorded in 6 cases out of 23, which were verified during in-depth interviews with parents (in response to the question "How would you describe the manifestations of socio-phobia that were typical of your child?"). These and other similar data were the criteria for this differential diagnosis. Thus, children with autism do not like to be hugged, while a speechless child with the same symptoms, who can be very similar to a child with autism, showed the opposite behaviour - forced to hug him and then quickly got rid of the complex. Something that was not typical for children with autism.

CONCLUSION

This study approved that difficulties in the development of speech in children of preschool age are often not due to disturbances in speech processes and brain structures. Among the children with developmental disorders often it is possible to met self-contained children, children with autism, whose first symptom is a desire to be isolated. Some children who initially show signs of isolation in their behaviour should not be considered as having autism, they can simply be shy children. Shyness is a unique manifestation of behaviour that can seriously impede a child's full development, speech, and socialization. Children with shy behaviour are often misperceived as children with autism spectrum disorders, which negatively affects the content of speech therapy intervention. The elaboration and observance of speech therapy intervention rules promote the need for communication of shy preschoolers, the full development and socialization of the person.

Appendix 1.

COMPARATIVE CHARACTERISTICS OF COMMUNICATION FEATURES OF CHILDREN WITH SHAY BEHAVIOUR AND CHILDREN WITH AUTISM

Similarities with autism	*Differences from autism*

• *Are alienated.* • *There are no corresponding voice reactions with an adult and peer.* • *Emotions are not expressed or hidden.* • *They are afraid to be alone in the room with the speech therapist.* • *They avoid looking into the eyes of the speaker.* • *Some loud noises make them nervous, they close their ears.* • *Sometimes they have a unique posture. They hang their head, bend their trunk to the right or to the left, hiding their eyes.* • *Avoid new people, public speeches, crowded places.* • *They have movements similar to stereotypical movements. For example, they rotate.* • *Escape from new situations.* • *Games have some features.* • *They have echolalia.* • *Speech may be delayed or may be encountered serious developmental obstacles.* • *Difficulty while visiting others, and while accepts guests.* • *Prefer to play alone.* • *Talking when are alone.* • *To avoid unpleasant effects can escape from the territory.* • *They do not like when they are touched. For example, they do not like to hold the hand of an adult, peer.* • *They may not respond to their name and speak about themselves in the third form of the personal pronoun.* • *Have different manifestations of speech disorder, grammatical disorders, poor vocabulary, other difficulties of cohesive speech communication etc. They can make plural forms while adding foreign endings to the word.* • *The pronoun "I" is not used and it seems that they do not know it.*	• *Are alienated, but communicate with a sibling in a typical way that communicates child with normal development.* • *Prefer to roll the ball, blob together with an adult for having meaningful and emotional interaction with them.* • *They close their eyes while talking: used to avoid but wants to look at the speaker, just do not dare. They look "secretly" (sometimes with one eye) so that he does not see.* • *Speak low, but in fact.* • *Silently cooperate with an adult.* • *As a result of speech therapy, they start firmly to look into the eyes of the speaker.* • *Sometimes they speak by giving a general rhythmic picture of a phrase or sentence where the words are not heard (for example, when we show a picture of a rabbit and ask what is depicted, the child answers: "h h h ", while saying "reb - bit".* • *Do not like to walk alone, want to hug mom or dad.* • *The game has not stereotypical nature.* • *The directorial game dominates - the child speaks meaningfully and alone.* • *Knows the functional significance of the objects, recognizes and understands their social relations and existing semantic connections.* • *The movements are not stereotypical but have a concealing nature, which is overcome as a result of the done intervention.* • *As a result of the work, the child's posture is corrected, children stop performing unnecessary, "hiding, closing" movements or stereotypical movements like shaking hands, rotations.* • *As a result of speech therapy, children begin to occupy the "space allotted to them".* • *The pointing gesture is preserved, but the child uses it briefly and timidly.* • *Along with the development of speech as a result of special work, they quite quickly start to use "I", as well as other pronouns.* • *Echolalia disappears with the development of speech. In addition, they are echolalia typical of the earliest stages of speech development.* • *Shy behaviour can have "primary" or "secondary" nature. For example, the cause of shyness can be speech retardation, and conversely, shyness can cause speech retardation.*

Appendix 2.

SPEECH THERAPY INTERVENTION RULE S FOR WORKING WITH PRESCHOOL CHILDREN HAVING SHY BEHAVIOUR

- *While meeting the child for the first time do not keep him/her in the center of attention. Do not ask his name, do not address him directly, do not force him to look into the other person's eyes, etc.*
- *Do not force him to be alone with the speech therapist. During the next sessions, the parent can sit next to the child, gradually increasing the distance between them.*
- *Try to avoid physical contact, but use tactile means of communication. Roll the ball, use other moving and rolling games and toys in moderate duration.*
- *Speak expressively, use interjections in speech, different forms of pre-verbal communication, but pay attention to the child's reactions - if they repel the child, reduce or moderate them.*
- *Do not force the child to verbal communication during the first session - for that period, it is enough for the child to show the required answer, etc.*
- *"Make the child work" by instructing to bring, carry, arrange, transfer, place games and toys.*
- *Play situations where the child will have to raise his voice. For example, when answering in a low voice, you can say that the bear is asleep, so you have to ask loud what the bear likes so it can hear and wake up, etc.*
- *Gradually engage in group work where the number of children should be added gradually.*
- *If the child responds only by rhythmically dividing the word into syllables, nevertheless accept it as an answer and encourage the child, at the same time use the combined speech method.*
- *If the child shows the picture in response and does not describe the object, function, or event in words, recall the first syllable.*
- *Play such situations and games that the child has to raise his head. For example, the bag containing his favorite toys can be gradually raised, and he must be able to catch them so that the toys do not "run away". Or first, put the bouncing toys on the floor, then gradually raise them up on the table, on the cupboard, etc.*
- *Keep toys and pictures at face level when showing them.*
- *Regularly use constructive games.*
- *In the later stages of the work, with the help of stimuli, make the child name the object, the function in words, phrases and sentences.*
- *Before conducting speech therapy refer the child for psychological counselling.*
- *Organize the actual speech therapy intervention based on specifics of the child's individual development and needs, using speech therapy classical methods and methodic approaches for correcting speech disorders.*
- *Definitely (regularly) combine speech therapy with psychological support.*

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ANALYSIS OF COMMUNICATION OF PEOPLE WITH LARYNGECTOMIES SPEECH THERAPY EXAMINATION RESULTS

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ABSTRACT

People with voice disorders and their problems are always at the centre of attention of several sciences, in particular medicine, pedagogy, psychology, and sociology.

The use of quantitative procedures in this paper is mainly ready to lend a hand in sorting out some of the significant issues surrounding speech therapy intervention in both clinical and research contexts.

After the removal of the throat, the patient, having the means of communication - the word, but losing one of the components of expressive speech - the voice, has pronounced difficulties in the process of communication. Some patients, realizing their inadequacy due to absence of voice, try to take various measures to overcome the problem, while others become discouraged, frustrated, lose optimism, the desire to overcome the problem and return to a full life. Patients, within the frame of this study, had certain prerequisites for vocal cords, such as verbal breathing and expressive mobility problems.

Keywords: throat removal, laryngectomy, pharyngectomy, speech therapy, speech therapy examination, voice, communication, expressive speech.

LITERATURE REVIEW

Surgery to remove all or part of the pharynx (throat) is called a pharyngectomy. This operation might be used to treat cancers of the hypopharynx. Often, the larynx is removed along with the hypopharynx (Thomas & Keith, 1984). Patients who have a laryngectomy or

pharyngectomy typically lose the ability to speak normally. Some people will need a tracheostomy after surgery. Less extensive operations can also affect speech in some cases (American Cancer Society, 2020).

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It is an indisputable fact that the voice has an invaluable role and significance in the process of full development and social development of a person. Therefore, it should be noted that voice disorders deprive a person of the ability to fully communicate, and in some cases, are an obstacle to full-time work and community integration (Kubareva, 2019; Uklonskaya, 2016).

Voice disorders are very diverse. By nature, severity, and social significance, voice disorders have a special place in the case of throat cancer. Recently, it should be noted that there is an increase in the number of these patients, which is due to several reasons, especially environmental factors, the use of tobacco, alcohol, etc. (Fateyeva, Chubenko, Posokhova & Shanaurina, 2010). In this regards the scientists believe that some risk factors, such as tobacco or heavy alcohol use, may cause these cancers by damaging the DNA of the cells that line the inside of the larynx and hypopharynx. Some forms of the human papillomavirus are emerging as important causes of some throat cancers (including cancers of the hypopharynx) (American Cancer Society, 2014).

Development and improvement of medical care for people with throat cancer are one of the current issues in medicine, psychology, and pedagogy, which is due to the frequency of their existence, the severity of physiological, functional, and anatomical disorders, the patient's mental disorders, and voice disorders as well.

Before surgery, the voice is produced by air from the lungs passing through the voice box and making the vocal cords vibrate (Hutton, 2021). While laryngectomy the voice box is removed and lungs are no longer connected to the mouth. A replacement for the lungs leads directly to the outside of the body via a permanent hole in the neck called a stoma. This means voice can no longer be made ordinarily and a new method of communication will be used following the operation (Hutton, 2021).

Patients with laryngectomy experience changes to communication which impact their quality of life. The literature review conducted by a group of researchers indicates that there is a complex nature of changes faced by

patients following laryngectomy about communication and quality of life. The general factors of changes are seen in communication competency, self-perception, and social engagement impact each other and are also influenced by adaptation to change. The model linking communication changes to the quality of life may become a useful tool for researchers and clinicians in supporting the management of patients post-laryngectomy (Sharpe, Costa, Doubé, Sita, McCarthy & Carding, 2018).

Another study examining the quality of life in the laryngectomees using different methods of communication has been conducted in Nova Scotia with sixty-two participants. Within the frame of this study all patients were asked to rate their ability to communicate and their difficulty with several communication problems. Out of sixty-two patients, 57% were using electrolaryngeal speech, 19% esophageal speech, and 8.5% tracheoesophageal speech. There were very few differences between these groups' inability to communicate in social situations and no difference in overall quality of life as measured by these scales. The most commonly cited problem was difficulty being heard in a noisy environment (Carr, Schmidbauer, Majaess & Smith, 2000).

Thus, the analysis of sources allows us to conclude that patients with laryngectomies face major changes in lifestyle related to altered airway, loss of voice, body image concerns, and challenges with eating. Support of family, friends, and health care professionals is critical for a successful transition during this stressful period. Direct messaging, email, virtual support groups can contribute to a great improvement in communication and engagement for this population (Dooks, McQuestion, Goldstein & Molassiotis, 2012). Still, while talking about patients with total laryngectomy as a life-preserving surgery, the extent to which communication changes disrupted social roles affecting a person's sense of self appeared to relate to long-term adjustment (Pereira da Silva, Feliciano, Freitas, Esteves & Almeida e Sousa, 2015).

As it might be concluded, many factors are influencing the choice of the mode of speech restoration in a precise patient and for effective rehabilitation, a team approach is compulsory (Gumennaya, 2016). Within the frame of this work, the speech therapy examination is done to understand the level and pattern of communication of patients with laryngectomies.

METHODOLOGY AND RESULTS

Within the frame of the current study the experimental research has been conducted in the departments of nose-throat-ear in "Armenia" Republic Medical Centre, Fanarjyan National Oncology Centre, Izmirlian Medical Centre, and in Yerevan State Medical University "Heratsi" N1 hospital complex. All hospitals were located in Yerevan, the capital of Armenia. During the confirmatory research 65 male patients with laryngectomies, aged between 39-64 years has participated (Figure 1).

It is a fact that as a result of complete removal of the throat, the person is deprived of a loud voice, so the speech therapy intervention with these patients conducted by the researcher did not presuppose a voice examination but assumed a study during a communication process when sound is absent and also investigation for a voice formation.

Table 1.
Age of participants with a laryngectomy.

Age	Number
Till 40 years	1
41-50 years	7
51-60 years	17
Above 61 years	40

Based on the all mentioned above, the patients' speech investigations in 2 main directions has been conducted:

1. Research of the communication process, where the nature of communication was especially important to the researcher:
    a. the patient communicates orally silently (silent pronunciation);
    b. the patient communicates through writing;
    c. the patient communicates through multilingual means: natural gestures, facial expressions;
    d. the patient avoids communicating in any way.
2. Examining the preconditions of a voice formation:
    a. examination of verbal breathing;

b. examination of the mobility of the articular organs.

Before implementation of speech therapy intervention, the medical records of participants have been reviewed, the existing difficulties and problems during the pre-surgery and post-surgery period, the effectiveness of post-surgery rehabilitation, data on the patient's general somatic condition were analyzed.

In addition, interviews have been conducted with each patient's family members and treating physicians, the specifics of each patient and problems caused during the disease process were clarified, and as a result, the approaches to working with each patient have been developed. The purpose and direction of further work have been agreed upon with each patient based on the concept paper.

The speech therapy examination was organized on a step-by-step basis; in each case, the workload was adjusted to the patient's ability to work, to the psychosomatic condition of each participant. To study the communication process, within the framework of establishing contact, at first, a preliminary conversation with the patients with laryngectomies was conducted, paying attention to the patient's desire for communication, nature, and features. Then the question and answer method was used.

The patient was asked simple questions in household life and the nature of the patient's answers was studied. The patients examined did not wear a voice prosthesis or any other sound equipment during the examination. During the examination, each patient was provided with a paper and pen so that could communicate by writing if necessary. Each patient was asked 8 questions and every answer was suspected to have two or more words, excluding "yes" or "no" answers. The results of the research were analyzed according to the following criteria:

- responds orally (silent pronunciation);
- responds by writing (in this case, if possible, we ask the patient to try to pronounce it silently);
- responds using different multilingual means (in this case we again ask them to try to express it if it is possible);
- the patient avoids answering.

Table 2.

The results of the research.

Participants n-65	Suggested assignment	Type of communication							
		Oral pronunciation		Written		Multilingual means		Lack of communi-cation	
		n	%	n	%	n	%	n	%
Participants n-65	Answering the questions	3	5	40	61	14	21	8	13

Analyzing the results of the research helps to state that the majority of the subjects, 61%, communicate through writing. At the same time, it must be noted that the answers were mostly short, sometimes in one word. It also must be noted that 5% of the participants, despite having a silent pronunciation, but was actively supplemented by multilingual means, and sometimes the answer was not clear enough. It takes a lot of effort from the patient, often after answering 1-2 questions, the patients tried to avoid further questions. 13% of the participants did not execute the task at all, did not give any answer, these patients generally communicated very passively. In this regard, it might be possible to point out, within this context, the psychological manifestations of these patients, the attitude towards the problem, and the existence of several psychosomatic problems in this post-surgery period are very important.

As part of the research, the preconditions for voice formation during the post-surgery period were also examined. Therefore, in line with the logic of the research, further examinations were aimed at the examination of verbal breathing and examination of the mobility of the expressive organs.

The research has been implemented based on the approaches used in speech therapy and suggested by a group of specialists (Kubareva, 2019; Fatayeva, Chubenko, Posokhova & Shanaurina, 2010). The suggested approach was partially modified and adapted to the logic of the research. During the examination of verbal breathing research, several necessary conditions have been assured:

- ensuring optimal temperature in the room (not cold, not hot);
- the work was implemented at least 2 hours after feeding;
- the work did not exceed 7-8 minutes.

The research was implemented based on an individual approach, on a step-by-step basis, with small portions of speech therapy instructions, taking into account the patient's well-being, ability to work, and general mood. In the study of verbal breathing, research was particularly interested in the ability to exhale through the mouth for a long time. For this purpose, patients were asked to keep long inhalation and exhalation through the mouth.

During the process of verbal breathing research, several factors were considered as important, in particular, the nature of the respiratory function, as among the patients who had removed their throats are preserved breathing old stereotypes, even though patients' speech in these new conditions is not formed based on physiological exhalation, but the speech formation and tracheal respiration symmetry are preserved, which significantly complicates the communication process, such as the presence of a trachea tube or absence of that as a result of surgery. The results of the study are presented in Figure 3.

Table 3.

Indicators of verbal breathing.

Participants n-65	Suggested assignment	**The nature of verbal breathing**					
		Oral long pronunciation		Oral short pronunciation		Did not do the task	
		n	%	n	%	n	%
Participants n-65	Breathing exercises	1	1	57	88	7	11

Analyzing the data presented in Figure 3, it may be stated that only one person can make a long exhalation through the mouth, which is important for voice formulation. The majority of participants, 88%, did task with a big difficulty, mouth exhalation was short, shallow, and 7 (11%) of the participants did not complete the task at all, stating in various languages that they will not be able to, they will feel bad, it is very difficult for them, they do not want to do.

Thus, the results of the study show that during the post-surgery period, the patients with laryngectomy can’t perform the essential verbal breathing correctly.

In line with the logic of the research, the further research focus was on the next prerequisite for voice formation, namely the expression organs mobility.

The study of the mobility of the expression organs was implemented by us based on the approaches used in speech therapy, (Gumennaya, 2016; Prikhodko, 2010), which parts have been modified and adapted to the logic and aim of the current study. In this context, patients have been offered several exercises aimed to:

- research the mobility of the tongue (take the tongue out of the mouth, move up, down, side, back);
- research the mobility of lips;
- research the mobility of the lower jaw;
- research the mobility of the soft palate.

In this case, the research was implemented with an individual approach too, on a step-by-step basis, in small portions, taking into account the patient's well-being, ability to work, and general mood. All was done based on the principles taken into accountant in each part of the research. And the results are presented in Figure 4.

The results here show that the lip exercises were performed more easily than the tongue exercises. 83 % of participants found it difficult to perform accurate, precise, smooth tongue exercises, which, in our opinion, is due to changes in the kinesthetic sensations of the oral cavity after surgery.
The results of the mandibular and soft palate examination in Figure 5 shows, that the participants experienced difficulties with soft palate exercises; only 2 of 65 participants completed the tasks, and 95% could not do it. In this situation, such an indicator in the context of soft palate mobility is conditioned on the one hand by the closer physiological connection of the soft palate muscles with the muscles of the vocal apparatus, on the other hand, with problems with verbal breathing, as well as with changes in oral sensation during the postoperative period.

Table 4.

Indicators of tongue and lip mobility.

Participants n-65	Suggested assignment	**Qualitative indicators of exercises**							
		Tongue exercises				Lip exercises			
		Makes clear, unobtrusive		Performs vague, constrained		Makes clear, unobtrusive		Performs vague, constrained	
		n	%	n	%	n	%	n	%
Participants n-65	Pronunciation assignment:	22	34	43	66	59	91	6	9

Table 5.

Indicators of the lower jaw and soft palate mobility.

Participants n-65	Suggested assignment	**Qualitative indicators of exercises**							
		Lower jaw exercises				Soft palate exercises			
		Makes clear, unobtrusive		Performs vague, constrained		Makes clear, unobtrusive		Performs vague, constrained	
		n	%	n	%	n	%	n	%
Participants n-65	Pronunciation assignment:	13	20	52	80	2	5	6	95

DISCUSSION

The analysis of the results of the current study shows similarities with the results indicated by Dooks, McQuestion, Goldstein, and Molassiotis (2012). Patients with laryngectomies face major changes in their lifestyle related to loss of voice, and related challenges. They avoid active communication and try not to engage in situations that require their speech.

At the same time the results of this research somehow are controversial with the results indicated by Carr, Schmidbauer, Majaess, and Smith, (2000), where participants mentioned only the difficulties while talking in a noisy environment. There was no difference in overall quality of life as was indicated by the participants as well. Still, it is very important to mention, that within this study all participants were using electrolaryngeal,

esophageal or tracheoesophageal speech. While in current research participants do not use any of mentioned above.

Psychological feelings of these patients with laryngectomy were quite observable within the frame of the current study and that was quite relevant with the findings indicated by Pereira da Silva, Feliciano, Freitas, Esteves, and Almeida e Sousa (2015) where authors point out that the communication changes of patients with laryngectomy disrupted social roles affecting a person's sense of self and quality of life. At the same time an intervention based on a team approach while working with these patients will be much more effective (Gumennaya, 2016) and will inhance their quality of life.

CONCLUSION

In consequence, summarizing the results of speech therapy examination results within the frame of the current study, it becomes possible to state:

- the voice is a key indicator in the context of verbal communication and while the absence of a voice, the verbal communication of people with a sore throat is mostly incomplete, it is implemented either in writing or through the use of multilingual language;
- some people with laryngectomy have several psychological problems, and as a result of which these patients avoid communication at all, and their communication is limited to giving "yes" or "no" short answers, or pointing to something;
- among the people with laryngectomy, during the post-surgery period, there are problems for voice formulation in the context of verbal breathing and mobility of articular organs. Moreover, the psychological feelings of these patients were quite visible here, as a result of which they refused to do some exercises, quickly became discouraged, and were disappointed in case of a small difficulty.

Summarizing the result of the research, it must be noted that after laryngectomy the patient, having the means of communication, the word, but losing one of the components of expressive speech, the voice, has pronounced communication difficulties. Some patients, realizing their inferiority due to

absence, try to take various ways to overcome the problem, others become discouraged, frustrated, lose their optimism, their desire to overcome the problem and return to a full life. Patients in the study had certain prerequisites for vocal cords, such as verbal breathing and expressive mobility problems. The above mentioned emphasizes the importance and urgency of finding optimal ways of speech therapy effective intervention for people with a laryngectomy.

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ATTITUDES ANALYSES OF MOBILITY DISORDERS ADOLESCENTS' PARENTS IN REGARDS OF IMPROVEMENT SOCIAL AND HOUSEHOLD SKILLS

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ABSTRACT

The purpose of this study is to analyse the attitudes of parents of adolescents with mobility disorders regarding the need to improve their children's social and household skills.

The methodology of data collection, processing and analysis of the research is based on the approach of quantitative methods, which allows combining the collection of quantitative data, using quantitative methods, later having the opportunity to conclude the data obtained through certain numerical patterns. The specially designed questionnaire was administered to 125 parents of adolescents with mobility disorders.

The survey showed that the vast majority of parents consider their children's independent life as a priority. The need to teach their children social and household skills such as shopping, cooking, cleaning kitchen utensils and the area, helping with household chores is also mentioned as quite important.

At the same time, the insufficient awareness of parents about the idea of living an independent life, the inconsistency of adolescents' ability to carry out household activities, the inconsistency between their subjective perceptions, as well as the overprotection possibility of one of the traditional Armenian cultural features should be mentioned too.

Keywords: adolescents with mobility disorders, mobility disorders, social skills, household skills, parents, caregivers, independent life.

INTRODUCTION

There are a number of social factors in the life of a disabled adolescent that is directly related to a person's ability to live in society, and to feel like a full person in society. These factors include education, family life, interpersonal relationships, housing conditions, health status, health and social protection system, opportunities provided by the state in the country, etc.

In recent years, approaches to the rehabilitation process have shifted from strict medical to social approaches, where clients' attitudes, views, and experiences have become more powerful. The client's participation is a central part of Occupational therapy and is reflected in the professional ethical principles established by the American Association of Occupational Therapists (AOTA, 2005). It clearly states that Occupational therapists interact with both clients and their families throughout the assessment, intervention planning, and intervention (Min, Ashe, Estes, Foster & Slater, 2010).

Social and household skills interventions for adolescents with mobility disorders are often delivered in intervention correspondences, containing a blend of numerous intervention structures considered to be operative in improving specific patterns. The presented below literature review revealed the state of adolescents with mobility disorders following Occupational therapy intervention features, which are commonly included in the social and household skill intervention process.

LITERATURE REVIEW

According to the classification proposed by the Soviet-era psychologist Elkonin, two periods of adolescence are distinguished: junior adolescence (12-14 years) and senior adolescence (early youth) 15-17 years of age. Adolescent development is complex; involving the interaction between fundamental biological and cognitive developmental processes, and the unique environment inhabited by the adolescent (Bell, 2016).

Entering puberty heralds the physical changes of adolescence: a growth spurt and sexual maturation. Professionals who work with adolescents

need to know what is normative and what represents early or late physical development to help prepare the adolescent for the myriad changes that take place during this time of life (APA, 2002; Coleman & Hendry, 1999).

Mobility disorders affect the lives of adolescence at different levels, and the need for support, care and treatment varies between individual children and adolescents during their development and throughout their lives. The condition of each particular case has different direct effects on the development (Jemtå, 2008). Medical treatment including surgery, single or multiple hospital admissions, physiotherapy, occupational therapy, speech therapy, trying out orthopaedic and technical aids are examples of ordinary experiences for many adolescents with mobility disorders. Children and adolescents with impaired mobility have to manage varying degrees of physical dependence on parents, siblings, friends, personal assistants, and other people in their social life (Jemtå, 2008) as well as while performing different household activities.

According to the World Health Organization (WHO), about 70% of premature deaths in adults are due to adolescent behaviour (WHO, 2005; WHO, 2016). In the face of such alarming data, attitudes and conceptual approaches to adolescent health issues have begun to change in many countries. However, health care systems are not always able to respond to the needs of adolescents promptly. Many adolescents do not have the experience and practice of seeking medical help, which is largely due to problems in the health sector (Melkumova, Movsesyan, Sargsyan & Babloyan, 2019).

Conferring to data provided by WHO, about one-third of teens today have a chronic illness or condition. It was traditionally accepted that the beginning of adolescence is puberty, and the end is related to the ability to get a profession, work, get married, have children. Still, it is obvious that in the developing world today, both education lasts longer and the age of marriage and having the first child has increased significantly (WHO, 2016).

Access to the physical environment, public transport, information, communication, including information technology, buildings, and other services is essential to enable people with disabilities to live independently and participate in public life. At the same time attitude towards these persons as well as cultural peculiarities within the families seems to be vital as well. However, society often limits other opportunities for education, profession,

work of the disabled, as the disabled mainly need treatment, care and attention. The life of a person with a disability depends on the opinions of others and attitude, which leads to his/her social isolation and hinders his/her full participation in public life. In conclusion, it should be noted that at present, there is a misconception in society about the problem of disability. Some people think of a person with a disability as just a person in a wheelchair, a walker user, or a bedridden person. Meanwhile, there are different manifestations of disability, which are united in one common term. Unfortunately, society's benevolence towards the disabled is often limited to the word "disability". At the same time, adolescence is not only a time of risks but also a time of opportunity. Adolescence is one of the most important stages of a person's life cycle, and adolescents are at a unique “crossroads of health”. In prenatal, early childhood and school-age, various biological and social factors, diseases affect and predetermine the state of health in adolescence (Melkumova, Movsesyan, Sargsyan & Babloyan, 2019).

In the work “Raising a Disabled Child”, the authors emphasize the importance of family involvement as a suggestion to parents of children with disabilities. The process of caring for a child with a disability poses a number of challenges for parents, such as additional financial difficulties to improve the child's health, ways to address problematic behavioral manifestations, overcoming societal stereotypes about disability, and more (Ha, Greenberg & Seltzer, 2011). Psychologists, Occupational therapists and specialists from the related fields have always the prioritized role of parents and used the participation of parents and family members in the planning of their children's intervention and further decision-making process (Hanna & Rodger, 2002). Guided by the ideology of the client-centred approach, within the frame of current research, it becomes possible to consider and analyze the attitudes of parents of adolescents with mobility disorders and views on their children's vision for the future, as well as the need to improve their social and household skills.

Depending on the type and severity of the disability, there are certain problems in the field of self-care and productivity, which act as the cause of very serious complications. In this situation, the person feels dependent and helpless. In this case, while talking about persons with mobility disorders, it is very important to ensure the adjustment process, as maximum conditions

must be created for the person with a disability to be independent. It should be noted that in today's reality, the physical environment is still far from being accessible to people with disabilities, for providing full opportunities for a free life, and, thus, depending on the type of disability, in some situations, people with disabilities may need constant help. A person with a disability needs to be able to be independent, to have adapted and adjusted environment according to his/her needs, as well as to have regulated daily life and free performance of the activities of daily living.

Research on well-being among children and adolescents with mobility impairment embraces a variety of aspects, such as life satisfaction, and predominantly quality of life, independent living and health-related quality of life. Livingston, Rosenbaum, Russell, and Palisano (2007) reviewed research on the quality of life and health-related quality of life in adolescents with cerebral palsy and found lower well-being among those with cerebral palsy compared to normative data (Livingston, Rosenbaum, Russell & Palisano, 2007; Jemtå, 2008).

Using an age-related disease-specific instrument, where the adolescents self-reported, Schoenmakers et al. investigated the self-reported health-related quality of life and functional abilities in children and adolescents with spina bifida. These authors found being independent in mobility more important for the quality of life than being independent in self-care or being wheelchair-dependent (Schoenmakers, Uiterwaal, Gulmans, Gooskens & Helders, 2005). Other studies have demonstrated a significantly lower self-reported quality of life for children with cerebral palsy experiencing pain (Russo, Miller, Haan, Cameron & Crotty, 2008; Dickinson, et. al, 2007). Still, despite the fact of using different data sources, reviewed literature indicates that studies on well-being that are based on interviews with adolescents and their parents are rare.

METHODOLOGY

Data collection and participants

Participants of the study are the parents of adolescents living in different regions in Armenia (Yerevan, Shirak, Lori). 125 participants took part in the face to face and online surveys (Table 1). Taking into account the

fact that there is no research ethics committee in the Republic of Armenia, gaining an official ethical license for the research was not possible.

All research participants were given the written information on the research aim, their rights, and the ethical obligations of the researcher. Also, informed consent was introduced to the participants. The names of the participants were kept anonymous and not used in the study.

A quantitative method of data collection and analysis was chosen in the current research as it provides complex textual descriptions of how people experience a given research issue. It provides information about the "human" side of an issue - that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals (Mack, 2005).

The questionnaire consists of 5 close questions, and parents need to select the answer they find more appropriate for them.

As a result, the answers received from the questionnaire were entered into the relevant software database (Microsoft Excel), where the collected data were analyzed and the digital percentage points were presented.

Table 1.
Demographic data of participants.

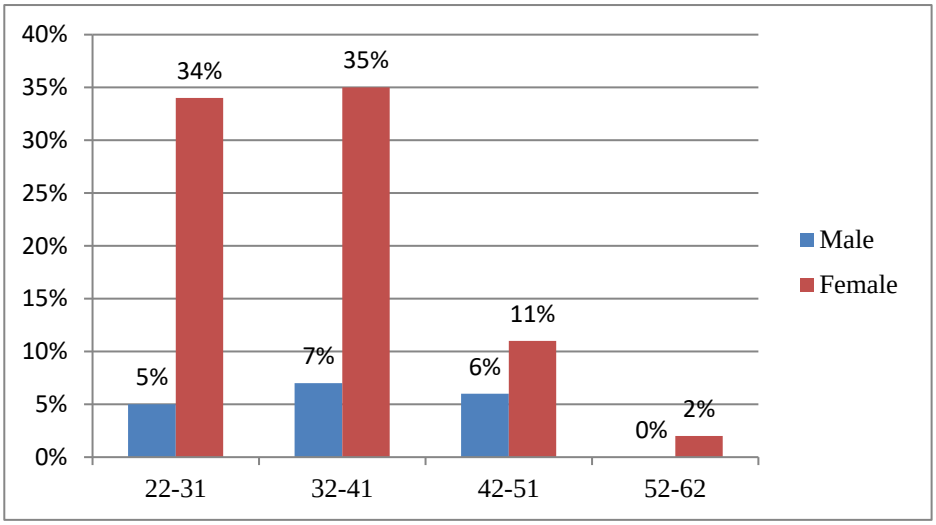
Region	Sex				Age							
	Female		Male		22-31		32-41		42-51		52-62	
	n	%	n	%	n	%	n	%	n	%	n	%
Yerevan	15	12	1	1	4	3	8	6	4	3	-	-
Lori	68	54	15	12	34	27	34	27	13	10	1	1
Shirak	19	15	7	6	10	8	10	8	5	4	1	1
Total	102	82	23	18	48	39	52	41	22	17	2	2

RESULTS

The gender and age composition of the parents or guardians who participated in the study are presented in Figure 1 below. The analysis of the obtained data showed that the age threshold of 125 parents participating in the research varies from 22 to 62 years old. The diagram below shows that the vast majority of parents or guardians are female. This may be due to the fact that in the Armenian society as an emphasized cultural feature it is

accepted that the role of daily care and upbringing of children is assumed by the mother of the family and the father acts as the financial stability and welfare ensuring of the family.

Figure 1.
Gender and age group of the parents' participants of the study.



It should be added that the dominant part 62% of responders have secondary education, 14% vocational and only 24% have higher education. Referring to the index of higher education results the above-mentioned 24% by regions was distributed as follows: Yerevan - 10%, Lori - 9%, Shirak - 6%. For centuries, the prevailing view is that family is the main traditional institution of the child's upbringing, his physical, mental, intellectual and moral development. Undoubtedly, the level of parent's education plays a decisive role in the child's socialization, versatile development, pedagogical and rehabilitation impact of early measures, as well as in the fight against stereotypes related to disability.

To the question, "Do you support the idea that when your child becomes an adult, will be able to live an independent life with at least under your care?" the majority of parents (all 100%) gave a positive answer. At first glance, this indicator clearly reflects parents' position and vision for the future of their children as independent living people. However, the following

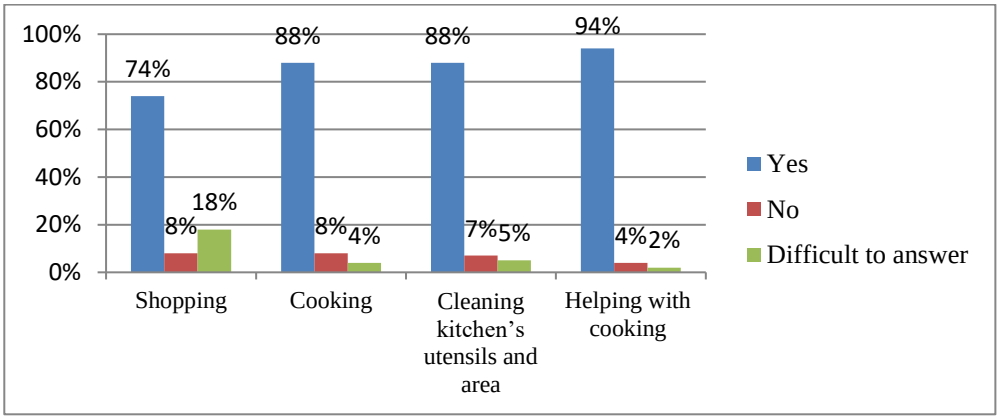
questions which are presented in Figure 2, reflect the position of parents regarding adolescents with disabilities, social life skills, in particular in the implementation of the most important functions of everyday life and about the importance of availability, despite the fact that directly originates from the previous question and are considered its logical continuation, the indicators of the received answers are slightly contradictory and different. If the previous question, that's "Do you support the idea that when your child becomes an adult, will be able to live an independent life with at least under your care?" the majority gave a positive answer, then to the next more detailed question "Do you consider it necessary to teach all the skills that will help your child to be more independent in such activities as shopping?" the vast majority - 74% of parents gave a positive answer, while 18% found it difficult to answer and only 8% answered that they do not consider it important. Let's add that according to the WHO ICF classification characteristics, shopping includes the following interrelated functions such as choosing and purchasing necessary items for everyday life, such as food, clothing, household items, etc. This raises a controversial question and may conclude that 26% of respondents do not have a clear idea about the importance of household activities, such as shopping, or based on their children's functional abilities never imagined to their children as a direct independent participant in the above action.

A similar picture was obtained during the analysis of the next question answers: "Do you consider it necessary to teach all skills that will help your child to be more independent in such activities such as cooking?" which includes planning simple or compound meals, organizing, preparing and serving them, such as compiling a menu, choosing edible food and drink, combining food components during cooking, cooking with electricity, and making cold dishes and drinks, and also how to serve food, including simple, compound meals, 88% of respondents gave a positive answer, 8% answered that they do not consider it important and only 4% found it difficult to answer. In this case, 12%, which does not match the views expressed by the parents or guardians, and the latter consider their adolescent's people, who can live out of their immediate care. And again it is possible to conclude that this time it is based on the discrepancy between the adolescents' ability to be independent during household activities, and the subjective perceptions of the

parents, or the possibility of one of the traditional Armenian cultural features, the overprotection.

Figure 2.

The importance of developed skills for independent living.



Referring to the next question, that is, "Do you consider it necessary to teach all skills that will help your child to be more independent in such activities such as, cleaning kitchen's utensils and area?" obtained the following, 88% of respondents believe that these skills will encourage their children to participate in household life, while 7% do not consider it important, only 5% could not answer clearly. Let's add that cleaning the kitchen area and dishes include such functions as, cleaning up after cooking, such as dishes, pans, small boilers, and washing kitchen utensils, cleaning the tables and floors around the kitchen area and etc. It is noteworthy that 7% of the respondents who think that involvement in these above-mentioned activities is not so important for leading an independent life, were male parents or guardians. This also may have been conditioned by cultural specificity. According to that, the main role of household life in Armenian families belongs to females.

And to the last question "Do you consider it necessary to teach all the skills that will help your child to be more independent in such activities as helping with housework?" which includes working with other people by planning, organizing, and managing household chores, when responsible is another person. The majority 94% of parents gave a positive reply, adding

that if their children are not able to perform above-mentioned activities on their own, then at least will have an opportunity to participate in household activities. 2% of the respondents found it difficult to answer, and 4% mentioned that it is not important for their teenagers. Comparing to the other questions above, it must be noted that in this case was received the highest number of positive answers. It is considered necessary to mention this once that adolescents play a secondary role in performing these activities by receiving specific instructions from other participants and are not the main responsible. Analyzing the answers and comments of the respondents it might be concluded that the majority of parents consider important the idea that their adolescence, if not fully, can at least partially participate in household activities.

DISCUSSION

Thus, according to the answers of the parents, it becomes possible to conclude that the vast majority of the latter consider important the vision that their children may live an independent life. The need to teach social skills to their children such as shopping, cooking, cleaning kitchen's utensils and areas, and helping with housework has also been highlighted.

Of course, these indicators are quite gratifying, as they prove gradual decline of once-dominant stereotypes in Armenian society and among parents of disabled children and teenagers, when people with disabilities were seen as a vulnerable minority and were based on stereotypes that caused compassion, fear, dependence from others, disability, and desire always to be supported. All this is quite similar to the result introduced by Ha, Greenberg and Seltzer, (2011). At the same time, it the insufficient awareness of parents about the idea of an independent life and the inconsistency between adolescents' ability during household activities and their subjective perceptions can be stated, as well as the overprotection and over caring, one of the Armenian traditional cultural features, which had its effect on response rates.

Analyzing the responses of the respondents and comments it is concluded that the majority of parents are of the opinion that their adolescents, if not fully, then at least partially can be involved in the performance of

lifestyle activities. According to some researchers, it is crucial for a person with a disability to be able to be independent, to have adapted and adjusted environment based on his/her needs (Livingston, Rosenbaum, Russell & Palisano, 2007). Also, the authors outline the main role of participation and self-satisfaction, predominantly quality of life, independent living and health-related quality of life (Jemtå, 2008).

According to some sources, the specialists who work with adolescents need to know what is normative and what represents early or late physical development in order to help prepare the adolescent for the myriad changes that take place during this time of life (APA, 2002; Coleman & Hendry, 1999). In this regard, within this context, it is important also to know cultural peculiarities and organize work not only with children in order to improve or develop necessary social and household skills, but also to help parents to overcome difficulties and changing mindsets regarding overprotection of their child, in order to help them to become independent.

Occupational therapists have always used the involvement of parents in the planning and decision-making process of their children's intervention. The latest trends in paediatrics are directed towards a family-centred approach, and the central component of this approach is the cooperation of parents, occupational therapists in the process of organizing the assessment and intervention of the child (Hanna & Rodger, 2002). This very important standpoint should be taken into account and implemented for support to parents and adolescence with mobility disorders as well as for raising their awareness regarding the possibilities of their children.

CONCLUSION

According to the survey results, it is possible to conclude that parents of adolescence with mobility disorders prioritize independent life for their children. The need to teach their adolescence social and household skills such as shopping, cooking, kitchen utensils, cleaning the area, and helping with household chores has also become so important.

Of course, the results are quite gratifying, as they show the gradual decline of the once prevalent stereotypes in the Armenian society, especially among children or adolescence and parents of children with disabilities, when people with disabilities were seen as a vulnerable minority. At the same time,

it might be stated that there is a lack of awareness of parents about the idea of living an independent life, as well as the inconsistency of adolescents' ability to carry out household activities, their incompatibility with parents' subjective perceptions exists. And at last, the traditional Armenian cultural peculiarities, the predominance of overprotection should be mentioned as an important factor in regard to research results, as well as interconnected with the effect on the response rates.

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SPECIAL EDUCATIONAL SUPPORT FOR UNIVERSITY STUDENTS IN THE CZECH REPUBLIC

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ABSTRACT

The education of school children and university students with special educational needs is enabled mainly due to the creation of an inclusive educational environment. In the Czech Republic, inclusive educational environment support is being carried out from an early age within the framework of social services. Within this scope, this analytical paper describes the inclusive environment of the university and the disability support services provided. At the same time, the article focuses mainly on the issues of the inclusive environment within university education and describes the situation at the University of Pardubice in the Czech Republic.

Results of the situation analyses are showing that providing the students with special educational needs with access to university studies leads to an equality of their educational opportunities

Keywords: special education, support, special education in university, students with special educational needs, labour market.

INTRODUCTION

The issue of young people´s employability in the labour market has been gradually attracting major attention among the general professional public in all European countries. The well-known fact about education as a crucial employability factor has been repeatedly confirmed also within the group of the young generation entering the labour market. Obtaining at least the upper-secondary school education certificate, or recently even a university degree, has become a standard for young people today. Until recently, the university education within the population of the Czech Republic was

restricted only to narrow elites. However, since the Velvet Revolution in 1989, university education in the Czech Republic has been dynamically evolving. In connection with the development of the European area and the pressures posed by the Bologna Declaration, the possibilities of studying at the university level are opening up for broader parts of the population, which concerns also individuals with special educational needs (SEN).

The education of children, school pupils and the students with SEN is enabled mainly due to the creation of an inclusive educational environment, which is declared in the key document called White Paper, i.e. National Programme for the Development of Education in the Czech Republic (MŠMT ČR, 2001). The inclusive educational environment support is being carried out from an early age within the framework of social services, such as early care as a social prevention service (Šándorová & Fricová, 2019). Within the concept of the Ministry of Education, Youth and Sports, the inclusive educational environment support was implemented via the Education Act No. 561/2004 Coll., as amended in 2015, in § 16, entitled "Education of Children, Pupils and Students with Special Educational Needs" in pre-school, basic and secondary education. This article focuses mainly on the issues of an inclusive environment within university education.

Historical context and current study possibilities for the students with special educational needs at the universities in the Czech Republic

The right to education is embedded in the transnational document, entitled Charter of Fundamental Rights of the European Union, which concerns also the Czech Republic as an EU member. The Czech Republic is obliged to comply with it and respect it. At the national level, access to education is guaranteed by the Charter of Fundamental Rights and Freedoms of the Czech Republic.

The Czech Republic has also agreed to fulfill the commitments arising from the Convention on the Rights of Persons with Disabilities, which recognizes these persons´ right to education and declares that it will "ensure an inclusive education system at all levels without discrimination and on the basis of equal opportunity" (Article 24) (UN, 2006).

Until the year 1989, the approach towards the education of disabled people was very different from today. The educational system at the primary

and secondary level was fully concentrated in the individual special schools, which were oriented on the particular type of impairment. In the area of tertiary education, there was a lack of supportive instruments and therefore, it was very difficult for disabled persons to complete university studies.

The beginning of the 1990s brought a change in terms of the support provided for integrative/inclusive education. The disabled pupils and students who had been previously educated only at special schools were gradually given the opportunity to participate in the educational mainstream. Following the whole-national inclusive efforts to educate the children, pupils and students in both common educational streams, there also occurred a logical increase in the number of students interested in involvement in tertiary education.

The Higher Education Act in § 21 stipulates that all higher education institutions are obliged "d) to provide applicants, students and other persons with information and advisory services relating to studies as well as to professional opportunities for graduates of degree programs; e) to make all possible provisions for ensuring equal opportunities for study at the higher education institution." (Act No. 111/1998 Coll.).

This idea was significantly reinforced through the National Plan for the Promotion of Equal Opportunities for Persons with Disabilities 2010-2014, which aimed at supporting the principle of inclusive education to the greatest possible extent. Based on this document, the universities were recommended to increase the quality of services and supportive provisions in legislative, human resource, pedagogical, economic and technical areas, as the complexity of this type of support represents an essential pre-condition for inclusive education (National Plan for the Promotion of Equal Opportunities for Persons with Disabilities, 2010).

The inclusive environment at the University of Pardubice

The University of Pardubice is a public university that has decided to provide the students with special educational needs with access to university studies, and thus to open new self-fulfillment possibilities for them. This decision has been taken in accordance with the intended fulfillment of the students´ rights to access inclusive education at the university level, as declared by the National Plan for the Promotion of Equal Opportunities for

Persons with Disabilities 2010-2014. The total number of all students at the University of Pardubice in the reference period was oscillating between 9 and 10 thousand.

In the period 2012 – 2015, the care for the aforementioned target group of students was supported by the project entitled the University of Pardubice and the Campus without Barriers (Šándorová, 2014). The university entered the project with the aim of creating a friendly, inspirational and stimulating environment for the students with SEN. Besides, it also addressed the university academic and administrative staff in relation to the students with special educational needs, which reflects the main idea of inclusion as it is dealt with at the University of Pardubice (Šándorová, 2015).

An inclusive environment is such a type of environment where all the pupils, students and teachers naturally co-exist so that they might use this space to perform safely and collaborate on a mutual basis, regardless of their disability or social disadvantage.

This idea led to the establishment of the Academic Advisory Centre of the University of Pardubice (APUPA) on March 1st, 2012. APUPA started to offer assistance and support for the students with SEN in terms of social, psychological, special-pedagogical, and career counselling services. Besides, the Centre focused also on renting the adaptive and rehabilitation equipment, representing an essential type of aiding for numerous students with SEN, who would otherwise not be able to study at the university. Each year, the number of students with SEN was growing. The particular data about the accelerated growth in the numbers of these students are stated in Table no. 1. Some of the students demonstrate the combination of even three types of disabilities. Since the year 2015, the range of categories has been extended to include also the [F] type of student with other psychological disorders (including non-autistic, neurodevelopmental impairments) or chronic somatic illnesses. In 2017, the category of other types of difficulties was added.

Table 1.

The number of students with special needs at the University of Pardubice, since 2012 (according to the Rules for public higher education funding, MŠMT).

Type of student´s impairment	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020
[A1] user of sight	1	2	2	4	5	3	3	5
[A2] user of sense of touch/voice	1	1	1	1	-	0	0	0
[B1] user of verbal language/since 3 2016 spoken language	1	1	2	6	8	7	7	6
[B2] user of sign language	0	0	1	-	-	0	0	0
[C1] lower limb disabilities	2	2	1	7	8	10	13	12
[C2] upper limb disabilities	2	2	2	8	10	11	14	14
[D] special learning difficulties	1	7	14	21	27	31	34	54
[E] autistic spectrum disorder	2	8	8	3	5	3	5	5
[F] other psychological disorders (including non-autistic, neurodevelopmental disorders) or chronic somatic illnesses; since 2017 other types of difficulties (part 2, article 3, paragraph 9).	-	-	-	6	9	7	13	13
The total number of students with SEN, per year:	9	22	27	41	55	54	68	87

The above-presented data in Table 1 indicates significant growth in the number of students with specific needs, especially with physical disabilities, specific learning difficulties, autism, other psychological disorders or chronic illnesses. There has also been a gradual increase in the number of students with combined impairments. This situation demanded an active involvement of a specialized university department – Disability Student Service.

Disability Student Service

In 2013, the Academic Advisory Centre of the University of Pardubice was extended to include the so-called Disability Student Service department. Both teams immediately started a very close collaboration and thus they provided the students with all the assistance and support needed on their way towards obtaining their dream education and a future job.

An interdisciplinary team of advisors offered a wide range of interventions, which might be categorized into several areas:

- psychological counselling,
- social counselling,
- crisis intervention,
- special-pedagogical counselling.

The University of Pardubice has been traditionally offering its students an open and interconnected support system in all aspects of their lives. The complex support network was established due to the participation of external subjects, especially the providers of social and related services, via the regional policy of the City of Pardubice, the so-called community planning. The main aim of community planning is to identify the needs.

The support network exists not only at the university and regional levels but is also guaranteed and the national level, due to the Association of the service providers for the students with specific needs at the universities.

Owing to systematic support provided for inclusive education, the university carries out other activities that are closely related. Every year, the university organizes the seminar "Get a first-hand experience", where the students or the general public have an opportunity to learn about the life of the disabled students, about the demands of their university studies and their movement around the university campus. It includes also a practical demonstration of adaptive equipment available for the disabled students of the University of Pardubice.

Other activities aimed at supporting the inclusion involve e.g. the collaboration with the Department of Physical Education and Sports, which allows the disabled students together with the non-disabled ones to complete the study subject focused on alternative physical activities for the students with SEN. As a part of its professional activities, the university also exchanges the experience and knowledge acquired in the area of students with

SEN with other universities, both in the Czech Republic and abroad (Šándorová, Růžičková, Azatjan & Kafjan, 2019).

Picture 1.

Example of work with university students with SEN at University of Pardubice

The internal directives guaranteeing the optimal conditions and facilities for studying at the University of Pardubice

The University of Pardubice prepares high-quality facilities and optimal study conditions for its students. The specialized university department responsible for creating equal study conditions is the Centre Alma, which previously existed as the Disability Student Service (DSS) department. The Centre Alma used to offer the specific technical support, diagnostics and other provisions and services according to Directive no. 3/2013, entitled Support for the Applicants and Students with the Special Needs at the University of Pardubice, and the Directive no. 7/2014, entitled

Guidelines for Support and Creating Equal Conditions during the Entrance Procedure and the Study of the Individuals with Special Educational Needs at the University of Pardubice.

Directive no. 3/2013 determined and regulated the study conditions for applicants and students with SEN, including the organizational arrangements of all the related particulars. An integral part of this document was the specification and a prerogative for adequate accommodation at the students´ halls of residence at the University of Pardubice.

Directive no. 7/2014 was intended to define the way of creating equal conditions not only during the study but also within the entrance procedure at the University of Pardubice. This directive was based on the Higher Education Act and also the Long-Term Plan for Education, Scientific, Research, Development and Innovation, Artistic and Other Academic Activities of the University of Pardubice. These guidelines were addressed not only to the university employees but also – and mainly - to the students with SEN.

Currently, the principles and rules of support and creating equal conditions for access to education at the University of Pardubice are determined by the Directive RPO/19, which was issued on September 1st, 2019.

SUMMARY

Over the period 2012 – 2020, the University of Pardubice has established a good quality of conditions, support services and provisions in pedagogical, economic, technical and human resource areas, for the benefit of the students with SEN.

The support services included the establishment of the Academic Advisory Centre of the University of Pardubice (APUPA) and the department of Disability Student Service (currently the Centre ALMA). The service extension provided by the university in the area of the support and care for the students with SEN belongs to significant priorities of the university development. By means of creating equal conditions, it endorses the principles determined by the Charter of Fundamental Rights and Freedoms, and therefore, it ranks among those higher education institutions that aim at the fulfillment of basic requirements on equality in education.

CONCLUSION

Providing the students with SEN with access to university studies leads to an equality of their educational opportunities. Besides, the number of applicants and students with SEN represents one of the quality indicators of the particular university. The adherence to these trends is being openly declared not only at the University of Pardubice but also at almost all other institutions of higher education in the Czech Republic.

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FACTORS AFFECTING THE EFFICACY OF APHASIA REHABILITATION

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ABSTRACT

This paper aims to test the influence of premorbid verbal intelligence on the nature of aphasia and spontaneous speech recovery and to study the role of a micro-social environment on the effectiveness of speech rehabilitation.

The quantitative and qualitative methods of analyses as well as special parameters to determine characteristics of the communicative-speech environment and the degree of its influence on the process of speech recovery were selected.

A total of 65 patients with aphasia have been selected to study the effect of multilingualism on the efficacy of speech therapy. Family members of 150 patients with aphasia were interviewed to find out the micro-social environment effects on the process of aphasia rehabilitation and to inquire about a correlation between the degrees of involvement of the patient's environment in the process of speech therapy.

The factor of multilingualism and factor of the communicative-speech environment are interrelated with each other and the choice and appropriate use of language by the patients with aphasia need to be controlled from the outside.

Key words: Aphasia, rehabilitation, speech disorder, speech therapy, multilingualism, communicative-speech environment.

INTRODUCTION

Aphasia is the most common speech disorder caused by focal brain lesions. It is a neurogenic communication disorder that arises as a result of damage to the brain or other parts of the nervous system and appears as a deficit in language abilities (Manasco, 2014). Aphasia usually occurs suddenly, often as the result of a stroke or head injury, but it may also develop slowly, as in the case of a brain tumor. The disorder impairs speech's four basic components: speaking, understanding of language as well as reading and writing. Aphasia rehabilitation is still a challenge and represents a psychological and social problem (Burns, Baylor, Dudgeon, Starks & Yorkston, 2015). According to Vizel (2009) aphasia leads to a change in the personal, family, and social status of the patient and within this perspective. Shklovskiy (1982) mentioned that the family of patients with aphasia became ill. Family member illness entails changes not only in his/her mood but in the mood and behavior of other healthy family members as well (Yankovskaya, 2008).

Dynamics of speech recovery in patients with aphasia depends on several factors: etiology of the disease, location, and extent of brain damage, type and severity of aphasia, age of the patient (Watila & Balarabe, 2015), methods used in the course of therapy, professional level of the aphasiologist or the therapist (Tsvetkova, 2011), and original dexterity/sinistrality Shokhor-Trotskaya (Burlakova) (2001a,b). Based on the reviewed literature we have hypothesized that the process of speech recovery is influenced also by other determinants, such as multilingualism (premorbid knowledge of multiple languages) and communicative-speech environment (involvement of patient's micro-social environment in the process of speech recovery).

Within this review the current study has two main aims:

1. to test the influence of premorbid verbal intelligence (the factor of multilingualism) on the nature of aphasia and spontaneous speech recovery, and

2. to study the role of the micro-social environment (the factor of the communicative-speech environment) on the effectiveness of aphasia rehabilitation.

METHODS AND PARTICIPANTS

To triangulate and to back up the set of findings quantitative and qualitative methods of analysis were selected based on observations and interviews. The research has been conducted with the patients, who spoke two or more languages before acquiring aphasia. 65 patients with different types of aphasia took part in the presented study: 48 of these patients were bilingual, and 17 spoke more than two languages. 150 families of patients with different forms of aphasia were also included in the research.

For investigation of the environmental factors' influence on the efficacy of speech therapy, special parameters which helped to determine characteristics of speech environment and the degree of its influence on the process of speech recovery were selected.

DATA COLLECTION AND ANALYSIS

Data collected is necessary to support the evaluation of interventions and provide an appropriate accountability framework. It is argued that effective data use by the researcher has the potential to improve services for people with aphasia. Within the frame of this study, the data was collected through conducted interviews and observations.

Before conducting the main analyses, data from interviews and observations were tested for normality, linearity, and the presence of outliers (Rosner, 2000; Bradley, 1982). Then it was analyzed using quantitative and qualitative analysis methods; the speech recovery process was examined based on the characteristics of the communicative-speech environment. The focus on text - on qualitative data and numbers - is the important feature of the following research. The qualitative data is the transcription of interviews or notes from participant observation sessions, and quantitative data is using numbers to discover and describe patterns of the study.

RESULTS

To study the effect of multilingualism on the efficacy of speech therapy the following study has been carried out to monitor 65 patients with

aphasia. In the process of observation, we noted specific manifestations of aphasia due to knowledge of two or more languages. At the same time, it was essential to identify speech disorders, induced in patients with aphasia by bi- or multilingualism: switching from one language to another, language interference, switching of languages in different areas of communication, and so on. Based on the results of the study three main types of speech spontaneous recovery were identified in multilingual patients: parallel, serial and mixed.

In the parallel recovery of languages, aphasic disorders in each language system were equally expressed. Speech in different languages recovered simultaneously. The language fluency was restored to the premorbid level.

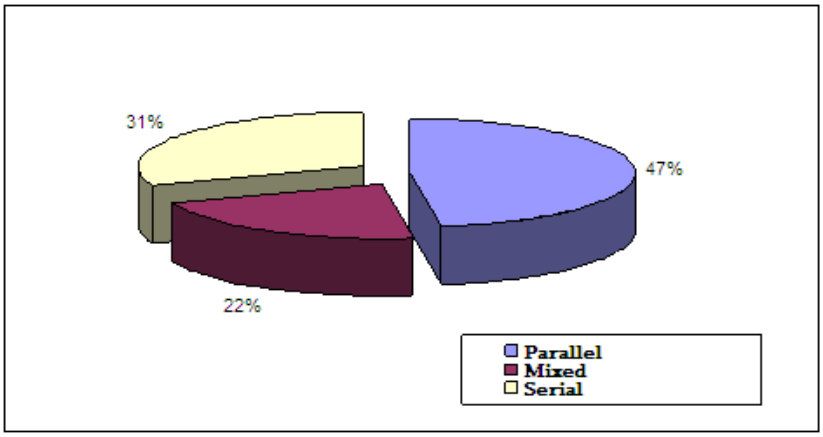
In serial recovery one of the languages, not necessarily the one that was dominating in the premorbid phase, started to recover earlier than other altered languages. Change in language predominance and the status of languages was observed. After recovery, the patients reported a temporary loss in certain language skills. Our observations have shown that this phenomenon is the result of speech therapy sessions conducted only in one language and/or the consequence of the single language communication in the speech environment of the patient. This communication language is not always the one that had dominated before the disease. Over time and in the presence of an adequate speech environment, the premorbid status of languages completely recovers.

Mixed recovery was characterized by non-typical disease manifestations in language interference at various levels (phonetic, lexical, grammatical, stylistic), observed in both oral and written communication. In all forms of aphasia auditory and visual differentiation of languages was retained. The subdominant language was more expressed. In many cases, the patients began to use actively the language which almost was not used in the premorbid phase. A typical pattern of recovery was observed in patients. In the initial stages of speech recovery confusion of languages, as well as a very frequent switching from one language to another was not perceived by the patient, whereas the voluntary efforts for interpretation were hampered and sometimes completely impossible. It alters the status of languages and the process of their random selection and use.

These types of spontaneous recovery of different languages have been observed in patients with all forms of aphasia. The parallel type of spontaneous recovery had the highest rate. From 65 multilingual patients' parallel recovery was observed in 31 patients (47%), serial - in 20 patients (31%), and mixed - in 14 patients (22%) (Figure 1).

Figure 1.

The proportions of speech spontaneous recovery types in multilingual patients with aphasia



When working with multilingual patients, we concluded that speech therapists have to modulate the impact of patient's micro-social environment on the selection and use of languages based on their premorbid status, and the level of proficiency before the disease. At this point, the involvement of the micro-social environment in the process of speech therapy becomes essential.

Based on long term observations, analysis of survey results (Paylozyan, 2012), and interviews with family members of 150 patients with aphasia we sought to find answers to the following questions:

- To what extent the micro-social environment affects the process of speech recovery and the character of interaction between the patient and speech therapist?

- Is there a correlation between the degree of involvement of the patient's environment in the process of speech therapy and the results of the speech recovery?

The degree of micro-social environment influence on the process of speech recovery and the character of its interaction with speech therapist has been determined based on the following parameters:

- attitude to the speech therapy process;
- willingness to cooperate with the speech therapist;
- following the speech therapy recommendations;
- actively collaborating with the speech therapist.

The observation results allowed us to identify the following types of interaction between the speech therapist and the patient's immediate environment: co-operation, management, indifference, and correspondingly the speech environment of patients with aphasia were classified as active, passive, and formal. Taking into account the above-mentioned parameters, 56 families out of a total of 150 were described as active, 44 - as passive, and 50 families - as formal speech environment.

Active speech environment ("cooperation") was characterized by expressed willingness to participate regularly in speech therapy sessions. The environment was determined to understand the essence of aphasia and to assist the speech therapist in his efforts. They asked a lot of questions about aphasia, and its possible outcome, and the time of recovery, followed the recommendations of the therapist and implemented them, helped the patient with the homework and other tasks. In the case of the active speech environment, we were able to work with the patient not only during the sessions.

Passive environment ("management") also participated in the process of speech recovery but to a lesser extent. The environment was informed about the need for systematic speech therapy sessions, and to some extent agreed with the opinion of specialists. However, this cooperation was limited. Outside the therapy sessions, recommendations of the therapist were followed not regularly, only some episodic assistance was observed. The passive participation of the speech environment in the therapy process was usually due to lack of time. The common explanation that we have heard was

that the patient expresses willingness to work and exercise only with the therapist.

The formal speech environment ("indifference") was characterized by a skeptical or indifferent attitude towards the speech therapy sessions. There were cases of refusal to participate in speech therapy sessions and sometimes attempts were made to "persuade" the patient to discontinue the sessions. In a formal speech environment, the recommendations of the therapist were not followed, and typically a conviction predominated that speech will recover without therapy. Observations have shown that the patient's care was restricted to supporting his/her physical needs.

Results of speech recovery were evaluated based on the four grade system accepted in speech therapy practice: significant (practical) recovery - the availability of fluent oral and written language skills with elements of agrammatism and with very few errors in written output; general improvement - patients can communicate using phrases, to compose non-complex texts based on series of scene images, non-complete recovery of reading and writing skills and in cases of sensory aphasia an overall improvement in listening comprehension is typical; partial improvement - improvement in some aspects of speech, such as the ability to communicate using single words or short sentences, or improvement in speech comprehension, etc.; not changed - lack of positive dynamics in the speech status.

The lowest rates of speech recovery were registered in patients with formal speech environments. This group included 50 subjects and significant speech recovery was revealed only in 4 patients (8%), the overall improvement - in 12 patients (24%), partial improvement - in 10 patients (28%), 20 patients (40%) showed no dynamics in the course of treatment. In cases when the micro-social environment had followed the recommendations of a speech therapist, the results of therapy were significantly improved. Thus, in cases with passive speech environment, a significant recovery in speech had been observed in 10 subjects (22,7%), overall improvement - in 22 patients (50%), partial improvement - in 18, 2% of patients, and only in 4 patients (9,1%) the speech stayed unchanged. However, the results of speech recovery were still inferior to activity indicators of speech environment. In cases with an active speech environment, the results of speech therapy were

higher and significantly different from that of a formal and passive speech environment. In this group out of the 56 patients' significant recovery of speech was revealed in 28 patients (50%), general improvement - in 24 patients (42, 9%), and partial improvement - in 4 patients (7,1%). It is noteworthy that in the group with an active speech environment not a single case of unchanged speech status without positive dynamics was observed.

DISCUSSION

Aphasia leads to a change in the personal, family, and social status of the patient. The family in which there is a patient with aphasia "stops its functioning". Lack of speech, mobility impairments, inability to take care of oneself often disrupt the activities of the family, family relations deteriorate (Vizel, 2011; Shklovskiy, 1982). These also influence the social life of the patients in the contexts like leisure, work, collaboration, and socialization as a whole. In many cases, it is very important to classify speech disorders, induced in patients with aphasia by bilingualism or multilingualism, which is very actual in modern life.

The study shows that multilingualism factors and speech environment significantly influence the efficacy of speech therapy. Features of speech spontaneous recovery are similar to the data obtained by other researchers, stressing the special pattern of multilingual aphasia (Wilson, Henry, Besbris, et al., 2010). Different authors have presented a variety of models for speech therapy in patients with multilingual aphasia (Fabbro, 2001; Paradis, 1997). We have identified the following main types of spontaneous recovery in multilingual patients: parallel (the most common type of recovery), serial and mixed, those have to be differentiated to support the process of speech therapy.

According to Tsvetkova (2011) creating an enabling environment for the patient, providing opportunities for verbal and nonverbal communication, first in a small therapeutic group of patients with aphasia, and then in the broader social environment has an affirmative effect on the positive changes in personality, to overcome the phobia of speech, negative settings, etc. This aspect was also valued and discussed in suggested bilingual methods: dosing languages, switching, translating, and comparing. Thus it is proven that using

several languages during the therapeutic process for speech recovery has a big psychotherapeutic effect. Follow-up data and spontaneous utterances of multilingual patients assure that speech therapy is largely determining the further use of the language. Results of the intervention show that multilingual patients experience some discomfort, constraint, and speech phobia if only one language was used during therapeutic sessions.

The involvement of communication partners of patients with aphasia in the process of speech therapy is one of the important aspects of aphasia rehabilitation (Johansson, 2012). Study results show a significant correlation between the characteristics of speech environment (active, passive, formal) and the results of speech therapy. At the same time studies of Glozman (1987; 1989) have shown that aphasia as a result of the communication breakdown is changing a person's self-esteem: there is a feeling of inferiority, fear of speaking, and hindering communication. The impossibility of communication, in turn, increases fear of speech and a vicious circle phenomenon appears. And conversely, expanding communication capability reduces the fear of speech, smoothed out the negative personal settings, and patients begin to assess themselves closer to what has been estimated to be disease. And this is something that was found and proven in the interaction process between the therapist and the patient immediate environment which was described as an active speech environment. The best results of speech therapy have been observed in the group with the active participation of speech environment in the process of speech recovery.

According to Shokhor-Trotskaya (Burlakova) (2001), the recovery of impaired speech function is dependent on the help of the patient's relatives, who should contribute to strengthening the identity of the person and creating a primary communication medium for him. She has also mentioned that speech/language pathologists, doctors, and close relatives, and family members together can generate the settings to restore speech in the patient. That is something very specific within this research that could be seen in the passive and formal speech environments when the cooperation with the speech therapist was limited due to personal and social factors of the patient. At the same time, Watila and Balarabe (2015) state that despite the lack of study of the influence of the environment on the process of overcoming aphasia, a favorable environment, combined with effective therapy improves

recovery of speech. And while observing and describing the passive speech environment of patients in this study it was obvious that if the patient has no generated settings to restore his speech there is no sense to think about success in speech rehabilitation. Within this context, it is very important to mention that in the family the re-adaptation of the patient to the new conditions of psychological and physical existence is done (Yankovskaya, 2008) and for this reason bringing family members to the speech therapy sessions leads to the improvement of patient's communications capabilities, reduces the severity of depressive background (Norvils, 2011).

CONCLUSION

Based on the data analyzed and discussion it is possible to state that multilingualism and speech environmental factors are directly linked together. Speech environment provides social control over the use of speech in different languages, according to their premorbid status. It was also stated that often in speech recovery use of a language does not begin to match the situation and the extent of its use before the disease. This causes certain reactions in the patient and/or his family members: discomfort, dissatisfaction, surprise, unwanted jokes. Therefore, the choice and appropriate use of language should be controlled from the outside, especially when a mixed type of recovery. Outside the speech therapy sessions, adequate control over the use of languages is carried out by the patient's speech environment, following the recommendations of a speech therapist. Speech environment is directly related to the recovery of such quality as the appropriateness of the language use according to the situation of communication. We recommend to the patient's relatives to control the speech of the patient, to stimulate or inhibit speech in a particular language, which creates beneficial conditions for the restoration of their arbitrary, informed, and appropriate use of language.

Due to all mentioned above our future research will focus on revealing new effective forms of cooperation between the speech therapist and the patient, as well as the patient's immediate environment (Paylozyan 2018; Paylozyan, 2017).

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