



Bahraini Teachers' Perceptions on the Challenges of Remote Teaching for Autistic Children


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 10.46303/ressat.2024.27

Article Info

Received: March 2, 2024

Accepted: April 21, 2024

Published: May 7, 2024

How to cite

Daghustani, W. H., & MacKenzie, A. (2024). Bahraini Teachers' perceptions on the challenges of remote teaching for autistic children. *Research in Social Sciences and Technology*, 9(2), 90-108. <https://doi.org/10.46303/ressat.2024.27>

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ABSTRACT

This research aims to understand how teachers of autistic children responded to teaching remotely during the COVID-19 pandemic. Six teachers who work in an autism centre took part in face-to-face semi-structured interviews in the Kingdom of Bahrain on their perspectives of teaching autistic children remotely and how their mothers adapted to this mode of teaching. The teachers reported that the unprecedented change was challenging for autistic children and their families, but especially for mothers, who were in all cases, the primary caretakers. The effectiveness of remote teaching depended on the cooperation and the willingness of the mother and child to engage in the process. Overall, teachers agreed that in comparison to face-to-face teaching, remote teaching was not a positive experience.

KEYWORDS

Remote teaching; autistic children; mothers-as-teachers; teacher experiences; Kingdom of Bahrain

INTRODUCTION

As is now widely reported, the COVID-19 pandemic caused a huge and sudden shift in everyday life, including education (WHO, 2020), a change that required fast adjustments and brought heightened attention to the value of online teaching (Hodges et al., 2020; Roitsch et al., 2021). Approximately 900 million students worldwide were affected (UNESCO, 2022), leading to consistent interruption to the entire learning process, especially the lack of preparation (Nasir & Hameed, 2021). Bozkus-Genc and Sani-Bozkurt (2022) reported that there was little or no opportunities to prepare for remote teaching because of the sudden changes caused by the pandemic. Teachers faced the challenge of how to continue teaching while keeping themselves and their students safe from a pandemic that was not fully understood when it began to spread worldwide. Bahrain, like the rest of the world, struggled to maintain the education system and support children and young people. At very short notice, remote teaching became the norm on the island as schools and special education centres shifted from a face-to-face school-based teaching model to a learn-from-home model (UNESCO, 2022). Quick and clever solutions were needed, but it was hard and stressful for both teachers and parents, and especially autistic children (Hernandez & Bendixen, 2023).

Home education meant that teachers, parents and students were required to adjust their timetables, adapt to the remote teaching environment, and to do entire lessons using computers and/or smart phones (Roitsch et al., 2021). Meeting these needs virtually was often difficult (Hernandez, 2021) because, generally, autistic children thrive on routine, consistency and structure, so the disruption caused by the pandemic was challenging for them, their families and teachers. Specially designed lessons and strategies had to be implemented to create a routine at home where children could learn and engage effectively. Parents had, further, to take on a new role as teachers for which many were not prepared as autistic students can need specialised support (Stenhoff et al., 2020).

There is little research on how autistic children cope in a time of crisis (Latzer et al., 2021), and before COVID-19, there was no research, unsurprisingly, on how autistic children were affected by pandemics (Mutluer et al., 2020; Simpson & Adams, 2022). The research reported here not only provides new research in this area, but also introduces research from Bahrain and the Gulf region, where little to no prior research could be found specifically on parents' and teachers' experiences of teaching autistic children remotely. Interviews were conducted with teachers from an autistic centre in Bahrain on their experiences of teaching autistic children remotely during the COVID-19 shutdown in 2020.

Challenges of remote online teaching

Online teaching: digital poverty, illiteracy and inequality

One consequence of the pandemic was that digital technology had to be rapidly integrated into every aspect of life for everyone, everywhere (British Academy, 2022). Being digitally connected enabled family, friends and work colleagues to keep in touch, continue working, and access services. However, the pandemic also revealed the acute and chronic extent of digital inequality

for those who lacked the capacity to digitally engage because of insufficient access, skills, resources, or motivation (Spanakis et al., 2021). Remote online teaching also exposed how internet access was not always consistently or even available, that many parents could not afford internet services or digital devices, and that they struggled with digital literacy. Disparities in the levels and types of digital access, skills, usage, and outcomes were grouped by the British Academy (2022, p.2) into three levels: 'poor access to digital technologies (first level), poor digital literacy and skills (second level), and a reduced ability to exploit digital resources and transform them into tangible social benefits (third level)'.

These digital inequalities nevertheless highlighted the complexity and contextual nature of teaching through which 'people, texts, images, locations, objects and methods' are brought together in diverse ways (Bayne et al., 2020, p.15). Bayne et al. (2020) encourage teachers and academics to embrace teaching which is, they assert, situated, 'multifaceted and emergent'; instead of worrying about what constitutes 'best practice' online, as teachers so often are, we should be open to difference. There are, they argue, 'many ways to get it right online' (15). Education from home can provide distinct advantages such as lower sensory input, less stress from having to mask and interpret social cues and communication norms, challenges which often blight autistic students' experiences in school (Heyworth et al., 2021; Mamas et al., 2021). Heyworth et al. (2021), for example, found that many autistic children in their study (75 parents of autistic children and 16 autistic students in Australia) became calmer and more communicative, had 'come out of their shell' and had made 'substantial progress in learning and life skills'. The reasons for these improved outcomes were that students did not have to cope with the sensory overload of school (noise, lighting, smells and people), were learning with people – their parents - who understood their needs, interests and strengths, and who were willing to change the environment to suit them (Heyworth et al., 2020).

Practical implications of remote online teaching

Schools and autism centres provide more than just academic skills for autistic students; they are also places that offer specialised training in social and communication skills, in addition to other services such as occupational and sensory therapies (Stenhoff et al., 2020). In traditional classroom settings, teachers usually establish a routine that suits their autistic students and use teaching methods and teaching aids that meet their individual needs (Steen et al., 2020). Further, teachers are trained professionals who have the skills and knowledge to work with autistic students using effective teaching strategies and tailored curriculum with continuous assessment and evaluation (Cahapay, 2020). Yet, not knowing when the schools and centres would reopen, new educational contexts had to be created and parents had no choice but to immediately play an active role in their children's education to reach their academic goals, despite their limited knowledge and training (Daulay, 2021; Stenhoff et al., 2020). Limited educational and technological knowledge, difficulties in teaching autistic children remotely and of creating an appropriate learning environment at home were challenges that confronted parents and teachers (Hernandez, 2021). Chinchay et al. (2023) found similar issues in their

research. They administered an online survey to teachers, caregivers and relatives of autistic children to obtain information on the role of technology during the pandemic, the challenges that autistic children experienced, and how assistive technologies could be improved. Two hundred and ninety-five (295) completed the survey: 270 of the respondents were women, 25 were men; 50% of the respondents were teachers, 25% were close relatives of the children; 69% reported that they had basic knowledge of assistive technology, while only 24% said they had advanced knowledge. The teachers found that autistic children and their parents lacked knowledge about how to use assistive devices, that their workloads had increased (66%), families' lack of technical resources (62%), and poor family involvement and feedback (5%). The teachers also reported that they had difficulty in monitoring the children's progress (69%) and that video-based education had limitations (33%) (the limitations were not specified). Overall, Chinchay et al. (2023) found that the digital divide, family support at home, lack of knowledge about assistive devices, and poor consideration of additional support needs in the design of e-learning courses were key barriers to effective remote teaching. Amirova et al. (2022) collected data using mixed methods, asking 97 parents from Kazakhstan to fill an online survey, and using semi-structured interviews with 14 parents on the effect of Covid-19 on their autistic children's education. Parents reported negative consequences of the pandemic, including the disruption of their children's education and therapeutic services which lead to increasing challenging behaviours and mental health issues among their children, especially that parents were not trained nor prepared for educational responsibilities. Additionally, parents described the distance learning environment as unhelpful and less likely to meet their children's educational needs. Similarly, Hurwitz et al. (2021), investigated how special education teachers, and specialists adopt to the distance learning experience by asking 106 educators to fill a survey about implementing the Individualised Education Programme (IEP) during Covid-19. The results showed the necessity for IEP modifications including eliminating of social objectives and decreasing lessons time, educators also highlighted the importance of parents' cooperation in order to deliver and monitor home settings classes.

In the United States, Gandolfi et al. (2021) took an intersectional (race, gender, disability) approach to explore how parents and teachers of children with disabilities (visual impairment, ADHD and Autism) experienced the pandemic during lockdown. Data were collected from eight parents of 'underserved' (income, gender and ethnicity) children and nine K-12 teachers (from kindergarten to twelfth grade for 17–18-year-olds). One of the key issues that interested the researchers was the impact of the digital divide on teachers, parents and their children. While the economic divide was not an important factor for any of the parents since the schools had provided equipment such as iPads and Google Chromebooks, seven of the parents expressed concern about the teachers' expertise in using these devices, which led to confusion and days with no teaching. The teachers themselves noted their increased anxiety because of having to transition to online learning: they felt ill-equipped and ill-prepared for remote teaching. The teachers were also critical of families who were unable to support their children during remote

instruction. The parents had to mitigate the effects of disrupted routine and the number of assignments which were overwhelming for both parents and their children. The lack of social interaction and support initially increased anxiety. Like the parents in Hochman et al.'s (2022) study, those in Gandolfi et al.'s (2021) study expressed a desire for improved and ongoing communication with the teachers.

According to Gregor et al. (2018), home education for autistic students can be hard for parents because of a high degree of challenging behaviour such as hyperactivity, aggression and dependency, which are often related to attention difficulties, arousal differences (from sensory processing) and heightened anxiety. Maintaining online contact with teachers during sessions were also factors affecting the quality of home education (Majoko & Dudu, 2020). Having to distinguish between using devices such as tablets and iPads for a purpose other than playing games or watching films, was challenging for both autistic children and their parents (Stenhoff et al., 2020). Remote teaching also limited students' ability to participate in lessons and effectively receive prompts that are usually used as part of teaching strategies, as Daulay (2021) found from interviews with five mothers of autistic children.

The uncertainty created by the pandemic and of adjusting to new routines affected autistic students negatively, causing anxiety, stress and refusals to learn. In research by Simpson and Adams (2022), 180 parents were asked to complete a survey about the impact of COVID-19 on their autistic children. Forty-eight percent reported negative impacts such as lower grades, 26% reported positive impacts such as lower school refusal, while 12% reported both positive and negative impacts. Only 9% reported no impact. Other studies (Nonweiler et al., 2020; Parenteau et al., 2020) explored the effect of the pandemic on autistic children and their families and found higher levels of anxiety, stress and behavioural challenges, and a reduction in social and communication skills. Some studies showed that vulnerable students who need more support in regular educational settings, such as autistic individuals, struggle with remote teaching (Fitzpatrick et al., 2020; Reich et al., 2020). Not attending schools can be confusing, and autistic students might find it difficult to understand the rationale behind the sudden change in the educational setting (Baten et al., 2022). Following online classes can also be challenging because of aggression (Hernandez, 2021); emotional issues such as stress (Nonweiler et al., 2020); and hyperactivity and attention shortfalls (Lutzer et al., 2021). While teachers sought to create an online remote teaching timetable to help create a structured environment at home that parents and their children could follow (Reich et al., 2020), some parents found it hard to follow consistent educational routine programmes because of busy work schedules, household chores and other family responsibilities (Stenhoff et al., 2020).

Additionally, some parents of autistic students showed high levels of stress associated with remote teaching, limited services for their children and lower achievement (Bentenuto et al., 2021). The pandemic, according to Hammerstein et al. (2021), negatively affected students' level of achievement with a large learning loss, especially for autistic students. In a study by Baten et al. (2022), 2222 parents were asked to fill a survey on the impact of school strategies

and home environment on remote learning during COVID-19, 779 parents of children with developmental disorders such as autism and 1443 without developmental disorders. The results showed that home learning was more negatively experienced by students with neurodivergent conditions, and remote teaching was less effective for the same group in comparison to neurotypical students.

METHODOLOGY

Research Design

The authors used in-depth interviews to facilitate an open dialogue with the participants, the teachers of autistic children. A principal of an autism centre in the Kingdom of Bahrain was contacted by the first researcher to arrange a meeting with the teachers to explain the objectives of the research. These were:

- To understand the experience of remote teaching during COVID-19;
- To understand the methods and strategies that were used during remote teaching;
- To explore the challenges of remote teaching; and
- Understand what made remote teaching effective.

The centre focuses on providing education for young autistic children up to 12 years old who have been given a diagnosis by the psychiatric public hospital in Bahrain. Teachers in the centre use various teaching strategies such as Applied Behavioural Analysis (ABA), The Picture Exchange Communication System (PECS) and the Miller Method (MM). Such strategies are implemented in both one-to-one and/or group settings depending on the severity of the autism.

Purposive sampling was used so that a group of people with a common experience were recruited, in this research teachers of autistic children. Before the interview, the researcher stressed that the teachers' participation was voluntary, that they were under no obligation to consent, and they were informed that they had the right to withdraw at any time and without giving any reasons or justifications. Initially, the researchers had planned to include mothers, but as the research was conducted during the early months of the pandemic, parents were unwilling to take part while they adjusted to remote online teaching.

Participant Numbers and Method

Five teachers and one supervisor volunteered to participate in the research and informed consent was obtained prior to the interviews in accordance with the research ethics code of practice at the School of Education's Ethics Committee, Queen's University Belfast, UK. The researcher translated the consent forms from English into Arabic. All teachers were females, with about 24 to 10 years of experience and the qualifications were high school diploma, specialised diploma in autism, and computer science diploma.

The interviews were conducted face-to-face in the autism centre upon agreeing a convenient time with the teachers. A private room was provided by the centre to interview each teacher individually (there were all females, which is typical in Bahrain). Each interview took about 40-60 minutes and was audio recorded using a smartphone after obtaining the teachers'

permission and assuring them that the data would only be used for research purposes, and no one apart from the authors would have access to the recordings.

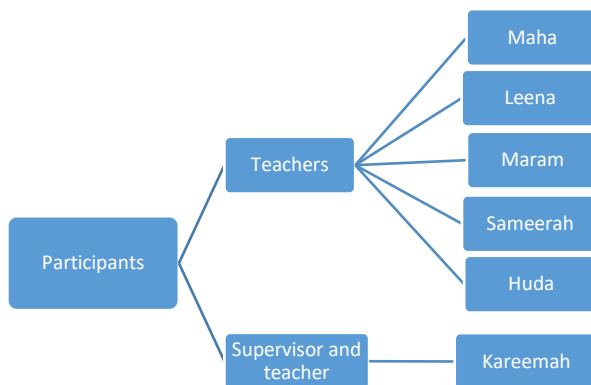
After viewing the literature review on autism and remote teaching such as (Aloizou et al., 2021; Heyworth et al., 2021; Simpson & Adams, 2022), Interview questions were formed. The interview started with an open question about the teacher's experience of the remote teaching guided by few points:

- The beginning of the remote teaching practice.
- The platform used to conduct remote teaching.
- Details on the remote teaching sessions such as length, curriculum, and methods.
- Involvement of parents and its effect on remote teaching.
- The degree of support required and co-occurring conditions such as ADHD and their impact on remote teaching.
- Advantages and disadvantages of remote teaching.
- The effectiveness of the remote teaching.

The interviews were conducted in Arabic, then translated into English by the first researcher. Teachers were given pseudonyms to protect their identities. The supervisor ('Kareemah') arranged and organised remote teaching within the centre, and so her interview provided in-depth material on the remote teaching experience.

Figure 1.

Participants Description



The autistic students were aged between 5 and 10 years old and were enrolled in the centre before the pandemic. Pseudonyms are used throughout.

Data Analysis

Thematic analysis was used to closely examine the data and identify common themes. Thematic analysis was used to address individuals' views, experience and opinions and identify repeated patterns (Kiger & Varpoi, 2020). As Crawford et al. (2008, cited in Alhojailan, 2012, p. 42) state 'It is beneficial to allocate a narrative to the diverse data to gain a clear logical understanding of the participant's thoughts and to convey their experience.' After the interviews were done, the first author listened to the recordings several times in order to become familiar with the

information shared by the participants. The first author also translated the transcriptions from Arabic to English and listened to the recordings again to ensure that the interviews had been accurately translated. The author developed the initial codes for each interview and reviewed repetitions in the interviews to determine patterns and relations to create general themes. The codes were revised and reviewed to formulate a cohesive set of distinct themes which were subsequently named (Maguire & Delahunt, 2017). Four primary content-related themes were identified based on:

- Preparation for remote teaching.
- The impact of remote teaching on autistic students.
- Difficulties faced by teachers during remote teaching.
- The effectiveness of remote teaching.

The process of thematic analysis ensured the credibility of the research. Credibility in qualitative research is concerned with 'truth-value' or trustworthiness: namely, whether the findings be trusted (Korstjens & Moser, 2018). Credibility can be ensured by prolonged engagement with the participant in their settings and with their interview transcriptions. The first author knows the autism centre well and has developed relations of trust and respect with the teachers. The interviews were open-ended which allowed the researcher to ask follow-up questions and to request examples to support the participants' statements and obtain thick descriptions. As described above, the researchers spent time studying the transcripts to come up with plausible themes that represented their lived experiences while teaching during the pandemic. Further, the participants' own words were very closely translated into English and are correct interpretation of their views, excerpts of which are reported below (Results). The methods and findings of this research are also transferrable to other settings: the setting, sample strategy, size and demography, the interview procedure and thematic analysis can be applied to other contexts (Guba & Lincoln, 2017; Korstjens & Moser, 2018). The rationale for, and methods used represent a credible and replicable research design.

RESULTS

Theme 1: Preparation for remote teaching

The teachers in this study confirmed that the sudden move to online teaching meant that they had no time to prepare and that this adversely impacted the students. Huda, for example, explained how "Everything happened suddenly. No one was prepared for when COVID-19 hit, so we didn't really manage to prepare the mothers or the children". Leena found that "It was a very difficult experience for the children, especially the autistic children, it happened all of the sudden". Kareemah described how the pandemic was completely new and unexpected, necessitating a fast response to the use of IT, and preparing everyone to use it:

I sent the mothers a YouTube video that covered topics similar to the ones we teach at the centre. The problem was that most of the training videos were in English. I checked with the mothers if they had benefited from what I sent them ... At this point there was no teachers at

all! The centre was shut, we were not even informed if the teachers should work or not. (Kareemah)

Kareemah also explained that she acted as she did because she “didn’t want the children’s education to stop. I was working solo with all the parents. Everything was shut down; teachers and students were sent home and were told to stop everything, but I didn’t”.

Theme 2: The impact of remote teaching on autistic students

The teachers generally agreed that remote teaching did not suit many of their autistic students, particularly children who were described as ‘moderate’ to ‘severe’. Often, the mothers would educate the child using the resources provided by the centre teachers. In Maram’s experience, “When the autism is moderate or severe, the children do not benefit from remote teaching. I would say it works 30% and only for those who have mild autism”. Sameerah only set work for children who could cope with online teaching, and in those cases, only one child attended the class, ‘Otherwise, the mother works with her child and sends me the video’. Leena found that children with moderate or severe autism ‘were mostly hyperactive and would not sit and focus in the class. But when the child is with me in class, I have better control over their behaviour’.

Theme 3: Difficulties faced by teachers during remote teaching

Use of technology

Teachers, parents and autistic children often found the use of technology perplexing and difficult to use, especially as they had no training or time to become accustomed to using technology facilitated teaching. The skilful use of digital equipment significantly affected the quality of remote teaching, while digital literacy skills affected the quality and amount of support parents could provide to their autistic children during remote teaching. Two teachers reported that some mothers struggled to use the technology during remote teaching and had to resort to WhatsApp. Maha found that “Zoom was hard for mothers to use since most of the parents are not familiar with the technology, so we used WhatsApp video calls.” Kareemah had to guide some parents on how to use the technology:

I know the parents of our children are not very familiar with technology and the use of computers, so I suggested the use of WhatsApp video, not zoom, for example. I even started with phone calls. I used to spend a long time on the phone explaining to parents what to expect and what the next step would be ... I asked the parents if they would consider using programmes such as WhatsApp, or Teams or Zoom, and they refused.

The challenges of teaching reluctant children

All the teachers reported on how difficult it was to teach autistic children remotely. The children found it difficult to concentrate, were hyperactive and aggressive. The young age of the children may have contributed to the anxiety they expressed (between 5 and 12 years of age).

Huda shared her experience with the children’s hyperactivity and how it negatively affected the online classes: “Some children wouldn’t sit during the online class. They would run around the room. Only a few children paid attention and focused. Hyperactive children jumped

from one place to another, and didn't respond at all, not even their mothers could control them."

Maram faced similar problems: "One of the reasons children didn't benefit much was their hyperactivity. They didn't sit still, not even for one minute". While Kareemah, the principal, had similar experiences, she proposed creating games as a solution: "If the child is hyperactive, it is very hard from him to benefit from the online class. However, I tried to transform the lesson into a game, so we played music and taught the child through play and movement which is more natural."

Remote teaching can be challenging for autistic students because of difficulties with focusing and concentration which the teachers attributed to the characteristics of autism. Huda, for example, explained the reason for the poor behaviour thus: "The child already has an issue with communication due to autism. Imagine trying to communicate remotely!". Maha was of the same opinion:

It is true that autism characteristics, such as lack of concentration, are hard but dealing with them at the centre is much easier compared to dealing with them remotely. For example, if the child lacks eye contact, how are they going to manage eye contact remotely? They actually look at the phone during the lesson just because they like the phone not because they want to attend the class.

Maha explained further that "During the online class the child gets annoyed and, in many cases, hits his mother because he doesn't want to attend the online class and doesn't want repetition."

The teachers also discussed the difficulties mothers had controlling their children's behaviour. Maha found that many of the mothers complained about their children's behaviour, typically saying things such as "he doesn't listen to me; I cannot control his behaviour; he doesn't sit and do his work! When he is with you in the centre, he sits and listens but not with me!" Maha also explained that "an autistic child is easily distracted so we need to work on getting his attention all the time during class which is hard to do remotely." Huda related how mothers were "already stressed because of Corona. Their children's difficult behaviours increased their level of stress" because of the increased responsibilities of care and teaching. Leena described what one mother does when she cannot control her child: "the minute the mother opens the camera to start the online session he starts jumping on the chairs, so the mother says, 'I cannot control him so I apologies for attending the sessions' and she leaves the online class". Not all Leena's students lack focus, however:

I have a child who is not hyperactive. He sits and is focused during the online session. In fact, he was happy with the online session, that he is meeting his teacher, especially after spending a long time at home and not coming to the centre, meeting his friends or his teachers, So, whenever I click on the camera to start the online session, he smiles and starts sending me kisses. Working with him is very productive because he is excited to attend and learn.

The importance of mothers' cooperation

Mothers' willingness to cooperate with the teachers greatly impacted on the effectiveness of online teaching. The teachers reported on the importance of good communication between mother and child, and mother and teacher, enthusiastic cooperation and collaboration with the teacher, attending and engaging in online teaching with the child were all important to effective online teaching.

If I want to give a number on how many children actually benefited from the online teaching, I would say two. I judged this by how well they communicated. When the child and mother communicate, you feel that they are benefiting from the class. They respond, they understand. And I think the main reason for this is the mother's cooperation. Some mothers only communicate with us once or twice a month. (Huda)

Other teachers reported on how supportive some of the mothers are. They will ask for assignment and activities and seek further work when these are complete. Unfortunately, however, the teachers found that many mothers were not so engaged, as Huda explained: Most mothers were not cooperative, but some actually put so much time and effort into their children's education. I can't find it in my heart to be annoyed with the mothers. They are going through enough, especially if the child's autism is severe, so we need to find them excuses. Everyone was stressed out because of online teaching, not just the mothers.

A disturbing finding was that many of the mothers reported negative beliefs about the value and the benefit of remote teaching, according to the teachers. Their beliefs that remote teaching was ineffective affected their motivation to work with their children during the closures of the centre, as Leena found: "Some mothers assume their children will not benefit from the online class, so they don't even try!"

Theme 4: The effectiveness of remote teaching

Despite some positive outcomes, almost all the teachers agreed that remote teaching experience was not a success for their cohort of autistic students and that it resulted in lower achievements and less participation. Remote teaching, according to Maha, was not a success for her autistic students because learning must be practical, face-to-face, with close contact and observation. The difficulty with remote teaching was that she could not assess their progress. Another challenge was that the teachers needed to be in the same physical space as the children so that they could repeat the exercise until the skill was mastered, which was, as Maha found, "very hard to do remotely". For Huda, remote teaching was not, overall, a positive experience:

The only positive aspect of it was that we taught from home which was more relaxing for me. But face-to-face teaching is much better. It is very clear and straightforward, we have all the tools and the equipment here in the centre, we prepare for the class, and we interact physically with the students.

Depending on how well-developed their child's skills were, some mothers could get upset and annoyed because remote teaching was not useful for their children who needed to be taught basic skills "such as eating and using the toilet, and I agree with them" (Leena). The teachers also noted how being together in class was critical to developing social and time

management skills, maintaining friendships, and accepting routine. Being stuck at home could have serious impact on the child's educational and social outcomes as Leena also shared:

Even for time management, it is better for the students to be in the centre. They know when it is time for class, break, and lunch time. Even socially, the children are badly affected. I mean, they already have difficulties with social interaction, so staying at home made it worse ... The centre is their only outing because some parents don't take their kids out except to the centre. So, imagine not leaving the house at all.

One positive outcome of remote teaching was the opportunity for mothers to get involved in their child's teaching and to understand the extent of their abilities, which were better than they had expected. One mother expressed her surprise to Maha that her daughter knew as much as she did. While Kareemah could not say that remote teaching was fully successful, she appreciated that "parents actually knew in detail what we as teachers do with their children and exactly how we do it." Another positive outcome was that the teachers were able to teach parents how to be independent and have the full ability to work with their children. Mothers, Kareemah explained, "are now like teachers ... I even say to my teachers 'don't treat the parents like mothers, treat them like teacher'". Remote teaching with their children improved the relationship between mother and child. As Maha found, mothers now understood their children better: "mothers used to say, 'my son is crying but I am not sure what's wrong with him', and she would just give him something he liked to keep him quiet. Now, they know what triggers their children." What was critical to these positive interactions was the willingness of mothers to cooperate with teachers to support their child's learning.

DISCUSSION

Education was globally interrupted in 31 countries and for 62.7% of global population (Bozkurt et al., 2020). The educational system in Bahrain, like the rest of the world, had to adapt very quickly to ensure continuity. Traditional education settings were replaced with remote teaching and by necessity became the "panacea for teachers and students" (Al-Rawi et al., 2021, p.2), including special education. The increased frequency of challenging behaviour among autistic children such as meltdowns, aggression and anxiety were also reported (Simpson & Adams, 2022), while Daulay (2021) reported on how mothers became distressed because of their autistic children's behaviours whom they described as having "maladaptive attitudes, hyperactivity, disobeying instructions, and impulsivity" (p. 5).

In this study, teachers of autistic children in Bahrain identified both positive and negative impacts of the move to remote teaching. Both teachers and students, including their parents, were required to adapt to unexpected and unpredictable ways to deliver the classes. Autistic students were expected to learn in their home environment with the support of their mothers, using hastily developed resources from the centre, and technology that did not always work. There is no doubt that teachers, students and parents struggled intensely with key aspects of remote teaching, particularly in the early months of the pandemic, a common finding in research

of this kind (Chinchay et al., 2023; Heyworth et al., 2021; Hochman et al., 2022; Latzer et al., 2021). Young autistic children often require intense, specialised and one-to-one specialised support which the autism centres are set up to provide. However, the enthusiasm of the teachers and most of the mothers ensured that the child received continuity and the care they required. What this study shows is the importance of collaboration and cooperation between teacher and parent to overcoming the challenges of remote teaching. Indeed, a heartening finding was the parents' surprise at how much their children knew, the skills involved in teaching, which resulted in a deeper appreciation of both child and teacher, and how much the teachers cared for the children, despite all the stress caused by the necessarily rapid transition to online teaching (Gudmundsdottir & Hathaway, 2020; Latzer et al., 2021).

Research has shown that autistic students can benefit from home learning because they are less sensorily overwhelming, are safe and predictable, and face less restrictions in using autistic communication (Heyworth et al., 2021; Mamas et al., 2021; Reicher, 2020). The autistic young people in Heyworth et al.'s (2021) study, many of whom reported that home learning suited them, were aged between 12-18 and were in mainstream settings. Research has shown how hostile and alien mainstream settings can be for autistic adolescents, contributing to high levels of stress and anxiety, isolation, bullying, school absenteeism, and poor mental health (Goodall, 2018; Goodall & MacKenzie, 2018). In this research, however, the teachers were confident that their students did not benefit from home learning. They reported that the children could not focus, were inattentive, and hyperactive. This may be explained by the age of the children, how 'autistic' they are (as some teachers describe it. They may need intense support to develop basic skills, for example), and the fact that the centres are specialised in the teaching of autistic children by specialist teachers. We also have the perspectives and perceptions only of the teachers, not the mothers who may have reported very different experiences to those expressed by the teachers.

Poor digital literacy, access to reliable internet, and good quality teaching resources, could also hinder good online teaching. Parents resorted to WhatsApp or Zoom (or refused, in some cases), and relied on online resources along with those sent home from the centre. Mothers had to become teachers very quickly. Since parents pay for their children to attend the autism centres, we can assume that they have a decent income, are able to afford devices and internet connections, where the broadband is stable and strong. However, the pandemic forced us to realise the extent of digital poverty and their consequent inequalities, that included some parents and children's reduced ability to exploit digital resources and transform them into positive social and educational benefits (British Academy, 2020). The teachers in this study did not refer to these inequalities but did speak of their own and parents' lack of digital expertise.

Limitations and Future Directions

An obvious limitation is that we have only the views of a small number of teachers of one centre. The study is very small and the claims that we can make about teaching autistic children remotely are limited and confined to this group of teachers. Had we been able to include

mothers and teachers from other centres in Bahrain, the results of this study may have been very different. However, there is a degree of concordance with what other research has found (Daulay, 2021; Simpson & Adams, 2022).

Future research that includes mothers' experiences could additionally explore in much greater detail the characteristics, features or traits of the child's autism, their support needs across different domains (recreational activities, completing academic or vocational tasks) or educational strategies, for example.

There is a clear need to develop curricula and training that includes opportunities for blended learning, and intentional incorporation of technology into teaching and learning that is not just about facilitation or instrumentalism, but which aids creative teaching. Students with special educational needs and disabilities (SEND) can benefit from technological innovations and flexible learning arrangements. For young children, this must include play-based pedagogies, as the teachers in this study found.

CONCLUSION

Autistic students are already at risk of poor education, under achievement and negative learning outcomes (Aishworiya & Kang, 2021). To identify the challenges faced during COVID-19 pandemic is critical for helping both teachers and families of autistic children. The potential disadvantages experienced during the school closure should be recognised, as this information can help structure appropriate support.

The pandemic offered a 'natural experiment' on how crises and change of environment affect autistic individuals (Mumbardó-Adam et al., 2021). These environmental changes show how autistic students can cope and if they are able to interact and develop their communication and social skills. Such findings, according to Spain et al. (2021, p.1), may lead to "(making) the world a more autism friendly place", a critically important point given how difficult autistic children and young people can find mainstream and specialist settings.

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