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The 1st Tarumanagara International Conference on Medicine and Health (TICMIH) 2021 was held by Consortium of Health Science of LLDIKTI Region III collaborated with Untar Institute of Research & Community Engagement (LPPM Untar). The conference brought a topic about "Challenges and Opportunities for Overcoming Infectious Diseases in the 21st Century." The scope of the articles included but was not limited to the following: Medicine, Health, Public Health, Infectious Disease & Tropical Medicine, Community Medicine, Dentistry, Pharmacy, Nursing, Nutrition, Obstetrics, and Clinical Psychology.



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TEACCH for Parents and Child with Autism Spectrum Disorder: A Review of the Literature

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ABSTRACT

Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) is one of the Comprehensive Treatment Models (CTM) interventions that have been implemented since the 1960s for children with Autism Spectrum Disorder (ASD). TEACCH uses structured teaching so that it has an impact on increasing individual independence. Intervention with this approach is still widely applied in schools and therapy centers. In recent years, researchers have begun to prove the effectiveness of the TEACCH approach not only on children but also on parents. However, experimental studies examining the outcomes of these interventions in parents and children with ASD are still limited and there are not many studies that summarize research results and provide recommendations regarding the use of the TEACCH intervention. This literature review aims to provide a summary of the results of experimental studies that apply the TEACCH intervention for parents and children with ASD, so that they can be considered by professionals and further research. A literature review was conducted on two experimental studies from 2019 and 2016, involving parents and children under 8 years old. The results of the study showed that the TEACCH intervention was able to improve social skills and emotional regulation in children and parents. In addition, it can also reduce the stress experienced by parents and improve well-being. Both studies suggest that increasing intensity may affect outcomes.

Keywords: *Intervention, TEACCH, Autism Spectrum Disorder, Parents.*

1. INTRODUCTION

Based on data obtained by the United Nations Education Scientific and Cultural Organization (UNESCO) in 2011, people with Autism Spectrum Disorder (ASD) in the world reached 35 million people [1]. The increasing number of individuals with ASD over time has attracted scientists. In the last 50 years, ASD has gone from being a rare and narrowly defined early childhood disorder to being discussed, published, being researched from early life to throughout life, beginning to be recognized as a fairly common and highly heterogeneous condition [2]. In the last three decades, interventions in individuals with ASD related to problems in education, behavior, and development have often been a topic of discussion [3].

Researchers have tried to examine evidence of the efficacy of interventions not only in children but also in parents. Many empirical studies prove that stress on parents increases after their child is diagnosed with ASD [4]. It's because many parents do not understand their

child's condition, they don't know what to do to with their child. The involvement of parents in interventions can increase parents' understanding of the child's condition, this will have an impact on reducing parenting stress.

There are two approaches in the intervention of individuals with ASD [2]. First, focused interventions, namely interventions that refer to treatments that are usually shorter in duration and target skills is specific or distinct characteristics (for example, interventions targeting toileting skills or fine motor skills). Second, interventions with Comprehensive Treatment Models (CTM), namely the application of intervention practices that are designed based on a theory or conceptual framework, are usually used more often in children with a longer period of time and target several developmental domains. One intervention with the CTM approach that has a long history in the field, is often used, and has a different conceptual framework is Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH) [2]. The TEACCH program has been well received and applied in both

educational and therapeutic settings for more than 50 years. Until now this approach is often applied in schools and therapy centres. In recent years, researchers have also continued to conduct research to determine the impact of using the TEACCH intervention not only on children but also on parents. However, studies are still rare that summarize research results and provide recommendations regarding the use of TEACCH interventions. This literature review aims to provide a summary of the results of experimental studies that apply the TEACCH intervention to parents and children with ASD, so that they can be considered by professionals and further research.

1.1. TEACCH

TEACCH is an intervention developed in the 60s by Eric Schopler with a holistic psycho-educational approach based on close collaboration between parents and professionals [5]. The goal of the TEACCH program is to develop the strengths, skills, interests, and fulfilment of the needs of people with ASD so as to achieve maximum independence [3]. Although the characteristics of individuals with ASD differ from one another, they also have similarities. Individuals with ASD have challenges in perceptual, communication and learning processes [5]. Therefore, TEACCH seeks to offer interventions that help balance the unique characteristics of individuals with ASD with the norms and culture of the social environment. TEACCH's structured teaching is based on several combinations of psychological theories, such as cognitive social learning theory and developmental psychology. This approach recognizes the existence of external and internal influences in the learning process [6]. External factors can be in the form of reward and punishment. While internal such as ways of thinking, hopes / desires, and understanding.

In addition, the structured teaching of TEACCH also emphasizes the neuropsychology of individuals with ASD, which is commonly referred to as the culture of autism [6]. TEACCH coined the term culture of autism which describes a way of thinking about the behavioral characteristics seen by individuals with ASD and uses this concept as the basis for leading a long-term intervention process for individuals with ASD [5]. Culture of autism provides an overview of the uniqueness, strengths, and challenges that individuals with ASD have. The culture of autism includes executive functioning difficulties (e.g., difficulty maintaining attention and memory), a tendency to process visual information, communication difficulties, a tendency to seek or avoid (avoid) certain sensory types, a tendency to maintain certain routines and arrangements, difficulty in generalization, the problem of understanding the concept of time; and excessive interest in certain activities [6].

TEACCH helps parents, educators, people who work with individuals with ASD to see the world through their

eyes, thus achieving the main goal of TEACCH which is to teach individuals with ASD to function independently in all contexts of life by making the environment more predictable and easier to understand. for individuals with ASD [5].

1.2 ASD

Definition of ASD according to DSM V is a lifelong neurodevelopmental disorder that manifests from early life, characterized by a series of deficits in two specific domains, the first related to communication and social interaction, the second related to repetitive behavior patterns [7]. Manifestations of ASD disorders vary widely and depend on the severity of the condition, developmental level, and chronological age, hence using the term spectrum [7]. Symptoms of ASD are manifested into three classifieds, know as the 'Triad of impairments' or three disorders, namely lack of social communication skills, social interaction, and imagination abilities [8]. These three disorders will occur repeatedly and show distinctive characteristics. The impact of these three disorders will affect almost all aspects of a child's life.

In the early stages of a child's development, the primary impairment seen is in the ability to social interaction and communication. One of the reasons behind the problems of ASD children in social interaction and communication is mindblindness. Mindblindness was first mentioned by Baron-Cohen in explaining some of the problems experienced by individuals with ASD [9]. Mindblindness refers to the inability to make accurate estimates of what other people might think or feel. This situation makes individuals with ASD from childhood seem self-centered and have difficulty making friends with the environment [9].

Individuals with ASD also have difficulty understanding the core of the situation [9]. This problem has been seen since childhood, so children with ASD have difficulty combining information to understand the essence of what is going on or what the environment expects of them. Difficulty understanding the core affects the use of language to speak. Children with ASD have difficulty understanding the details of words in sentences. This impacts delays in the development of speech skills in children with ASD.

The impairment of children with ASD has an impact on parents, they do not know how to help and treat their children appropriately [10]. Lack of information about ASD makes parents experience stressful situations. Stress experienced by parents can have an impact on physical and mental health. One way to reduce stress for parents with ASD children is to provide information regarding their child's condition and involve them in the intervention process [4].

2. METHOD

Article search is use electronic database namely PubMed, by entering keywords in the form of “TEACCH” AND “autism OR autistic OR ASD”. We found 61 articles. The requirements for inclusion criteria in this study are (a) article must be published in English text, (b) using interventions based on TEACCH and experimental study, (c) a participant in the study is parents and children under 12 years with ASD, (d) research conducted in the last 10 years. Finally, after we excluded articles that did not meet the inclusion criteria, we have two articles for our review.

3. RESULT

In this literature review we use two journals from Turner-Brown et al and Nowell et al. The design of these two studies is between group. The study conducted by Turner-brown et al used participants in the form of parents and children who were under 3 years old and had just received a diagnosis (early diagnosis with ASD). Randomly divided into two groups, the experimental group (n=32) received FITT (Family Implemented TEACCH for Toddlers) and the control group (n=17) received SAU (Service as Usual). The measurements used were ADOS (The autism diagnostic observation schedule) and MSEL (The Mullen Scales of Early Learning), while the parents used the parent interview for autism-clinical version (PIA-CV), The Parenting stress index: Short Form (PSI-SF), and The Rand-36.

While the participants in the research of Nowell et al consists of parents and children aged 6-8 years. This study used an RCT design, the control group received delayed treatment. The experimental group participants consisted of 8 pairs of children and parents. This study established inclusion criteria in the form of being diagnosed with ASD, attending 80-100% of study hours at level 1 or 2 regular classes, being able to read, being able to be separated from parents for at least 30 minutes, and in addition to being fluent in English. The measurements used are Child Observation Protocol (COP), The Parent Report of Group Outcomes (PROGO), and The 3-Box Task.

In the article Nowell et al the intervention was carried out for 3 months with meetings once a week for 1.5 hours (90 minutes) at the center. The purpose of the intervention is to see the effectiveness of the blanded strategy of TEACCH and the component of social thinking in improving social skills and self-regulation in children with ASD in grades 1 and 2. In this intervention, parents are involved and given homework that must be applied to children. The intervention provider is a clinical psychologist who has been training and assisted by a master's degree. This research was conducted at a center called Growing, Learning, and Living With Autism (GoriLLA) Group at the Chapel Hill TEACCH. The

GoriLLA group intervention combines two approaches, structured teaching based on TEACCH and components of social thinking. The results of this study are an increase in social communication skills and self-regulation concept knowledge in both parents and children after the intervention.

While in the article Turner-Brown et al, the intervention aims to support parents and develop the ability of children who have just received an ASD diagnosis. The intervention was conducted in a home and involved parents for six months, with one meeting every week and a duration of 1.5 hours. The intervention was performed by a Psychologist experienced with ASD and TEACCH. This study uses the FITT approach, which is an approach to help parents whose children have just been diagnosed with ASD, to understand more deeply about ASD and teach parents strategies that can be done to help their child improve. The main result of this study is that there is a strong and positive effect of FITT on decrease stress levels and improve parental well-being. In addition, a moderate effect was also found on increasing social communication skills.

4. DISCUSSION

One of the things behind the problems in ASD children in communication and socialization skills is mindblindness. Mindblindness refers to the inability to make accurate estimates of what other people might think or feel. This situation causes individuals with ASD to have difficulty understanding the core of circumstances since childhood [9]. Finally, it makes individuals with ASD look self-centered and have difficulty making friends with the surrounding environment. In other words, difficulty understanding the essence of the situation affects the development and use of language. Children with ASD have difficulty understanding the details of words in sentences [9].

Deficits in communication and socialization skills also have a negative impact on various aspects of life [11]. Such as withdrawal from the social environment and isolating oneself [12]. This situation is a concern for parents. Therefore, these two domains are the most frequently targeted in TEACCH intervention. The use of the TEACCH approach in the environment can make the environment more meaningful and attractive so that it is easier for individuals with ASD to understand the environment and have the opportunity to improve their socialization skills [13]. In line with this, according to Schopler et al, individuals with ASD have advantages in visual abilities, using structured teaching will make it easier for individuals with ASD to learn and understand their environment [5].

Schopler and Reichler emphasize one of the factors that influence the outcome of TEACCH treatment is a cooperation between intervention providers,

Table 1. Result

	Turner-Brown et al	Nowell et al
Participant	32 child (< 3 years old)	8 (6-8 years)
Setting	Home	Center
Duration	90 min/ session/ week	90 min/ session/ week
Study	6 months	3 months
Trainer Fidelity	Psychologist	Clinicians with master's degree
Assessor	Blind assessor	Blind assessor
Goal	The aims of this study were to examine effects of FITT on toddler ASD symptoms, skills, parent stress and well-being	This study aimed to examine the initial efficacy of an intervention in social communication and self-regulation concept knowledge for children and parents
Result	The main result of this study is that there is a strong and positive effect of FITT on decrease stress levels and improve parental well-being. In addition, a moderate effect was also found on increasing social communication skills	The results of this study are both parents and children have an increase in social communication skills and self-regulation concept knowledge after the intervention

professionals, and families [14]. While these factors are difficult to control in each TEACCH study. Another factor that affects the outcome of the intervention is the intensity of the intervention, which is expected to be standardized from the low intensity. There are four things to consider in conducting the TEACCH intervention [15]. First, it requires a large enough space to apply it. Second, it takes a lot of time to prepare specific programs and tools that support interventions. Third, the ability and understanding of the people involved in the intervention, so that the intervention provider is usually someone who has passed the TEACCH training. Fourth is the ability to adapt and flexibility when done classically (group). In other words, research with the TEACCH intervention requires considerable resources and effort.

A limitation of this study is that more resources are needed to provide sufficient evidence for the TEACCH intervention. Therefore, we suggest that future research can conduct a systematic literature review to minimize bias and provide stronger evidence.

5. CONCLUSION

The TEACCH approach is not rigidly applied in practice. However, it is necessary to consider the needs and conditions of the family and children. We need to consider family conditions, such as costs, children's abilities, family involvement and other aspects. In addition, this approach can be paired with other approaches in order to obtain maximum results.

AUTHOR'S CONTRIBUTIONS

Thanks to all colleagues for their cooperation. N, NS, SM conceived of the study, participated in its design and coordination and drafted the manuscript. All authors read and approved the final manuscript.

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