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MESSAGE OF THE EDITORIAL BOARD CHAIRMAN

Dear Author and dear Reader,

Welcome to the Armenian Journal of Special Education (AJSE). The aim of the AJSE is to give a highly readable and valuable addition to literature related to the field of the special education, inclusion, and rehabilitation. It is our pleasure and goal 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. The journal is a peer reviewed journal in English for the enhancement of research in different areas of special, inclusive education and rehabilitation.

Editing an academic journal is a vigorous and rewarding mission, but also time-consuming and often frustrating. Taking into consideration this we highly appreciate any remarks, feedback and proposals that would help us to improve the objectives and the structure of the Journal. We are trying to keep the track to interwove universally and contribute to global knowledge as much as it is possible.

Editorial board of the journal is delighted to publish AJSE in English to echo diverse issues of international and national special, inclusive education and rehabilitation fields that are relevant for up-to-date dispute. We are looking forward and very pleased to receive contributions for our next issue from special educators, rehabilitation ground specialists, researchers, scholars and practitioners to ensure the reliability and the accomplishment of the Journal.

Sincerely,

MARIANNA HARUTYUNYAN

CONTENT

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THE ISSUES OF DIAGNOSING FEARS OF CHILDREN WITH AUTISM

AUTHOR'S DATA

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ABSTACT

Fears typical for children with autism of certain age groups is expressed and experienced with various levels of intensity. In addition, the context of overcoming those fears may vary as well. These factors, unfortunately, are not always taken into consideration when organizing and conducting psychological work with children with autism to overcome their fears. Thus, outside this specificity, it is quite natural to assume that psychological work with children will not be predictable and effective.

Key words: fear, overcoming fear, neurotypical development, developmental disorder, anxiety, psychological work, diagnostic methods.

INTRODUCTION

Much attention has been paid to the problem of the fears of both neurotypical and children with various developmental problems in psychology, but the methods of overcoming them mainly take into account the characteristics of the fears of children with neurotypical development (Scahill et al., 2019; Kerns, Renno, Kendall, Wood, Storch, 2017).

The developmental disorder is also reflected in the child's emotional level, as a result of which even the manifestations of fears characteristic of a given age have their own characteristics, both in the frequency and nature of expression and in the ways of coping (Simonoff et al., 2008). This circumstance is not always taken into account in the process of organizing the overcoming of the fears of children with developmental disorders, which in turn reduces the effectiveness of relevant activities.

The process of identifying the fears of children with developmental disorders is often more complicated due to a number of features of mental development, including features of the cognitive and emotional spheres.

From this point of view, we were interested in the question of whether these features did not prevent the methods used to diagnose and overcome the fears of children with neurotypical

development from using effectively in working with children with developmental problems, in particular, with autism.

DISCUSSION OF THE TOPIC

Currently, psychologists working in psychological centers and preschool institutions implementing inclusive education face the problem of forming appropriate concepts and approaches to overcoming fears, which can be effectively applied not only in the work with children with neurotypical development but also in the presence of developmental problems.

Meanwhile, programs and methodological guidelines aimed at overcoming the fears of children with developmental problems have not been developed for these specialists, which in turn complicates the work of specialists.

Psychological science has accumulated a fairly rich experience in the use of various methods for the purpose of psychotherapy of children's nervous, mental and physical disorders, but they lack developed and experimentally substantiated systemic programs for overcoming fears for children with developmental disabilities. Moreover, some methods used to overcome the fears of children with neurotypical development often have low effectiveness in the process of overcoming the fears of children with developmental problems (Sharma, Hucker, Matthews, Grohmann, & Laws, 2021).

As it have been already mentioned, a number of features of the mental development of children with autism make it difficult to identify and overcome their fears (Mayes et al.,2013).

Through a socio-psychological survey conducted by us, we found out the awareness and appropriate approaches of psychologists working with children regarding the features of fear manifestation in normal and pathological development, diagnostic and overcoming works. 30 psychologists participated in the survey.

Among the typical fears of children with autism, 52% of specialists identified such fears as fear of strangers, loud noises, animals, closed space, open space and objects with a certain quality or color.

In order to identify fears, 53% of specialists used "Fear in the cabins" and "Draw fear", 33% used "Incomplete sentences", "Draw a house, tree, person" methods, and 13% - distinguished the "Thematic Perception Test".

Only 53% of specialists indicated that they use the same methods with children with autism, while 67% of the psychologists interviewed by us attributed low effectiveness to them, and only 27% stated that the methods of identifying the fears of children with neurotypical development are also applicable in working with children with autism.

Only 7% of the respondents considered the methods used with children with neurotypical development unacceptable in working with children with autism.

More than 40% of the specialists interviewed by us emphasized the observation of the child's behaviour and the conversation with the parents in the diagnosis of fears in the presence of autism.

Interestingly specialists also admit the low effectiveness of the methods used to diagnose and overcome fears of children with neurotypical development, and yet, in practice, they do not have the opportunity to replace them with other, more adapted methods.

It is believed that the problem is also complicated by the fact that the causes of the fears of children with autism may remain unclear and unknown to those around them, manifest even in relatively neutral situations, and the poorness of external manifestations of fear or inconsistency with the specific situation, in our opinion, may act as a result of the isolation mechanism, not reflecting the true intensity of the fear experienced by the child.

As a result of the unique perception of the world around them, the experience gained by children with autism and the content and forms of their relationship with the world can be very different, which often explains the presence of sociophobia, generalized (widespread) anxiety and, of course, anxiety disorders characteristic of the person with autism (Kerns, Renno, Kendall, Wood, Storch, 2017).

The fears of these children are often reflected in their stereotypical interests and addictions, manifest in all kinds of phenomena, objects and situations (wallpaper decorations, door or cabinet handles, objects of a certain color or shape, certain sounds, open or closed shelves and doors, etc.). However, as the results of surveys and conversations with psychologists showed, the adults around the child often cannot imagine that these behavioral manifestations are closely related to their underlying fears.

For example, 5.1-year-old Nare, being afraid of the sound of the vacuum cleaner, constantly turns it on herself, and 4.9-year-old Eric, being afraid of the cartoon character (spider-man), constantly watches the specific part of that cartoon and repeats his actions that he was scared of.

In both of the described cases, the children themselves initiate the meeting with the object of fear, but at the same time, they display such behavior that indicates an adverse psychological condition, emotional tension, anxiety (they cover their ears, cry, express displeasure, complain, constantly repeat self-stimulating movements and actions, etc.).

The generalized anxiety characteristic of these children is especially aggravated in new situations, in the case of the need to change stereotyped forms of communication and changes in their demands. The increase in anxiety in some children is expressed by movement anxiety, agitation, and in others by restraint, the emergence of clingy actions.

A child with autism has a certain sense of symmetry that extends to the world around them. He is loyal to his spatial ideas, and if something suddenly changes in them, then the child begins to feel fear. In this case, the child reacts with chaotic behavior expressing general anxiety, not to a specific thing or any of its properties, but to such situations in which the conditions that have become usual for

him, the behavior and reactions of a familiar or close person undergo certain, even the smallest changes (Manukyan, 2017).

It is possible to assume that at the unconscious level this fear is related to the danger of losing the projected image of the surrounding social world. In other words, the fear of a child with autism is formed as a result of the feeling of helplessness in the new spatial and temporal reality and the lack of behavioral adaptation models in that situation.

In other words, children's fears in this case form stereotyped actions and often limit their communication with the surrounding world, prompting them to avoid negative emotional impressions and clinging to primary forms of activity.

In our opinion, in this case, the forms of protection from the surrounding world are brought to the fore, they are also reflected in the child's physical rejection of fear-inducing impulses, the tendency to remove them from his body as much as possible, and therefore also to weaken its influence as much as possible.

The distortion of the body-emotion connection of children with autism is most clearly reflected in self-stimulation, with which the child tries to silence the unpleasant impulses of the surrounding world. We believe that this circumstance once again emphasizes the need to make appropriate changes in the process of psychological work aimed at diagnosing and overcoming fears in autism.

Diagnostic methods aimed at identifying the fears of children with neurotypical development are quite developed and repeatedly tested, while the level of development and testing of diagnostic methods for the fears of children with developmental problems, including autism, is not satisfactory (Manukyan 2017, Scahill et al.,2019).

This problem is relevant today, and several studies conducted to overcome the problem (Scahill et al., 2019; Sharma, Hucker, Matthews, Grohmann, & Laws, 2021) witness that the methods used to overcome the fears of children with neurotypical development are often not only effective for children with autism but in some cases are not applicable at all.

As our research has shown, specialists working with children have serious difficulties with this problem, since the methods of diagnosing and overcoming the fears of children with neurotypical development do not take into account the peculiarities of the cognitive and emotional spheres of children with autism, their self-perception, and their relationships with the surrounding world.

It is strongly believed that it is ineffective to mechanically transfer the diagnostic methods developed for children with neurotypical development to work with children with developmental problems.

It is necessary to complement them with auxiliary and experimentally based diagnostic methods that take into account the specifics of the mental development of children with developmental disorders.

REFERENCE LIST

1. Joshi G, Petty C, Wozniak J, Henin A, Fried R, et al. (2010). The heavy burden of psychiatric comorbidity in youth with autism spectrum disorders: A large comparative study of a psychiatrically referred population. Journal of autism and developmental disorders 40: 1361–1370. [PubMed] [Google Scholar]
2. Kerns, C. M., Renno, P., Kendall, P. C., Wood, J. J., Storch, E. A. (2017). Anxiety disorders interview schedule–autism addendum: Reliability and validity in children with an autism spectrum disorder. Journal of Clinical Child & Adolescent Psychology, 46, 88–100.
3. Manukyan, A. T. (2017). Normayum ev akhtabanutyan mej drsevorvogh vakheri himnakhndri veraberyal masnagetneri ev tsnoghneri irazekutyan makardaki verlututyun; Hatuk mankavarzhutyan himnakhndirner 3, Yerevan 2017, ej 109-114
4. Mayes, S.D, Calhoun, S.L, Aggarwal, R., Baker, C., Mathapati, S., et al. (2013). Unusual fears in children with autism. Research in Autism Spectrum Disorders 7: 151–158.
5. Scahill, L., Lecavalier, L., Schultz, R. T., Evans, A. N., Maddox, B., Pritchett, J., Edwards, M. C. (2019). Development of the Parent-Rated Anxiety Scale for youth with an autism spectrum disorder. Journal of the American Academy of Child and Adolescent Psychiatry, 58, 887–896.e2.
6. Sharma, S., Hucker, A., Matthews, T., Grohmann, D., Laws, K. (2021). R.BMC Psychol. 9 (1):151. doi: 10.1186/s40359-021-00658-8.PMID: 34598734
7. Simonoff E, Pickles A, Charman T, Chandler S, Loucas T, et al. (2008). Psychiatric disorders in children with autism spectrum disorders: prevalence, comorbidity, and associated factors in a population-derived sample. Journal of the American Academy of Child & Adolescent Psychiatry 47: 921–929. [PubMed]

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OCCUPATIONAL THERAPY APPROACHES TO OVERCOMING TOILETING DIFFICULTIES IN CHILDREN WITH AUTISM

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ABSTRACT

The aim of this work is to investigate the toileting difficulties of children with autism and to propose an appropriate occupational therapy intervention.

The work is entirely based on quantitative research methodology. Quantitative research is descriptive research data collection and analysis of which focus on standardization and structuring. The study was conducted online with parents of 82 children with autism. The quantitative method used for data collection and analysis made it possible to strictly adhere to the stated aims and objectives of the study.

The summary of the results showed that the dominant majority of the children of the parents who participated in the research are male representatives 67 (82%), female - 15 (18%). As a result of the analysis of the data provided by the parents, it was found that 36 (45%) of the children have different types of difficulties in using the toilet fully, and 30 (35%) have partial difficulties. Most children attend rehabilitation centers, 71 (89%), but not all receive occupational therapy intervention services.

Keywords: autism, children with autism, occupational therapy, self-care, toileting difficulty, sensory integration, sensory integration disorder, interception.

INTRODUCTION

For this paper, the title "Occupational therapy approaches to overcoming toileting difficulties in children with autism" was chosen. Autism is a complex developmental disorder that causes a variety of communication difficulties, it can also affect social interactions, the development of self-care skills, sensory information processing, and learning difficulties. It is a general developmental disorder that is expressed and manifested at different stages of the child's development and distorts the formation and perception of a complete picture of the world perception. Having limited interests, skills, and abilities

to initiate and execute actions, they often have ineffective engagement in self-care, play, and learning activities (Scholler, van Bourgondien, & Bristol, 1993).

Children with autism have such characteristics that the development of self-care skills is slow, and in some cases may be absent altogether. Self-care skills are activities of daily living that include basic, simple skills, such as changing clothes, eating, using the toilet, bathing, sleeping, and resting (Harutyunyan, 2017).

Because a child with autism faces difficulties in performing self-care activities in everyday life, especially parental over-care and performing activities for him further reduce the child's development of abilities and independence.

Therefore, the purpose of this work is to highlight the difficulties of using the toilet of children with autism and to suggest ergotherapy intervention to overcome them. According to the above work, the research question received the following formulation: what difficulties do children with autism face when using the toilet, and what are the ways to overcome them?

The most important goal for all children with autism is to function independently and perform self-care activities such as feeding, dressing, and toileting. Unfortunately, the published training manuals or guidance programs focus mainly on improving communication and cognitive skills, while the related areas of self-care skills seem to remain largely unstudied or very little studied.

Literature analysis

Currently, the number of children with various diseases has increased in the world. As a result of numerous types of research, it became clear that the causes of their occurrence are environmental pollution, and ecological problems (Lucker, 2009; Nikolskaya, et. al., 2005). Along with the development of technology and industry, nature is becoming more polluted and as a result of all this, the number of children born with various diseases is increasing day by day. Children with developmental disabilities and disabilities need special intervention. Children's autism also belongs to these diseases. This disease occurs regardless of culture, nationality, religion, and lifestyle level (Morozova, 2007; Ellis, 1990).

If at the beginning of the study of autism syndrome, it was often assumed that only the lack of communication of the child prevented them from showing their ability and realizing their preservation abilities, now childhood autism is considered a widespread development that affects all areas of child psychiatry. And such children's communication problems are currently viewed in the context of multiple deficits/demands (Kanner, 1943).

Autism causes developmental disorders that affect a child's perception of the world around them. This leads to the fact that without adequate help, he grows up dependent and lacking social skills. Depending on the level of developmental disability, children may have certain difficulties at different

stages of life. However, they are all capable of learning and performing self-care skill activities (Leaf, & McEachin, 1999). According to another hypothesis, autism is a developmental disorder characterized by persistent impairments in social interaction and restricted, repetitive patterns of behavior, interests, or actions (Arlington, 2013).

It should be noted that this disorder is also characterized by the presence of such problems as fears, sleep and eating disorders, difficulties in using the toilet, outbursts of anger, aggression, and self-aggression (HD-014-2013). In addition, children with such disorders have great difficulties in making eye contact and interacting with gaze, facial expressions, gestures or intonation (Goldman, 2014).

Any new object or phenomenon causes a great conflict in their life, bringing out a feeling of fear towards the new and as a result, the child may scream, cry, or behave restlessly, thus expressing his morbidly expressed self-preservation instinct. A child with autism can show a similar reaction when sleeping, eating, bathing, using the toilet, and going for a walk. All this is due to the characteristics of the latter's high sensory threshold (Arshattskaya, 2005).

Many researchers dealing with this issue have confirmed that the main symptom of "Child autism" is the loneliness of the child and the disturbance of communication and communication abilities with the environment. A child with autism is usually immersed in his own imaginary world, in his own feelings, he is self-absorbed, refuses contact, does not look into the eyes of the people around him, avoids the tenderness of relatives, physical contact, has severe feelings and has resistance to any changes in the environment. (Nikolskaya, Baenskaya, & Liebling, 2010).

Since autism is a complex disorder of general development, which leads to the creation of communication and relationships between people, the environment, and general perception, it also affects the processes of social relationships, development of self-care skills, and the organization of educational activities. Children with autism often face difficulties in engaging effectively in self-care, play, and learning activities.

Working with children with autism and in the process of their multifaceted development, the profession of occupational therapy offers ways of effective intervention. Occupational therapy is a profession the primary goal of which is to prevent disability, make a person as independent as possible, and increase quality of life (Livingstone, 1981).

The profession of occupational therapy offers a way of intervention, thanks to which the purposeful activity and working capacity of persons with physical and mental developmental disorders are restored. Occupational therapy helps individuals to be more independent in their work, leisure, and recreation activities (Alice, & Punwer, 1994).

Occupational therapy is also a health care profession that works with and helps people of all ages who have mental, physical, emotional, as well as sensory, and cognitive problems. It helps

overcome obstacles that affect an individual's ability to perform daily tasks (Berry, Levy, David, & Wegman, 1995).

An occupational therapist helps a person regain their self-confidence, which involves developing and practicing new or old skills to restore their self-confidence. In addition to offering adaptive devices, he also teaches their possible application options, and care (Kosinski, 2017).

An occupational therapist helps to learn to perform activities of daily self-care skills more independently with as little intervention as possible and live life as fully as possible, despite the shape, and size of the lesion (Case-Smith, 2001).

In occupational therapy, sensory integration is considered a very effective method in working with children with autism. Sensory integration is a normal neurological process that regulates the functioning of the senses in everyday life (Henderson, Liorens, Gilfoyle, Myers, & Prevel, 2007). Sensory integration is the unified cooperation of all senses, it begins in the mother's womb when the embryo just begins to develop. It is a neurological process that coordinates sensations from our body and the environment (Kisling, 2010).

Ayres J. (an American occupational therapist, and clinical psychologist) was the first to put forward the phenomenon and theory of "Sensory Integration" in the 1950s. According to him, feelings convey information about the state of our body and the environment. Every second, our brain receives countless amounts of sensory information through our senses. Sensory integration is the ability to receive information through the touch, taste, smell, hearing, vision, proprioceptive, and vestibular systems that enable a person to compare that information with information, knowledge, and memory already in their brain so that a person can derive reasoned meaning from ongoing stimuli (Ayres, 2017).

The method of sensory integration ensures the combined activity of 3 important systems: (1) vestibular/orbital/-gives information about body balance, coordination, and maintaining position; (2) proprioceptive/deep sensory/- provides information about the position of the body and its individual parts in the environment; (3) informs about the quality, shape, and size of surrounding objects through tactile/tactile/-skin (Yermoleva, 2018).

As a result of using this method, the child develops a process of organizing feelings that helps him participate in everyday life (Ayres, 2017; Kientz, 1997).

Children with autism also often have sensory integration information processing disorders, as a result of which they have difficulties in perceiving and correctly processing sensory impulses, as a result, the normal course of the child's life is disturbed, and he begins to react negatively to every new phenomenon, has great fears and is anxious in unfamiliar surroundings (Kranwitz, 2003). These children are often unable to process the sensory input they receive from the outside world through their senses. Their brains struggle to process the information they receive and this causes many complications

in their learning, communication, functioning, and overall worldview. In that case, learning even the simplest knowledge or showing appropriate behavior in different situations requires a lot of effort from the child. As a result of sensory integration information processing disorder, the process of feeling and perception is preserved, and the analysis of the received impulse is impaired. The child feels anxious but does not understand the reason for it, and he reacts to this situation in a different way: he may cry, scream, or show aggressive and inappropriate behavior (Spitsberg, 2005).

Autism causes developmental disorders that affect a child's perception of the world around them. This leads to the fact that without adequate help, he grows up dependent and unsocial. Depending on the level of developmental disability, children may have certain difficulties at different stages of life. However, they are all capable of learning and mastering self-care skills: changing clothes, brushing teeth, eating on their own, crossing the road safely, etc. It's just that for some it happens quite quickly, and for others, it happens gradually (Kientz, 1997).

Due to the characteristics of autism, the development of self-care skills in children is very slow, and in some cases, such skills may be absent. It all depends on the severity and course of the lesion. According to the International Classification of Functions (ICF), a person's "Life Activities and Participation" is the performance of a task or action by an individual, including the full range of different areas in which a person carries out functional activities from both an individual and societal perspective. In the international classification of functions, a number of areas are distinguished within the scope of life activity. In those areas, special attention is also paid to self-care (d5), which includes the following activities (body care, washing, changing clothes, taking care of natural needs, eating, drinking, looking after the health and personal safety).

Developing self-care skills is critical to child development because it requires functional and practical skills to plan and sequence tasks and physically control motor skills.

However, studies have shown that people with autism are less likely to participate in daily life and have the skills to perform self-care activities than people with typical developmental disorders (Rodger, & Umaibalan, 2011).

According to the study and analysis of the concepts included in the literature, one of the authors, Maureen Benin (2019) in a research paper tells about the difficulties of using the toilet of her two children. Each of the children had their own individual physical data, motivations, and perception of interoceptive/internal regulation (which helps to understand and feel the inner feelings of a person), so the difficulties and ways of coping were different for each one.The author notes that the difficulty is the significant developmental delays of a child with autism, when the child does not feel that he has peed on his clothes, or does not stay dry throughout the night when the child does not have the developmental level of 18-24 months, cannot perform bowel movements.

Therefore, the child's illnesses, a new baby in the family, parents' divorce, or serious family problems and changes can be obstacles to using the toilet. The author mentions three main groups of difficulty using the toilet:

- Selective food and low fluid intake;
- Interoceptive (inner sensory) - bladder or bowel fullness;
- Using different toilets (Benni, 2019).

Still, McAllister, who also addressed toileting difficulties, notes in his article that learning to use the toilet the way everyone else learns can be a real challenge for some children with autism. While reflecting children with autism, it is very important to understand why the normal process of using the toilet is difficult for them. When using the toilet, certain communication tools/tricks can be confusing for children with autism and they may not understand what is being asked of them and may take the phrase "go to the toilet" very literally i.e. only to go to the toilet room, not to perform the corresponding action in that room. The author notes that the process of using the toilet can also be difficult because some children with autism do not understand that, apart from the toilet, such actions cannot be performed in unaccepted places (dining room, kitchen, yard, etc.), and some have sensory impairment problems and they do not feel that the bladder or bowels are full and do not need to empty them, some have enjoyed the feeling when they have peed or defecated in the diaper (MacAlister, 2014).

There are children who may find the toilet room too cluttered and won't go in, and some may love the room but be interested in opening and closing the toilet lid. In addition to paying attention to autism spectrum problems, it is very important to know if the child does not have other health problems. Constipation is a big problem in children. For example, a child may feel pain, but because he has a problem with communication or internal feeling, he cannot explain what he needs. When research was conducted among children with autism, it was found that a very large number of children have constipation problems. It is important to be in constant contact with the doctor, because if this problem is not solved, there is no question of implementing a toilet intervention (MacAlister, 2014).

Overcoming toileting difficulties is very important for every parent or care giver. Thus, according to the analysis of the literature by various authors, it was found that there are many difficulties in using the toilet, which require accurate differentiation of difficulties, establishing a cause-effect relationship, and communication with the treating doctor and family members.

METHODOLOGY

The quantitative research method was used for data collection and analysis. Quantitative research allows collecting and analyzing data necessary for research through a survey (point-of-care). As a result of the application of these methods, results are obtained, which are expressed in the form of numerical patterns. The research process is fixed (Sharoyan, 2013). In other words, in this case, the

researcher aims to measure and interpret the phenomenon through numbers. For this reason, the object studied by the methods of this group is a quantitatively significant unit, which later makes it possible to draw conclusions from the obtained data through certain numerical patterns: to put forward new hypotheses, to confirm or deny the existing ones.

Through this method, data is obtained, which are expressed in the form of numbers, and percentages, which enables the researcher to interpret the phenomenon using numbers, to provide objective and accurate information about the phenomenon under investigation. The study was conducted online with 82 parents of children with autism. The quantitative method used for data collection and analysis enables strict adherence to the stated aims and objectives of the study (Jones, 2011).

In order to carry out the research, a questionnaire was developed and applied. An electronic survey has been completed. The questionnaire was posted for 4 months on the online platform, available in the Facebook domain: "Autism. Experience, Discussion, Support", "Intensive 1,2,3 and Transformation", and "Portal" groups created by parents and professionals of children with autism for the latter's use.

PARTICIPANTS

Parents of children with autism (n=82) participated in the electronic survey. The study was conducted among children with autism aged 3-9 years. The age limits of the child were chosen to take into account the normal developmental stages of self-care and their appropriate age compatibility. Mostly mothers of children have participated in the research (male - 67 (82%); female - 15 (18%)).

As a result of the survey of the parents who participated in the study, it was found that 36 (44%) children have a problem or problems using the toilet, and 30 (37%) have some difficulties.

DATA ANALYSIS

A questionnaire was developed and administered to collect research data using the electronic survey tool Google Forms, which included open-ended and closed-ended questions. Research participants were expected to provide positive or negative responses, as well as some personal opinions and information. The questions formulated in the applied questionnaire were aimed at highlighting the difficulties of using the toilet in children with autism. The questionnaire was posted on the Facebook domain "Autism. Experience, discussion, support", "Intensive 1,2,3 and Transformation", and "Portal" groups for a period of 4 months. The questionnaire was filled in by parents of children with autism registered in the above groups. Later, the answers to the questionnaires filled by them were calculated, compared, and analyzed by combining the calculations, which are presented in the results section.

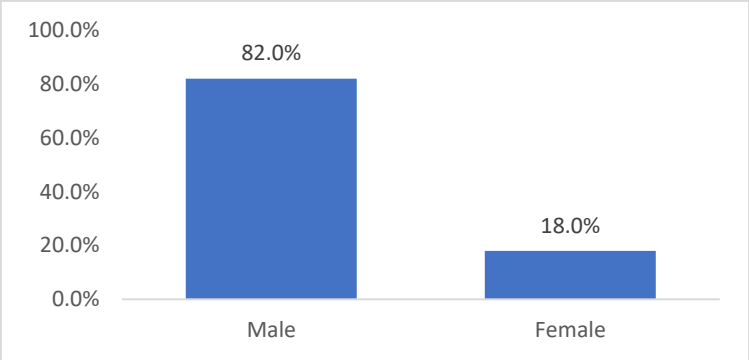
RESULTS

In this case, all possible answers are worked out for the question and the respondent simply has to choose one or more of the given options depending on the relevant instructions. Closed questions facilitate and speed up the process of the survey, but you must be very careful when formulating them, because there may be cases when the answer indicated by the respondent does not correspond to any of the available options. This means that not enough time has been allocated to developing the question and answers. Often, to formulate a closed question, small research is conducted to understand if there are other options for answers that are not formulated.

Semi-closed question. In this case, several possible answers are indicated after the question, but the respondent is given the opportunity to indicate another answer. A semi-closed question comes to the rescue when the researcher, based on his experience and studies, mentions all possible answers to the given question but is not sure that there will not be any other answer (Cresswell, 2014).

Figure 1.

Gender distribution of children participating in the study.

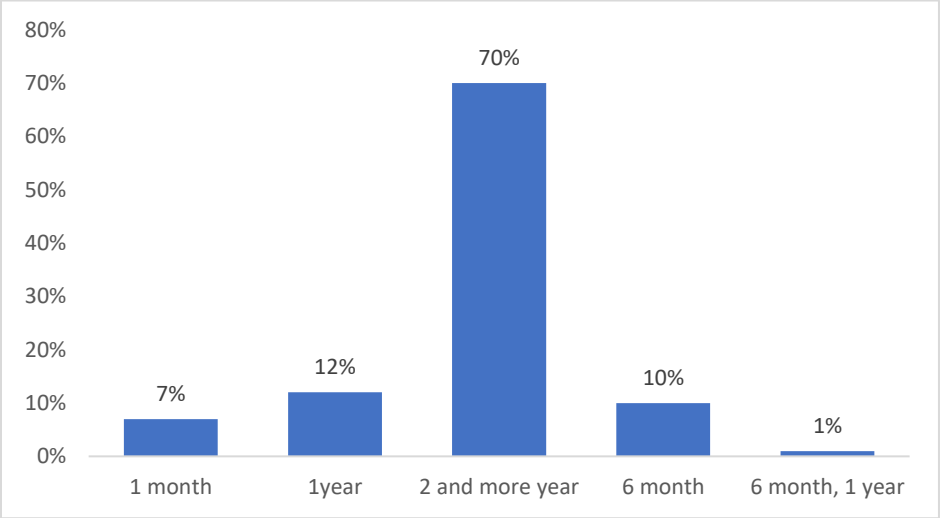


Thus, as a result of the analysis of the data provided by the participants of the study, parents, and guardians of children with autism, it was found that 36 (45%) children have different characteristics of using the toilet: full and 30 (35%) - partial, and 16 (20%) have no difficulties.

According to the study of data provided by parents, it can be concluded that most children with autism attend rehabilitation centers: 71 (89%). When asked about other services, 9 (11%) of the parents stated that the child does not attend any rehabilitation center. The majority of participants 71(89%) use different repurchase services, of which 6 (7%) - 1 month, 8 (10%) - 6 months, 10 (12%) - 1 year, 1 (1%) 1 year and 6 months, 57 (70%) - 2 years and more (Figure 2).

Figure 2.

The period of attendance at the rehabilitation center.



Rehabilitation services are provided according to an individual plan. According to Government Resolution of the Republic of Armenia N-1035, rehabilitation is a system of treatment measures aimed at the treatment of various diseases, injuries, physical, mental, and other disorders, as well as the possible restoration of impaired body functions of a person with disabilities (Government Resolution of the Republic of Armenia N-1035, 2015).

According to the study of the data provided by the participants, it can be concluded that most of the parents of autistic children participating in the survey use the services of psychologists 25 (30%), speech therapists 20 (24%), and special educators 15 (18%), because they very often have different levels of speech development, social contact, communication, learning, concentration, knowledge, and cognitive development difficulties.

It is known that children with autism face a number of difficulties in their daily life related to self-care, self-management, and various negative behavioral manifestations and the results of the research showed that 12 (15) of the occupational therapists, 5 (6) of the art therapist, 2 of the physiotherapist (2%), social pedagogue 2 (2%), swimming lessons 1(1%) services offered by specialists are used by quite a few children.

In the Republic of Armenia, the need for occupational therapy services is quite evident, but most parents are not properly informed, they have no idea how they can use this service and how this specialist can help the child's further development process. Thus, from the analysis of the information provided by 12 (15%) of the parents who participated in the research, it is known that their child uses the services of an occupational therapist, however, 36 (45%) of the respondents have full and 30 (35%) partial difficulties. The development of the child's toileting skills, and the identification, and resolution of difficulties is a special area of intervention of the occupational therapist.

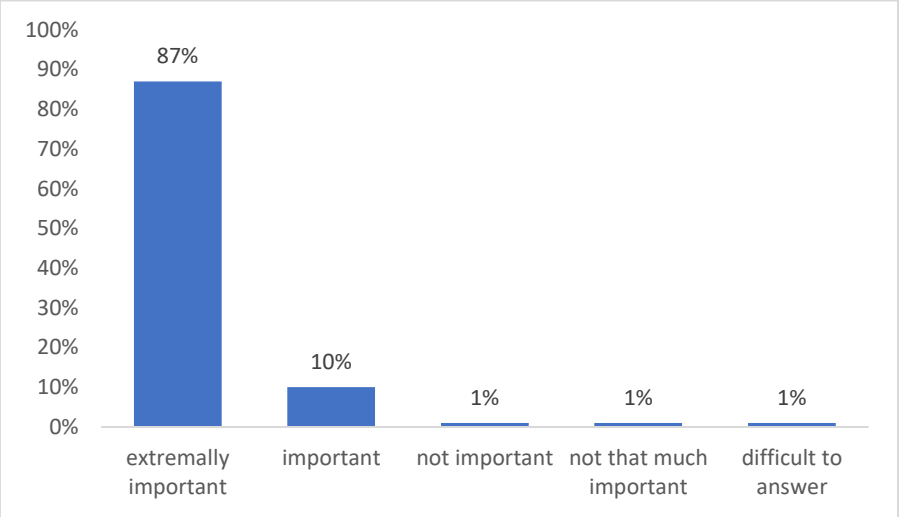
To the question, if participants are aware which specialist helps to overcome toilet difficulties, 28(34%) of participants answered yes, and 35(43%) respondents were not aware which specialist provide the sufficient services.

Regarding the importance for the child to use the toilet independently, the summary of the parents' answers allows us to note that according to their opinion, performing any daily self-care skill is already a challenge for children with autism and performing any activity independently is a great achievement. As total, 71 (87%) of the parents participating in the survey attach great importance to the fact of using the toilet independently, 8 (10%) do, 1 (1%) do not attach much importance to this fact, 1 (1%) do not at all important and only 1 (1%) has difficulty answering this question (Figure 3).

As it is known, children with autism very often refuse to do new activities, because due to the limited opportunities arising from the problem, they lack experience.

Figure 3.

The importance of using the toilet independently.

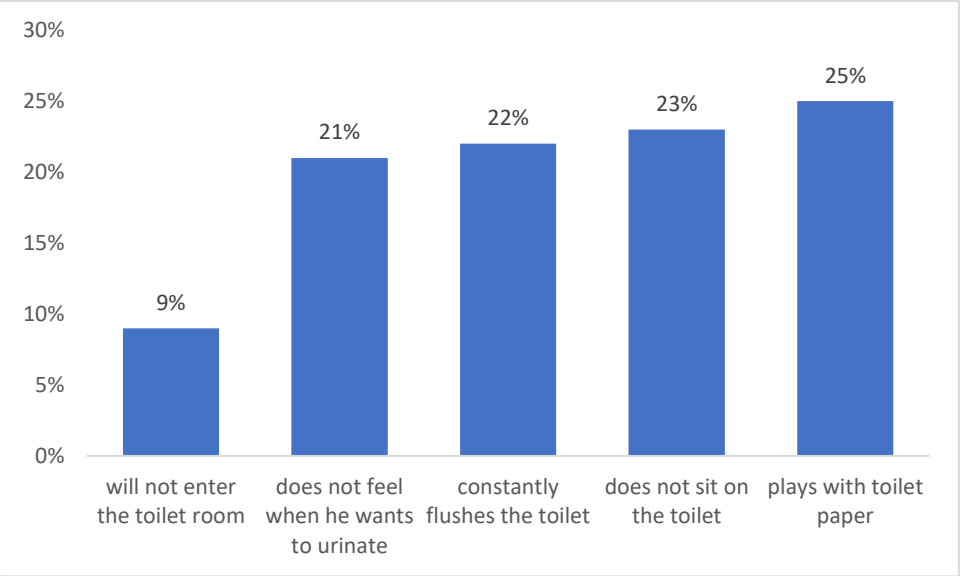


By not communicating and studying objects, environments, and people, children may develop fears of new, unexplored areas, over or under sensitivity to certain substances or objects, and interception (internal feeling) disorders, which mainly prevent the child from using the toilet independently on time.

The parents who participated in the research noted the difficulties their children have when using the toilet. Some children play with toilet paper - 21(25%), 19 (23%) do not sit on the toilet, 18(22%) constantly flush the toilet, 17 (21%) do not feel the urge to urinate and finally, 7 (9%) children do not enter the toilet room (Figure 4). Due to the characteristics of autism syndromes, the development of self-care skills in children is very slow, and in some cases, they may not develop at all.

Figure 4.

Difficulties encountered when using the toilet.



Since autism is a complex developmental disorder and causes a number of communication and communication difficulties, it also affects social relationships, the development of self-care skills, and the organization of educational activities.

Therefore, when the child needs to go to the toilet, how does he express his desire, 23 (28%) of the parents answered that the child goes to the toilet room, 20 (24%) makes restless movements, 13 (16%) go to a corner and hide, 9 (11%) pull down their pants, 2 (2%) say with the word toilet or toilet, 1 (1%) says that needs should be taken care of, 1(1%) says I have something, 1 (1%) does it hotly, 1 (1%) says "shit", 1 (1%) squeezes his legs, 1 (1%) understands, 1 (1%) grabs the penis and comes, 1 (1%) sits on the nightstand, 1 (1%) says verbally, 1 (1%) just says, 1 (1%) starts playing with the genital organ, 1 (1%)) does not respond, 1 (1%) urinating clearly says, the other action no, 1 (1%) goes to the toilet by himself, does his chores.

Coping with every problem with children with autism requires a tremendous effort from the professional and the parents. To the question, what kind of measures are needed to overcome the difficulties of using the toilet, 41 (52%) of the parents answered that it is necessary to inform the parents, 19 (23%) - the intervention of a specialist is necessary, 12 (15%) believes that the child needs environmental changes, 2 (2%) parents believe that drug intervention and consistent work is needed, 2 (2%) believe that persistence is needed and finally 2 (2%) parents do not find a way out of this situation, 2 (2%) managed to overcome the difficulties of using the toilet during work, 2 (2%) parents think that no measures should be taken.

Thus, as a result of the research, it became clear the difficulties of using the toilet of the examined children with autism and some coping methods, as well as the role and importance of

rehabilitation measures in this area. In particular, as a result of the survey, the parents' awareness and common ideas about the profession of occupationaltherapy and the degree of intervention in the direction of overcoming the given problem were revealed.

It is noteworthy that family members play a primary role in the development of skills of children with autism, performing self-care activities and choosing a professional intervention, so the role of the parent in the selection of rehabilitation services for the child is considered a very important factor for his future independence and full participation in society. in coming.

DISCUSSION

In general, for children with autism to do something independently, is considered a victory for the family. The most important goal for all children with autism is for them to function independently and perform self-care activities such as feeding, dressing, and toileting. Unfortunately, the published training manuals or guidance programs focus mainly on improving communication and cognitive skills, while the related areas of self-care skills seem to remain largely unstudied or very little studied.

As already discussed, children with autism very often have various difficulties with using the toilet, which is directed and expressed by refusing to go to the toilet room, and showing negative or aggressive behavior. The materials presented in the literature analysis prove that there are many difficulties in using the toilet and overcoming the problem is possible only when the main reason is identified. According to the authors, there are many reasons. But there are several sets of main reasons. Analyzing the literature, there are many difficulties caused by the disturbance of internal feeling (enteroception), when the child does not feel when the bladder or bowels is full, cannot perform intestinal contractions, compressions when urinating, do not feel that the clothes are wet.

The next major difficulty the authors note is another sensory processing disorder. Abnormal bowel function, due to food or any physiological reason, is also a very big obstacle to overcoming toilet difficulties in time. In such cases, the family and the occupational therapist necessarily work together with the appropriate physician. The food selectivity of children with autism also plays a big role here. Often, these children eat similar foods due to oral hypersensitivity or hyposensitivity, denying them nutrients that support and regulate normal bowel function (Wheeler, 2007).

The authors often note that low fluid intake can be a cause of difficulty using the toilet. Because of this problem, we again have problems with the formation and release of secretions. Such children may not have a bowel movement for several days to a week. All this can become a vicious cycle. The child does not have a bowel movement, has nausea, often has a fever, feels very bad, does not want to eat or drink water, and if he does not eat, the process of excrement becomes difficult (MacAlister, 2014).

It is also often mentioned by the authors that sometimes the difficulty of using the toilet independently is the clingy behavior of children with autism, they refuse to use different toilets or toilets. They can endlessly open and close the toilet lid, and press the flush button (Benni, 2019).

Analyzing the results of our own research, it became clear that the main difficulties in literature analysis are also found in RA, regardless of our cultural characteristics, and social and psychological conditions. The majority of parents of children with autism who participated in the survey indicated that they have multiple difficulties with using the toilet. While analyzing the results of the survey, it became clear that the majority of children have various problems of sensory information processing disorder, which was also mentioned during the literature analysis. Parents also mentioned that very often children are afraid of the toilet room and the toilet. Basically, it is very difficult for parents to overcome such difficulties on their own. They are forced to turn to an appropriate specialist, an occupational therapist, for intervention. Surprisingly, the majority of children attend various rehabilitation centers and have certain professional interventions, but still the difficulties in using the toilet are evident. As a result of the survey, it also became clear that the vast majority of parents have no idea at what age or how to start the activity of using the toilet, or when they start and encounter various complications, they have no idea how to overcome them.

Mainly, parents' self-care actions for autistic children - doing things for the child - prevent them from developing self-identity.

Overcoming the child's toileting difficulties is a separate, special area of occupational therapy. In this case, the goal of the occupational therapist is to teach the child step by step to overcome certain difficulties, as well as to develop the child's ability to use the toilet independently. Therefore, the profession of occupational therapy, as rehabilitation and visitor-centered profession, is extremely important for the development of life skills of children with autism.

The results of the research carried out within the framework of this work once again confirm that parents of children with autism consider overcoming the difficulties of using the toilet to be a huge problem. At the same time, the vast majority of parents do not know about the occupational therapist's work and the importance of his professional intervention, which can significantly change and improve the child's daily life and activities in various areas.

It should be noted that the majority of the children of the parents who participated in the research visit various rehabilitation centers and use certain services that may be provided, but do not receive such services that will contribute to the solution of the most important problem for them. Because there are almost no centers providing rehabilitation services equipped with such facilities in RA, where it will be possible to carry out occupational therapy measures promoting the skills of using the toilet.

It became clear from the conducted research that children with autism and their parents, often encountering the difficulties formed as a result of the above problem, have to overcome them on their own or seek the help of professionals offering private services. Similar services are provided mostly at home and are paid for by parents. In fact, not all parents are able to pay for such interventions and in the end, the parent is forced to solve the problem on his own, which rarely has a positive result. As a result, many children with autism often never overcome the problem.

Application in practice and further works

- From the results of the research, it became clear that parents of children with autism do not know how to solve the difficulties of using this or that toilet. The process is quite complicated and in order to solve the problem more effectively, the child's family members should be involved in the work process, which would definitely increase the level of awareness among the parents, would ensure the parent's participation and consistency in the work carried out by the specialist.
- It is very important to create adapted conditions in the toilet rooms in rehabilitation centers and places where there is a child with autism, which will allow the specialist, and parents to carry out an effective intervention, which will help to overcome difficulties faster.
- It would also be desirable to finance individual therapy classes; provision of home visits will also have a positive effect in the direction of a quick solution to this problem.
- The parents who participated in the research carried out as part of the final work highlighted the need for occupational therapy interventions not only in rehabilitation centers but also in kindergartens, schools, and development centers.

CONCLUSION

Thus, in order to carry out this research, many scientific sources and articles were studied, then the actual research work was carried out, as a result of which, the obtained quantitative data allowed us to reach the following conclusion.

In children with autism, the development of self-care skills is very slow, and in some cases, such skills may be absent at all. Therefore, the development of this area is under the control of parents and specialists, the more the specialist informs and educates the parent, the more they will help children to be independent, to make life as easy and pleasant as possible.

During the research, it became clear that the difficulties of using the toilet are many and the means of overcoming them are very different. In fact, it became known that even by attending the appropriate specialist, it is not always possible to completely overcome these difficulties.

If the problem of using the toilet is raised, it is necessary to develop an individualized intervention plan for each child, to carry out follow-up work to overcome the difficulties step by step. If possible, organize therapy not only in rehabilitation centers but also at home, in kindergarten, school, etc. In order to strengthen the effectiveness of therapy, involve family members, teachers, educators, etc. as much as possible in the work process.

There is a great need to create awareness platforms and organize various courses that will educate and teach how to overcome the difficulties of using a similar toilet. As a result of this activity, it will be possible to create an opportunity for parent-professional and parent-parent cooperation to share and discuss their own experience.

REFERENCE LIST

1. Alice J. Punwer (1994). Occupational therapy. Principles and practice// Second Edition, USA.
2. Arlington VA (2013). American Psychiatric Association. Diagnostic and statistical manual of mental disorders, American Psychiatric Association; 5th ed.
3. Arshatskaya, O., S. (2005). Psikhologicheskaya pomosh rebenku rannego vozrasta pri formiruyushemsya detskom autizme, Defektologiya N 2.
4. Ayres, E., D. (2017). Rebenok i sensornaya integraciya. Ponimanie skritikh problem razvitiya.
5. Bennie, M. (2019). The difficulties with toilet training a person with autism, January 21, Autism Awareness Centre.
6. Berry S. Levy, David H. Wegman (1995). Occupational health, Recognizing and Preventing work-related disese; third edition
7. Carol Stock Kranwitz, M. A. (2003). Auth by the out-of-sync child: illustration by T. J. Wylie
8. Case-Smith, J., O'Brien, J., C. (2001). Occupational Therapy for Children 6th Edition by EdD OTR/L FAOTA.
9. Churchill Livingstone (1981). The practice of occupational therapy, An introduction to the treatment of physcal dysfunction
10. Cresswell, W. J. (2014) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. CA; London, New Dehli: Sage publications.
11. Ellis, K. (1990). Autism. Professional and Practice-book. Compman and Hall.
12. Goldman, S. (2014). Sex, Gender and the Diagnosis of Autism- A Biossocial View of the Male Preponderance, https://doi.org//www.ncbi.nlm.nih.gov/pmc/artices/PMC3655776/
13. Harutyunyan, M. (2017). Teghasharzhman dzhvarutyunner unecogh erekhaneri ev dershasneri khnamqi kazmakerpman ughecuyc, Usumnametodakan dzernark, UNICEF, Yerevan, Asoghik hratarakutyun, ej 14.

14. Henderson A. Liorens L. Gilfoyle E. Myers C. Prevel S. (2007). The development of sensory integrative theory and practice, A collection of the works of A. Jean Ayres
15. Hivandutyunneri ev arighchutyan het kapvac khndirneri vijagrakan dasakargich HD-014-2013, Tasnerord veranayum, ej 228-231.
16. Jane Case-Smith (2001) OCCUPATIONAL THERAPY FOR CHILDREN: fourth ed. Pp. 489-528
17. Jones, K. (2011). The Practice of Quantitative Methods. [Online] Available from: https://goo.gl/ggB78W [Accessed 16.03.2018].
18. Kanner, L. (1943). Autistic disturbances of affective contact, published by Sean Cohmer, 2014.
19. Kientz MA, Dunn WA. (1997). Comparison of the performance of children with and without autism on the Sensory Profile. American Joirnal of Occupatioal Therapy 51: 530-537
20. Kisling, U. (2010). Sensornaya integraciya v dialoge. Ponyat rebenka raspoznat problem, pomosh obresti ravnovesie. Pod redakciey E. V. Klochkovoy, Moskva Terefinf, str. 1-9.
21. Kosinski, K. (2017). Ergoterapiya dlq detej s autizmom, Rama Pablishing, Yekaterinburg.
22. Lucker, K., D, (2009). Behavior Analysis in Practice, Association for Behavior International Behave Anal Pract. 2009 Spring; 2(1): 65-67.
23. MacAlister Lorraine (2014) Toileting problems in children with autism. Nursing Times; 110: 43, 18-20.
24. Morozova, S. S. (2007). Autizm: korrekcionnaya rabota pri tyazholikh I oslozhnennikh formakh, posobie dlya uchitelq defektolog. M. Gumanitar. Izd. Centr Vlados, str. 176.
25. Nikolskaya, O.S., Baenskaya, E.R. & Libling, M. M. (2010). Autichniy rebenok, puti pomoshi.
26. Nikolskaya, O.S., Baenskaya, E.R. & Libling, M. M., Kostin, I.A., Vedena, M. Yu., Arshatskiy, A. V., & Arshatskaya, O. S. (2005). Deti i podrostki s autizmom. Psikhologicheskoe soprovozhdenie. BBK 74.3 N62.
27. Rodger S., Umaibalan V. (2011). The routines and rituals of families of typically developing children compared with families of children with autism spectrum disorder: An ex- ploratory study. British Journal of Occupational Therapy;74: 20-26. Doi; http// dx.doi.org/10.4276/030802211X12947686093567
28. Ron Leaf, John McEachin; (1999) A WORK IN PROGRESS, behavior menegment strategies and a curriculum for intensive behavioral treatment of autism; New Year
29. Schopler, E., van Bourgondien, M., E., & Bristol, M., M. (1993) Preschool issues in autism, New York, Plenum Press,
30. Sharoyan, M. (2013). Sociologia, usumnakan dzernark hanrakrtakan avag dproci 10-11-rd dasaranneri hamar: Mkhitar Sebastaci, ej 13.

31. Shpitsberg, I. (2005). KOrrekciya narusheniy razvitiq sensornikh system u detey s rasstroystvami autisticheskogo spektora. Autizm I narusheniya razvitiya. N2.-стр. 33-45.
32. Voroshnina, O. R., & Sannikova, A. I. (2018). Telesnie praktiki, sensornaya integraciya I ergoterapiya. Sovremennie podkhodi i tekhnologii soprovozhdeniya detej s osobimi obrazovatelnimi potrebnostqmi, str. 7-8.
33. Yermoleva, T. (2018). Sensornaya integraciya teoriya i praktika, G. 14.

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EXPERIMENTAL STUDIES OF THE ATTENTION CHARACTERISTICS OF ELEMENTARY SCHOOL STUDENTS STUDYING CHESS

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ABSTRACT

Since 2011, "chess" has been included in the Republic of Armenia's state standard of general education and is taught as an obligatory subject in grades 2-4. This breakthrough attracted the curiosity of a diverse group of scientists, particularly psychologists.

In this paper, we present the process of experimental studies conducted by psychologists of the Khachtur Abovyan ASPU's Chess Scientific Research Institute from 2013 to the present.

The study's goal is to highlight the process of demonstrating and developing attention skills when mastering and teaching the "Chess" subject.

Keywords: Chess subject, elementary school, Egoscope, attention properties.

REVIEW OF THE LITERATURE

Since 2013, the Chess Academy of Armenia and the Khachatur Abovyan Armenian State Pedagogical University's Chair of "Age-group and Pedagogical Psychology" have been conducting psychological studies, classes in schools, seminars, and discussions to identify and effectively solve problems and psychological difficulties that arise during the teaching of the subject "Chess."According to a survey of 500 teachers of the subject "Chess" in the Republic of Armenia's Lori, Shirak, Ararat, and Armavir regions, the majority of teachers emphasized the low focus of attention of elementary school students (Petrosyan, Khachatryan & Sargsyan, 2014).

Given the significance of teachers' focus on elementary school students in "Chess" classes, as well as the fact that it greatly affects students' academic progress, we have found opportunities to diagnose and enhance students' levels of concentration.

Based on the children's version of the Bourdon-Rudik (Semago & Semago, 2000) test for attention and its peculiarities, as well as the characteristics of teaching the subject "Chess," we considered it appropriate to use this test after making some minor alterations typical of a chess game.

84 students of 2nd, 3rd and 4th grades with equal distribution participated in the research. Performing the same tasks in different age groups made it possible to identify the level of concentration of elementary school students.

Following an introduction to the activity, the participants were given pictures of chess pieces in a random sequence, with the task of finding and underlining the image of the "pawn" in the same form. Figure 1 depicts 10 rows of pieces, each with 19 rows of chess pieces, for a total of 50 rows of "pawns".

Figure 1.

Bourdon-Rudik test form

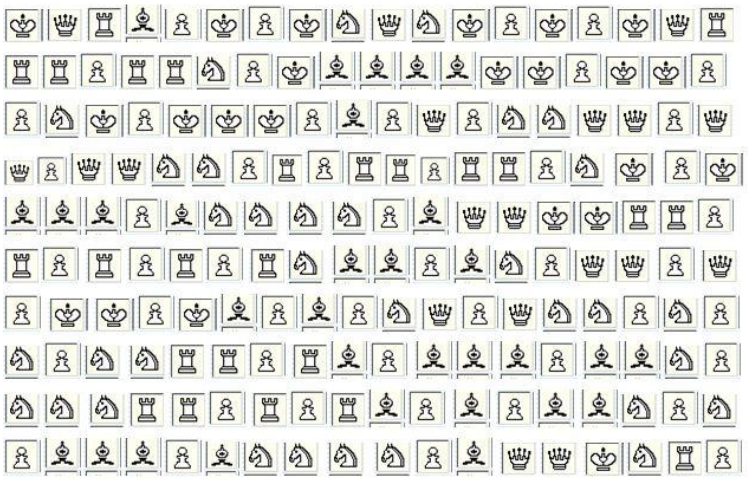


Table 1.

Quantitative analysis data of diagnostic concentration

2nd grade						***3rd grade***								***4th grade***					
28 students						***28 students***								***28 students***					
The distribution of the number of subjects																			
4	***4***	***4***	***4***	***8***	***4***	***4***	***8***	***4***	***4***	***8***	***3***	***3***	***3***	***3***	***3***	***3***	***3***	***4***	***3***
The number of erased images																			

43	***45***	***46***	***47***	***49***	***50***	***41***	***43***	***48***	***49***	***50***	***29***	***31***	***34***	***37***	***44***	***45***	***47***	***48***	***49***
The number of omitted images																			
7	***5***	***4***	***3***	***1***	***0***	***9***	***7***	***2***	***1***	***0***	***11***	***9***	***6***	***3***	***6***	***5***	***3***	***2***	***1***
Average indicator of concentration according to grades																			
90,8 %						***85,1%***								***97,9%***					

The distribution of experimental data in each column shows the number of children who correctly underlined the image of the "pawn" piece, missed, or made a mistake. For example, the "4" in the first column of the first line shows that 4 children correctly underlined 43 pictures and missed 7.

Table 1 presents the experimental data of students in grades 2-4 subdivided by the classes: 1) according to the distribution of numbers, 2) missing images, and 3) successfully erased images

Experimental data were developed using the following formula for calculating the concentration factor (Karapetyan & Tsaturyan, 1983)

$$K = \frac{П1 - П2 - П3}{П} . 100\%$$

K is the level of concentration,

$П_1$ is the total number of images of a correctly erased "pawn" piece,

$П_2$ is the number of missed "pawn" piece images,

$П_3$ is the number of incorrectly erased images,

Пthe number of images of the "pawn" piece that must be erased in all lines.

The results show that the second to fourth graders have a high level of concentration, but it is not manifested in the mastery of the subject "Chess". Organized classes and discussions showed that the age and individual characteristics of elementary school students are often not taken into account when teaching (Petrosyan, Khachatryan & Sargsyan, 2014).

This research was the first attempt to discover the peculiarities of the manifestation and development of the features of attention during the teaching and mastering of the "Chess" subject. Surely, our research team realized that laboratory experiments and special conditions were needed to study the properties of attention in chess lessons.

In 2014, the "Egoscope" complex of objective psychological analysis and testing was purchased for this reason from the Medicom MTD Scientific-Production Company in Taganrog, Russia (Egoscope, 2014). This was a significant step forward for Armenian psychological experimental research since, for the first time, known psychological procedures and tests would be carried out not on paper, but through a customized complex.

The "Egoscope" complex of objective psychological analysis and testing makes the application of psychophysiological methods more meaningful, at the same time showing the indicators of reaction and automatic documentation. The results of the subject's behavioral activity are recorded using a sensory tablet. The development of quantitative evaluation of research results makes it possible to reduce the subjective influence of the experimenter on the research process and the development of results. Egoscope enables (Egoscope, 2014).

Assess the psychophysiological characteristics of the subject,

in particular.

- Attention indicators
- Central nervous system activity, efficiency and ability to perform the right actions in the conditions of time deficit
- Resistance to obstacles, degree of concentration in adverse conditions
- Accuracy of response, the balance of excitation and inhibition processes

Assess cognitive qualities (logical, spatial, assessment of attention and memory indicators and patterns)

In 2014, on the initiative of the Founder-President of the Chess Academy of the Republic of Armenia, GM Smbat Lputyan, the "Chess Teaching Research Laboratory" was established, which continued its activity at the ASPU after Khachatur Abovyan. In that year, the first large-scale experimental studies were carried out by A. Khachatryan, Associate Professor of Psychological Sciences, and psychologist A. Sargsyan, using the methods of the "Egoscope" complex (Khachatryan & Sargsyan, 2014).

Based on the educational goals of the elementary school "Chess" subject standard, the Chess Teaching Research Laboratory in 2014 set research objectives and applied appropriate methods. Here we will present the research aimed at studying the properties of attention.

In the elementary school "Chess" subject standard (grades 2-4) the problem of students' attention development is singled out ("Chess" subject standard, 2012). The aim is to prove by experimental research the function of "stability of attention and obstacles" in the process of mastering the subject of Chess. Despite the existence of similar studies of elementary school students using different methods of attention, it was found that students were not segregated by academic performance. Therefore, we found it expedient to conduct a study through objective psychological analysis and testing the "Egoscope" complex among 85 students with high, medium and low academic achievements (average data in all subjects) in grades 2-4.

The "Attention and Obstacle Sustainability Assessment" methodology was used. Obstacles during the research are various visual and auditory signals - sound and color, which significantly hinder the

student in the study to perform the given task (Egoscope, 2014). Each student was given 11 minutes and 30 seconds to complete the tasks. All the requirements of the methodology have been met, taking into account the age and individual characteristics of the learners. The research was conducted in 2 stages. In the first stage, the subjects were presented with 70 signals for reaction, without sound and color barriers, and in the second stage, another 70 signals with sound and color barriers.

Two main criteria were identified for the analysis of the results: ***1) evaluation of attention and 2) evaluation of resistance to barriers to sound and color signals.*** The following three components were used to evaluate both criteria: a) delayed, b) quick, and c) the number of accurate replies. Because both quick and delayed reactions interfere with focus and stability, and because the learner absorbs a specific amount of information during each unit of the activity, it is evident that the number of accurate reactions is given precedence in the evaluation. From the elaboration of the results of the experimental study, it turns out that the following manifestations were registered in the students of high, medium and low academic performance in the 2nd-4th grades:

According to the criterion of attention assessment

- The number of quick reactions of students with high academic performance increased by half compared to the second grade in the third grade (50%), the number of delayed reactions decreased by 47%, and the number of accurate reactions increased threefold (63%).
- The quick reactions of the students with average academic performance doubled in the 3rd grade compared to the 2nd (50%), and the delayed reactions decreased by 18%. Accurate responses increase by 12%.
- The quick reactions of the students with low academic performance in the third grade remained unchanged, the delayed reactions decreased by 16%, and the accurate reactions increased by 40%.
- The number of quick reactions of students with high academic performance in the 4th grade has decreased by 50%, delayed reactions have decreased by 24%, and accurate reactions have decreased by 24.6%.
- Quick responses of the students with average academic performance halved in 4th grade, delayed responses increased by 24%, and Accurate responses increased by 20%.
- The quick reactions of the students with low academic performance in the 4th grade increased by 46%, the delayed reactions decrease by 46%, and the accurate reactions increase by 40%.

According to the criterion of resistance to obstacles.

- The number of rapid reactions of students with high academic performance in the 3rd grade increased by 25%, delayed reactions decreased by 33%, and accurate reactions decreased by 8%.
- The quick reactions of 3rd graders with average academic performance decreased by 42%. Delayed reactions increased by 9%, and accurate reactions increased by 7%.
- The quick reactions of the students with low academic performance in 3rd grade decreased by 10%, delayed reactions decreased by 8%, and accurate reactions increased by 36%.
- The number of quick reactions of students with high academic performance in the 4th grade increased by 20%, delayed reactions increased by 3%, and Accurate reactions decreased by 8%.
- In the 4th grade the students with average academic performance, quick responses decreased by 29%, delayed responses decreased by 19%, and accurate responses increased by 45%.
- The rapid reactions of the students with low academic performance increased by 10% in the 4th, the delayed reactions decreased by 22%, and the accurate reactions increased by 44%.

It is believed that the study of the subject of Chess in elementary school helps to increase the stability of students' attention. This is evidenced by the fact that while completing the given tasks, students try to increase the number of accurate reactions by quickly responding to the obstacles presented to them, thus increasing the concentration of attention. Thus, learners focus and maintain their attention for a long time to find a way to solve the given problem, which in our opinion contributes to the development and improvement of other mental processes, as well as to the increase of educational progress (Karapetyan, Khachatryan & Sargsyan, 2015).

To determine the speed of students' attention transfer and distribution in grades 2-4, we conducted the "Schulte-Platonov red-black tables" methodology in the above-mentioned research group (Egoscope, 2014). The following instructions were given to the subjects in each successive phase.

Phase 1: You will see black and red numbers in the boxes. It is necessary to mark the black numbers, arranging them from the smallest to the largest, ie from 1 to 13.

Phase 2: You will now see black and red numbers in the boxes. You need to mark the red numbers, sorting them from largest to smallest, that is, from 12 to 1.

Phase 3: You will now see black and red numbers in the boxes. You will first mark the smallest of the black numbers, that is 1. Then you will mark the largest of the red numbers, that is 12, after which you will have to mark the next 1 of the black numbers again, that is, 2, and then you will go to the red numbers again, marking the previous of 12, that is 11. And so you have to sort the black numbers from the smallest to the largest and the red ones from the largest to the smallest.

The results obtained in the "Egoscope" complex were analyzed according to the following components of attention: a) volume, b) distribution, c) mobility, d) infallibility and e) integral efficiency levels.

Table 2.

Analysis of the results of the "Schulte-Platonov red-tables" methodology.

Component Name	2nd grade			3rd grade			4th grade		
	The academic progress of the subjects								
	High	Average	Low	High	Average	Low	High	Average	Low
Level of the attention volume	average	above average	average	average	high	above average	above average	above average	average
Level of the attention distribution	below average	above average	average	average	above average	above average	above average	above average	average
Level of attention mobility	average	above average	above average	average	above average	high	above average	above average	High
The level of infallibility attention	low	above average	low	below average	below average	low	high	above average	above average

The analysis of the results reveals that the level of attention, distribution, mobility and especially the infallibility of elementary school students mastering the subject of "Chess" goes from low to high in grades 2-4 (Sargsyan, 2016).

To find out the current level of manifestations of the psychological components of the "Chess" subject taught in elementary grades, in 2015-2016, the research group of psychologists of the Chess Educational Research Center of the Khachatur Abovyan Armenian State Pedagogical University conducted experimental studies. Below we present the research goals, problems of the experiment, the methods used following them, and the analysis of the obtained results.

The diagnostic experiment was carried out in the 4th, 5th, and 6th grades of Yerevan John Kirakosyan N20, Vahan Teryan N60, and Vagharshapat Khachatur Abovyan N4 basic schools with a total number of 135 students. Two research issues have been raised:

1. To record the coordination of the movements of the 4th and 5th graders who studied the subject "Chess" in the elementary grades and their capacity to adjust in the conditions of time deficit and compare the "Chess" topic with the same indicators of the 6th graders who did not study at school.

The "Trajectory 3" methodology was selected and applied from the "Egoscope" complex of psychological analysis and testing, which is designed to assess the coordination of the subject's movements in the conditions of time deficit and their ability to adjust. During the task, the subject should be able to follow the red light moving along the trajectory, keeping the tip of the electronic pen at a certain distance from the touch screen (not more than 18 mm away from the screen).

AVERAGE RESULTS OF " TRAJECTORY3" METHODOLOGY							
Criterion name		**4th grade Studied Chess for 2 years**		**5th grade Completed chess studies**		**6th grade Chess has not been studied**	
		Right hand	***Left hand***	***Right hand***	***Left hand***	***Right hand***	***Left hand***
1	Total number of errors, pcs	**64**	60	**78**	74	**66**	63
2	Experiment time, sec.	30	30	29	30	30	30

The analysis of the results of the "Trajectory 3" method shows that the total number of mistakes made by the 4th-grade students who studied Chess for 2 years at school is 14 less than in the 5th grade, ie the same number of students who completed the Chess course. As for the number of students who did not study Chess at all in the 6th grade, their total number of mistakes is 12 less than the same number of 5th graders.

An interesting fact was recorded that for all 3 groups of subjects the time of the experiment remained unchanged - 30 seconds. An interesting fact was recorded that for all 3 groups of subjects the time of the experiment remained unchanged - 30 seconds. From this, we conclude that the coordination

of movements and the level of their ability to regulate their willpower in the conditions of time deficit is more pronounced, especially in the 5th-grade students.

2. The second task of the diagnostic experiment is to identify the current level of speed and fatigue of 4th and 5th graders who have studied Chess in elementary school and compare it with the same performance of 6th graders who did not study Chess at school.

Two methods were selected and applied from the "Egoscope" complex of psychological psychological analysis and testing: "Simple visual-motor echoes" and "Complex visual-visual echoes". The examination was performed with the help of a visual tube or "**Tubus**". It is connected to the computer that supports the operation of the "Egoscope" complex. In the case of simple visual responses, we suggest that the subject press the black button at the top of the tube immediately after seeing the green light inside. In the case of complex visual reactions, the subject is given the same instruction, except that in addition to the green light inside the tube, there is also a red light. In case of noticing it, it is required to wait until the green light turns on.

AVERAGE DATA OF "SIMPLE AND COMPLEX VISUAL-MOTOR REACTIONS " METHODOLOGIES							
Name of the parameter		**4th grade Studied Chess for 2 years**		**5th grade Graduated from Chess Study**		**6th grade Not studied chess**	
		Right eye	**Left eye**	**Right eye**	**Left eye**	**Right eye**	**Left eye**
1	**Number of delays, pcs**	**2**	**2**	**1**	**1**	**3**	**3**
2	**Number of quick reactions**	**6**	**6**	**3**	**3**	**5**	**5**
3	**The exact number of reactions**	**22**	**22**	**26**	**26**	**22**	**22**

4	**Speed**	**Medium**	**high**	**below average**

The results of the "simple and complex visual-motor reactions" methods were analyzed according to the following criteria: late, early, accurate reactions, and speed.

The results show that the number and speed of accurate reactions of students who completed the study of the subject "Chess" in the 5th grade, ie in the 4th grade who studied the subject "Chess" for 2 years and in the 6th grade who did not study the subject "Chess" at all, are the same indicator of learners. We infer that the decision-making speed and tiredness detection rates of 5th students are much greater than those of 6th graders who did not learn Chess at school.(Sargsyan A., Khachatryan A., Lputyan G, 2016):

We also touched upon the study of the attention features of elementary school students studying chess in 2018 already part of the "Chess" research institute operating at the ASPU.

At present, there are no experimental data concerning the stability and effectiveness of learners' attention during teaching and mastering of chess discipline. That is why our research team has set a goal to identify the relationship between the attention efficiency and stability of the junior schoolchildren studying "Chess" discipline.

Since 2018, the psychologists' research group of "Chess" scientific research institute has conducted experimental studies at the school of Kh. Abovyan ASPU. The experiment involved 30 schoolchildren with high, medium, and low academic progress in the 2nd and 3rd grades. The study was conducted in two stages.

Selection of appropriate methodology from "Egoscope" psychological objective analysis and testing complex, pilot application to discover learners' attention effectiveness and stability level (Egoscope, 2013, pp. 56-62, 70-74).

1. Analysis of the study results.

The method of "Find and underline" has been selected and applied from "Egoscope" psychological objective analyses and testing complex following the relevant research objective (Martsinkovskaya, 2000).

The performance effectiveness of the tasks has been determined by the following criteria: the number of correct, incorrectly highlighted and missed objects (pcs).

The study data results analyses are presented below in a diagram.

Diagram 1.

2nd grade. Analyses of "Find and underline" methodology application results.

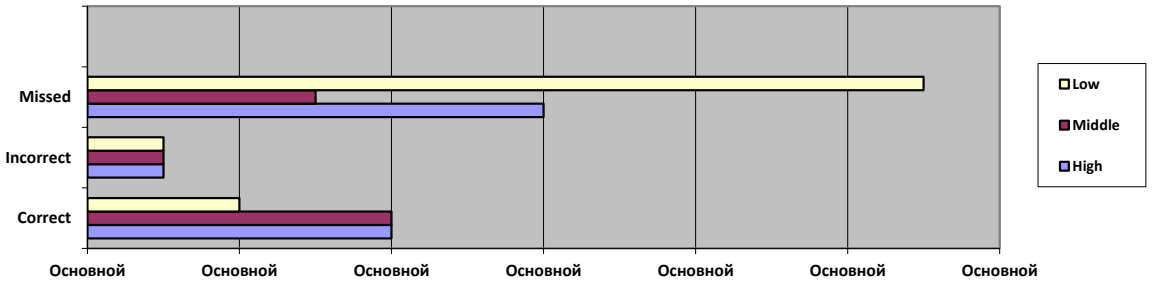
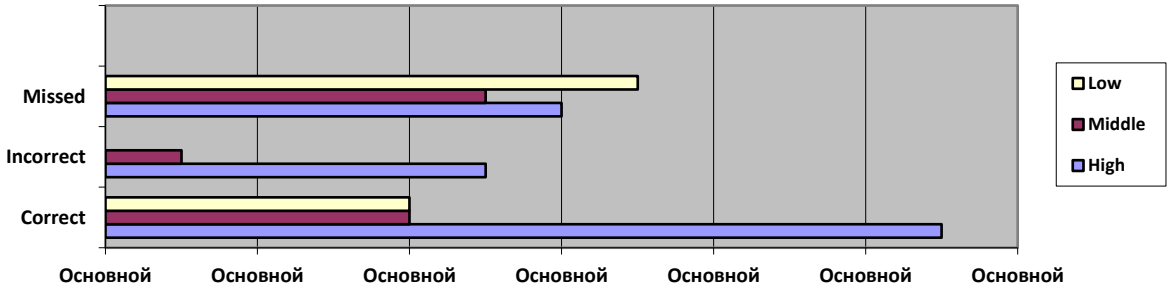


Diagram 2. 3rd grade

Analyses of "Find and underline" methodology application results.



Quantitative analyses of the "Find and underline" methodology application results clarify that in the case of "Chess" discipline teaching and mastering positive progress was observed in the 3rd-grade low-progress schoolchildren in comparison with the 2nd-grade, as the number of correct objects has increased and the number of incorrectly underlined and missed objects have been decreased (pcs).

One of our research tasks is to identify significant positive connections between the attention efficiency and stability of the chess studying second and third-grade schoolchildren. Collected data

were analyzed by a statistical method, more precisely, by Pearson's correlation formula for ranking. There was found a strong correlation between the effectiveness and stability of attention ($r = 0,9$, $p = 0,000$). There was no significant positive correlation between attention concentration and learners' achievements among the chess studying second and third-grade schoolchildren.

We can conclude that the effectiveness of the teacher-organized work aimed at developing the attention features in the teaching of chess does not depend on the schoolchildren's academic progress (Khachatryan, Sargsyan & Lputyan, 2019).

FOLLOW-UP AND CONCLUSION

The results reveal that the subjects concentrate and sustain their attention for a long period to discover a solution to the provided challenge, which leads to educational advancement.

Thus, the study of the subject of Chess in elementary school contributes to the stability, attention, volume, distribution, mobility, and most importantly, the degree of the infallibility of their attention.

We conclude that the efficacy of teaching and mastering the subject of chess is generally influenced by the development of elementary school students' key aspects of attention, which influence their cognitive sphere.

REFERENCE LIST

1. Criteria for chess subject in primary school (2nd - 4th grades), (2012). Yerevan, 26p.
2. Karapetyan, V. & Caturyan, M. (1983). "Educational tasks from psychology" (Methodical instructions), Yerevan, p. 5.
3. Karapetyan, V., Khachatryan, A. &Sargsyan, A. (2015). Experimental researeches of stability evaluation of attention and barriers. V International Scientific Conference, The Current Issues in Theoretical and Applied Psychology, Yerevan 23-25. X.,p. 132-135.
4. Khachatryan, A. & Sargsyan A., (2014). Chess Research Laboratory, International Conference “Chess in Schools”, 17-18 October, Yerevan, p. 9-14
5. Khachatryan, A., Sargsyan, A. & Lputyan, G. (2019). Attention features of chess studying junior school learners. The current state of chess education և development trends. International conference. Tsakhkadzor 2019.-Yer .. Copy Print, 144p., p.100-106
6. Petrosyan, R., Khachatryan, A. & Sargsyan, A. (2014). The attention concentration difficulties of junior schoolchildren and its overcoming opportunities during the teaching of “Chess”,

Armenian State Pedagogical University after Kh. Abovyan Scientific News N 2-3 (21-22) Yerevan, p. 132-140.

7. Program and methodological support, objective psychological analysis and test system "EGOSKOP", User Guide part 1 A_3184-16, "Medicom MTD" Ltd., 2014.
8. Sargsyan A., Khachatryan A., Lputyan G, Current level of psychological components of assimilation of Chess as a school subject and ways of their activation, Theoretical and Practical Issues of Chess Education in School, International Chess Conference, 30 Sep-03 Oct, Tsaghkadzor 2016, p.117-129
9. Sargsyan, A. (2016). Internal Plan of Actions and Reflection as The Psychological Mechanisms of the Educational Value of Chess. "Mkhitar Gosh" Scientific Articles 2 (45), p.126-132
10. Semago, N. & Semago, M. (2000). Guide to psychological diagnostics: Preschool and primary school age. Methodological guide. Moscow.

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THERAPEUTIC FEATURES OF ORGANIZING THE FEEDING PROCESS OF PRESCHOOL CHILDREN WITH AUTISM SYNDROME

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ABSTRACT

This work aims to study and identify the difficulties in organizing the feeding process of preschoolers with autism syndrome and the features of the ergo therapy approach.

The methodology of data processing and analysis is entirely based on the approach of quantitative research methodology. Data, obtained through this methodology, are expressed in the form of numbers and percentages, which in turn allow the researcher to interpret the data through numbers, to provide objective and accurate information about it (Sharoyan, 2013).

As part of the research, an electronic survey was conducted, in which 35 parents of children of preschool age with autism syndrome participated.

The level of awareness of the parents regarding the work of the ergo therapist was revealed, in particular, the organization of the feeding process was addressed. Preschool children with autism syndrome mostly used the services offered by an occupational therapist and 14% did not use the service of an occupational therapist; the need for intervention and services provided by an occupational therapist in overcoming difficulties in organizing the feeding process was evident.

Keywords: autism syndrome, sensory integration, sensory integration disorder, food pickiness, behavioral problems, occupational therapy features, occupational therapist.

INTRODUCTION

Autism syndrome is a general developmental disorder that is expressed and manifested at different stages of a child's development, with activity disorders and negatively affects the formation and perception of a complete picture of the world in them (APA, 2013).

Preschool children with autism spectrum disorder also often have fluctuations in feeding behavior, so pronounced that it was previously considered a symptom. Food selectivity develops in children, as a result of which the child refuses various types of food, instead preferring dishes with the same composition, repeated in a row.

Thus, taking into account all this, the purpose of this work was defined: to study and identify the difficulties in organizing the feeding process of preschoolers with autism syndrome and the features of the ergotherapy approach.

As a result, the research question of the work receives the following wording: What are the problems of organizing the feeding process of preschoolers with autism syndrome?

LITERATURE ANALYSIS

According to the concepts presented in the professional literature, the term "autism" is derived from the Greek word "autos" - "yourself" (Azaryan, 2001). It is known that the term "autism" was first used by the Swiss psychiatrist E. Bleuler in 1912.

Autism syndrome is often combined with superpowers of sensory perception and developed attention. Children with autism spectrum disorders often exhibit unusual responses to sensory stimuli, but there is no evidence that sensory symptoms can be considered a basis for distinguishing autism from other disorders (Willey, 2014).

Approximately two-thirds of preschool children with autism spectrum disorder have eating behavior fluctuations so pronounced that it was previously considered a symptom (Harutyunyan, 2010). Choice of dishes is the most common problem, while food refusal is possible, malnutrition is not observed, although gastrointestinal disturbances may be observed in some preschool children with autism syndrome.

Autism syndrome is often accompanied by an increased capacity for sensory perception and attention. According to J. Ayres (senses), feelings provide information about the state of our body and the environment. Every second our brain receives countless amounts of sensory information and not only through the eyes and ears, but through the whole body.

Sensory integration is the ability to receive information through the senses of touch, movement, smell, taste, sight, and hearing, which enables one to combine that information and the knowledge that is already present in the brain so that a person can come to final conclusions (Ayres, 2008).

Thus, trying to refer to the terms proposed by J. Ayres (2008), we can generally say that sensory integration:

• is an unconscious process that takes place in the brain;

• organizes the information we receive through sensory organs (taste, smell, sounds, touch);

• makes sense of human feelings, chooses the information on which attention should be focused (eg: listen to the teacher, not the outside noise);

• helps a person to act consciously and react correctly to the situation.

The term "adaptive response" was also put forward by J. Ayres (1950). It is the ability of individuals to adapt to and successfully cope with environmental problems. It is unique to each moment. Responses to sensory input occur very early in life, five weeks after conception. Those first responses are directed to the tactile stimulus (Ayres, 1974).

During the first 6 months of life, the baby begins to show a strong internal drive to climb against the force of gravity. The child uses tactile and muscular-articular sensitivities to grasp simple objects. The connection between the tactile and visual systems further shapes hand-eye coordination. So, in the course of the child's development, their abilities are formed step by step and their abilities in the sensorimotor field are finally developed at the age of 3-7 years. This is the period when sensorimotor functions begin to work together (Ayres, 1974).

In sensory disorders, information from the outside world is perceived correctly through the sense organs but is not properly analyzed in the brain. These disorders can be considered as a separate problem - "sensory hunger", but very often it is accompanied by another with problems such as early childhood autism, attention deficit hyperactivity disorder, dyslexia, cerebral palsy, speech delay, and other neurological disorders.

In fact, classifying studies of sensory disorders have a number of difficulties. They have a broad clinical picture; they do not have unified diagnostic criteria, as well as effective assessment tools. This is why it is difficult to identify sensory dysfunction in the early stages of a child's development. Even if a specialist notices this form of disorder in a child, he cannot make a diagnosis of" sensory integration disorder" because their medical aspects have not been studied deeply enough either.

Restoration and correction of sensory integration problems is a separate special field of ergotherapy because it deals with the development of psychophysical functions of a person, by involving them in active activities. The goal of occupational therapy is to develop and make the most of a person's abilities and capabilities. An occupational therapist is a specialist who contributes to the improvement of the vital and social skills of children with different developmental characteristics. An occupational therapist promotes the health and well-being of people by providing employment.

The task of the ergo therapist is to ensure the generation of sensory impulses and their maintenance. The goal is to regulate the coordinated and joint work of separate parts of the nervous system.

The task of the ergo therapist is to teach the child to eat what he previously refused for various reasons, as well as to form and develop his ability to eat independently. The specialist helps the child to learn the skills necessary for self-feeding.

The child learns to distinguish which food can be taken by hand (bread) and when it is necessary to use table utensils (knife, fork). During the therapy, the ergo therapist carefully monitors the extent to which the child's physical development allows him to feed himself. At the same time, the following areas are taken into account: the position of the child during meals, visual-motor coordination - hand-eye coordination and skills to correct sensory integration disorder (Косински, 2017).

Thus, taking into account the topicality of the problem, the goal of the work is to study and identify the difficulties in organizing the feeding process of preschoolers with autism syndrome and the features of the ergotherapy approach.

As a result, the research question of the work receives the following wording: What are the problems of organizing the feeding process of preschoolers with autism syndrome?

METHODOLOGY

The quantitative research method was used for data collection and analysis. Quantitative research allows collecting and analyzing data necessary for research through a survey (point-of-care). As a result of using this method, data is obtained which is expressed in the form of numerical patterns.

In other words, in this case, the researcher aims to measure and interpret the phenomenon through numbers. That is why the object studied by the methods of this group is a quantitatively significant unit, which further enables conclusions to be drawn from the obtained data through certain numerical patterns: put forward new hypotheses and confirm or deny existing ones (Harutyunyan, 2010).

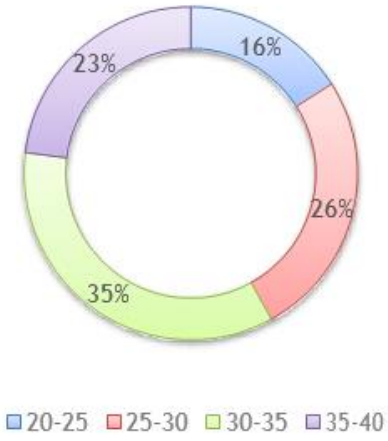
A questionnaire was developed and used to conduct the research. The level of awareness of the parents of the Yerevan "Sunny Child Development Center" regarding the organization of the feeding process was studied and analyzed.

Participants

In the current study 35 parents of preschool children with autism syndrome have been participated filling the proposed electronic survey. The latter the age limit varied from 25 to 40 years old (Figure 1).

Figure 1.

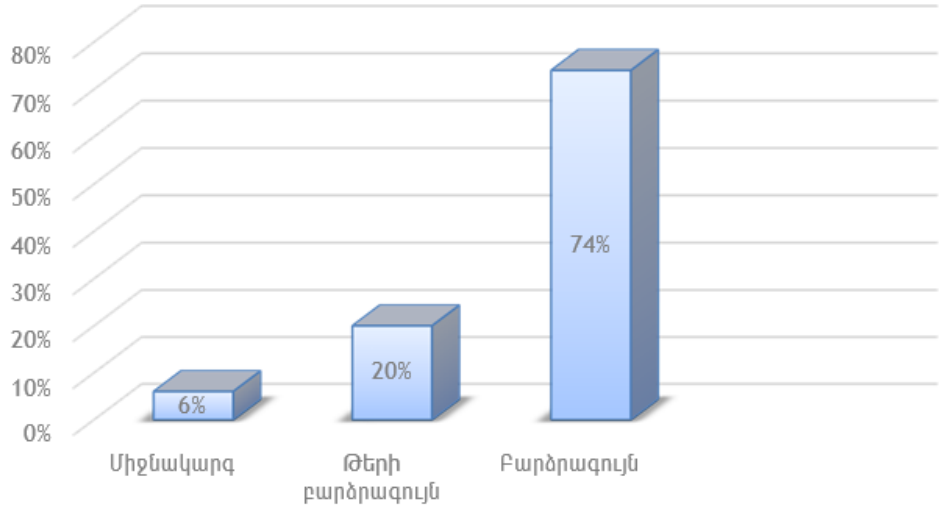
Age of the parent participating in the study



The study of the data of the participants shows that the majority of the parents who took part in the survey are representatives of the female gender, 89%, and the other 11% are male. Majority of the partipants - 75% of the parents have higher education, 18% have incomplete higher education and 7% have secondary education.

Figure 2.

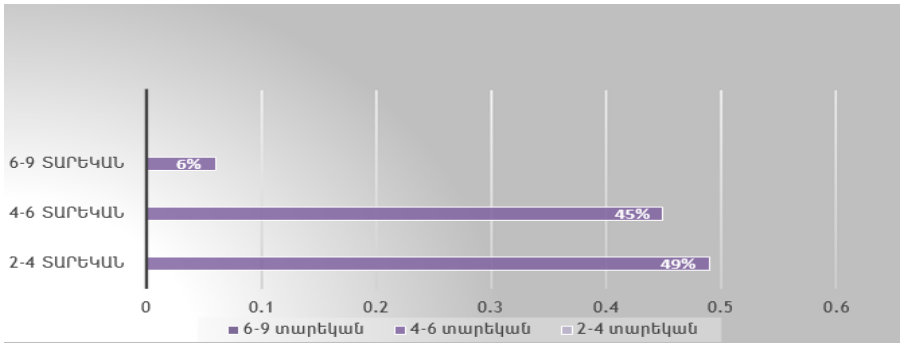
The educational level of participating parents



The age group of the children of the parents who participated in the survey ranges from 2-9 years old (Figure 3).

Figure 3

Age of the children



Data analysis

In order to carry out the research, a questionnaire was developed which included open and closed questions. Research participants were expected to give positive and negative responses, as well as some personal opinions. Quantitative data analysis was carried out using the EXCEL system, using the appropriate program.

The questionnaire was sent to the parents of the "Arevamanuk Children's Development" center. The questionnaire was filled in by the parents of the above-mentioned center. The questionnaire responses were then calculated and analyzed and presented in the results section.

RESULTS

As a result of the analysis of the research data, it became obvious that the majority of the parents who participated in the survey were female representatives (87%). The results of the survey prove that mothers are more involved in child care and education in the Republic of Armenia. Despite the fact that the role of the father is also extremely important for the overall development of the child.

73% of the parents who participated in the research have higher education, 20% have incomplete higher education and 7% have secondary education.

As a result of the analysis of the research data, it became clear that the majority of the parents who participated in the survey have higher education but are not informed about the necessary services and needs of their child.

52% of the children of parents participating in the research are male and 48% are female. This figure proves once again that autistic disorders are more common in boys. The results of the conducted research confirm that the number of boys predominates compared to girls. Similar studies in recent years have also found that autistic disorders are more common in boys (Goldman 2014).

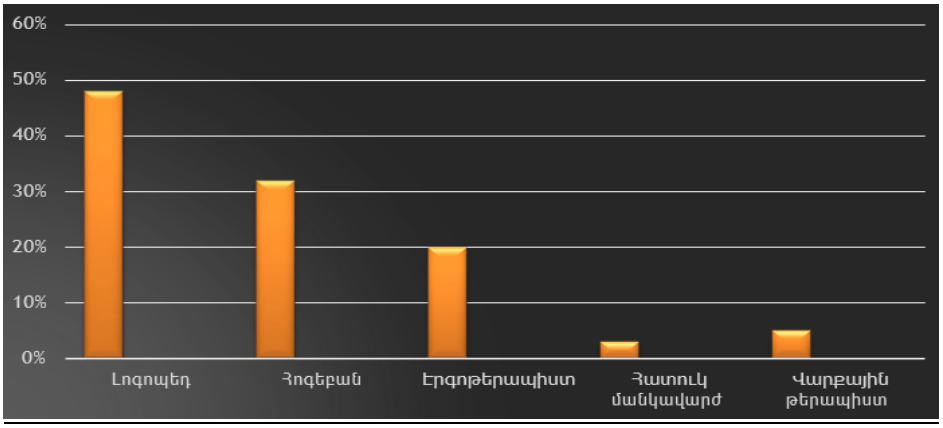
Children of all parents participating in the study attend a developmental center.

From the results provided by the parents, it can be concluded that the majority of children with an autism spectrum disorder in the Republic of Armenia use the following services: 48 speech therapists, 32% psychologists, 20% occupational therapists, 3% special educators and 5% behavioral therapist.

It is known that children with autism spectrum disorder face a number of other difficulties related to self-care, self-management and negative behavioral manifestations in their daily lives, but the results of the study showed that the services offered by occupational therapy, behavioral therapy, physical therapy and special education are used by few children. It should be noted that the need for the services offered by those professionals is obvious, but most parents are not aware and have no idea how the above professionals can support or help their children's development process (Figure 4).

Figure 4.

What kind of service does your child use?



Particpants of the study - 68% of parents answered yes and the other 32% said no when asked if their child has difficulties with feeding. Analyzing the data provided by the parents, it became clear that children with autism spectrum disorder most have various problems related to food selectivity, which are also manifested by a preference for repeated dishes and refusal of other foods. Many parents are concerned about the fact that their children refuse soups, vegetables, fruits and colorful dishes, preferring to eat gata, candy, Nutella and other sweets.

These children want to eat the same food for days and months, which causes great difficulties and problems in their lives as well as in their parents' lives.

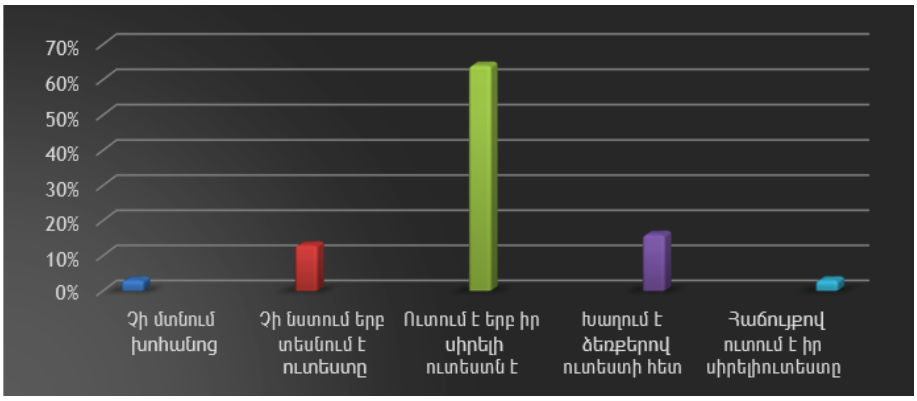
As a rule, children who refuse to eat a variety of foods and prefer the same foods for many years develop a number of health problems and their consequences, which affect the child's growth and development.

Many children with autism spectrum disorder often develop food pickiness due to sensory impairment. Many authors have addressed the food selectivity caused by "Sensory Integration Disorder" in these children and the resulting difficulties with which occupational therapists.

To the question, what kind of problems do children encounter when organizing the feeding process? 65% of the respondents answered that when they have their favorite food, 16% answered that they play with the food with their hands after eating or not eating. 12% answered that they do not sit down whenever they see the dish, especially when it is their disliked dish. 3% stated that they enjoy eating familiar and favorite food. 4% stated that they do not enter the kitchen at all and eat the food where it is convenient and pleasant for them (Figure 5).

Figure 5.

What problems do you encounter when organizing the feeding process for a child?



Majority of of the interviewed parents (84%) indicated that their child uses the services of an occupational therapist and 16% indicated that they do not use the services of an occupational therapist. Although the majority of the interviewed parents stated that their child uses the services of an ergo therapist, they do not know what functions the occupational therapist has and what he/she works on with the child.

To the question, what does the occupational therapist work on with your child, 17 out of 35 parents answered that the work is carried out in the direction of expanding the diet. 8 of the parents stated that an occupational therapist works to develop self-care skills. 7 of the parents stated that they are working towards sensory integration and 2 parents stated that they do not know what the occupational therapist is working on. One parent mentioned that the occupational therapist is not working.

To the question, how do you overcome the problems related to the child's feeding process, 12 out of 35 parents answered that despite the circumstances and the problem the child has, they often have to feed the food with a cartoon. 8 of the parents stated that they forcefully feed the dish, if they do not force the child may remain hungry for several days or eat only sweets.

Several parents mentioned (7) that they give the child the food that the child likes: it is mostly sweets (gata, candy, waffles, Nutella). Some of the parents (5) mentioned that they scold the child with

some things, they are basically, for example, “Eat, I'll give you candy” or when the child has a stickiness with numbers, for example, they say “You know there are a lot of numbers in your food”. Few parents (3) mentioned that they mix the child's favorite food with a very small amount of another unloved food, even if the child does not understand it.

SUMMARY/DISCUSSION

As discussed earlier, many children with autism spectrum disorder often exhibit food pickiness which is accompanied by refusing food offered to them during meals and showing negative or aggressive behavior. According to Rudolph and Link (2002), 25% - 35% of children with normal development may have picky eating problems and 40% - 70% of children who were born prematurely and have any developmental problems. Eating disorders can be in the norm and children will be able to overcome this problem; or it can be out of the norm (severe) and if no work is undertaken, can accompany children throughout life.

According to the scientific theory of picky eating, there are many ways to classify eating disorders. According to Wolsten (1991), the most common classification of eating disorders is the extension of organic and non-organic food. Organic eating disorders include functions associated with other structural and physiological problems. Non-organic eating disorders involve functions related to the social environment (Burklow 1998).

Food pickiness can be both sensory and behavioral. Behavioral problems stem from psycho-social difficulties and negative food behavior is due to external and internal stimuli (Burklow, 1998). Environmental factors play a major role in the emergence of food selectivity difficulties.

Stress or external negative factors can cause a child to dislike food occasionally. An example is an Ayan child whose parents have hectic work schedules that result in family members eating at different times of the day. The latter can cause additional difficulties for the child (Asperger, Stegen-Hanson, 2004; Hanna, Rodger, 2002).

It should be noted that the parent's attitude towards feeding the child can have a negative effect, which will lead to negative behavior in the child. For example: "Don't play with food", "Use a spoon instead of your fingers", etc. (Asperger, Stegen-Hanson, 2004).

Occupational therapist and pediatrician Grogan (2012) has been studying this issue professionally for years. According to him, food selectivity and food aversion will be formed in the child from the first years of life and it is due to the child's obesity or lack of sensitivity.

Rehabilitation and correction of disorders related to child feeding is a separate, special field of ergotherapy. In this case, the goal of the ergo therapist is to teach the child to eat what he previously

refused for various reasons as well as developing and forming the ability to eat independently and other self-care skills in the child (Grogan, 2012).

APPLICATION IN PRACTICE AND FURTHER WORK

The results of the study revealed that most parents of children with autism spectrum disorders are not aware that food selectivity in their children may be the result of a sensory or behavioral integration disorder and they were also unaware that the child's diet can be improved and corrected with early ergotherapy intervention through.

1. In order to inform parents, it would be desirable to involve them in the work process. This step would contribute not only to increasing the level of parents' awareness but also to the effectiveness of therapy, as it would ensure the continuity of the specialist's work.

2. To look for ways of cooperation with medical institutions, pediatricians and neurologists, so that if necessary they make professional referrals. The parent may not know that, for example, if the child does not allow combing his hair, it is not his willfulness, but a consequence of tactile hypersensitivity. This applies mainly to cases when there are no other developmental disorders and the parents have not dealt with rehabilitation centers.

3. It would also be desirable to finance individual occupational therapy classes, providing home visits, which would also have a positive effect within the framework of the issues discussed above.

4. To create sensory integration rooms in various development, care and rehabilitation centers because being there, the child is unwittingly included in a process that is pleasant to him and contributes to his multifaceted development.

5. Develop (redevelop) and apply various methods based on the working structure of sensory integration, in order to maximally contribute to the elimination of the existing disorder in the child.

6. Involve the child's family members in the work process to ensure the continuity of the work carried out by the specialist.

CONCLUSION

Thus, in order to carry out this research, many scientific sources and articles were studied, and then the actual research work was carried out, as a result of which the obtained quantitative data allowed to reach the following conclusion.

If a problem is confirmed, an individual intervention plan should be developed for each child. Conduct follow-up work with therapy aimed at correcting sensory disturbances and improving diet. If possible, organize therapy not only during individual sessions in care and rehabilitation centers but also

at home. In order to strengthen the effectiveness of the therapy, involve the child's family members in the process as much as possible.

REFERENCE LIST

1. American Psychiatric Association, ed. (2013). Autism Spectrum Disorder, 299.00 (F84.0). Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition: American Psychiatric Publishing.
2. Asperger, H. (1991). Autistic psychopathy in childhood. Translated and annotated by Uta Frith. In Uta Frith (ed), Autism and Asperger syndrom, University Press 2009, pp. 37-92.
3. Ayres, J (2008), Rebenok I sensornaya integraciya. Osoznanie skritikh problem, Moskva, Terevinf.
4. Ayres, J. (1974). The development of sensory integrative theory and practice. Dubuque, IA: Kendall Hunt.
5. Azaryan, R. N. (2001). Hatuk mankava8zhutyan bararan, Zangak, Yerevan, ej 33.
6. Burklow, K., Phelps, A., Schultz, J., McConnell, K., & Ruldolph, C. (1998). Classifying complex pediatric feeding disorders. Journal of Pediatric Gastroenterology and Nutrition, 27 (2), 143- 147.
7. Grogan, A. (2012). How to Help a Child with Sensory Sensitivities, Your kids table.
8. Hanna, K., & Rodger, S. (2002). Towards family-centered practice in pediatric occupational therapy: review of the literature on parent-therapist collaboration. Australia Occupational Therapy Journal, 49, 14-24.
9. Harutyunyan G. (2010). Teghekatvutyan havaqman metodnery sociologiayum, Yerevan.
10. John Wiley & Sons. (2014). Handbook of Autism and Pervasive Developmental Disorders, Assessment, Interventions, and Policy
11. Kosinski, K. (2017). Ergoterapiq dlq detey s autizmom, Rama Publishing, Yekaterinburg.
12. Kramer, P., & Hinojosa, J. (2010). Frame of references for pediatric occupational therapy, Third edition, Lippincott Williams & Wilkins

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THE NECESSITY OF IMPROVING INFORMATION-CONSULTING SYSTEM OF SPEECH THERAPY SUPPORT REGARDING THE STUTTERING ISSUES IN THE EDUCATIONAL STRUCTURES

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ABSTRACT

The aim of the study was to discover the level of awareness, knowledge and perceptions of the pedagogues on the perspectives and the ways of overcoming stuttering and the role of the psychological-pedagogical environment. The theoretical basis for this study was obtained throughout the analysis of 32 scientific-pedagogical sources that address the issues of understanding the problems in the information-consulting field during the process of overcoming stuttering. Quantitative and qualitative methods were used to outline the gaps in the psychological and pedagogical support provided to stuttering people and to identify the level of awareness of the pedagogical staff of the educational settings regarding these issues. In total 100 employees: 77 pedagogues (30 teachers, 30 subject teachers, and 17 educators) and 23 special pedagogues working in the field of psycho-pedagogy took part in the current survey.

The results stated that the perception about the real edges of overcoming stuttering formed in the society in Armenia was very limited and the efficiency of speech therapy work was low. Due to absence of professional speech therapy information-consulting system and lack of highly qualified specialists, 59% of the respondents convinced that overcoming the stuttering was impossible. The findings of current study indicated the need to develop the information-consulting system and recommendation guidelines for pedagogues to support children in process of overcoming stuttering, as well as the methods of cooperation between the family members and speech therapists.

Key words: speech therapy support, information-consulting system, "stable method of stuttering speech regulation", stuttering triad (tree), logo-phobia, verbal-non-verbal manifestations of stuttering, "portrait of a stuttering person", educational environment for overcoming stuttering.

INTRODUCTION

Research on communication problems has been expanded more than ever in recent years. This was most likely due to the neuropsychological state of the society, which was experiencing the most

difficult times of stress in the last century. Today, “logo-neurosis”, which is one of the main characteristics of stuttering, is found in almost 5% of patients (Onslow, 2022; Tichenor, Constantino & Yaruss, 2022). In the modern world, many hardened approaches to this issue have changed, new technologies, methods, even remote technologies for overcoming stuttering continue to be created like “Lidcomb Therapy” and programs (Onslow, 2022), “Method of stable regulation of stutterers’ speech” regardless of the age, severity of stuttering (Harutyunyan (Andronova), 1993).

In addition, the practical studies showed that the knowledge and information of these issues were quite limited in the practical field. Moreover, the main problems of this field were related, first, with the lack of knowledge, experience, as well as with the lack of information on the systemic management of speech therapy support system regarding the organizational side of the issue and the use of effective methods (Evangelos, 2015; Erickson, Bridgman, Furlong, & Stark, 2022).

The motivation for such research was the difficulties arising during the professional activity of speech therapists while using “Stable regulation of stutterers' speech” methodology of Harutyunyan L. Z. (Andronova) (Andronova, 1986; Harutynyan (Adronova), 1993). Most of the difficulties were related to the obstacles that arise in information-consulting field during the overcoming of stuttering with the realization of the newly staged speech in the social environment (including educational settings) and in the normal life situations.

Having many years of experience in this field (1997-2022), it was possible to highlight the important role of those psychological and pedagogical mechanisms of overcoming stuttering, through which arise a need to “control”, “support”, “restrain”, “encourage”, “punish”, “evaluate” the person who passes speech therapy sessions of overcoming the stuttering. Due to the complexity of overcoming stuttering process that associated with the development of volitional qualities, motivations, and number of other personal characteristics among these people. Therefore, many researches stated that this path seemed to be “impassable” not only for people who wanted to get rid of stuttering, but also for professionals, educators, psychologists and their families (Cozart & Wilson, 2021; Grigoropoulos, 2020; Giavrimis, Papanis, Panitsides & Papastamatis, 2011; Saratikyan, 2008; Furnham, Davis, 2004; Tsiplitaris, 2000; Schindler, 1955;). As well as, the other studies confirmed the role of the family and educational institutions in the process of overcoming stuttering (Tomisato, Yada & Wasano, 2022; Guttormsen, Yaruss, & Næss, 2021; Scot, Williams, 2013; Meyers, 1973).

Many obstacles became obvious during professional work such as the ignorance of educators and psychologists, using just formal readiness, which was manifested by latent or hidden intolerance, scepticism or indifference. The existence of these phenomena was the reason to study their causes and manifest in a more detailed way. Therefore, the effectiveness of problem-solving mostly depends on the knowledge, skills, abilities, disposition, attitude or motivation that specialists had and on the

influence of the environment. Accordingly, this study aimed at discovering the level of awareness, knowledge and perceptions of the educators regarding the perspectives and ways of overcoming stuttering and the role of the psychological-pedagogical environment, to justify the need of improvement of the information-consulting system related to the stuttering issues in educational settings.

LITERATURE REVIEW

The problem of overcoming stuttering in the 21st century still poses a great challenge not only for speech therapists and psychologists, but also to all those who deal with this problem. Speech therapy consultation was known to be one of the primary areas of speech therapy support provided by a specialist to the beneficiary, to the family or other stakeholders to understand the type of speech developmental disorders, mechanisms, manifestations, prevention and coping strategies, also their role and functions in that process.

Throughout a speech therapy consultation often a speech therapy diagnoses was given, or by the use of the differential diagnosis, already existing ones were verified. During the initial "screening" consultations, the main correctional work framework, the key issues of correctional programs were introduced, since very often the effective consultation had not only preventive, but also a corrective significance (Saratikyan, 2008; Huges, Gabel, Goberman, & Huges, 2011). Depending on the speech therapy phase, the content and course of the consultation and intervention could be changed. Usually, speech therapy consultation was provided not only to people with speech disorders and their families, but also to teachers, educators, psychologists, social educators and to the others who deal with the speech disorders' problems (Kathy, 1993; Law, et. al, 2002; Saratikyan, 2008; Smirnova, 2011).

Nowadays the educational reforms have expanded the role and participation of the educational settings in speech therapy works and obviously, they have become more important, especially for stuttering people (Law, et. al, 2002). The term information-consulting system for stuttering people has been separated from the general consultation schema and used in this study for the first time to emphasize the peculiarity of their counselling approaches. Since the effectiveness of corrective work in this type of speech disorder was very problematic and controversial and often related to the low level of public awareness about stuttering.

In contrast to the other speech disorders the content of stuttering work envisages an inseparable, continuously accompanying process of the two main areas of speech therapy support (information-consulting and correctional intervention). In addition, as we already have mentioned the scope of speech therapy intervention with stutterers was considered to be beyond the scope of speech therapy room and family environment, that itself even more increased the role of the information-consulting system. The

questions that arise in this system became more important in terms of investing in the educational environment, as people who overcome stuttering turn to speech therapists most intensively at preschool and school age (Dragons, 2011; Erickson, Bridgman, Furlong & Stark, 2022). These circumstances were the reason for in-depth studies of the school environment, because the difficulties of both expressing and overcoming stuttering are becoming more acute particularly in the school environment. Even when stuttering children were in the process of overcoming it, they did not get rid of the fact being different from the others, because the ritual of overcoming stuttering itself separate the child from the others. For example, they can speak with a synchronized hand movement, slowly, with accented accents, etc. (according to the methodology of Harutyunyan, (Andronova)). And these phenomena cause serious difficulties for them. For this reason, the psychological and pedagogical support became more important, since if speech therapy mainly developed the verbal skills, therefore the continues work at school provided an opportunity to improve verbal skills and get rid of communication complexes. Despite the above mentioned, the theoretical analyzes showed that a class (group) consisting of a teacher (educator) and learners ***"… is a team with bilateral relation***s" as Fradelos Evangelos called it (Evangelos, 2015, p .4-5). Teachers often did not know how to deal with their stuttering students, to talk to them about stuttering, or to ignore it, how to deal with children who were ridiculed, despised or insulted the stutters (Erickson, Bridgman, Furlong, & Stark, 2022; Evangelos, 2015;). It was well-known that for stuttering children it is extremely important how they treat to their own speech, as communication difficulties often affect their emotional and behavioral spheres, causing anxiety, stress, and frustration (Evangelos, 2015; Voulgari, 2012; Dragons, 2011; Koubias, Foustana, 2003).

The sense of low self-esteem in a unique way made these children be apart from the student community. It turned out that the friendly attitude of the teachers and the pupils can negatively affect the behaviour of stuttering children, causing difficulties in a group communication. Especially among the groups of school-age children dominated the fact to be evaluated according to the external and by physical characteristics; they used to quickly distinguish children who differ from them in clothes, appearance, language, behavior or by the other circumstances. Responding sharply to these differences, they often demonstrated verbal or non-verbal aggression. Therefore, stuttering children started to struggle not only to "speak well", but also to defend themselves, to express themselves, to be succeeding (Papadioti-Athanassiou, 2000; Papadimitriou, Vlassopoulou, 2006; Kneisl, Wilson, Trigoboff, 2009; Onslow, 2022). These questions pose special and particular difficulties to children who have decided to get rid of communication complex, because speech therapy intervention with its unique requirements make them face with the same difficult problems as well, for example, they have to speak "with their hands, slowly" throughout the process (according to the requirement of Harutyunyan's methodology). Teachers and children face with difficult problems, as many use techniques stayed new for their peers,

classmates, and for other people around them.

Based on the above mentioned, there was a need to find out what were the most problematic issues that pedagogues, psychologists and others faced with in terms of stuttering and especially to the process of overcoming it, as well as clarifying the need to improve information-consulting work in the educational settings. For this end, the research objectives were defined, and accordingly the research methods and the main directions of the research were selected and developed.

METODOLOGY

The theoretical basis for this study was obtained based on the analysis of about 32 scientific-pedagogical sources that address the following:

- The forms and statement of the speech therapy support particularly in speech therapy interventions for the stutterers.
- The role of educational settings in overcoming the psychological and pedagogical difficulties of stuttering children.
- The importance of professional cooperation to increase the efficiency of speech therapy work.
- Attempts to implement modern methods and approaches of overcoming stuttering obstacles.
- The crucial importance of speech therapy consultation's information factor for the effectiveness of speech therapy work (Gerwin, Walsh & Tichenor, 2022; Connery, et. al, 2021; Grigoropoulos, 2020; Huges, Gabel, Goberman & Huges, 2011; Smirnova, 2011; Saratikyan, 2008; Law, et. al, 2002; Harutyunyna (Andronova) 1993; Kathy, 1993).

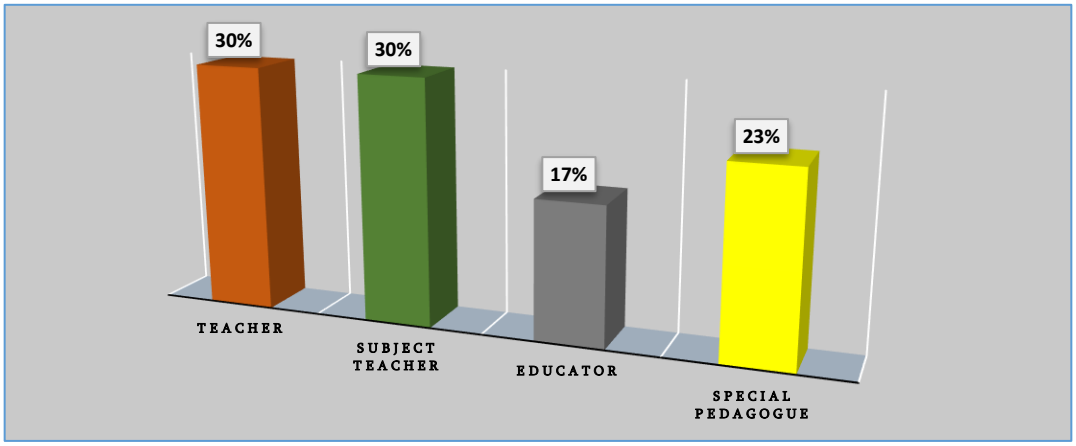
Quantitative and qualitative methods were used to outline and identify the gaps in the psychological and pedagogical support system provided to people being enrolled in the process of overcoming stuttering; and the issues of awareness of the pedagogical staff in the educational settings.

PARTICIPANTS

According to the nature and specificity of the research question and in order to assure the research trustworthiness, during the process of research participants' selection several factors were considered to be important such as pedagogical mastery, pedagogue's personal qualities, and level of psychological and pedagogical knowledge. As well as participants' age, educational degree, gender, and professional criteria were taken into account. The study involved in total 100 employees working in the field of psycho-pedagogy, from age 18-58 years old (40% 26-33 years old), 77% of them were pedagogues (30% teacher; 30% subject teacher; 17% educator) and 23% were special pedagogues (Figure 1).

Figure 1.

Participants of the study.



The survey was conducted in a number of schools and psycho-pedagogical support centers in Yerevan, Armavir and Shirak regions. In addition, the study included pedagogues and educators who had the opportunity to work with stuttering children and adolescents during their psycho-pedagogical activities.

DATA COLLECTION

Current research data collection was done while combining the following qualitative and quantitative methods:

- Literature review
- In-depth interview
- Questionnaire

The use of each method was done based on specific problem solving requirements. The participants of the study and regions were selected by sampling method. Questionnaire, interviews and in-depth interviews allowed to substantiate the gaps in the process of providing psychological and pedagogical support to people overcoming stuttering and raise the awareness' issues of the pedagogical staff in the educational settings.

DATA ANALYSIS

The analysis of this research data was carried out using quantitative methodology and descriptive data analysis method (Trochim, William 2006). Accordingly, the answers of 100 participants were generalized and presented in the form of numerical patterns (Yadov, 2007).

Measurement scale was used to conclude descriptive statistics for the variables, which included the respondents' personal opinions and awareness about psychological and pedagogical support provided to people in the process of overcoming stuttering. Descriptive data analysis was carried out taking into consideration the following:

- The perceptions of the speech therapy support system for stutterers.
- Awareness of speech therapy methods, means, and ways of overcoming stuttering.
- The perception, attitude, approaches regarding the required methods and content of cooperation between speech therapist, family members, and psychologist.
- The perception, attitude, approaches for defining the role of family in the process of overcoming stuttering.
- The knowledge, skills and abilities absorbed to the “therapeutic” procedures of speech therapy in assisting stutterers to overcome communication difficulties.
- The opinions and suggestions on the effectiveness of the speech therapy counseling and intervention provided to stutterers.

RESULTS/DISCUSSION

Current research used the data obtained throughout the analysis of about 32 scientific-pedagogical sources, considering the importance of primary knowledge about stuttering and its manifestations based on the following standpoints:

- Stuttering is impossible to overcome without live contact and social environment impact.
- Stutterers should use only the speech they “acquired” after leaving the speech therapy rooms.
- In order to overcome a stable pathological condition (according to Harutunyan's well-known methodology), the speech must be reinforced in any life situation.

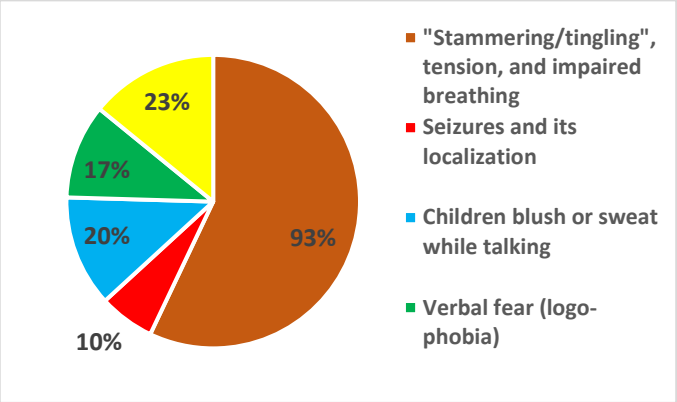
Stuttering people need to live with a new word, implement it according to the principle of gradual development: first slowly, then proportionately, then speaking at a normal pace with the help of moving the word synchronously with the hand (Tichenor, Constantino, & Yaruss, 2022; Eichorn & Donnan, 2021; Furnham, Davis, 2004; Andronova, 1986; 1993).

Thus, as a result of the interviews with 77 pedagogues and 23 special educators on “Verbal, non-verbal, and psychological” manifestations of stuttering, 93% mentioned the presence of “stammering/tingling”, tension, and impaired breathing. 10% of the participants (mainly special pedagogues) reported about seizures and its localization (verbal component), 20% mentioned about the disorders of the autonomic nervous system that emerged when “Children blush or sweat while talking”. None of the participants revealed to the posture of stuttering person (“Portrait of a stuttering man”)

(Andronova, 1989; Harrison, 2015; Gerwin, Walsh & Tichenor, 2022; Onslow, 2022) and about the features of sound (non-verbal expression). Only 17% reported about verbal fear (logo-phobia) and its manifestations (psychological manifestation), and 23% mentioned about the breathing disorders which could be noticed among stuttering children (Figure 2).

Figure 2.

Perceptions of pedagogues about verbal, non-verbal, and neuro-psychological manifestations of stuttering.



For the participants the desire to hide the stuttering mainly expressed with the description "being ashamed" (76%), but nobody declared about the accent side of the speech, defects or absence of natural movements (non-verbal expression), also to be silent or "silent stuttering" (Psychological component). Only 17% of respondents noticed that stuttering children used the trick of replacing the supportive movements of "difficult words" with easy one (verbal exclusion). The above-mentioned results determined that teachers and special educators working with stutterers did not fully understand the essence of the stuttering. Just due to the received academic education, they were able to define the stuttering only with some fundamental characteristics, describing that as a disturbance of the speed and fluency of the speech.

The conducted survey showed that 74% of the respondents consider working with stuttering children of pre-school or primary school age to be meaningful. According to them, at this age it was possible to help children socialize in the classroom by inspiring, encouraging or using other pedagogical methods. Meanwhile, helping high school stutterers was difficult or impossible, as communication difficulties already became strong and inspiration was low. 26% of the pedagogues (teacher, educator, subject teacher) had no idea what to do with a pupil who stutters at that age, as pedagogical communication with them was already difficult. At the same time 85% of pedagogues based on their own experience, stated that even speech therapists and psychologists avoided working with high school

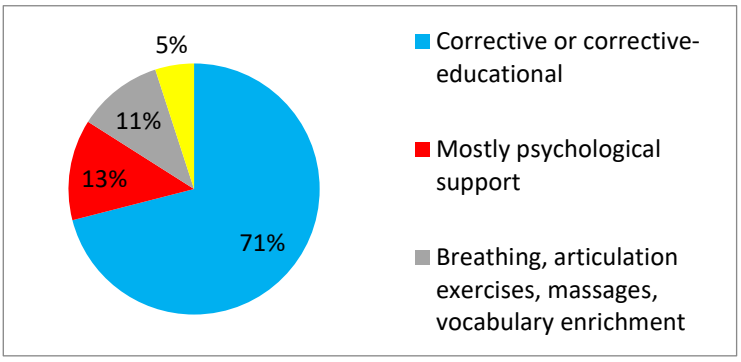
pupils (including adolescents and the adults). According to them, most specialists avoided working with people of this age, mainly because they did not know the appropriate methods, tools and techniques. ***"…School psychologist or speech therapists suggested that the teachers demand the answers of the assignment in written form, try not to ask such children a lesson in front of the class, and some even mentioned the approach of asking them a lesson separately"***. Special educators (17%) believed that they should "prompt how they should breathe, speak, be able to help themselves by speaking in syllables." According to the results, the given educational and correctional work to these children in pedagogical processes had less effectiveness not only due to a lack of knowledge, but also lack of competent professional support provided to the teachers (Grigoropoulos, 2020; Huges, Gabel, Goberman & Huges, 2011; Harutyunyna (Andronova), 1993,p.39-55).

Reviewing the awareness of the participants related to the methods which considered to be effective for overcoming stuttering, only 5% answered completely, mentioning "The method of stable regulation of stutterers' speech" developed by Harutyunyan, (Andronova). By the way, the answers to the questions about the methods of overcoming stuttering were mostly incomplete, unfinished or fleeting, without declaring the information about the author's methods. The pedagogues mainly mentioned about the "speech therapy", "psychological" methods, and the special pedagogues mentioned the "syllabic", "communicative", "behavioral" methods, that in general did not reveal the content of the work aimed at overcoming stuttering.

To the question "what kind of intervention did speech therapy support involve?" 71% of the respondents answered "corrective or corrective-educational", 13% mentioned "mostly psychological support", 11% mentioned "breathing, articulation exercises, massages, fine and gross motor skills, amplification of sounds, enrichment of vocabulary", only 5% who had a special pedagogical education, mentioned about "silence mode, syllabic speech" (Figure 3).

Figure 3.

Awareness of the pedagogues related to the methods and means of overcoming the stuttering.



Concluded results declared that the recorded responses not only did not reveal the ways to overcome the stuttering, but also contained unnecessary statements (ex. amplification of sounds or

development of fine motor skills, etc.) that revealed the content of speech therapy support in a dim light.

Research indicated that participants had incomplete awareness regarding the necessary psychological and pedagogical conditions for working with stutterers. About 85% of pedagogues did not know what to do with a child receiving speech therapy support in the classroom or at school, believing that the corrective work should be done in the speech therapy room only. About 15% thought that there was something to be done in the classroom as well, but they were not aware "what and how?" Participants supposed that the appropriate environment for working with the stutterers was speech therapist's room. None of them mentioned about the space, the lighting, the equipment, the furniture needed for working on the floor, the comfortable chairs, and so on. By the way, even the special pedagogues did not mention that.

The analysis of the collected data stated that the pedagogues did not express a sufficient position regarding the complete involvement and the necessity of the families to participate in corrective work for overcoming stuttering. None of them gave a comprehensive picture of the consultation process given to the stutterers and their family members, about the speech therapy diagnosis, intervention, and related methods, tools, or techniques. The amplification of this question was important, since for completely overcoming the stuttering presupposed close cooperation of all environmental circles directly related to the person, including entire understanding of each other's functions (Harutyunyna (Andronova) (1993), "How to treat stuttering", p. 39-55; Huges, Gabel, Goberman & Huges, 2011; Grigoropoulos, 2020). According to the data analysis, the participants assumed a big difference in participation and involvement, being aware that families should participate to some extent, but the opportunities and the need for full involvement was considered inappropriate. 37% of pedagogues believed that parents should be involved in speech therapy work just to be aware of what was done with the child, attend classes regularly, 41% thought that they need some speech therapy tasks at home and about 22% found it difficult to give an answer. The analysis of the results showed that pedagogues did not see the need of family members to be fully involved in the speech therapy work. In addition, it became clear that the respondents almost had no idea about the organization of speech therapy work with stutterers, the psychological, pedagogical and speech therapy aspects of family support. In general, they did not know what kinds of speech therapy tasks were relevant for giving families for overcoming child's stuttering, what were their psychological and pedagogical aspects.

Conducted surveys and interviews showed that the respondents generally did not have information about the dimensions of parents' involvement in the speech therapy support processes. Exploring the question about the educators' responsibilities dealing with a stuttering child in the classroom, group, or at school, became clear that almost 65% had no idea what they should do, 24% thought that speech therapists should inform them what to do, and only 11% mentioned about the

importance of having permanent contact with families and accomplishing regular interdisciplinary cooperation. They were unaware of the requirements that were given to the children, not informed about the principles for involving them in the pedagogical processes and about the intentional work in the class to address the specific speech therapy problems of children receiving medical intervention in the classroom. In this regard, 65% of the special educators had mentioned about the conversations with families or children (with unclear subject), art therapy activities (without clarifying the specific goals), and the requirements for following speech therapy instructions. About 17% out of them found it difficult to answer, and 18% declared that it was just a speech therapy task. Nobody mentioned the need to introduce new communication skills in real life; moreover, even after the relevant prompt they had no idea about the implementation of specific ways, methods and approaches.

Qualitative dates of this study also confirmed the statement, that respondents almost had no idea what to do with children who were involved in the process of overcoming stuttering, while attending a class or training for the first time after “treatment”, they did not follow speech therapist's instructions to straighten newly staged speech.

In addition, according to the example of Harutyunyan (Andronova)'s methodology, the conducted interviews on the topics of the “Ways of introducing the basics of methods aimed at overcoming stuttering in the educational environment”, and “The connection between family support and pedagogical cooperation for overcoming stuttering”, affirmed that psychologists and pedagogues working with the stutterers had misconceptions about the edges of overcoming the stuttering and the need for full involvement of the families in that processes.

This was evidenced also by the fact that the researchers considered stuttering to be an insurmountable, recurring or not fully overcoming issue. In-depth interviews and conversations with them showed that the perception of overcoming the stuttering among the respondents was formed mainly by the severity of the stuttering (moreover, they were mainly determined by the external manifestations of their stuttering-stammers), by the speech therapists' professional training and by the existing stereotypes about the “treatment” of stuttering (this was evidenced by the fact that the participants did not have any scientific/professional justification, why did they think so).

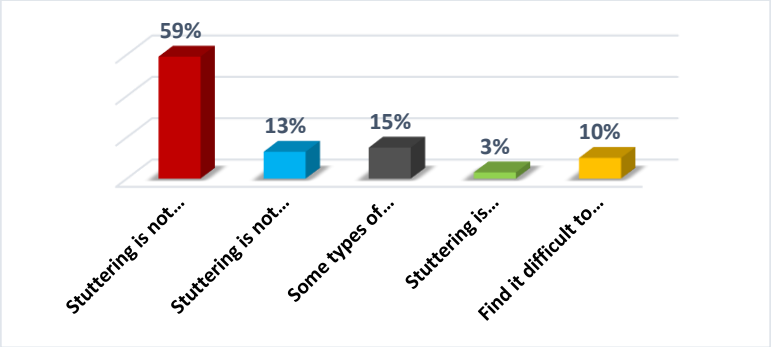
Meanwhile, as it was known, many other conducted surveys stated that the degree of stuttering severity assessment and stuttering overcoming possibilities totally based on the other factors (Gerwin, Walsh & Tichenor, 2022; Evangelos, 2015; Harrison, 2015; Voulgari, 2012; Dragons, 2011; Koubias, Foustana, 2003). Moreover, there was a paradoxical truth, as Andronova confirmed “The more severe the stuttering, the better it is treated” (Tichenor, Constantino, & Yaruss, 2022; Eichorn & Donnan, 2021; Andronova, 1986; 1993).

The conducted surveys and recorded results of the interviews, as well as the lived contacts with

the respondents allowed concluding that the information-consulting field for overcoming stuttering in Armenia was quite unstructured and challenging. Most of the respondents did not have a clear idea about the real edges of overcoming the stuttering. Almost 59% convinced that it was impossible to overcome the stuttering, 13% believed that stuttering did not overcome completely, since it could be repeated, the other 10% found that difficult to answer, and 15% believed that only some types of stuttering were possible to overcome, and the others not. And only 3% of the respondents believed that there were possibilities to overcome stuttering because they had seen concrete treated people, but only few of them knew the used methods and could clearly name the Harutyunyan's "Stable regulation of stutterers' speech" method for overcoming the stuttering (Figure 4).

Figure 4.

Perception of the pedagogues about the edges of overcoming the stuttering.



Taking into account the above mentioned, current research tried to find out the respondents' opinion on the need to raise awareness of this issue. It turned out that while considering the interdisciplinary cooperation to be very important in this field, they did not know to whom refer when the stuttering was newly discovered. In this case 45% thought they had to refer to the speech therapists, by the opinion of 31% they had to refer to the doctors, and 24% mentioned the need to get support from the psychologists. While working with the stutterers, they mainly expected support from speech therapists. 100% of the respondents testified about the need to explore the problem, to expand the information field and to provide consultation, while stating that they never got any developed content and consistent collaboration from the speech therapists.

The result of done work stated that their concerns related to the stuttering child had single-core but multi-vector targets. For example, they usually asked "how" to be sure that a child would not stutter when answering a lesson "-this question they refer to the speech therapist, to the psychologist, sometimes even to the neurologists, but they did not get a final and clear formula from any specialist. Given approach suggests that the respondents of the research had limited perception of stuttering which

did not allow them to analyze its mechanisms and content, so the addressed question cannot be answered.

Research showed the serious gaps were existing in the information field on how sustainable overcome the stuttering. It turned out that participants considered possible to overcome stuttering when the child did not stammer. However, they had no idea that sometimes their supposed "disappearance" could be only a short-term effect of speech therapy intervention, as long as the **"stuttering triad"** or the **"stuttering tree"** was not **"destroyed"** (Andronova, 1993).

CONCLUSION

The results of current research stated the limited perceptions about the real edges of overcoming stuttering formed in the society in Armenia, also about the presence of low efficiency of speech therapy work; the passive implementation of effective methods; the absence of professional speech therapy consultation; about the lack of highly qualified specialists and relevant information. Taking the above mentioned into account, there was a need to develop the content of advices and recommendations for the pedagogues to support children in process of overcoming the stuttering, as well as the methods of cooperation between the family members and speech therapists.

REFERENCE LIST

1. Andronova, L., Z. (1986). Kak lechit zaikanie, M. s. 159.
2. Connery, A., Yaruss, J. S., Lomheim, H., Loucks, T. M., Galvin, R., & Mccurtin, A. (2021). Obtaining consensus on core components of stuttering intervention for adults: An e.Delphi survey with key stakeholders. International Journal of Language and Communication Disorders. Advance online publication. https://doi.org/10.1111/1460-6984.12680
3. Cozart, G., & Wilson, L. (2021). Strategies for teachers to support children who stutter: Perspectives of speech-language pathologists. Perspectives of the ASHA Special Interest Groups. Advance online publication. https://doi.org/10.1044/2021_PERSP-20-00281
4. Dragons, D. K. (2011). Special pedagogy of speech and language problems: logopaideia - logotherapy: paidopsychologic and logotherapeftic rehabilitation strategies in preschool and school age.
5. Eichorn, N., & Donnan, S. (2021). Word-Final Disfluencies in a school-age child: Beneath the tip of the iceberg. Language, Speech, and Hearing Services in Schools, 52(4), 967–977.
6. Erickson, S., Bridgman, K., Furlong, L., & Stark, H. (2022). Speech-language pathologist perspectives of the implementation of telepractice-delivered stuttering treatment for school-age children. Language, Speech, and Hearing Services in Schools, 53(1), 30–43.

7. Evangelos, F. (2015). Children with stuttering at school. Journal of Human and Social Science Research Vol. 5, No. 1, 01-07 webpage: http://www.oricpub.com/hssr-journal Human and Social Science Research HSSR ISSN: 2331-4974.
8. Furnham, A., & Davis, S. (2004). Involvement of social factors in stuttering: A review and assessment of current methodology. Stammering Res. 1 (2): 112-122. // http://www.stamres.psychol.ucl.ac.uk/stammering.issue2.pubd.htm
9. Gerwin, K. L., Walsh, B., & Tichenor, S. E. (2022). Non-word repetition performance differentiates children who stutter with and without concomitant speech sound and developmental language disorders. Journal of Speech, Language, and Hearing Research. Advance online publication. https://doi.org/10.1044/2021_JSLHR-21-00334 American journal of Speech-Language Pathology, 30(5)
10. Giavrimis, P., Papapnis, E., Panitsides, E. & Papastamatis, A. (2011). Empirical research on education and student failure: Teachers' psychological and sociological interpretations. International Journal of Humanities and Social Science, 1, 9: 40-47
11. Grigoropoulos, I. (2020). Early childhood educators' knowledge and attitudes toward young children who stutter. Psychiatriki, 31(4), 352–356.
12. Guttormsen, L., Yaruss, J., & Naes, K. (2021). Parents' perceptions of the overall impact of stuttering on young
13. Harrison, J. (2015). Pereosmislenie zaikaniya. "Skifiya" //https://www.litmir.me/br/?b=630986&p=1
14. Harutyunyan (Andronova) L., Z. (1993). Kak lechit zaikanie, M., 1993 s. 39-55:
15. Huges, Ch., Gabel, R., Goberman, A., & Huges, S. (2011). Family experiences of people who stutter. Canadian Journal of Speech-Language Pathology and Audiology-Vol. 35, No 1, p. 45-55.
16. Kathy, L. (1993). Collaborative consultation for speech-language pathologists // Article in Topics in Language Disorders · November 1993. DOI: 10.1097/00011363-199311000-00003.
17. Kneisl, C., Wilson, H., Trigoboff, E. (2009) Contemporary psychiatric—mental health nursing, Ellin publishing, Athens 2009. 701-735.
18. Koubias, E., & Foustana, A. (2003). Self-School-Aged Children with Speech and Conduct Problems. Paper presented at the 9th Congress of the Hellenic Association of Logopedics, Communication Disorders and Speech: Prevention, Research, Intervention and New Technologies in Health.
19. Law, J., Lindsay, G., Peacey, N., Gascoigne, M., Soloff, N., Radford J., & Band, S. (2002). Consultation as a model for providing speech and language therapy in schools: a panacea or one

step too far? //Child Language Teaching and Therapy 2002 18: 14DOI: 10.1191/0265659002ct232oa5.

20. Meyers, J. (1973). A consultation model for school psychological services. Journal of School psychology, 11, 5-15
21. Onslow, M. (2002). STUTTERING AND ITS TRATMNENT. ELEVEN LECTURES. Australian Stuttering Research Centre University of Technology Sydney. https://www.uts.edu.au/asrc/resources.
22. Papadimitriou, M., Vlassopoulou, K. (2006). Problems speech-speech-their effects. Athens: Ministry of National Education and Religious Affairs Regional Directorate of Primary & secondary Education.
23. Papadioti-Athanassiou B. (2000). Family and bounds. Greek Letters. Athens.
24. Saratikyan, L. (2008). Kakazoghneri hogebanamankavarjakan hetazotutyan arandznahatkutyunnery, Hatuk mankavarjutyun ev hogebanutyun, gitametodakan hodvacneri zhoghovacu, Yerevan, Zangak-97, ej 51-58.
25. Schindler, M. (1955). A study of educational adjustments of stuttering and non-stuttering children. In: Johnson W, Leutenegger RR, editors. Stuttering in children and adults. Minneapolis: University of Minnesota.
26. Scot, L., & Williams, D. (2013). The child Who stutters at school: Notes to the teacher. The Florida State University. // www.StutteringHelp.org
27. Smirnova, L. (2011). Polni spravochnik logopedii. Minsk: Xarvest, 384 s.
28. Tichenor, S., Constantino, C., & Yaruss, J. (2022). A point of view about fluency. Journal of Speech, Language, and Hearing Research. Advance online publication. https://doi.org/10.1044/2021_JSLHR-21-00342
29. Tomisato, S., Yada, Y., & Wasano, K. (2022). Relationship between social anxiety and coping profile in adults who stutter. Journal of Communication Disorders, 95, Article 106167
30. Trochim, M. & William, M. K. (2006). “Descriptive statistics”. Research Methods Knowledge Base. Retrieved 14 March 2011.
31. Tsiplitaris, A. (2000). Psycho-Sociology of the Classroom, 4th ed. Athens.
32. Voulgari, M. (2012). Disorders relating to communication of a child in preschool age and the positive effects of sport. Sparta: University of Peloponnese.
33. Yadov, V., A. (2007). Sociological Research: Methodology Program Methods, p. 102 - 105.

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THE CHALLENGES OF OCCUPATIONAL THERAPY INTERVENTION IN SUPPORTING ADOLESCENTS WITH AUTISM TO ACCOMPLISH SELF-CARE ACTIVITIES

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ABSTRACT

Objective: The study aimed to explore occupational therapy intervention approaches to strengthen and enhance the self-care skills of adolescents with autism.

Method: This research used qualitative methodology and in total five occupational therapists working in rehabilitation centers were involved in expert interviews. The thematic analysis method was applied for data analysis and main categories were developed to describe occupational therapy intervention approaches used in enhancing the self-care performance of adolescents with autism (Guest, MacQueen, and Namey, 2012).

Conclusion: Four themes were developed to describe the main difficulties of adolescents with autism in performing self-care activities: **person-based difficulties in performing self-care activities; challenges in providing external assistance to carry out self-care.** As well as effective occupational therapy support was formed to strengthen their active participation in self-care: **execution of interventions based on adolescents' active involvement; a combination of occupational therapy specified approaches** (using visual-verbal cues, chaining teaching, and time visualization).

Keywords: autism, adolescents with autism, occupation therapy intervention, participation, self-care activity.

INTRODUCTION

Doing activities of daily living (ADL) such as personal hygiene, toileting, dressing, eating, and cleaning the house was essential for all human beings, and especially for adolescents with autism the mastery of these skills was directly related to the opportunities to live independently, being involved in the community, moreover, it allowed being independent (Butterworth et al., 2013). It was well known, that occupational therapy being a healthcare profession involved the use of assessment and intervention to develop, recover, or maintain the meaningful activities or occupations of individuals, groups, or communities including self-care activities (Law, Steinweinder, and Leclair, 1998). Occupational therapy intervention for adolescents with autism might determine the client's self-esteem and motivation to take part in areas of occupation and use united treatment activities that tap into an individual's preferences and interests (Little et al., 2014). Little was known about occupational therapy intervention methods and approaches used with adolescents with autism in Armenia that enhance their independent participation in daily occupations and facilitate the performance of self-care activities. For this reason, this qualitative research is directed to determine the challenges of occupational therapy intervention in supporting adolescents with autism to accomplish their self-care activities.

LITERATURE REVIEW

Autism spectrum disorder (ASD) is a common neuro-developmental disorder characterized by pervasive difficulties since early childhood across reciprocal social communication and a restricted repertoire of activities and interests (American Psychiatric Association, 2013). The symptoms of ASD manifest themselves in the form of defects in communication and social interactions and in addition, children and adolescents with autism experience serious problems with sensory processing, perceptual and cognitive skills, and language which can affect their occupational performance in self-care, productivity and play areas (Seltzer et al., 2003; Diagnostic and Statistical Manual of Mental Disorders 5th Edition, 2013).

As children with autism become adolescents and young adults, they may have difficulties developing and maintaining friendships, communicating with peers, or understanding what behaviors were expected in school or on the job. Also, they could have insufficient participation in their self-care activities due to anxiety, depression, or attention-deficit/hyperactivity disorder, which occur more often in people with autism than in people without it (Shepherd, 2005). Because of this, adolescents with autism became dependent on their surrounding people like parents, care providers, and others and therefore, their limited occupational performance leads to limited participation (Dewinter et al, 2013). And according to the International Classification Model of Function Disability and Health, participation is the involvement of the individual in life situations and is one of the important components of function and health (ICF, 2001).

According to the World Health Organization (WHO, 2018), adolescence age may begin in the second decade of life, which assumed a transition period from childhood to youth. To the other authors, that phase is defined as a period of adolescence that includes a variable period of 10-24 years (Sawyer et al., 2012). At these age adolescents used to actively engage in different activities of daily life and usually perform self-care activities independently. As a rule, independently performing self-care activities can increase the life quality of adolescents with autism and decrease their dependence on others (Wertalik, and Kubina, 2018). Given the significant differences in performing self-care activities independently, adolescents with autism may experience problems in achieving skill proficiency and mastery to perform daily activities (Little et al., 2014).

In the American Journal of Respiratory Medicine (2006), self-care was defined as the ability to take care of oneself, to take care of one's own needs, to ensure one's independent existence, and to be physically independent. All of these were considered manageable needs while outside help may be a little and less than once a day. Learning to perform activities of daily living, like dressing, self-feeding, and toileting, is considered to be crucial to a person's independence and ability to take part in the larger world (Hampshire, Butera and Bellini, 2016). Due to autism adolescents have interaction and communication disorders, attention deficit, emotional disturbances, and limited, stereotyped repetitive behaviors experiencing difficulties to master their daily living skills or abilities, and performance of such tasks can be especially challenging for them (American Psychiatric Association, 2013; Gillham et al., 2000). Therefore, daily activities are considered to be the main tasks that must be performed every day to assure individual development, health and well-being (Stephen et al., 2007).

As every person with autism used to be very different, accordingly the life skills and the pace that were taught also used to vary from person to person. For people with autism, learning life skills could be essential to increase independence at home, at school and in the community. By introducing these skills at an early age and building block by block, people with autism gain the tools that would allow them to increase self-esteem and lead to more happiness in all areas of life (Jasmin et al., 2009).

To this end, occupational therapy intervention played a primary role in working with adolescents with autism while maximizing their ultimate functional independence and quality of life by facilitating the development of daily living skills (McPartland, Law, and Dawson, 2015). In general, occupational therapy interventions aimed to help individuals with deficits or disabilities in various areas become as self-sufficient as possible in their daily lives (AOTA, 2014).

In the evaluation and treatment of individuals with autism, occupational therapy professionals tend to address activities of daily living, adaptive behavior, rest and sleep, employment/pre-employment, and social participation (Hooper, and Wood, 2014). Additionally, the evaluation and treatment process of individuals with autism includes context (conditions within and surrounding the

client) and the environment (external physical and social conditions), activity demands (tools, space, action and performance skills needed) and finally client factors (underlying beliefs, abilities and values) (AOTA, 2014). The specific intervention techniques used in occupational therapy with individuals with autism include; establishing new functional skills, modifying activity demands, creating healthy lifestyles, maintaining existing performance, and preventing future difficulties for clients at risk (Dunn, 2007). Such an intervention is aimed at restoring and enhancing a person's independence and self-satisfaction, as well as the quality of life (Law, Steinweinder, and Leclair, 1998).

Therefore, little was known about occupational therapy intervention methods and approaches used with adolescents with autism in Armenia. One of the hallmark features of adolescents with autism considered their tendency towards strong preferences and focused interest. For this reason, occupational therapy intervention might determine the client's self-esteem and motivation to take part in areas of occupation and use united treatment activities that tap into an individual's preferences and interests (Hyman, Levy, Myers, and AAP Council on Children with Disabilities, 2020). Given the fact that research on the challenges of organizing self-care for adolescents with autism in Armenia was very limited, the need for conducting qualitative research on the challenges of self-care and household activities for adolescents with autism became very urgent.

Thus, the study aimed to explore occupational therapy intervention approaches to strengthen and enhance the self-care skills of adolescents with autism.

Based on the purpose of the study, the research question was formulated as follows: How have difficulties of self-care activities of adolescents with autism overcome during occupational therapy intervention?

METHODOLOGY

Qualitative research was conducted for this study to explore the main methods and approaches used during occupational therapy intervention to overcome the difficulties of self-care activities for adolescents with autism. The perception and professional experience of 5 occupational therapists' were examined using an expert method that allowed the understanding of the interpretation of the situation from the perspective of the respondents (Marshall, and Rossman, 2006). The analysis of the research data was carried out according to the method of thematic analysis (Guest, MacQueen, and Namey, 2012).

Participants

The participants of the study were 5 occupational therapists who worked in various rehabilitation centers and provided professional assistance to improve the self-care skills of adolescents with autism in Armenia. The selection of research participants was made according to the following criteria:

- Having professional education (occupational therapy education).
- Three and more years of work experience.

To ensure the ethical considerations of the research, participants were provided with an information-consent form and gave their signed agreement to provide relevant information. The purpose of the research was stated in the questionnaire, and it was mentioned that provided information would be anonymous, and the results would be presented in generalized form.

Data collection

An expert method was used for data collection since it was a special method necessary to obtain needed "expert knowledge" for the current study (Meuser, and Nagel, 2002). Under these method experts considered to be:

- People who have professional /field/ scientific knowledge or technical knowledge.
- All individuals involved in their life experience in terms of the event being explored.

An individual expert survey guide was made and used that was similar to an in-depth survey guide, but questions were more complex and assorted and specified according to the research question (Marczyk, DeMatteo, and Festinger, 2010).

Data analysis

The analysis of the research data was carried out according to the thematic analysis method which was one of the most common forms of analysis in qualitative research and emphasized the identification, analysis, and interpretation of topics within qualitative data (Braun, and Clarke, 2006). With the use of thematic analysis, it was possible to focus on the perception and professional experience of occupational therapists working with adolescents with autism and to outline the main approaches and used intervention methods for overcoming difficulties in performing self-care activities (Daly, Kellehear, and Gliksman, 1997). With the use of the thematic analysis method, the content analysis was done to explore the explicit and implicit meanings of the data. This process involves identifying topics "through careful reading and re-reading of the data" (Rice, and Ezzy, 1999).

FINDINGS

As a result of data analyses, the challenges of occupational therapy intervention in supporting adolescents with autism to accomplish self-care had been declared and effective occupational therapy intervention methods were outlined. Concluding the data provided by the experts, it became clear that adolescents with autism were still faced with serious difficulties in performing their self-care activities; moreover, it was even observed limitation of doing these activities independently. These self-care activities included dressing, brushing teeth, bathing, personal hygiene (cutting nails, combing, washing, grooming the body), toileting, eating, and so on. Increasing adolescents' participation in self-care activities helped them to develop independent living skills, which were essential to the transition from

adolescence to adult age. The main difficulties in self-care activities for adolescents with autism and the specific focus of occupational therapy intervention to overcoming them included the following four characteristics and sub-characteristics:

1. **Person-based difficulties in performing self-care activities**
   1.1 Limited skills in activity performance
   1.2 Exposure to social-psychological problems
   1.3 Having overweight
2. **Challenges in providing external assistance to carry out self-care**
   2.1 Over-care/under-care- caregivers' biased attitude
   2.2 Being manipulated by the adolescents
3. **Execution of interventions based on adolescents' active involvement**
   3.1 Emphasizing personal abilities and desires
   3.2 Significance of an early intervention
4. **Combination of occupational therapy specified approaches**
   4.1 Activity modification approach
   4.2 Importance to maintain the correct and constant sequence of the activity
   4.3 Application of differentiated approaches in occupational therapy intervention (using visual-verbal cues, chaining teaching, and time visualization).

1. Person-based difficulties in performing self-care activities

The summary of the study results has shown that adolescents with autism had difficulties in performing self-care activities that were mainly based on not well-developed personal abilities and skills at a young age. In particular, these include:

1.1 Limited skills in activity performance

All the participants of the study noted that potential activity-based skills hadn't been developed during childhood for adolescents with autism. In particular, not developed mental, physical, and sensory integration skills limited and caused serious barriers to achieving independence in performing self-care activities. Especially each activity of everyday life required a person to show physical and mental ability like pushing buttons, to perform object manipulation skills; therefore, the development of these skills determined the independence of the person and the quality of life. The study participants had highlighted also sensory integration issues that made barriers and limited adolescents' participation in self-care. The participants emphasized that adolescents with autism needed sensory integration, and particularly they mentioned: *"…adolescents with autism everyday face barriers when it comes to brushing their teeth because almost everyone is hypersensitive to smells and tastes."*

1.2 Exposure to social-psychological problems

According to the participants, the most common barriers to performing self-care activities considered the behavioral, social and psychological problems which made it difficult for adolescents with autism to perform self-care. The participants paid special attention to social and psychological problems, and they mentioned the necessity to make adolescents with autism realize the importance of self-care activities. Particularly, they had mentioned: *"...as occupational therapists, when we work with adolescents with autism, we aim to bring them to a level of self-awareness that self-care is very important to them."*

The participants especially emphasized the fact that adolescents had a hardened character, which led to the obstacles in participating to accomplish self-care activities. In general, they had mentioned: *"...they already have a hardened character at a young age, therefore it's very difficult to change the way they used to perform the activity."* All participants noted that adolescents with autism had undesirable behavioral manifestations, which were considered a kind of barrier to performing self-care at that age.

1.3 Having overweight

Having overweight can affect both an individual's health and physical activity. Adolescents with autism were more likely to be overweight since they avoided exercise, led sedentary lifestyles, and had a food addiction. Thus, study participants declared that being overweight could be a problem and limit adolescents' participation in self-care activities: *"...when an adolescent with autism is overweight, he has trouble in dressing/undressing, as can't bend down, can't lift up."*

2. Challenges in providing external assistance to carry out self-care

Data analysis of the study had allowed proving that adolescents with autism were faced with several challenges in performing self-care activities. These problems were due to the position and attitude of caregivers, particularly:

2.1 Over-care/under-care- caregivers' biased attitude

All the participants of the study mentioned that the given support to adolescents with autism should be moderate which would allow them to realize their own needs, and would allow growth and development. They had especially underlined the attitude of caregivers (over-care/under-care) as a major barrier to achieving independence in self-care. The participants emphasized that over-care doubled the work of the specialist, and maybe led to aimless work and waste of time. Particularly, they had noted *"...if instead of the adolescents the activity is performed by the caregiver, then the question occurs, is it worth spending so much time on developing and strengthening self-care skills? "*

Participants also identified the biased attitude of the caregivers, which also made a barrier and restricted the adolescents' participation in self-care activities. Particularly, they had mentioned: *"... they*

don't believe in their child's power, that he/she can do. They think that if he/she hasn't been able to learn that skill or activity in childhood, he/she certainly won't be able to learn in adult age."

2.2 Being manipulated by the adolescents

The analysis of the research data revealed that the manipulation of caregivers by adolescents with autism was a serious obstacle to not using the knowledge that was gained for executing self-care activities. The respondents stated that during supporting adolescents to perform self-care activities the caregivers had been manipulated which also limited adolescents' participation in self-care activities.

3. Execution of interventions based on adolescents' active involvement

Data analysis proved that active participation of adolescents with autism in self-care activities helped them more effectively develop independent living skills. However, being passively involved in daily activities did not allow achieving the desired result. All participants had stated that an occupational therapy intervention conducted with the active involvement of adolescents, considered being an important indicator of participation in self-care actions and an effective way for overcoming difficulties. The participants had declared the importance of depth assessment of adolescents' abilities and desires, which should be emphasized during the intervention. Moreover, they had also mentioned the importance of organizing an early intervention, since it had been considered to be the best way of preventing further difficulties and challenges.

3.1 Emphasizing personal abilities and desires

Since participants had stated occupational therapy to be a "client-centered" profession, they had especially noted the importance of identifying client's wishes and needs, while mentioning: *"... being occupational therapists, we have to be client-centered. It is very essential to take into account the client's opinion, needs and desires."* Moreover, the participants mentioned the value of taking into consideration the client's abilities, noting that: *"...Occupational therapy intervention goals should be based on the client's abilities. We have to determine how independent will they be?"*

Participants also identified the importance of increasing the active participation of adolescents with autism in their self-care activities. Furthermore, they mentioned that active participation contributed to achieving the desired result, as well as helping them to develop independent living skills. They mentioned the necessity of identifying the client's motivation during organizing occupational therapy intervention. According to their opinion, both internal and external factors motivated adolescents with autism to perform self-care activities. Hence, a successful work process was due to the discovery of motivation: *"... A therapist must be very attentive for being able to determine the motivation of adolescents with autism; this is the quickest way to achieve success"*.

3.2 Significance of an early intervention

According to the study participants' point of view the adolescents' challenges in performing self-care activities, mainly due to lack of early intervention, had a fundamental influence on the further development of their abilities, independence, and quality of life. Moreover, study participants emphasized that adolescents with autism who had received an early intervention had a positive outcome: *"... There are some adolescents with autism who have been attending a rehabilitation center since childhood, and lots of problems in self-care activities have been overcome and observed at an earlier age."*

4. Combination of occupational therapy specified approaches

Study participants had affirmed that the combination of a variety of occupational therapy approaches promoted the involvement of adolescents with autism in self-care activities; as well it promoted the development of necessary skills. In particular, these include:

4.1 Activity modification approach

All the participants had underlined that the use of occupational therapy approaches during intervention focused on modifying the way of accomplishing the activity that brought the desired result in daily life. Particularly, these included the following: to start the task from the simpler step to the more difficult, to divide the task into subtasks, which allowed adolescents with autism to feel more self-confident. Furthermore, study participants recognized these approaches to help support adolescents to continue their involvement in self-care activities and feel positive about the activity. That was very essential to conduct occupational therapy intervention based on these approaches: *"...once adolescents with autism experience success in performing the task correctly, they will have a positive feeling. So we start from the simpler tasks, then step by step making it more difficult."*

The importance of dividing the task into subtasks also had been pointed out by the participants, as some activities had multi-steps which could cause stress for adolescents with autism. *"...it is very important helping them to learn how to perform self-care activities in small steps. This will keep adolescents with autism away from stressful situations. For example, how to hold trousers, socks, etc."* Also, numerous achievements had been recorded as a result of using activity modification approaches: *"...If an adolescent with autism can do self-care activities differently, he/she should do it in a way they like, but on his/her own or independently. Working in this way we have recorded many positive results."*

4.2 Importance to maintain the correct and constant sequence of the activity

A summary of the research data showed that adolescents with autism had difficulty maintaining the correct sequence of activities. Therefore, the participants declared the necessity to train activity learning without changing any step. Also following the correct and constant sequence of the activities helped them to achieve independence in performing self-care: *"... While training an activity, we have to teach and keep the correct sequence, in a ritualistic way, without making any changes."*

4.3 Application of differentiated approaches in occupational therapy intervention (using visual-verbal cues, chaining teaching, and time visualization).

Results of data analyses proved that the application of differentiated occupational therapy approaches in self-care activities helped adolescents with autism to develop the necessary skills for performing activities independently. In particular, these included: visual and verbal cues; visualization of time and chaining strategy. Respondents had underlined that adolescents with autism needed visual and verbal guidance, since it gave them a feeling of safety, as well as helped to easily orientate or perform self-care activities. In occupational therapy intervention the use of visual and verbal cues seemed to be an essential support for them: *"... If adolescents with autism know what to do and what to expect, they can orientate more simply, and also easily perform all required activities. Before starting any activity I speak, I always say what we should do."* In addition, the participants pointed out that the use of cards in the therapy process helped to reduce unwanted behavior. Having the opportunity to predict the beginning and the end of the activity was a very important strategy for enhancing participation in self-care. That prevented chaotic situations and led to reducing undesired behavior. *"...It is very necessary for adolescents with autism to see the beginning and the end of the activity, that help them not to fall into the chaos, and reduce showing not appropriate behavior."* The participants of the survey also underlined the importance of time visualization, while working with adolescents with autism. They mentioned that time visualization, and an alert about the end of time also avoided the possibility of showing unwanted behavior. Particularly, they had mentioned: *"...I work with timers. Adolescents with autism need to see the beginning and the end of the activity, for not having unwanted behavior."*

One of the most common differentiated approaches in occupational therapy intervention for mastering self-care activities had considered to be the use of a chaining strategy, which had been noted by the participants. According to the participants, forward chaining and backward chaining training methods helped to master multi-step tasks gradually - step by step, until all the steps were mastered. The participants emphasized that the chaining training method was mostly used in ADL training.

DISCUSSION

The following study aimed to explore the challenges of self-care activities of adolescents with autism and to identify the most effective approaches to overcome these difficulties during occupational therapy interventions. The study identified four main themes: **person-based difficulties in performing self-care activities; challenges in providing external assistance to carry out self-care; execution of interventions based on adolescents' active involvement, and combination of occupational therapy-specified approaches.**

The current study supported the knowledge that doing ADL such as personal hygiene, toileting, dressing, eating, and cleaning the house was essential for all human existence, especially for adolescents with autism, as these skills are directly related to living independently, being involved in the community, moreover it had given adolescents with autism an opportunity to be independent (Helt et al., 2008). This study once again proved the idea that adolescents with autism still faced serious difficulties in performing activities of self-care, which was mainly due to the lack of person-based abilities and skills developed at early ages. Several studies had also shown that the behavioral, social-psychological problems of adults with autism, as well as manifestations of complex character and the need for sensory integration, limited their participation in self-care activities (Lecavalier, 2006).

The findings demonstrated that adolescents with autism tended to be overweight, which hindered their participation in self-care activities as well. Previous studies had also shown that people with autism were more likely to be overweight, from 10% to 31.8% (Whitely et al., 2004; Phillips et al., 2014).

The findings of this study allowed underline the important role of the given external support. From this point of view, if caregivers were overprotective, that hurt adolescent and limited their ability to active participation in self-care activities. Previous studies had also stated that lack of parental knowledge of these issues put the development of self-care skills at risk, and parents could not promote the development of self-care skills at an early age, could be unaware of their children's capabilities, moreover could show overprotection (Bagarollo, and Panhoca, 2010; Serra, 2010). However, the findings of the current study proved that the active involvement of adolescents with autism in self-care activities allowed them to achieve independence in their environment. From this point of view, performing self-care activities every day related to the person’s preservation of independence, mobility, and communication, and was aimed at stimulating their independent participation in daily occupations (Law, 2002).

This study again stressed the importance and essential role of **early intervention** for adolescents with autism to be able to accomplish self-care activities independently based on their wishes and needs. Previous research had also proved the fundamental necessity of early intervention for further development of skills, independence, and quality of life of adolescents with autism (Rogers, and Lewis, 1989; Reichow, and Wolery, 2009).

The findings of the study had found that **a combination of occupational therapy-specified approaches** had a positive impact on the development of self-care skills for adolescents with autism, and doing things on their own it promoted the development of self-confidence and independence. Several studies had also approved that combined approaches and chain training were the most commonly used differentiated approaches to modifying self-care activities (Kazdin, 1994). The use of

occupational therapy-specified approaches had allowed for enhancing the participation of adolescents with autism in self-care activities and while achieving even small success they used to feel more confident, not gave up, and showed a willingness to accomplish the next task. It had been proven that a combination of occupational therapy approaches such as visual and verbal guidance as well as time visualization helped to make daily life predictable, making it easier to learn about self-care (Van, Kraus, Karpman et al., 2010).

The summary of current study findings showed that adolescents with autism used to overcome difficulties and barriers in performing self-care activities due to not developing the necessary skills and abilities at an early age. But not only personal skills should be taken into account at this age also the provision of external assistance played an important role in enhancing the participation of adolescents with autism in self-care activities. Therefore, a combination of occupational therapy-specified approaches helped adolescents with autism to develop the necessary skills for independent participation and accomplishment of self-care activities.

REFERENCES

1. American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process, 3rd ed. 68: pp. 1-48.
2. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders. (4th ed.). Washington, DC: American Psychiatric Association.
3. American Thoracic Society. (2006). European Respiratory Society Statement on Pulmonary Rehabilitation. Am J Respir Crit Care Med 173: 1390–413.
4. Bagarollo, M., and Panhoca, I. (2010). A constituição da subjetividade de adolescentes autistas: um olhar para as histórias de vida. História de vida de adolescentes autistas. Relato de Pesquisa. Rev bras educ espec;16(2):pp. 231- 250.
5. Braun, V. & Clarke, B. (2006). Using thematic analysis in psychology. Qualitative research in Psychology, 3, 77-101.
6. Butterworth, J., Hall, A., Smith, F., Migliore, A., Winsor, J., Domin, D., & Sulewski, J. (2013). State Data: The national report on employment services and outcomes: Boston: University of Massachusetts Boston, Institute for Community Inclusion.
7. Daly, J., Kellehear, A., Gliksman, M. (1997). The public health researcher: A methodological approach. Melbourne, Australia: Oxford University Press. pp. 611–618. ISBN 978-0195540758.
8. Dewinter, J., Vermeiren, R., Vanwesenbeeck, I., Nieuwenhuizen, C. (2013). Autism and normative sexual development: a narrative review. J Clin Nurs.

9. Diagnostic and Statistical Manual of Mental Disorders 5th Edition. (2013).
10. Dunn, W. (2007). Ecology of human performance model. Occupational Therapy Models for Intervention with Children and Families. pp. 127-155.
11. Gillham, J., Carter, A., Volkmar, F., & Sparrow, S. (2000). Toward a developmental operational definition of autism. Journal of Autism and Developmental Disorders, 30 (4).
12. Guest, G., MacQueen, K., Namey, E. (2012). Applied thematic analysis. Thousand Oaks, California: SAGE Publications. p. 11.
13. Hampshire, P., Butera, G., and Bellini, S. (2016). Self-management and parents as interventionists to improve homework independence in students with autism spectrum disorders. 60(1): pp. 22--34.
14. Helt, M., Kelley, E., Kinsbourne, M., Pandey, J., Boorstein, H., et al. (2008). Can children with autism recover? If so, how? Neuropsychology Review, 18(4), pp. 339–366.
15. Hooper, B., Wood, W. (2014). The philosophy of occupational therapy: A framework for practice. Willard and Spackman's Occupational Therapy. 12th ed. Philadelphia, pp. 35-46.
16. Hyman, S., Levy, S., Myers, S., & AAP Council on Children with Disabilities, Section on developmental and behavioral pediatrics. (2020). Identification, evaluation, and management of children with autism spectrum disorder. Pediatrics, 145(1), e20193447.
17. International classification of functioning, disability and health: ICF. (2001). doi: http://apps.who.int/iris/bitstream/handle/10665/42407/9241545429.pdf;jsessionid=8DF1AB1B50409B61CB66B0FDC755635B?sequence=1
18. Jasmin, E., Couture, M., McKinley, P., Reid, G., Fombonne, E., & Gisel, E. (2009). Sensorimotor and Daily Living Skills of Preschool Children with Autism Spectrum Disorders. Journal of Autism and Developmental Disorders, 39(2).
19. Kazdin, A. (1994). Behavior modification in applied settings (5th ed.). Pacific Grove, CA: Brook/Cole.
20. Law, M. (2002). Participation in the occupations of everyday life. American Journal of Occupational Therapy. 56:640–649. http://dx.doi.org/10.5014/ajot.56.6.640.
21. Law, M., Steinweinder, S., & Leclair, L. (1998). Occupation, health and well-being. Canadian Journal of Occupational Therapy, 65(2): pp. 81-91.
22. Lecavalier, L. (2006). Behavioural and emotional problems in young people with pervasive developmental disorders: Relative prevalence, effects of subject characteristics, and empirical classification. Journal of Autism and Developmental Disorders, 36, 1101–1114. http://dx.doi.org/10.1007/s10803-006-0147-5

23. Little, L., Sideris, J., Ausderau, K., et al. (2014). Activity participation among children with autism spectrum disorder. American Journal of Occupational Therapy 68(2): 177–185.
24. Marczyk, G., DeMatteo, D., and Festinger, D. (2010). Essentials of Research Design and Methodology. NJ: Jown Wiley & Sons.
25. Marshall, C. and Rossman, G. (2006). Designing Qualitative Research (4th edn). Thousand Oaks, CA: SAGE, pp. 225—241.
26. McPartland J., Law, K., Dawson, G. (2015). Autism Spectrum Disorder: Encyclopedia of Mental Health (Second Edition): 124–130: ISBN 9780123977533: doi:10.1016/B978-0-12-397045-9.00230-5
27. Meuser, M. and Nagel, U. (2002). "Expert lnneninterviews - vielfach erprobt, wenig bedacht. Ein Beitrag zur qualitativen Methodendiskussion," in A. Bogner, B. Littig, and W. Menz (eds.), Das Experteninterview. Opladen: Leske & Budrich. pp. 71-95.
28. Phillips, K., Schieve, L., Visser, S., Boulet, S., Sharma, A. J., Kogan, M.... & Yeargin-Allsopp, M. (2014). Prevalence and impact of unhealthy weight in a national sample of US adolescents with autism and other learning and behavioral disabilities. Maternal and child health journal, 18(8), 1964-1975.
29. Reichow, B., and Wolery, M. (2009). Comprehensive synthesis of early intensive behavioral interventions for young children with autism based on the UCLA young autism project model. Journal of Autism and Developmental Disorders, 39(1), 23–41.
30. Rice, P., and Ezzy, D. (1999). Qualitative research methods: A health focus. Melbourne, Australia: Oxford University Press.
31. Rogers, S. J., and Lewis, H. (1989). An effective day treatment model for young children with pervasive developmental disorders. Journal of the American Academy of Child and Adolescent Psychiatry, 28(2), 207–214.
32. Sawyer, S., Afifi, R., Beringer, L., Blakemore, S., Dick, B., et al. (2012). Adolescence: A foundation for future health. pp. 379:1630–1640. doi: 10.1016/S0140-6736(12)600172-5
33. Seltzer, M., Krauss, M., Shattuck, P., et al. (2003). The symptoms of autism spectrum disorders in adolescence and adolescentshood. Journal of Autism and Developmental Disorders 33(6): 565–581.
34. Serra, D. (2010). Autismo, família e inclusão. Polêmca 9(1): pp. 40-56. http://www.epublicacoes.uerj.br/ojs/index.php/polemica/article/view/2693/1854
35. Shepherd, J. (2005). Activities of daily living and adaptations for independent living. In J. Case-Smith (Ed.), Occupational therapy for children (5th ed., pp. 521–570).

36. Stephen, R., Anderson, Amy, L., Jablonski, Vici Masaus Knapp, and Marcus, L. (2007). Self-Help Skills for People with Autism: A Systematic Teaching Approach Woodbine House; 1st edition.
37. Van Laarhoven, T., Kraus, E., Karpman, K., Nizzi, R., and Valentino, J. (2010). A comparison of picture and video prompts to teach daily living skills to individuals with autism. Focus on Autism and Other Developmental Disabilities; 25(4): pp. 195-208.
38. Wertalik, J., and Kubina, R. (2018). Comparison of TAG teach and video modelling to teach daily living skills to adolescents with autism. Journal of Behavioural Education, 27(2), pp. 279–300. https://doi.org/10.1007/s10864-017-9285-4
39. Whiteley, P., Dodou, K., Todd, L., & Shattock, P. (2004). Body mass index of children from the United Kingdom diagnosed with pervasive developmental disorders. Pediatrics International, 46(5), pp. 531-533.
40. WHO. (2018). The ICD-10 Classification of Mental and Behavioural Disorders. Clinical descriptions and diagnostic guidelines. www.who.int/classifications/icd/en/bluebook.pdf

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BE A BUDDY:AN EXERCISE IN INNOVATION AND ENTREPRENEURSHIP

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ABSTRACT

Mental health difficulties across university student populations are seen as a serious problem as for universities as well as for their wider communities. Students can search, identify, and evaluate the problems and business opportunities and can come up with new solutions to those problems. During the process of solution search, students might be able to use the development tools and creativity models.

The problem is more actual while dealing with students having learning disabilities. Thus, two main solutions were identified: the Emotion Tool and Be a Buddy.

Key words: students, higher education difficulties, mental health problems, support, change, improvement, entrepreneurship course.

INTRODUCTION

We are a group of five students studying in the "Towards Innovations and Entrepreneurship" course as part of "the degree program in International Business" at Oulu University of Applied Sciences (OAMK), Finland. In OAMK, there are over 9000 students including over 350 international degree students. It has 30 degree programs, of which two Bachelor's degree programs and four Master's degree programs are taught entirely in English. The degree program in International Business is one of the two English medium degree programs and is intended for both Finnish and international students wishing to seek interesting career paths in innovative international business, sales and marketing, management, or entrepreneurship.

The name of our team is, “Team Silver”. Our team includes five students, two of them are exchange students, in their 3rd academic year and the other three are first-year students from OAMK. Shana Van Dyck is from Belgium, studying innovation Management at Erasmus Brussels University of Applied Sciences and Arts. Luca Fasola is studying Engineering and management at SUPSI in Switzerland. The rest of us, Laura Suorsa, Salla Kunnari, and Chamari Dasanayake are studying International Business at OAMK. We have a great multicultural environment inside our team, which helped us to work through this project in a very balanced and peaceful atmosphere. Also, we five have different situations in our private life. For example, Laura Suora has Dyslexia, where she needs some extra support with schoolwork and Chamari Dasanayake has three young kids to look after at the same time while she is doing her studies. With these different backgrounds, we made a powerful team bond between us.

LITERATURE REVIEW

There are many causes of stress, including personal difficulties (conflict with loved ones, being alone, lack of income, worries about the future), problems at work or study place (conflict with colleagues, a tremendously demanding or insecure job) or major threats in the community (violence, disease, lack of economic opportunity) (WHO, 2021). Despite relatively high levels of psychological distress, many students in higher education experience difficulties, but at the same time do not seek help for difficulties. In particular cases, undergraduate students are most likely to seek help for mental well-being difficulties from peers, but whether this experience is useful is less clear. How such an approach impacts upon the individual from whom assistance is sought is also not well understood (Laidlaw, McLellan, & Ozakinci, 2016).

Still, there is a growing prevalence and severity of mental health difficulties across university student populations recognized is a critical issue for universities and their wider

communities. It is argued that the process of seeking and acting on students' suggestions fosters students' sense of inclusion and empowerment, and this is critical given that the goal of improving student mental wellbeing can only be achieved through an effective partnership between students and institutional actors (Baik, Larcombe, & Brooker, 2019).

AIM

The project we started is a part of the "Towards Innovations and Entrepreneurship" course. The duration of the course was 8 weeks. The main course goals were:

- Students can search, identify, and evaluate the problems and business opportunities in that field and students can come up with new solutions to those problems.
- While searching for the solutions, students were able to use the development tools andcreativity models.
- Students take responsibility and work in a multidisciplinary team throughout the whole project.
- At the end of the course students have an idea about, the utilization possibilities with the business model. Which can divide into three main parts,
- Innovation process and methods to develop innovations
- Teamwork
- Business model development

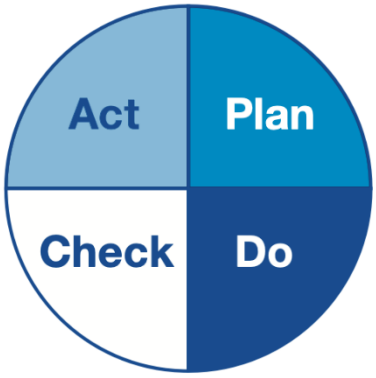
METHOD

We used the basic principles of Lean Project Management as the guideline for this project. The goal of Lean Project Management is to take small steps, do what is necessary at that moment and keep changing and improving. Since this project was only for 8 weeks, Lean Project Management is the perfect method to develop something in a small-time frame.

After receiving the problem, we started our work by researching, interviewing the students, collecting information, changing the direction, and continuously repeating that cycle (Figure 1). Then we decided on the final solution, we focused on developing a prototype and collecting feedback. As we mentioned in the beginning, for most of us this process of doing research, identifying the core problem, and then finally finding a practical solution, is a new process. From the beginning, we were focused on carrying out this in a practical manner as an exercise in innovation and entrepreneurship courses, rather than a scientific study. It is important to keep this in mind.

Figure 1.

Deming circle.



THE PROBLEM

The initial problem our team got was “How to support online students' mental wellbeing?”.

As all of us are students ourselves and have had to deal with online studies since March 2019, this subject was close to our hearts.

We first wanted to understand more about the problem and get different opinions on the topic. We arranged a meeting with the initiator of this project. She explained to us why chose this project and what the aim was. We would focus on higher-education students, but not limited to Armenian students. As mentioned previously, our team consists of people from different countries, so we already started with a broader reach.

Secondly, we each interviewed a total of 5 students during the first week of the project. The aim of the interview was to understand how students have been feeling and reacting during the past semester of online classes. We also asked about which factors influenced their experience. What made them feel better, etc. The interviews were semi-structured and aimed at letting the interviewee tell their story.

During the second week of the project, we decided to interview other stakeholders as well. We interviewed a lecturer a school psychologist and more students.

Aside from the interviews, we also looked at any relevant literature on this topic.

From the interviews we did, and the literature we read, we could gather some interesting information. We came to the conclusion that the biggest influence on students' mental well-being was not the actual online classes but the situation surrounding the pandemic. Most students actually reported they did okay. Some of them even prefer online classes as it, for example, allow them to sleep in more. Students, who reported that they were struggling, were students with a less-optimal home-study environment and with certain conditions. Students who had

children at home, who did not have their own space to study in, etc. But also, students with conditions like ADD and Dyslexia reported more difficulties. During a second meeting with Ms. Harutyunyan, she proposed a narrower definition of the problem: “How can we support online students with disabilities”.

After a discussion in our project group, we decided to further narrow it down to: “How can we support online students with learning disabilities”. From our personal experience, students with learning disabilities are the most common. On top of that, we felt that this group of students’ sorts of “fell through the cracks”. We interviewed several students with various learning disabilities and none of them received extra support from the university. With this new challenge, we went ahead with the ideation.

IDEATION

After narrowing down the problem, we landed on trying to help students with learning disabilities. We came up with three different solutions and made a minimal prototype for them in the form of an advertisement.

The first solution we came up with, is called the Emotion Tool. This is an online tool for students and teachers to show their emotions and feelings live during online classes. The idea is to help teachers to understand how their students are doing during online studies and for students to make it easier to share their current state of mind. The student has different options to choose from which reflect their feelings at the moment. The teacher can see if some of the students are struggling and can use this information to target that specific student that needs help.

The second solution is Be a Buddy. This is an online service, that matches two students with complementary strengths and areas of difficulties. Students must fill out a questionnaire, and the matching will be done based on that. Students will have their study friends with who they can study together and supports each other. The idea is mainly to create a broader social support network for online students.

Stay focused at Home, is also an online tool where you can set your schedule and it will automatically remind you about the tasks and lessons you have on that day. The system will also automatically create folders to organize your schoolwork. There is also an alarm, that will give a notification if students' computers will stay interactive for more than 15 minutes, which can help the student to stay focused during class.

We presented the prototypes for these solutions to 10 students and asked for their feedback about the services. In general, we got good feedback, but most of the interviewees thought the Buddy system to be the most useful tool for their studies. We decided to continue and develop

that idea further.

FINAL SOLUTION

After proposing our three different ideas on how to improve the mental well-being of students we decided to go on with the idea of Be a Buddy (See Annex).

The idea of Be a Buddy is pretty simple compared to the others we had on our minds but at the same time, it was the one that received the best feedback from the interviewees. Basically, this is a service where we can match two students who both have learning disabilities so that they can help each other with their studies. These two students are going to be complementary to each other so that one of them can help the other in subjects he is struggling with and vice versa.

To match the buddies, we are going to use a questionnaire where the students have to fill in not only what they are good with at school and what they struggle with but they can even add their personal interests and hobby so that the person they match with can be a friend as well as a study buddy.

Our mindset with this solution was to develop something simple but effective. Something that could be implemented right away and tweaked along the way. Since this is a very current problem, we wanted something that would be ready to tackle the problem from the get-go.

As we previously explained, the focus of this project was on students with learning disabilities. However, the solution can be implemented for a broader group of users as well.

WHY THIS TYPE OF PROTOTYPE?

Be A Buddy is a service and is thus hard to make a prototype for. The biggest part is the interaction between the students, which is quite hard to prototype. How this service is used also depends on the exact user group and the university´s wants. There could be a separate website or just an introduction page on the university website. We ended up with this kind of prototype to visualize the idea of this service rather than make a final outlook of it. The questionnaire for example is an important part of the service that can be prototyped but also when in use can be implemented differently. The brochure and other ads can be visualized as well (See Annex).

Interviews and feedback.

We interviewed many students to get feedback on the prototypes and took all feedback into consideration. We asked them to do the questionnaire and tell us if it contains what they expected. We made possible changes according to the feedback. That is how we ended up with these specific prototypes and the final feedback on them was very good.

CONCLUSION

Students' mental well-being and how students are handling online classes is a topic that hits very close to home for all of us. As we mentioned in the introduction, we are all students with different backgrounds and thus, also different struggles during this strange time.

This project allowed us to work on a problem that feels very important to us. The positive fact of working on a problem that we were familiar with is well, that we are familiar with it. And we know a whole group of people struggling with the same thing. The downside of it was that we were sometimes too close to the problem. It was important to remain objective and look at it from a distance.

These past 8 weeks have given us the opportunity to get familiar with some basic innovation and business development methods and strategies. We learned how important it is to listen when people give you feedback, even if it is different from what you expected in advance.

Most of all, we have learned that even though a project is started with complete strangers in a completely virtual environment, good team dynamics can develop.

REFERENCE LIST

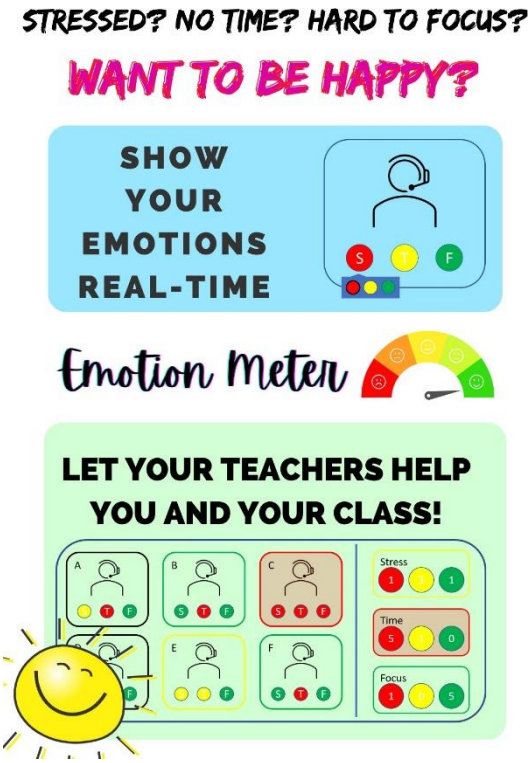
1. Baik, Ch., Larcombe, W., & Brooker, A. (2019). How universities can enhance student mental wellbeing: the student perspective? Higher Education Research & Development , 38 (4).
2. Laidlaw, A., McLellan, J. & Ozakinci, G. (2016). Understanding undergraduate student perceptions of mental health, mental well-being and help-seeking behaviour, Studies in Higher Education, 41 (12).
3. World Health Organization (WHO), 2021. Doing What Matters in Times of Stress: An Illustrated Guide, ISBN 978-92-4-000391-0.

Appendix

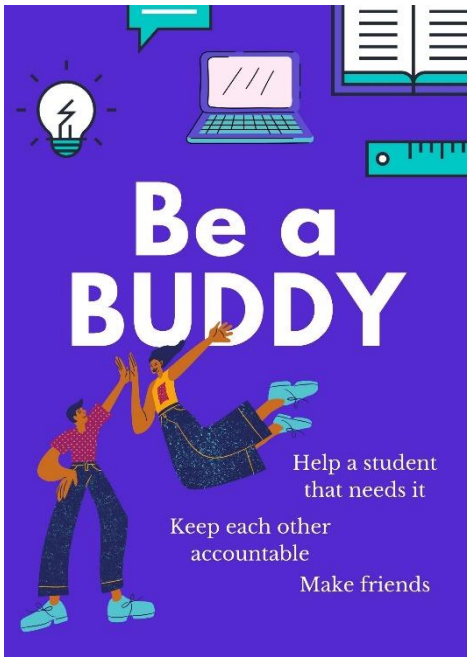
1. Table of interviewee's

Interview week	Country	Profile	Age	Academic university/Applied Science	Current year of study	Bachelor/Master	Condition (optional)	code
24-30/08	Belgium	Student	21	Applied Science		3 Bachelor	ADD	1
	Finland	Student	29	University		4 Bachelor	/	2
	Switzerland	Student	26	Applied Science		3 Bachelor	/	3
	Sri Lanka	Student	25	University		2 Master	/	4
	Finland	Student	21	University		1 Bachelor	/	5
31/08-6/09	Belgium	Lecturer	NA	Applied Science	NA	NA	NA	6
	Finland	Student		Applied Science		5 Bachelor	/	7
	Finland	Lecturer		Applied Science		NA	/	8
	India	Student	26	University		2 Master	/	9
	Finland	School psychologist	NA	Applied Science	NA	NA	NA	10
7/9 - 13/9	Belgium	Student	20	Applied Science		3 Bachelor	Dyslexia	11
	Belgium	Student	20	Academic university		2 Bachelor	/	12
	Belgium	Student	21	Academic university		3 Bachelor	ADD, dysorthographia	13
	Finland	Student	25	Applied Science		2 Bachelor	Dyslexia	14
	Italy	Student	21	Applied Science		3 Bachelor	/	15
	Switzerland	Student	26	Applied Science		Bachelor	/	16
	Finland	Student	21	Applied Science		1 Bachelor	Dyslexia	17
	Taiwan	Student	27	University		2 Master	Dyslexia	18
	Finland	Student	21	Applied Science		1 Bachelor	Dyslexia	19
14-20/9	Belgium	Student	21	Applied Science		3 Bachelor	ADD	1
	Belgium	Student	21	Applied Science		3 Bachelor	Dyscalculia	21
	Finland	Student	28	University		5 Master	/	22
	Finland	Student	27	University		5 Master	/	23
	Italy	Student	22	University		3 Bachelor	/	24
	Italy	Student	23	University		3 Bachelor	/	25
	Finland	Student	25	University		2 Bachelor	Dyslexia	26
	Finland	Student	21	Applied Science		1 Bachelor	Dyslexia	19
	Sri Lanka	Student	25	University		2 Master	/	4
28/9 - 4/10	The Netherlands	Student	21	Applied Science		3 Bachelor	Dyslexia	29
	Belgium	Student	21	Applied Science		3 Bachelor	ADHD	30
	Finland	Student	29	University		7 Master	/	31
	Finland	Student	27	Applied Science		1 Bachelor	ADD	32
	Italy	Student	21	University		3 Bachelor	Dyslexia	33
	Italy	Student	22	University		3 Bachelor	ADHD	34
	US	Student	23	Applied Science		3 Bachelor	Dyslexia	35
	Finland	Student	21	Applied Science		1 Bachelor	Dyslexia	19
	Sri Lanka	Student	29	Applied Science		1 Bachelor	/	37

2. Emotion tool advertisement

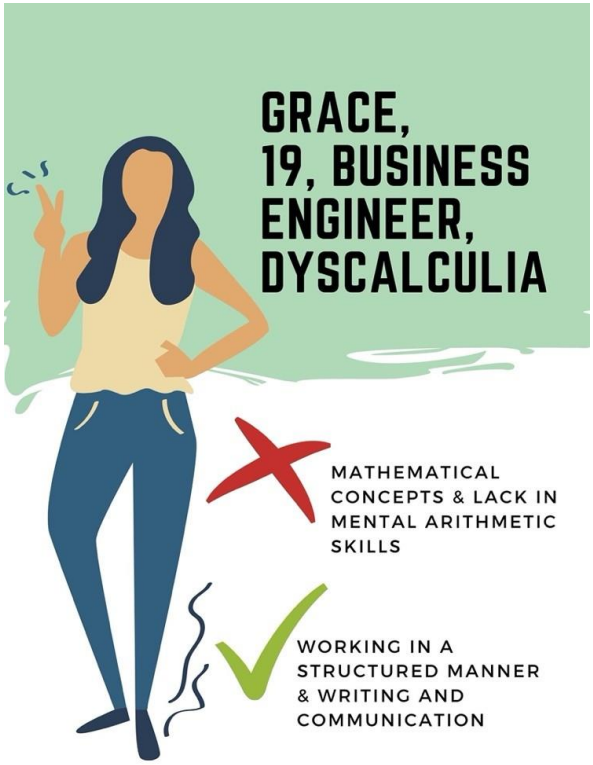


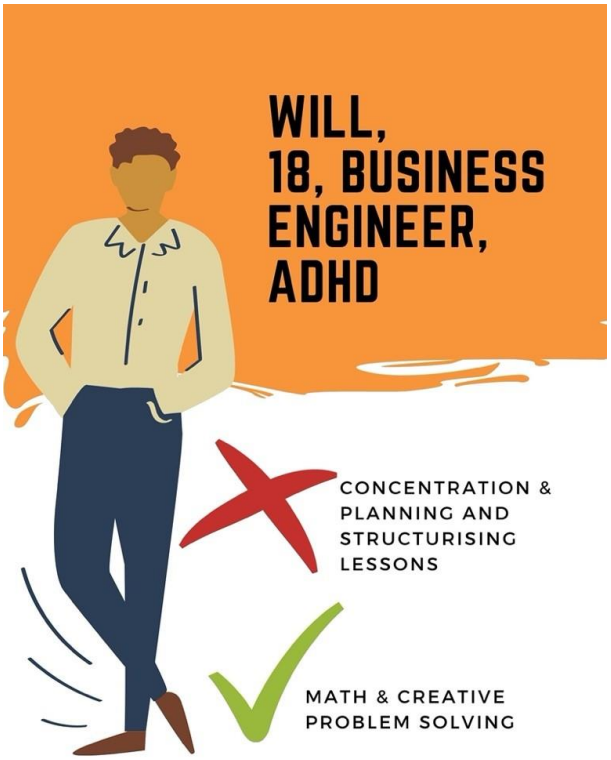
3. Be a Buddy advertisement



4. Stay focused on home advertisement

5.Persona


GRACE,
19, BUSINESS
ENGINEER,
DYSCALCULIA
MATHEMATICAL CONCEPTS & LACK IN MENTAL ARITHMETIC SKILLS
WORKING IN A STRUCTURED MANNER & WRITING AND COMMUNICATION


WILL,
18, BUSINESS
ENGINEER,
ADHD
CONCENTRATION & PLANNING AND STRUCTURISING LESSONS
MATH & CREATIVE PROBLEM SOLVING

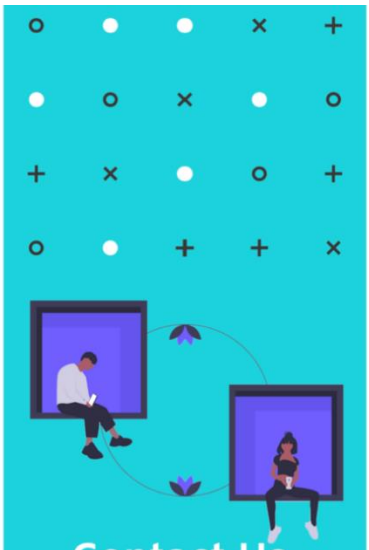
6.Be a Buddy Brochure

Who are we?

Buddy is a service where higher education students can sign up to become a buddy and get a buddy to themself if needed. The idea of the service is to connect students who need help during their online studies. Service will match two students who complementary each other's difficulties and strengths and can this way share their knowledge and have support.

How to sign in?

- Open Buddy –website
- Fill in the questionnaire by following the instructions.
- Based on the questions, we compose your profile. We include your personality, likes and dislikes, strengths and areas where you need support from your future Buddy.
- The system matches you with another user who is complementary to your profile
- Finally, you will get the contact information of your Buddy



Contact Us

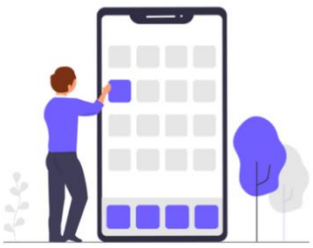
123 Anywhere St.,
Any City, ST 12345

+123-456-7890
hello@reallygreatsite.com
www.reallygreatsite.com

Be a Buddy!

Looking for a buddy to study with?

Delivering help to students with learning dissabilities!



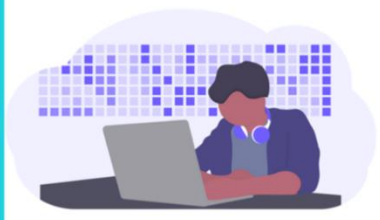
Terms and conditions

By joining to the Buddy- service you will allow the service to use your info to find your match. All your data will be used only to create your profile. Your personal information will not be shared with any third party. The service will only share the following things to your Buddy:

- Name/nickname
- Your studies and school
- Strengths and areas you need support for

By accepting these terms, you will assure that all the data you give is correct and you will take the responsibility to be supportive and loyal to your Buddy- match.
Do not share or copy your buddy's school projects, ideas or innovations. If there is any confidential topics between buddies, we expect you to maintain that confidentiality.

We will help you to match with someone complementary to you!



Let us help you with

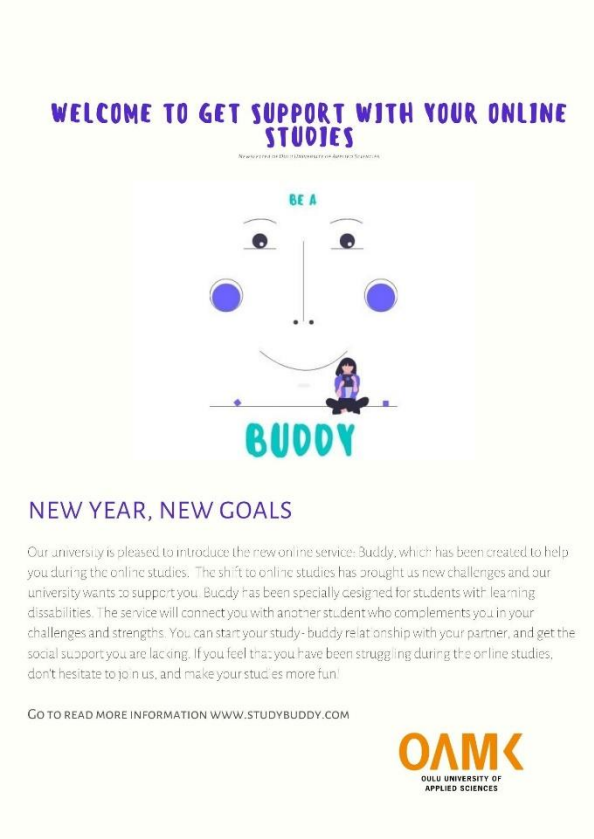
- Dyslexia
- ADHD
- Dyscalculia
- Concentration and planning
- Structurising lessons
- Writing and communication

...and much more!

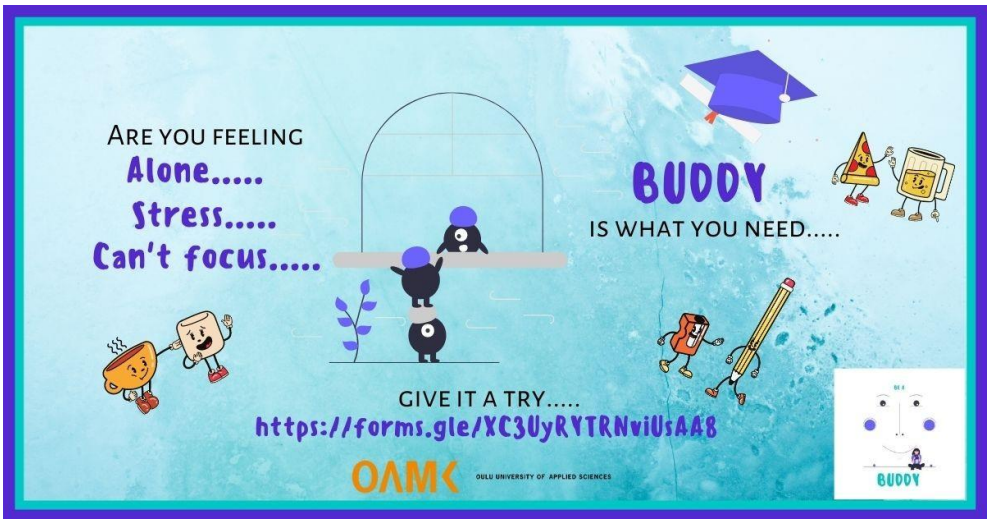
What if I want to change my study-buddy?

After two weeks you will have a feedback session where you will have opportunity to share your experience. After the session you can decide if you want to continue or change your buddy.

7.Promotional email



8.Facebook advertisement



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