



Research Article

The Lack of Knowledge to Use Evidence Based Practices for Children with Autism

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Abstract

The purpose of this article is to review therapists' perspectives on evidence-based practices (EBPs) for children with autism spectrum disorder (ASD). The selected study [1] was conducted and published in east Libya in Arabic to examine the therapists' practices used with children with ASD to explore what they knew about evidence-based practices for ASD and how these therapists applied such practices. Twelve participants were recruited, all of whom were therapists who work in centers with children with ASD. A qualitative research design was used, and a single one-on-one, a semi-structured interview was conducted to collect data. Findings showed that the therapists were aware of the extent to which children need to learn social, academic, and self-care skills. They also were aware of individual differences in children with ASD. On the other hand, findings revealed that the therapists have a lack of knowledge about EBPs for ASD. This lack was shown in two aspects: 1) identify the effective strategies in order to develop individualized plans, 2) evaluation the children's progress, 3) barriers that limit the therapists' abilities to perform their work.

Keywords: Therapists; Evidence-Based Practices; Autism Spectrum Disorder; Children; Qualitative Research

Introduction

The extant literature supports the perspective that the implementation of Evidence-Based Practices (EBPs) improves the performance and skills of children with Autism Spectrum Disorder (ASD) [2]. Although there are many effective interventions for individuals with ASD [e.g., Pivotal Response Treatment (PRT), Treatment and Education of Autistic and Communication Handicapped Children (TEACCH), and Picture Exchange Communication System (PECS)], therapists face challenges related to determining which interventions are most appropriate and how to implement them in the classrooms [3].

This is especially true in countries outside the United States, including Libya. Centers enroll and place ASD children in classrooms without developing individualized plans for each child [1]. The lack of individualized programming for the child is compounded when therapists do not teach these children a specialized curriculum designed just for them based on

individuated needs, but instead provide lessons and skills that are deemed as important by the therapists. This process of using a global curriculum and using methods of instruction may or may not be effective. Therapists do spend a lot of time in the centers and make a great effort to educate their children, however, they also voice frustration due to a lack of visible progress in children with disabilities, even after several months of teaching. This lack of successful progress identification after such effort drives the examination of what therapists know about research-based interventions they can use with these children. It is worth the time to examine if they recognize the link between effort and success. As much research has shown, success in supporting such children requires using interventions grounded in evidence-based practice [2].

The most common intervention domains targeted for research in the United States for individuals with ASD are behavioral, developmental, and social. Behavioral interventions include the following three approaches: Verbal Behavior Approach (VBA), Applied Behavior Analysis (ABA), and Pivotal Response Treatment (PRT). Developmental interventions include TEACCH

and The Hanen Centre. Social behavior interventions include such methods as: Social Communication/Emotional Regulation/Transactional Support (SCERTS), Relationship Development Intervention (RDI), and the Developmental, Individual-differences Relationship-based model (DIR). All of these interventions are supported by a researched literature basis, and they are identified as evidence-based practices [4].

The current study explored whether therapists in Libya are utilizing EBPs in their classrooms and how they select the practices they use. Thus, the research addressed these questions:

1. Are therapists in Libya knowledgeable about evidence-based practices for 5–12-year-old children with autism spectrum disorder (ASD)?
2. Do therapists in Libya apply evidence-based practices for children with autism spectrum disorder (ASD)?

Methods

Participant

A diverse population of therapists was sought for the participant sample, including individuals from varied educational backgrounds, identified genders and age range, and across six centers in Libya. All therapists were citizens of Libya. These six centers are those most commonly where children with ASD are referred for education. This selection for the sample was intentional to increase the richness of the data collection and to support its trustworthiness and transferability.

Since this research intended to glean knowledge from people in Libya with expertise in ASD, a purposeful sampling technique for recruiting participants was utilized. The authors recruited therapists from six centers serving children with ASD in six towns within eastern Libya. The authors asked the principals at each of the six centers to nominate two therapists with four or more years of experience working with children diagnosed with ASD. Two therapists from each center agreed to participate in the study. The twelve participants were all teaching during spring 2019.

Participant #	Age Years/months	Educational Experience in Years	Identified Gender	Field of BA Degree
1	27.6	4	Female	Psychology
2	28.2	5	Female	Special Education
3	28.7	5	Female	Special Education
4	28.11	4	Female	Psychology
5	30.3	6	Male	Special Education
6	31.8	4	Female	Psychology
7	31.10	7	Female	Psychology
8	32.1	5	Male	Special Education
9	32.3	7	Male	Psychology
10	32.4	7	Female	Psychology
11	34.4	6	Male	Special Education
12	36.8	10	Female	Psychology

Table 1: Demographic Characteristics of the Participants.

The field of qualitative research comprises a number of methods of data collection, including participant observation, in-depth interviews, and focus groups [5]. The in-depth interview method was used in the current research to collect data from the participants. Semi-structured interviews were employed. The semi-structured interview is more flexible than the structured interview type enabling the researcher to inquire or ask sub-questions for expansion and clarification of responses [6].

After written consent was collected from the participants, interviews times were scheduled one-on-one with each of the twelve participants. The participants were asked to select a pseudonym for research identification purposes (Alia, Hana, Izz al-Din, Khawla, Mohammed, Mqbwla, Salha, Salwa, Sarah, Suad, Wafa, and Widad). The interviews were audio-recorded and transcribed for data analysis. The average interview lasted approximately an hour and a half (90 minutes). See the interview protocol used in Appendix A. The data used in the analysis consisted of the audio-recordings, interviewer notes, and transcriptions of the interviews. It was not foreseen that debriefing was required of the participants; however, they were offered the opportunity to receive the final report.

Data Handling Procedures

No participant therapists were asked for personally identifying information to protect participants' safety and confidentiality. Furthermore, the interviews were audio-recorded and then transcribed into written texts. Both audio recordings and written texts have been preserved on the researcher's private computer and password protected. Several months after completing the study, the digital files will be destroyed. Participants were advised that they have the opportunity and right to terminate their participation in the research at any time.

Instrument. The instrument of research is the most important method to answer the research questions. As shown in Appendix A, the research instrument in this study included 24 interview questions designed for specific purposes. First, all questions were designed to achieve the main purpose of the research, which is to identify whether therapists were knowledgeable of EBPs use in the classroom environment and if EBPs practices were implemented. Second, the questions addressed four main domains of instruction, two of which are associated with impairments related to the disorder (social-communication and restricted/repetitive behaviors) and two of which are areas of skills associated with adaptive behavior (self-care and academic skills). Specifically, questions 1, 2, 3, and 4 aimed to gather general information and create a warm, welcoming atmosphere between the researchers and the participants. Questions

5, 6, 7, 9, 15, 16, 17 and 19 addressed the two core symptoms of ASD (i.e., impairments in social communication and the presence of restricted/repetitive behaviors) based on the Diagnostic and Statistical Manual of Mental Disorders [7]. Questions 10, 11, 12 and 14 addressed self-care. Questions 20, 21, 22 and 24 were related to the academic skills. Finally, questions 8, 13, 18, and 23 asked about challenges the therapists perceived that interfered with their ability to teach the necessary skill areas.

Data Analysis Procedures

After conducting the interviews, a narrative data record was created by transcribing the audio-recorded data into written texts, which the researchers reviewed for accuracy. Names of the therapists were not mentioned during the interviews. As suggest by Nowell, et al. a Thematic Analysis (TA) approach was employed to identify the main topics that the participant's addressed in response to the interview questions [8]. The TA approach includes systematic procedures for generating codes and themes from the data. Codes are identified in terms of their relevance to the participants' interests and opinions that were repeatedly used in the context of their speech [9]. After codes were identified, then themes emerged as dominant from the interviews.

Reliability

An important practice is determining Inter-Rater Reliability (IRR) [10]. The IRR technique is used to achieve trustworthiness and high-quality findings. The first and the third authors randomly picked four interviews and read the transcripts several times to be familiar with the entire body of data. The authors made notes and wrote down early impressions. Next, each one of the researchers extracted initial codes relevant to each of the research questions. Then, the authors examined these codes, and to find collective areas for themes. The themes were coherent and distinct from each other. Finally, reliability was calculated to measure the agreement between the coders by using the following formula [11].

$$reliability = \frac{number\ of\ agreements}{number\ of\ agreements + disagreements}$$

Using this formula, the IRR was 87.5 % reliability level. The percentage was within an acceptable level for establishing reasonable reliability.

Data Analysis

As previously described, a thematic analysis approach was used in the present research to analyze the results. Table 1 shows the main themes and subthemes extracted: these themes will be detailed shortly.

Themes	Subthemes
Recognize the skills that the children need to learn.	Therapists took into account children' individual differences
	Professionals were aware of the main needs of the children
Identify instructional strategies and develop individualized programs for the children	Choose strategies that could improve the children' skills.
	Procedures for developing individual programs that fit each children's needs.
	Lack of trustworthy resources
Evaluate children progress	Total dependence on unsystematic observation
	Lack of formal and informal evaluation instruments
Obstacles that limit the ability of therapists to perform their work.	Developing policies that organize centers' duties
	Providing needed tools to implement EBPs
	Family involvement in the individualized educational programs
	Increasing awareness about ASD in the community

Table 2: The Major Themes and the Subthemes that were generated.

Results

This study examined the instructional practices used with children with ASD in eastern Libya in order to identify what therapists knew about EBPs for ASD and how such practices were applied. Twelve participants from eastern Libya were recruited, all of whom were therapists who work in centers with children with ASD.

A qualitative research design was used, which involved a single one-on-one, semi-structured interview. In this section, how the data was analyzed is described. Next, the description of how reliability was determined to attain trustworthiness and high-quality results is included. Third and finally, the themes generated from the data analysis are summarized and described.

Themes

As shown in Table 1 above, the data analysis revealed four themes and a number of subthemes derived from the therapists' perspectives. The four themes are: (a) Recognize children' needs to learn skills, (b) Identify effective strategies and develop individualized programs for the children, (c) Evaluate the children' progress, and (d) Obstacles that limit the ability of therapists to perform their work. The next four sections will provide details for each one of these themes.

Recognize children' needs to learn skills

Findings showed that the therapists in the current study discussed the importance of equipping children with ASD with skills that are needed in several areas. Sarah states that children need to acquire skills such as social communication, self-care, and

academic achievement. The therapists also discussed the need to minimize restricted/repetitive behaviors that may obstruct children from learning new skills and may reduce their opportunities to interact with their peers. Khawla mentioned, "We need to work on reducing restricted/repetitive behaviors because they hinder children' learning and decrease opportunities for positive communication with people around them." These therapists also reported encountering difficulties in teaching their children with ASD because the children differed substantially in their skill levels. Muhammad said that "the biggest difficulty is the individual differences between children, therefore there is no one teaching method that fits everyone." This is consistent with what Librera et al. mentioned that the differences in performance among children with ASD would make practitioners face challenges in teaching these children if they do not take into account these differences as a result of being a heterogeneous group [12].

According to the therapists' discussion, the strategies that they used to improve children' skills were selected based on the differences between each child and another. There was no evidence that these therapists examined EBPs regarding how to determine children' needs. Moreover, there was no evidence that these therapists used any form of curriculum in which scope and sequence were identified.

Identify instructional strategies and develop individualized programs for the children

Several systematic reviews have been conducted in the field of ASD to identify the most effective interventions. Many of these studies have emphasized the importance of using EBPs to ensure

children progression [13]. In the participants' discussions, they mentioned that all their centers employed Discrete Trial Training (DTT). DTT is an evidence-based intervention that has been used to teach children with ASD new skills through providing preferred reinforces, contingencies and repetition of educational trials [14].

Some of the therapists mentioned, that they use DDT which is considered one of the most common interventions. Salha stated, "we mainly rely on the DDT to teach our children the skills they need." However, contrary to what the therapists reported the researchers discovered that these therapists do not implement DDT as they thought. For example, when the therapists were asked specifically how they chose strategies, all of them said that they use procedures based on their experience. Souad mentioned, "We strive to provide some strategies that we got from our experience with the children, and some acceptable ideas are created by diligence." Izz al-Din also said, "It is possible to choose strategies through experience and then teach the children by using them." In fact, the therapists were concerned about these procedures, but they said that they have been unsuccessful in finding effective means to help their children.

Evaluate children progress

Systematic observation is a direct method to evaluate the strengths and needs of the child with disabilities, as well as to monitor his/her progress. therapists can also use indirect methods (e.g., record reviews, and checklists and questionnaires or interviews with parents or caregivers who interact with the child daily) to collect more data about the targeted behavior [15,16].

The findings showed that the therapists did not use systematic observations which would allow them to accurately observe a certain behavior of a child; in fact, the therapists in this study never evaluated the results of their interventions, other than hearing informally the opinions of parents and colleagues. Muhammad and Mqbwla reported that they rely on the feedback from their co-workers and parents of the children and consider that as an indicator of the children's progress. These therapists did mention that there is a lack of standardized assessments in their centers. Souad mentions that she can only evaluate her children through the opinion of the parents/guardians about the extent to which the children have acquired the targeted skills. While Wafaa obviously indicated that she does not utilize any assessment procedures in order to assess children's performance in self-care skills. She said, "we use the weekly and monthly reports that contain the comments of the parents about their children's performance!"

Obstacles that limit the ability of therapists to perform their work

Findings revealed that there were several limitations that the therapists perceived as limiting their abilities to teach their children. These limitations were shown in several aspects:

- a) The need for a policy that organizes the duties in the centers. Alia stated that "there is a need to determine the time of all classes and sessions, providing a paraprofessional in each classroom, and having a substitute therapist in case of absence of therapists."
- b) The need for tools to implement interventions. There is a lack of tools (e.g. pictures/cards, toys, or electronic devices) which constitutes a barrier in terms of implementing interventions for children with ASD, said Salwa.
- c) Limited family involvement in individualized education programs. Alia mentioned that "the improvement of the children's skills depends mainly on the families so that if the family followed the therapists' instructions, the children would show progress." However, Hana reported that "parents do not prefer to engage in their child's intervention, rather they rely on the center services only." Widad also said that "parents do not respond to the notes that were written in the children's book, for instance, although, parents have not received training on how to teach their children at home, the therapists were providing them assignments to be used with the children, however, parents did not implement these assignments at home."
- d) A final obstacle that these therapists identified was a lack of awareness about ASD in the community. "Individuals with ASD are strangers in the community due to a lack of awareness activities", said Wafa. Additionally, some of the therapists (i.e., Izz al-Din, Souad, and Khawla) suggested several ways to raise awareness of ASD such as conducting conferences, workshops, seminars.

When giving information about the concept of evidence-based practices, these therapists were very interested; nevertheless, they reported that the difficulties they face make it difficult to implement such practices. A number of therapists perceived that there is an urgent need for training that ensures fidelity in the implementation EBPs.

Discussion

This study examined therapists' practices used with children with Autism Spectrum Disorder (ASD) in eastern Libya in order to identify what they knew about evidence-based practices (EBP) for ASD and how such practices were applied by therapists. The literature review in this research illustrates that using interventions-based research is important to teach children with ASD. The reason is because these interventions include effective strategies that can lead to better academic progress and decrease challenging behaviors [2,4]. The findings showed that these therapists did not use EBPs to teach their children with ASD. Most therapists who participated in this study knew about some behavioral techniques (e.g., reinforcement, punishment, shaping, and extinction). However, the therapists did not realize how these techniques must be used. This might be the biggest issue that centers of ASD

encounter in eastern Libya. Therapists in these centers may need training workshops to learn how to use behavioral techniques. Then, they would be able to utilize EBPs with fidelity.

Another issue is that the therapists do not use evaluation methods (e.g., systematic observation, record reviews, checklists or questionnaires). Thus, there is no way to monitor the children's progress which is the most important element to identify whether an intervention was effective or not. We observed through the interviews that the therapists are excited to learn how to teach their children by using EBPs. Some of these therapists were frustrated because they know that their practices are probably not going to be effective. However, the therapists mentioned that these practices helped a number of children who transferred from centers of ASD to public schools. Finally, this study highlighted a lack of knowledge of EBPs which most centers in eastern Libya face. The current research findings may lead to improve practices of the therapists in these centers. Also, the schools' principals should take responsibility by addressing this issue.

The target study in this article addressed therapists' application of EBPs which is one of the most important elements in the special education field. According to the literature reviews, numerous studies concentrate on the importance of EBPs to teach children with ASD. In terms of the main results and implications of the selected study, there are several implications for future practice and research related to EBPs in centers of ASD in eastern Libya and other countries have similar issues. The therapists may need effective interventions, rather than using practices that are not evidence-based. The therapists may also need to be taught the most common intervention areas for individuals with ASD (i.e. behavioral, developmental and social). Then, training on how to implement interventions would be necessary for the therapists to become certified.

Obviously, more research is needed in Libya since this is the first study about EBPs in the ASD field in this country. Future research may need to include more centers and participants in order to know further about obstacles to implementing EBPs in centers for children with ASD. We suggest a need for experimental research design and single-case research design to build a data system that assists therapists to identify interventions which have strong evidence. To support such research, government policies should fund research in special education, particularly research targeting children with ASD.

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