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Effectiveness of the Early Intervention Guideline in Improving Social Skills for Autism Spectrum Disorder in Amman, Jordan

早期干预指南对约旦安曼自闭症谱系障碍患者社交技能改善的有效性

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Abstract:

The purpose of this research: This study aims to develop an Early Intervention Guideline for parents to improve the social skills of their children with ASD in Jordan. The issue covered in this study is very crucial as it focuses on a sample of people who may lack the care from others because they need special care.

Methodology: An experimental quantitative research design was chosen. Using a random sampling method, 60 families of children with ASD were chosen for this study. A self-developed questionnaire was used to collect the data. Data were analyzed using descriptive statistics via SPSS.

Main Findings: The results revealed a moderate level of

Keywords:
Autism spectrum disorder (ASD), early intervention, guideline, parents, social skills, Jordan

关键词： 自闭症谱系障碍（ASD）、早期干预、指南、家长、社交技能、乔丹

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agreement among the parents relating to the needs of the family for guidance for early intervention (*M*=2.39, *SD*= 0.94) to improve the children' communication skill (*M*=1.75, *SD*=0.76) and the social skills (*M*=1.57, *SD*=0.61). The result of the effectiveness before the Early Intervention Guideline intervention was lower (*M*=1.89, *SD*=0.63), than after the training (*M*=2.39, *SD*=0.94). The communication skills showed an increase after the training (*M*=1.75, *SD*= 0.76). The child's social skills showed an improvement after training (*M*=0.93, *SD*=0.47) compared to the development of the child's skills before training (*M*=0.93, *SD*=0.55).

Applications: These results indicated the necessity of conducting early intervention programs for families of children with ASD to improve their social and communication skills.

Novelty/Originality: This study is new as it designs a comprehensive guideline for Arabic parents of children with ASD in Arabic to improve the social skills of the children. This study is very useful for other centers that take care of other disabled children, such as children with deaf and hearing impairment. This study is applied in Arabic; hence, any Arabic disabled center can use these results to achieve a high degree of communication with disabled children.

摘要：

研究目的：

本研究旨在为约旦自闭症儿童的家长制定早期干预指南，以提升其社交技能。本研究关注的问题是至关重要的，因为它关注的是那些可能因需要特殊照顾而缺乏他人关爱的人群。

研究方法：

本研究采用实验性定量研究设计。采用随机抽样方法，选取了60个自闭症儿童家庭进行研究。我们使用自行设计的问卷收集数据，并通过SPSS软件进行描述性统计分析。

主要发现：

结果显示，家长们对于家庭需要早期干预指导的需求（M=2.39，SD=0.94）达成了中等程度的一致，这些指导有助于提高儿童的沟通能力（M=1.75，SD=0.76）和社交能力（M=1.57，SD=0.61）。早期干预指南干预前的有效性结果（M=1.89，SD=0.63）低于培训后的有效性结果（M=2.39，SD=0.94）。培训后，沟通能力有所提高（M=1.75，SD=0.76）。与培训前的技能发展相比（M=0.93，SD=0.55），培训后儿童的社交能力有所提高（M=0.93，SD=0.47）。

应用价值：

这些结果表明，有必要为自闭症儿童家庭开展早期干预项目，以提高他们的社交和沟通能力。

创新性/独创性：

这项研究是新颖的，因为它为患有自闭症儿童的阿拉伯父母设计了一份全面的阿拉伯语指南，以提高儿童的社交能力。这项研究

对其他照顾其他残疾儿童（例如聋哑儿童和听力障碍儿童）的中心也非常有用。本研究以阿拉伯语应用；因此，任何阿拉伯残疾人中心都可以利用这些成果与残疾儿童实现高度的沟通。

1. Introduction

ASD is generally known as a disorder with symptoms in social behavior, communication, and repetition of behavior (Van den Boomen et al., 2009). It is also defined by observed impairments in social and communicative interaction and excessive stereotyped patterns of behavior. Differences in response to sensory stimulation are described as phenotypically characteristic (Mikkelsen et al., 2018). For example, a child that is overly sensitive to loud noises may withdraw from over-stimulating communicative environments, leading to less practice with social scenarios and then breaking down successful social interaction (Thye et al., 2018). There is a wide range of symptoms displayed by children with ASD. They range from severe deficits, including nonverbal behaviors that control social interaction and a failure to develop age-appropriate peer relationships. Children with ASD may have delays in or a total lack of spoken language, which can severely impact verbal and nonverbal communication. They may also find it difficult to communicate with others, which prevents them from making friends and engaging in casual conversation. In turn, peers may not make an effort to build relationships because they do not understand the child's language or behaviors (Vacas et al., 2021).

Social skills among children are a translation of the child's natural development at the social level, because they are the basis for the child to express himself and his requirements in the social environment. Social skills are complex and dynamic and yet can quickly convey rich information about the actions, intentions, personalities, and goals of the participants. From an early age, people use social interactions to decide who to trust, who to learn from and who is in charge (Walbrin et al., 2018). In particular, communication and social interaction disorders among children with ASD are among the most important manifestations that affect development in general in social and emotional development. In order to address the social skills difficulties among children with ASD, it is necessary to identify the specific needs of these children and their families. There is no doubt that the emergence of ASD in any family leaves a feeling of psychological and social imbalance, leading the family to feel that they are unable to face this situation alone. This condition prompts the family to seek support and assistance from others. Having a child diagnosed with ASD can be emotionally challenging for any family. Raising and educating a child with ASD can lead to significant stress and disruptions in the family's life. This is due to the challenges faced and a lack of experience in dealing with the child and understanding their unique needs effectively.

Early intervention (EI) is crucial for children with ASD. It provides guidance, support, and awareness to the families of children with ASD. It also helps to minimize symptoms in this group and improve social behavior. The family has an effective role in improving the social behavior of the child and integrating the child into society (Schertz et al., 2018). Children with ASD experience frustration and stress when they frequently fail to communicate their ideas, feelings, and needs. This is eventually manifested as challenging behavior (Al-Wedyan & Al-Oweidi, 2022). Parents or caregivers find it difficult to cope with children's violence and unexpected emotional disturbances, which cause them the most anxiety. In fact, people with ASD have difficulty expressing feelings and needs due to their impairments in communication and language deficits. Due to this difficulty, children with ASD are not properly supported and understood by society, schools, or even families. Therefore, teaching these groups of people to acquire proper communication skills is essential. At least they could then share their basic needs and feelings with significant others when seeking help (So et al., 2019).

The significance of EI for children with ASD improves their development and enables them to integrate into society. It reduces the moral and material suffering of the families and helps them to accept their children. It highlights the significance of the family presence in planning and implementing intervention programs. In addition, it helps the family acquire the knowledge, skills and attitudes necessary for children upbringing (Rojas-Torres et al., 2020). Furthermore, early learning in the first years of a child's life is faster and easier than learning at later stages. It aims to conduct immediate and preventive treatment aimed at developing the child's abilities.

The concept of EI refers to a group of services provided to children with disabilities, whether it is social, healthy, educational or rehabilitative. EI programs have evolved in terms of the nature of these programs, so that family support, training and guidance have become the most important goals. These programs also play a vital and practical role, mainly by helping the child to acquire socially acceptable behavior patterns. EI increases the self-sufficiency of parents and increases the communication skills of children with ASD, reduces inappropriate behavior and further generalization, and maintains skills with increasing time, which helps the community to accept the child and integrate into it (Rojas-Torres et al., 2020).

Since the percentage of disabled preschool children constitutes approximately 10% of the size of disability in

any society, this reflects the volume of services and programs that must be provided to them. Thus, there is an urgent need for EI. EI in early childhood seeks to invest the first periods of a child's life with ASD. Effective early childhood intervention programs assign the family an important role in dealing with the child. The child cannot be understood well without his family and social conditions. Since the family is the constant thing in a child's life, effective EI will achieve its goals without developing participatory relationships with parents.

Early intervention is crucial for children with ASD. It provides guidance, support, and awareness to the families of children with ASD. It also helps to minimize symptoms in this group and improve social behavior. The family has an effective role in improving the social behavior of the child and integrating the child into society (Schertz et al., 2018). Children with ASD experience frustration and stress when they frequently fail to communicate their ideas, feelings, and needs. This is eventually manifested as challenging behavior (Al-Wedyan & Al-Oweidi, 2022). Parents or caregivers find it difficult to cope with children's violence and unexpected emotional disturbances, which cause them the most anxiety. In fact, people with ASD have difficulty expressing feelings and needs due to their impairments in communication and language deficits. Unfortunately, for some reason, they are not properly supported and understood by society, schools, or even families. Therefore, teaching these people to acquire proper communication skills is essential. At least they could then share their basic needs and feelings with significant others when seeking help (So et al., 2019).

Jordan is one of the Arab countries that are built on the Islamic values. These values respect human rights and prioritize individuals' differences. It reflects the process of understanding the disability, interpreting the disability, and responding to having a disabled child in Jordanian families. However, there are no accurate data on the prevalence of disability in Jordan where the rates range from an official rate of 2.7% to an estimated rate of 13% (Thompson, 2018). The prevalence of ASD in 2010 was determined by 0.05% of the total disabilities (Al Tal et al., 2016). The number of children enrolled in EI programs is 423 to 500 children. Paragraph (e) of Article 29 of the Rights of Persons with Disabilities Law No. 20 (2017) stipulates the provision and licensing of early intervention programs in accordance with instructions issued by the Minister of Social Development for this purpose. One of the goals of EI programs is to achieve an active learning environment that enables all children to grow and develop in all stages of their lives on the basis of equality with other children. It confirms the significance of the research and indicates the modernity of early intervention programs provided for people with special needs in Jordan. EI programs are provided based on the principle of taking into account individual differences between children with special needs.

There is a scarcity of studies that discussed the role of EI in improving social behavior among children with ASD through directing the family members using communication methods and behavioral therapy. There are no clear results on the effectiveness of EI programs for families of children with ASD. However, many countries have implemented EI programs. The success of these programs was proven in the United States of America, France, Belgium, Britain, Scotland, Japan, and many Arab countries. The effectiveness of the EI program includes providing advice on the development, behavior, and awareness of disability issues. However, these programs are still limited in spread particularly in Jordan. Certainly, there are a few centers in Jordan specialized in EI, to the point that many children's disabilities are not identified until they are four years old or when they start school. Therefore, the research question for this study is as follows:

What are the parents' needs for the Early Intervention Guideline to improve social skills for children with ASD in Jordan?

What is the effectiveness of the Early Intervention Guideline to improve social skills for children with ASD in Jordan?

2. Research Methodology

In this study, quantitative research was used. Quantitative research includes a group of methods concerned with the systematic investigation of social phenomena using statistical data. Therefore, quantitative research involves measurement and assumes that the phenomenon under study can be measured. Quantitative research aims to collect data using measurement, to analyze these data for trends and relationships and to check the measurements that have been made. This study used a quantitative experimental research design, as the purpose of the study was to intervene early and guide families of children with ASD in improving the social skills of their children in Jordan. The focus of the experimental study was to evaluate the effectiveness of the Early Intervention Guidelines (EIG). The number of samples in the study contained 60 parents with children with ASD.

The samples of this study are children with ASD and their parents. The sample of the children included 19 girls (32%) and 41 boys (68%). There were 37 (62%) children from urban areas, and 23(38 %) children from rural areas. Their age is between four and six years old. The sample members are registered in places specialized in dealing with children with ASD and training them. Children with severe ASD were excluded, and only children with moderate ASD were selected. The sample size of the families was 60. All of them are native speakers of Arabic. They are staying in Amman, Jordan. As for the centers, there are three joint centers in the study. They are the Al Ghaith Center for Early Intervention, the Arada Center for Community

Empowerment, and the Bedaya Charity Association. They are all located in the east of Amman-Jordan.

3. Data Collection

3.1. Questionnaire

The questionnaire contains demographic data and data that measure the needs of families with children with ASD, social behavior skills and communication skills. It is necessary to distribute a questionnaire to identify the needs of the family and prior to meeting their needs for their children with ASD. The items contain paragraphs that measure the extent of the need for the family for information and family performance. The questionnaire contains demographic data that measure the needs of families with children with ASD, social behavior skills and communication skills. These are indicators that identify the deficiencies in a child with ASD. The questionnaire was developed using the rating of the reciprocal scale, social behavior, and positive social behavior measurements for mothers of kindergarten children. Part D contains sixteen items about expressions of communication skills from the Autism Diagnostic Scale in children less than six years of age. The questionnaire used a five-point Likert scale: Always Present, Always, Sometimes Found, Rarely, Not Found.

3.2. Implementation of the Early Intervention Guideline

The EIG contains several sessions. Each session lasted for 35-40 minutes for three days a week. It focused on some skills to develop the child's communication skills; including visual communication (e.g. welcomes his friends when they meet). In order to achieve the program goals, the training program went through four phases so that each stage prepares for the next stage. The first stage aimed at preparing children and spreading the spirit of affection and familiarity between the researcher and the child. Some notes about child's behavior are collected, and identifying the ways to communicate and what reinforcements were preferred. The second stage is the actual training program in which the child is trained to visual communication, increase the period of attention, follow simple orders, and communicate non-verbally. The duration of each session is from 35 to 40 minutes. The third stage is related to training in social skills (e.g. greeting and peace, playing with adults, participating in organized activity with children). The fourth stage aims to retrain the children participating in the program; it is like confirming what has been trained in the previous stages to achieve the goal of the program. It uses behavior modification strategies, such as reinforcement, imitation, and modeling, repeating educational activities in different natural environment situations, guiding the family to use appropriate activities to train the child in his natural environment. The content of the EIG is illustrated in Table 1. Early intervention sessions were provided to families of children for a period of 3 months. The researcher used to provide sessions for children in the presence of the family and provide guidance on how to apply the goal in the child's natural environment and answer all the inquiries that the family needs. The families of the children indicated a remarkable and clear progress in the behavior of their children. The questionnaire was submitted to show the extent of family satisfaction with the behavior of their children.

Table 1. Contents of the early intervention guide (compiled by the authors)

Style and Techniques	Session Title	Session Number
1	Early intervention definition, importance, and justification.	Dialogue-Discussion - Brochures-Feedback - Homework
2	Autism spectrum disorder causes and characteristics	Dialogue-Discussion - Brochures-Feedback - Homework-Brainstorming
3	visual communication (e.g. He greets his friends when they meet).	Dialogue-Discussion - Brochures-Feedback - Homework-Brainstorming
4-5-6	Increased attention span, consider the rules of the system, cooperation, and play with peers	Dialogue-Discussion - Feedback-Homework - Brainstorming
7-8-9	Follow simple instructions. Your child responds to simple verbal requests	Power Point Presentation - Dialog - Discussion-Brochures - Feedback-Homework - Brainstorming
10-11-12	Communication through the program (PECS)	Dialogue-discussion - brochures-feedback - homework-brainstorming - groups
13-14-15	Social skills development includes Greetings to friends Share playing with children	Dialogue-Discussion - Brochures-Feedback - Homework-Brainstorming - Groups-Field Visits

4. Findings

As indicated in past sections, the findings of this study are to answer two research questions. Each finding is discussed further as follows:

4.1. Parents' Needs for Early Intervention Guideline to Improve the Social Skills of Children with ASD

The results are presented through the arithmetic means (M), standard deviations (SD), ranks, and the percentage of each paragraph. The descriptive statistics of the items of the family guidelines for early intervention are illustrated in Table 2. The overall results of this part indicated a moderate level of need of families for the EIG to improve the social skills of the children with ASD (M= 2.39, SD=0.94).

Table 2. Means, standard deviations, ranks and percentage of parents' need for early intervention guideline (compiled by the authors)

No	Item	M	SD
3	I need more information about the growth and development of children.	2.70	1.27
2	I need more information about how to educate my child.	2.67	1.40
1	I am seeking more information on how to deal with my child's behavior.	2.55	1.63
7	I need more information about the status of my child.	2.47	1.38
10	I need more to watch videos and read books about autism to clarify the situation of my child to his brothers.	2.30	1.58
6	I need more information to play with or talk to my child.	2.28	1.33
5	I need more organized meetings with my mentor or psychologist to talk about my child's problems.	2.25	1.46
9	My family needs counseling to do recreational activities status of my child.	2.25	1.39
4	I need more opportunities to meet and talk with the families of children with autism spectrum disorder.	2.20	1.26
8	My husband/wife needs to attend a seminar about autism to understand and accept my baby's condition.	2.18	1.11
Early Intervention Guidelines		2.39	0.94

The results of the participants' responses to the child's social skills are illustrated in Table 3. The highest level of agreement was recorded for item 4 "He has repetitive and strange behavior such as hand palpitations or rocking" (M=2.03, SD=1.35). They also agreed that's "My child responds to an adult's request for help (such as picking up toys)" (M=1.87, SD=1.27). Most of the other items also received a moderate level of agreement by the participants with the mean value ranging between 1.75 and 1.47. On the other hand, some items had a low level of agreement where the mean was very low. For example, not all the participants agreed that their children would thank others when they helped them (M=1.37, SD= 1.21). Moreover, the least skill reported by the participants was that the child "greets his friends when they meet" (M=1.17, SD =1.29), indicating the low ability of the child to greet friends.

Table 3. Means, standard deviations, ranks, and percentage of the social skills of the child (compiled by the authors)

No	Item	M	SD
4	He has repetitive, odd behaviors such as hand flapping or rocking.	2.03	1.35
5	Responds to an adult's request for help (such as picking up games.	1.87	1.27
11	Avoids initiating social interactions with peers or adults.	1.87	1.14
12	Making eye contact while playing or talking.	1.75	1.17
3	Avoids people who try to be emotionally close to them.	1.73	1.21
7	Expressing joy and pleasure by smiling or wrapping the face.	1.73	1.40
2	Prefer to be him/herself.	1.65	1.12
6	Responds to adults who try to attract positive attention.	1.62	1.21
17	Ignores the existence of others.	1.57	1.21
9	Mimics the actions of others.	1.53	1.32
10	shares with the others in play	1.48	1.03
1	Interested in what people around him/her are doing.	1.47	1.16
13	Interacts with adults same similar to children of his age	1.47	1.13
16	Thanks others when they help him.	1.30	1.21
8	Emotionally distant, does not express his/her feelings.	1.27	1.13
14	consider the rules of the system, cooperation, and play with peers	1.25	1.10
15	Greets his friends when they meet.	1.17	1.29
Child's social skills		1.57	0.61

The results of the descriptive statistics of the communication skills are illustrated in Table 4. All the items were in the moderate level of agreement. For example, the participants agreed, to a moderate extent, that the child "responds to his/her name when called upon" (M=2.20, SD=.47). In the following items, the parents also stated that the child "uses certain words to express his order sentences" (M=2.02, SD=1.44). The item that received the least agreement among the participants was item 5, indicating that the child did not repeat the words as soon as they were heard immediately (M= 1.35, SD= 1.05).

Table 4. Means, standard deviations, percentages, and ranks of the communication skills (compiled by the authors)

No	Item	M	SD.
1	Responds to his/her name being called.	2.20	1.47
10	Uses certain words to express a sentence such as a word to eat instead of "I want to eat the apple".	2.02	1.44
4	By pointing, indicates when he/she wants something or is interested in something.	1.93	1.25
7	Expresses his need in specific words.	1.83	1.33
3	Responds to simple verbal requests.	1.80	1.25
8	Can use (yes and no) appropriately.	1.68	1.19
6	Is unable to understand the speech addressed to him.	1.63	0.96
2	Always tells you what he does not want.	1.59	1.10
9	The pronouns are used properly in sentences.	1.52	1.27
5	Repeats the words as soon as they are heard immediately.	1.35	1.05
Communication Skills		1.75	0.76

The descriptive results of the study sample responses to the questionnaire domains are illustrated in Table 5. The domain that received the highest level of agreement was the family guidance for early intervention (M=2.39, SD=0.94), followed by the communication skills (M=1.75, SD=0.76). The least agreement was recorded for the third domain "Child's social skills" (M= 1.57, SD=0.61). However, it can be concluded that the level of agreement of the questioner is moderate (M=1.84, SD=0.55).

Table 5. Means, Standard Deviations, Ranks and Percentage of Scale Domains (source: developed by the author)

No	Item	M.	SD.
1	Family guidance for early intervention	2.39	0.94
3	Communication skills	1.75	0.76
2	Child's social skills	1.57	0.61
	Total	1.84	0.55

4.2 Effectiveness of the Early Intervention Guideline to Improve Social Skills Among Children with Autism Spectrum Disorder in Jordan

Paired Sample T-test was used to determine if there is a difference between the pre- and post-test. The results revealed a significant difference between the pre- and post-test in the family needs for EIG ($p<.05$). Table 6 shows that there are differences between the means of the three domains before and after the training. The family needs of early intervention before the intervention was lower (M=1.89, SD=0.63), than after the training (M=2.39, SD=0.94). The communication skills demonstrated an increase after the training (M=1.75, SD= 0.76). Moreover, the child's social skills showed an improvement after training (M=0.93, SD=0.47) compared to the development of the child's skills before training (M=0.93, SD=0.55).

Table 6 Evaluation of The Effectiveness of the Early Intervention Guideline Before and After Training (compiled by the authors)

Domains	Pre		Post		T-test	Sig
	Mean	SD	Mean	SD		
Family needs for early intervention	1.89	0.63	2.39	0.94	11.62	.000*
Child's social skills	0.93	0.47	1.57	0.61	27.71	.000*
communication skills	1.54	0.71	1.75	0.76	15.11	.000*
Total	1.35	0.55	1.84	0.55	27.03	.000*

This result is contributed to the high level of mothers' sufficiency so that they are less stressed and anxious to work with their children. These findings are consistent with the results of Mazurek, Brown, Curran, and Sohl (2017). This result emphasized the importance of family training and was consistent with the findings of Schertz,

Odom, Baggett, and Sideris (2018). This study also highlighted the role of the family in enhancing social communication for children with ASD.

On the other hand, specialized international and regional organizations confirm that approximately 50% of developmental disorders and disabilities are preventable with simple and relatively inexpensive procedures. Therefore, early intervention and the need to provide it for children are very critical (Rojas-Torres et al., 2020). The National Autistic Society in Britain has developed an Earlybird program, which is concerned with early intervention for children with autism. It is a short-term program for parents of a child with ASD, in which the active role of parents is encouraged. They learn the meaning of autism, how to communicate and interact with their children, and how to analyze and understand their behavior (Shields, 2001). Many studies have focused on identifying ASD and early intervention in Jordan. Jabery, Arabiat, Khamra, Betawi, and Jabbar (2014) attempted to investigate the perceptions of parents of children with autism regarding the services provided in Jordan. The parents expressed the need for early intervention, family counseling, and community awareness services. The current study agrees with the mentioned study in identifying the needs of families of children with autism spectrum disorder, but not on early intervention, family counseling. Al-Khalaf, Dempsey, and Dally (2014) examined the effect of an education program for mothers of children with autism spectrum disorder in Jordan. It investigated whether the provision of an education program in Jordan for mothers of children with ASD increased mothers' understanding of their child's behavior, improved the mothers' coping skills and reduced their stress levels. The results showed that the mothers' stress levels were significantly higher and their coping skills were significantly lower compared to the fathers. After the training, it was found that the mothers had a significant reduction in stress levels, an increase in coping skills, and an improvement in mother-child interaction. The outcomes have valuable implications for interventions for families with a child with ASD living in Jordan or in other Arabic countries. The study is in line with the current study that there is a program presented to the families of children with autism spectrum disorder to reduce their stress and understand their children's behavior. The current study sought to provide training sessions for families to improve their children's social skills. The current study aims to highlight the important role of the family because the family is the first teacher for their child with ASD.

5. Discussion

It is necessary to support the parents of children with ASD in every possible way so that they understand their child's problem. Parents are involved in raising their children and training them on social roles through organized interviews with families. This kind of training will affect their view of their child's disability in a more positive way in the future.

Involving the parents in the implementation of the program contributes to the stability and coherence of the methods used at home and school, which positively affects the program. Survey data showed that there is a need for EI for parents with children with ASD to improve child behavior. Based on the data obtained, most participants claimed that they lack the sufficient skills to deal with their children with ASD. Therefore, training is needed to engage parents with their children with ASD to enhance social communication. This result agrees with previous studies that stated the EI explicitly supports the social functions of preverbal communication and promotes active engagement in the learning process for both toddlers and parents. It should be highlighted the importance of EI, parental education, and training sessions for families to enhance social communication among children with ASD (Schertz et al., 2017). This result is also supported by Schertz et al. (2018) who highlighted the importance of family role and training to enhance social communication for young children with ASD. Furthermore, communication and social life are closely related as effective communication enables people to find solutions to the problems they face. Children with ASD can develop positive social skills within the surrounding environment (Ayasrah et al., 2022). Therefore, the need to encourage the generalization of skills by extending the therapy into the home and school settings and integrating the parental techniques into daily routines and play should be implemented (Green et al., 2018).

The results of evaluating the effectiveness of the EIG in improving the social skills of children with ASD attributed to the nature of the program that focuses on generalizing the acquired skills of the children with ASD. The training in EIG provides children with ASD with great opportunities to communicate and interact with others, such as parents, brothers and relatives, through daily routine activities. Therefore, it helps to facilitate positive impacts to increase social interaction and led to the development of communication and social skills among children with ASD. The results came within the framework that raising the parents' educational level contributes by providing them with information and experiences that support the importance of parental education programs. By doing so, the children can enhance their social efficiency and expand their communication with a large number of people (Nicholas et al., 2016; Raulston et al., 2020; Singh et al., 2021; Kasilingam et al., 2021). In addition, previous research findings also support the effectiveness of parents' role as social partners in language interventions with their children as seen through mothers' responses and expressive language outcomes in children using reinforcement (Nwosu, 2016). Therefore, this shows that the effectiveness of parental involvement should be implemented at an early age. Thus, the problems of

social behavior and communication that characterized a child with ASD will be addressed by parents and work to guide them to work on training their child in the environment.

6. Conclusion

The results of the study found that parental participation and the necessity of directing families to train their children with ASD within the natural environment in which they live had a positive impact on improving their social skills. This study shows that active parental participation increases family satisfaction with services, and it also works to improve the results of the intervention. In addition, involving parents in EI helps their children with ASD gain self-confidence and allows them complete freedom to play, participate, work and produce like non-disabled people. The family plays a major role in helping the disabled child overcome the restrictions imposed by the disability. Therefore, parents' need for EIG to improve social skills is of great importance.

Based on the current study procedures and difficulties encountered while dealing with children with ASD, the study recommended the following:

1. Educational training should be in non-verbal communication skills, which play an effective role for people with ASD through social activities.
2. Providing educational programs for ASD children through direct targeted experiences.
3. Holding specialized training courses regularly for mothers and educators of ASD in order to clarify their counseling and preventive roles.
4. The need to provide appropriate health, educational, and psychological care for ASD.
5. Preparing qualified people who are characterized by patience and giving to work with ASD.
6. The need to take care of the ASD class and make special programs for them. This helps them integrate into the society to become active and influential persons.
7. The need to consider individual differences and personal characteristics in the programs offered to ASD in particular and groups with special needs in general.
8. Providing early intervention and counseling programs for families of children with ASD in all special education centers in Jordan.

7. Limitations and Further Study

This study was limited only to children with autism spectrum disorder between four and six years old. Besides, these children should be diagnosed as children with ASD using the childhood autism assessment scale, without having Pathological conditions. The study did not include all the factors related to social interaction.

Therefore, more research is needed in this area with studies using stronger research designs. Future studies should focus on evaluating the effect of family training on children with autism. Other studies may examine the effect of material, moral and social reinforcement methods in various ways to improve the positive interaction of children with autistic disorder children. The effectiveness of the behavioral approach in developing social interaction among ASD can also be studied.

Early intervention prevents the development of disability or reduces its severity. EI is the basis of later learning and helps children change behavior, and mitigate the effects of disability. This is achieved faster than late intervention. EI also provides children with a solid foundation for learning during primary school and for constructive social giving in later life stages.

Early Intervention helps to reduce the moral and material suffering of children's families, alleviate their burdens, and allow their children to achieve an acceptable degree of adaptation. It highlights the important role of the family in planning and implementing the intervention programs. Moreover, the study assists the family in acquiring the knowledge, skills, and attitudes necessary for the upbringing of their children with ASD.

Author Contributions

Conceptualization, A.J.M.K.; methodology, A.J.M.K., and M.R.M.A.; software, M.R.M.A.; validation, A.J.M.K.., and M.R.M.A.; formal analysis, A.J.M.K. and M.R.M.A.; investigation, A.J.M.K.; resources, A.J.M.K.; data curation, M.R.M.A.; writing-original draft preparation, all authors contributed equally; writing-review and editing, A.J.M.K.; visualization, M.R.M.A.; supervision, A.J.M.K. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Review Committee for Research Involving Human Research Participants of the Port Said University.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest

The authors declare that there are no conflicts of interest with respect to research, authorship, and other individuals and institutions that are perceived as inappropriately influencing the presentation and interpretation of results, reporting of research findings, and the decision to publish this article.

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