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Interventions to support parents of pre-school children with Autism Spectrum Disorders: a systematic review

Intervenções para apoiar pais de crianças pré-escolares com Transtornos do Espectro Autista: uma revisão sistemática

Intervenciones para apoyar a los padres de niños en edad preescolar con Trastornos del Espectro Autista: una revisión sistemática

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Abstract
Parents of children with a recently ASD diagnosis face elevated distress and mental health problems like stress, depression, and anxiety. Lately, few interventions which target directly parents of preschool children well-being have been implemented in some researches. It was conducted a review of studies that empirically tested the effects of different kind of interventions targeting improvements in parents of preschool children with ASD well-being. The objective of this review is to find out the different types of interventions that have been used and the outcomes on parental well-being enhancement. Searching on four databases and following a range of search strategies, a total of 9 studies met inclusion criteria. Findings suggest that in most cases, any type of intervention leads to positive effects on parents' distress and well-being. However, comparisons and conclusions among the different approaches are difficult to be made, as each of the presented studies follows different methodology. Certainly, more studies have to focus on the parents of preschool children with ASD well-being and take into consideration all the limitations of the studies that are reviewed in this paper. Despite this fact, it is very encouraging that more and more researchers and clinicians are concerned about these kinds of interventions in order families with a child with ASD to get supported appropriately.
Keywords: Autism Spectrum Disorders; Parents; Pre-school children; Interventions; Well-being enhancement; Support; Stress management.

Resumo
Pais de crianças com diagnóstico recente de TEA enfrentam angústia elevada e problemas de saúde mental, como estresse, depressão e ansiedade. Ultimamente, poucas intervenções que visam diretamente o bem-estar dos pais na pré-escola têm sido implementadas em algumas pesquisas. Foi realizada uma revisão de estudos que testaram empiricamente os efeitos de diferentes tipos de intervenções visando melhorias nos pais de crianças pré-escolares com bem-estar de TEA. O objetivo desta revisão é descobrir os diferentes tipos de intervenções que têm sido utilizadas e os resultados sobre o aprimoramento do bem-estar dos pais. Pesquisando em quatro bancos de dados e seguindo uma série de estratégias de pesquisa, um total de 9 estudos atenderam aos critérios de inclusão. Os achados sugerem que, na maioria dos casos, qualquer tipo de intervenção leva a efeitos positivos na angústia e no bem-estar dos pais. No

entanto, comparações e conclusões entre as diferentes abordagens são difíceis de serem feitas, pois cada um dos estudos apresentados segue metodologia diferente. Certamente, mais estudos devem focar nos pais de crianças pré-escolares com bem-estar de TEA e levar em consideração todas as limitações dos estudos que são revisados neste artigo. Apesar disso, é muito encorajador que cada vez mais pesquisadores e médicos estejam preocupados com esse tipo de intervenções para que famílias com criança com TEA sejam apoiadas adequadamente.
Palavras-chave: Transtornos do Espectro Autista; Pais; Crianças pré-escolares; Intervenções; Aprimoramento do bem-estar; Apoio; Gerenciamento do estresse.

Resumen
Los padres de niños con un diagnóstico reciente de TEA enfrentan angustia elevada y problemas de salud mental como estrés, depresión y ansiedad. Últimamente, en algunas investigaciones se han implementado pocas intervenciones que se dirijan directamente al bienestar de los padres de niños en edad preescolar. Se realizó una revisión de estudios que probaron empíricamente los efectos de diferentes tipos de intervenciones dirigidas a mejorar la salud de los padres de niños en edad preescolar con TEA. El objetivo de esta revisión es determinar los diferentes tipos de intervenciones que se han utilizado y los resultados sobre la mejora del bienestar de los padres. Al realizar búsquedas en cuatro bases de datos y seguir una serie de estrategias de búsqueda, un total de 9 estudios cumplieron los criterios de inclusión. Los hallazgos sugieren que en la mayoría de los casos, cualquier tipo de intervención conduce a efectos positivos en la angustia y el bienestar de los padres. Sin embargo, es difícil hacer comparaciones y conclusiones entre los diferentes enfoques, ya que cada uno de los estudios presentados sigue una metodología diferente. Ciertamente, más estudios tienen que centrarse en los padres de los niños en edad preescolar con TEA y tener en cuenta todas las limitaciones de los estudios que se revisan en este documento. A pesar de este hecho, es muy alentador que cada vez más investigadores y médicos estén preocupados por este tipo de intervenciones para que las familias con un niño con TEA reciban el apoyo adecuado.
Palabras clave: Trastornos del Espectro Autista; Padres; Niños en edad preescolar; Intervenciones; Mejora del bienestar; Apoyo; Manejo del estrés.

1. Introduction

Autism Spectrum Disorders (ASD) is a developmental disorder that affects 1 in 160 children worldwide (Elsabbagh et al., 2012), while in the USA the percentage of children diagnosed with ASD is 1 in 54 (Centers for Disease Control and Prevention, 2020). ASD is characterized by deficits in social communication and interaction as well as restrictive and repetitive patterns of behavior (American Psychiatric Association, 2013). Impairments in these skills have an effect on children's independence and consequently increase the parenting care requirements (Cachia et al., 2016).

It has become apparent that many parents of children diagnosed with ASD experience different emotions (Rabba et al., 2019). The sound of the diagnosis itself shocks parents and can cause them sadness, anger, and feelings of grief in general (Rabba et al., 2019; Wayment & Brookshire, 2018). In addition, parents may feel uncertain, as they do not know the seriousness of the situation and the impact it will have on themselves and their family in the future (Falk et al., 2014; Rabba et al., 2019). Post-diagnosis parents confront stressors such as the absence of support, the existence of social stigma, the availability of the provided services, and the management of their children challenging behaviors (Corcoran et al., 2015; Falk et al., 2014; Ludlow et al., 2012; Wayment & Brookshire, 2018).

Research has shown that families with a member with ASD have lower levels of marital happiness, family cohesion, and adaptability compared to families without a child with ASD (Higgins et al., 2005; Solomon & Chung, 2012). It has also been shown that parents of children with ASD experience higher levels of stress (Costa et al., 2017; Ludlow et al., 2012; Schieve et al., 2007), depression, and anxiety (Bitsika & Sharpley, 2004; Estes et al., 2009) in comparison with parents of typically developing children or parents of children with other disabilities (Pozo et al., 2014).

The data presented above show that parents of children with a recent diagnosis of ASD face particular difficulties that overwhelm them. For this reason, it is crucial to focus on interventions targeting parental support and well-being enhancement. Most interventions include Parent Training (PT) programs that involve parents and they primarily aim at acquiring techniques and skills which improve their children's abilities, enhance parent-child interactions and thus facilitate the functionality between family members. Those programs are secondarily focusing on reducing parental stress and usually they fail to

deliberately address the parents' distress as they ignore their psychological issues (Gould et al., 2018; McConachie & Diggle, 2007). Interventions that focus primarily on parental support and well-being enhancement are relatively limited (Rabba et al., 2019).

Several studies have focused on the literature review of interventions aimed at parents' mental health (Merriman et al., 2020) and well-being enhancement (Frantz et al., 2017). Da Paz and Wallander (2017) investigated interventions for parents of children with ASD that directly target improvements in their mental health, while Catalano et al. (2018) aimed at identifying interventions supporting the mental health of parents who have a child with ASD in an effort to suggest appropriate guidelines for practitioners and parent carers.

Those literature reviews did not focus specifically on interventions for parents of preschool children with ASD. Research data manifest that parents of young children with ASD exhibit higher levels of stress (Kotera et al., 2021), which stem from uncertainty about the child's recent diagnosis and their future, the lack of support, and the need to manage their child's challenging behaviors (Corcoran et al., 2015; Falk et al., 2014; Kotera et al., 2021; Ludlow et al., 2012; Wayment & Brookshire, 2018). It has been found that in families where parents experience intense stress, the effects of early intervention have less impact on their children (Estes et al., 2019; Osborne et al., 2008). The persistent parental stress deters parents from active engagement with their children which can have a negative impact on them throughout the early stages of their development (Dennis et al., 2018). Parental stress can also affect the well-being of both themselves and their children (Blacher & McIntyre, 2006; Cachia et al., 2016; Osborne et al., 2008).

Considering that parents well-being can be improved by reducing the stress through parents' involvement in appropriate interventions that focus explicitly on parental support (Catalano et al., 2018), the purpose of this review is to analyze the literature referring to research data for interventions focusing on parental support and well-being of parents with preschool children with ASD enhancement. More specifically, the research questions that the present review focuses on are the following: 1) What type of interventions have been used to enhance the parents' well-being of preschool children with ASD, and 2) What outcomes do those interventions have on parental well-being enhancement.

2. Methodology

The current review used the PRISMA 2020 statement, an updated guideline for reporting systematic reviews (Page et al., 2020). A systematic review was chosen due to the fact that the purpose of this study was to collect the empirical data in order to critically appraise and synthesize on the research results (Gopalakrishnan & Ganeshkumar, 2013).

2.1 Literature search

Literature research was performed for publications for the period from 2011 to 2021 in databases of Scopus, PubMed, PsycINFO, and Google Scholar using a combination of the keywords "Autism or Autism Spectrum Disorder" and "Parents or Carers" and "Mental health or Stress Management or Stress Reduction or Support or Interventions or Well-being Enhancement". The combination of the above keywords was applied to each database.

2.2 Selection of relevant publications

2.2.1 Inclusion Criteria

- The publication is a peer-reviewed study,
- The publication is in English,
- The publication includes parents with pre-school children (birth through 6 years) with ASD,

- The publication incorporates interventions delivered to parents of pre-school children with ASD,
- The publication targets interventions for parenting stress reduction and well-being enhancement,
- The publication employs parental stress or psychological well-being measures.

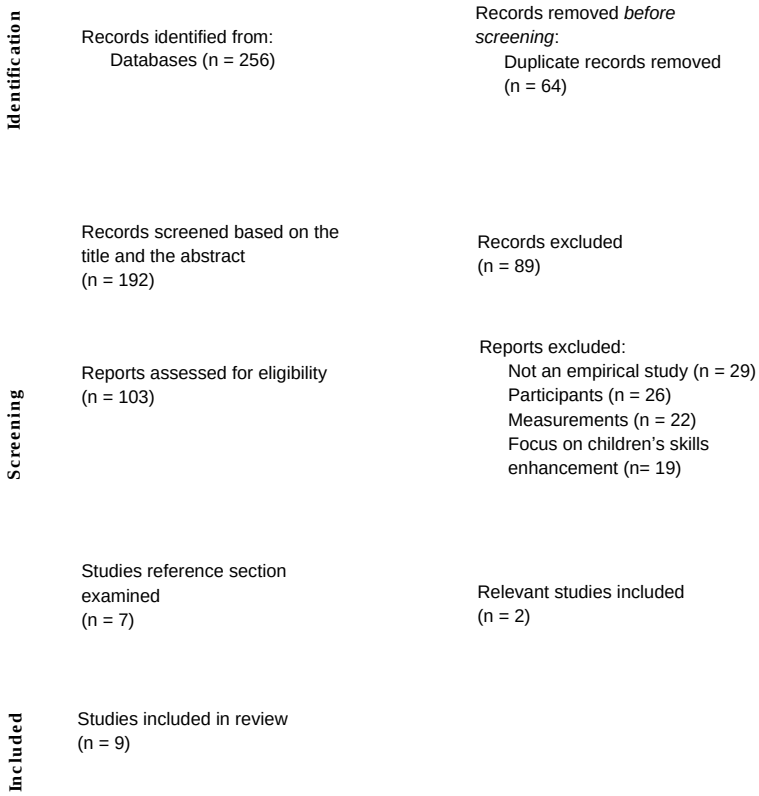
2.2.2 Exclusion Criteria

- The publication is not an empirical study. Book chapters, posters, review articles, and meta-analyses were excluded from the current review,
- The publication includes participants with Asperger Syndrome, Rett Syndrome, Childhood Disintegrative Disorder, Pervasive Developmental Disorder not Otherwise Specified,
- The publication includes interventions that aim primarily at acquiring techniques and skills by the parents which improve their children's communicational, social, and emotional abilities,
- The publication does not include parental stress or psychological well-being measures.

2.3 Research results

The initial research has revealed 256 studies. From these studies, 64 were common and were removed. The specific titles and abstracts of these remaining studies were further evaluated for inclusion in the research. During that process 89 studies were skipped. The remaining 103 studies were reviewed taking into account the inclusion and exclusion criteria. Following this procedure, 96 studies were removed, and 7 studies remained. The reference section of the remaining studies was investigated, resulting in 2 additional surveys. The 7 initial and the next 2 surveys were the total sample of surveys studied and analyzed (Figure 1).

Figure 1: Prisma flowchart depicting the process and the results of the research strategy.



Source: Authors.

2.4 Data extraction

The second and the third author evaluated separately each step of the literature review and the selection process of the studies, based on precisely the same inclusion criteria. In the cases where inclusion in the review was not clear, the fourth author reviewed the study independently. The agreement among the researchers, for the surveys included in the review, was 100%. All the researches included in the review provide data with regard to participants, the intervention type, the format, the setting, the duration, the research design, and the outcomes (Table 2).

3. Results

3.1 Participants characteristics

Data on the number, gender, age of the parents, and diagnosis and age of their child with ASD were provided for most of the studies included in the review. The number of participants in the studies ranged from 3-122 and the total was 449, of which most were mothers and only in two studies participated and fathers also (Corti et al., 2018; Weitlauf et al., 2020). Only one study did not state the gender of the participants (Dababnah & Parish, 2016). The mean age of the parents was 35,46 years, while in two studies, the researchers did not report the participant's age. Children's age ranged from 2-6 years old, with a mean age of 3,78 years. Characteristics of the participants in the studies reviewed here are presented in Table 1.

Table 1: Sample demographics.

Name of study & Intervention	Sample			
	Parents			Children
	Number	Gender	Age	Age
CBT				
Feinberg et al., 2014	122	Mothers	M = 33.5	<3 years M = 2.83 years
Nguyen et al., 2016	24	Mothers	-	2-5 years
Mindfulness				
Corti et al., 2018	42	Mothers & Fathers	M = 38.71	2-4 years M = 3.13 years
Weitlauf et al., 2020	61	Mothers & Fathers	M = 33.79	<36 months M = 2.46 years
Parent training				
Dababnah & Parish, 2016	17	-	-	3-6 years M = 3.7 years
Mueller & Moskowitz, 2020	3	Mothers	M = 35.33	3-6 years M = 5 years
Roberts et al., 2011	75	Mothers	M = 36.6	Preschool M = 3.5 years
Other				
Hemdi & Daley, 2017	62	Mothers	M = 33.66	Preschool M = 5.08 years
Zhang et al., 2014	43	Mothers	M = 36.65	M = 4.5 years

Source: Authors.

3.2 Intervention studies

All nine articles incorporated interventions delivered explicitly to parents of preschool children with ASD that were recently diagnosed, and they targeted to reduce parental stress and enhance their well-being. The intervention types and approaches were diverse.

3.2.1 Cognitive behavioral therapy (CBT)

Two studies incorporated CBT individual-based intervention program to decrease parenting stress and maternal depressive symptoms. The first one is a study that focused on improving mothers' mental health after their child's diagnosis of ASD (Feinberg et al., 2014). The researchers used a randomized clinical trial of problem-solving education (PSE), a brief manualized cognitive behavioral intervention based on the hypothesis that by empowering the maternal problem-solving skills, life stressors would be weakened, and so parental stress and the depressive symptoms would be reduced. PSE focuses on identifying a measurable problem and on using a process of specific steps including goal setting, brainstorming, evaluating and choosing solutions and action planning, in order subjective feelings to be converted to objective problems with achievable goals and solutions. So, the researchers' objective was to investigate if maternal stress and depressive symptoms could be decreased with the implementation of a cognitive behavioral intervention.

The participants were randomly allocated either to the intervention group or the usual care group. Mothers on the PSE group worked one-to-one with a trained interventionist. In the usual care group, the services delivered in children with ASD included speech, language and occupational therapy, and social skills training. However, services related to parental mental health were not delivered. Outcomes were reported in a follow-up 3 months after the intervention. According to them, PSE seems to reduce clinically significant psychological distress during the immediate post-diagnosis period in comparison with usual care services. PSE was also related to an improvement in social coping abilities. Regarding the clinically depressive symptoms, although there was a reduction, it was not a statistically significant one.

The second study, also, implemented a problem solving skills training (PSST) in mothers of children recently

diagnosed with ASD (Nguyen et al., 2016). One major difference with the previous study is the lack of a control group. Also, there were 3 different assessments allowing comparisons regarding maternal well-being (the baseline, one immediate post evaluation, and a follow-up 3 months after). According to the results, there was statistically significant decrease in depressive symptoms, total mood disturbance, and post-traumatic stress symptoms.

3.2.2 Mindfulness

Two studies incorporated Mindfulness session topics as part of their group-based intervention program to enhance parental well-being. Mindfulness is another approach that can be implemented in parents of children with ASD. This kind of approach encourages parents to stay in touch with their emotions and not to suppress them through the use of strategies that reduce parental stress (Wilson & DuFrene, 2009). The mindfulness sessions topics include stress management, awareness of the moment, and developing the sense of gratitude.

Specifically, Corti et al. (2018) used an Acceptance and Commitment Therapy (ACT) -oriented PT focusing on the improvement of parents' psychological functioning. The researchers focused on the stress of parents with children recently diagnosed with ASD. They, also, assessed two psychological processes (cognitive fusion and experiential avoidance) that are linked to high distress levels according to ACT. Two groups were included in the sample. Both experimental and control group took part in early intensive behavioral program (EIBI), but only the experimental one received ACT-PT at the same time with EIBI. The findings of this study were quite controversial as after the intervention the experimental group showed significantly reduced stress but an unexpected reduction of mindfulness awareness, while no changes were detected in the control group.

In Weitlauf's et al. (2020) study, a mindfulness-based stress reduction (MBSR) was also used in the experimental group, in combination with early parent-mediated behavioral intervention (P-ESDM) to parents of children recently diagnosed with ASD. On the other hand, in the control group a parent-mediated behavioral intervention (P-ESDM) was only implemented, in order to compare the efficacy of the MBSR in parent functioning including stress, depression, anxiety, life satisfaction, and mindfulness. The participants were randomly assigned to each group, in contrast with the previous study of Corti et al. (2018). According to findings, both groups showed statistically significant average improvement during the period of the intervention in parenting stress, depression, and anxiety symptoms. However, these results were gradually lost over time. Parents from the experimental group had greater improvements only in parental distress and mindfulness in the follow-up assessments.

3.2.3 Parent training

Three studies incorporated PT interventions to investigate their effect on parents of pre-school children with ASD. One study used a group format (Dababnah & Parish, 2016), one individual format (Mueller & Moskowitz, 2020), and the last one a combination of them (Roberts et al., 2011). The research of Dababnah and Parish (2016) aimed at reducing parental stress from baseline to post intervention using the "Incredible Years Program" tailored to parents of preschool children with ASD. The research focused on developing skills in problem-solving, stress management, and communication to parents of children with ASD. Findings showed improvements in parent stress after the completion of the program.

Mueller and Moskowitz (2020) used positive family intervention (PFI) a PT program which combines CBT with family based positive behavior support (PBS) to examine the well-being of three families with ASD children. Three mothers were taught PBS (e.g., how to conduct a functional behavior assessment and develop strategies based on the extracted results) and CBT procedures (e.g., how to identify their own thoughts and feelings and then cognitively restructure those thoughts). The results showed that one of the three mothers reported improvements in parental stress and self-efficacy, while two of them decreases in child and parent-causal attributions, irrational beliefs & pessimistic thoughts.

Roberts et al. (2011) used the "Building Blocks" early intervention program which provides both an individualized and a small group-based service, during which parents participate in a support group provided them with an opportunity to meet weekly with other parents and professionals to discuss a number of issues. Participants were randomly assigned in one of the two formats. Results showed improvements on parents' perception of competence and quality of life in the group-based program but not on stress, while some families were also lost to follow up for different reasons (Roberts et al., 2011).

3.2.4 Other studies

The two remaining studies focused on post-traumatic growth (PTG) of mothers with a child with ASD (Zhang et al., 2014) and psychoeducation (Hemdi & Daley, 2017). Both of them used group-based design. PTG puts emphasis on positive psychological changes (such as the development of spirituality, patience, compassion, and strength) as a reaction to difficult circumstances (Ekas & Whitman, 2011). So, in order to promote PTG the researchers' team used the Solution-focused brief therapy (SFTB) in order to help mothers to focus on future solutions to cope with their problems by empowering their strengths (Bannink, 2007). Findings showed that PTG was improved for the group that SFTB was offered and the results lasted for 6 months after the intervention (Zhang et al., 2014).

Psychoeducation focuses on providing support and benefit parents of children with ASD (Hemdi & Daley, 2017). The researchers conducted one face-to-face session and four virtual sessions (intervention group) delivered using WhatsApp while the control group received advice from the professionals. The results showed a statistically significant improvement in parental stress and depression which were maintained at the follow-up but not in anxiety (Hemdi & Daley, 2017).

Table 2: Interventions.

Name of study & country	Intervention type	Format	Setting	Duration	Design	Measures	Outcomes
CBT							
Feinberg et al., 2014 **USA**	Problem-solving education (PSE)	Individual	Home or location of mother's choosing	6 sessions (30–45 min per week)	Randomized clinical trial	1) Quick Inventory of Depressive Symptomatology (QIDS) 2) Parenting Stress Index (PSI)	Statistically significant reduction of parental stress Reduction of depressive symptoms, not statistically significant
Nguyen et al., 2016 **USA**	PSE	Individual	Home or convenient public place public e.g., local coffee shops, public library) or by phone	8 sessions (1h each)	Pre- post-intervention measurements	1) Beck Depression Inventory Revised (BDI-R) 2) Profile of Mood States (POMS) 3) The Impact of Event Scale (IES-R)	Statistically significant reduction of parental stress Reduction of depressive symptoms, not statistically significant
Mindfulness							
Corti et al., 2018 **Italy**	Acceptance & Commitment Therapy	Group	In researchers' institute	12 sessions (1.5h each)	Pre- post-intervention measurements	1) Parenting Stress Index (PSI) 2) The Mindful Attention Awareness Scale (MAAS)	Reduction of mindfulness awareness and a trend towards statistical significance of the change in stress
Weitlauf et al., 2020 **USA**	Parent-implemented Early Start Denver Model (P-ESDM) & Mindfulness-based stress reduction (MBSR)	Group	In researchers' institute	12 P-ESDM sessions (1h each) + 6 MBSR sessions (1h each)	Pre- post-intervention measurements	1) PSI 2) Center for Epidemiologic Studies Depression Scale 3) Beck Anxiety Inventory 4) Satisfaction with Life Scale 5) Five Facet Mindfulness Questionnaire	In both groups improvements were lost over time. In the experimental group gains of mindfulness persisted after intervention

Parent training							
Dababnah & Parish, 2016 **USA**	Incredible Years Program	Group	Community setting	15 2h weekly sessions	Mixed methods test with no comparison group	Parenting Stress Index – 4th Ed.	Parent stress decreased significantly after program completion
Mueller & Moskowitz, 2020 **USA**	Positive family intervention (PFI)	Individual	Pre- & post-interventions at home & sessions at University	8 90 min weekly sessions	Nonconcurrent multiple baseline design across participants	1) Parenting Sense of Competence Scale (PSOC) 2) Parent Cognition Scale (PCS) 3) Parenting Stress Index, 4th Ed. - Short Form (PSI-4-SF) 4) Thoughts Quiz 5) Parent Rational and Irrational Beliefs Scale (P-RIBS)	1 of 3 mothers reported improvements in parental stress & self-efficacy and 2 of 3 reported decreases in child and parent-causal attributions, irrational beliefs and pessimistic thoughts
Roberts et al., 2011 **Australia**	Building Blocks Early intervention program	Group Individual	Center Home	6 parent support & training groups 2h once a fortnight over a 40-week a team member worked with the child & their parent/s to develop skills to their child	Randomized controlled design	1) PSI 2) The Beach Family Quality of Life Questionnaire	Improvements on parents' perception of competence and quality of life in group-based program but not in stress
Other							
Hemdi & Daley, 2017 **Kingdom of Saudi Arabia**	Psychoeducation	Group	Center & via WhatsApp	1 60 min face-to-face and 4 30 min virtual sessions	Multisite randomized controlled trials	1) PSI-SF 2) Hospital Anxiety and Depression Scale (HADS) 3) The Arabic Scale of Happiness	Statistically significant improvements in stress and depression but not in anxiety
Zhang et al., 2014 **China**	Solution-Focused Brief Therapy	Group	In researchers' institute	6 sessions (1.5h each)	Quasi-experimental design	Posttraumatic Growth Inventory (PTG)	In the SFTB groups PTG was significant higher

Source: Authors.

4. Discussion

The literature review resulted in 9 papers that met the inclusion criteria. These studies differed both in the number of participants and the design. The studies took place in five different countries which is a clear indication of the widespread research interest in studying the interventions that have been used to enhance the well-being in parents of preschool children with ASD. The prevalence of distress among parents of children with ASD suggests a need for interventions that specifically address parental mental health during this critical period. Parents during the initial period after the diagnosis attempt to adapt to the new challenges, as they get informed about ASD and get the appropriate decisions concerning the various intervention programs and services for their child. The importance of the studies, that are reviewed in this paper lays on the fact that they address the parental distress and well-being during the critical period after the diagnosis.

According to the literature review, PSE and PPST are revised forms of problem-solving therapy (PST), which is considered effective in decreasing distress and depressive symptoms (Bell & D'Zurilla, 2009). This is due to the fact that problem-solving skills help parents to adapt to the new situation after their child's diagnosis. Literature seems to confirm that, improved problem-solving skills are linked to decrease distress, increased positive mood, and maternal well-being (Kuhn & Carter, 2006). Another advantage of PST interventions is the convenience for parents concerning time and location, making it accessible for them to take part in (Keen et al., 2009). Feinberg's et al. (2014) study was the first to put on implementation a PSE intervention for parents of children recently diagnosed with ASD. The outcomes of a brief cognitive behavioral intervention seem very encouraging and it suggests that it may have a place in clinical practice as it alleviates parental distress

and helps parents to solve the new problems they have to deal after their child's diagnosis. Their findings seem to agree with these of Nguyen's et al. (2016) study, although in Feinberg's et al. (2014) study there was no statistically significant reduction of depressive symptoms. Also, Nguyen et al. (2016) did not include a control group of mothers of children with ASD in order to make a comparison between two groups like Feinberg's et al. (2014) study.

Furthermore, mindfulness also seems a very promising approach as it reduces stress, improves sleep, and increases parents' life satisfaction with children with developmental disabilities (Lunsky et al., 2017). Regarding the studies that implemented mindful approaches, in the first one (Corti et al., 2018) the parents of the experimental group were offered ACT-PT and EIBIs at the same time. So, the results are not exclusively referred to the efficacy of the ACT, but we assume it due to the fact that the control group was offered EIBIs only. Also, the participants were not randomly assigned to the two groups. Random assignment of participants to a no-treatment group is unethical, but there are questions concerning the efficacy of an intervention versus the changes due to the process of maturation. The researchers considered more appropriate not to force parents to take part in the two different kinds of intervention simultaneously. However, this fact may have led to controversial findings. Specifically, the experimental group was engaged in two kinds of treatments, leading to elevated stress levels. Also, it should be noted that mindfulness skills require a long time to be improved and that the period immediately after the intervention may hit the lowest point due to some cognitive processes that take place (Kohtala et al., 2017). That fact makes it necessary data from different time points after the intervention to be collected. Follow-up evaluations are important for the conclusion concerning treatment effectiveness.

Regarding Weitlauf's et al. (2020) findings, it seems that a 3-month is a short period of intervention and a prolonged one would benefit more parents with children with ASD in order to reduce their stress significantly. On the other hand, improvements in mindfulness and anxiety were stable even the period after the intervention. These findings are in contrast with previous literature, as improvements were found in all domains except from anxiety (Dykens et al., 2014). The researchers' team conclude that a high-quality low-intensity early intervention in combination with MBSR leads to significant improvements in parenting stress and that the engagement in two different kinds of interventions does not affect them.

Regarding PT, Dababnah and Parish (2016) found improvements in parental stress after the intervention. Parents enjoyed the procedure, as they have been helped from social support and peer learning. Nevertheless, the lack of a control group does not allow the attribution of positive results to the program (Dababnah & Parish, 2016). These results are in contrast to the research of Roberts et al. (2011) in which no changes in levels of parental stress were observed. However, improvements on parents' perception of competence and quality of life have been experienced. Finally, in the research of Mueller and Moskowitz (2020) self-efficacy as well as parental stress decreased only in one mother. The present study investigated the effect of PFI on several parental attitudinal variables. Findings indicated also improvements in irrational beliefs for the three participants but for the one of them not to a proportional degree with the progress noticed in her child's behavior. This is maybe, due to her inability to comprehend her own cognitions (Mueller & Moskowitz, 2020).

Regarding PTG, literature shows that SFBT is another method that can reduce problem behaviors and mental disorders. Its flexibility and short-term nature (Kim, 2008) can lead to significant improvements in PTG even a period after the intervention. This is in accordance with the Zhuang's et al. (2014) study. Psychoeducation seems also effective in enhancing parental well-being in mothers of children with ASD (Hemdi & Daley, 2017). This is consistent with other researches showed a reduction in stress levels (Bendixen et al., 2011) and depression (Bristol et al., 1993) of the parents after the intervention.

5. Final Considerations

The objective of this review was to find out the different types of interventions that have been used and the outcomes on parental well-being enhancement. Findings suggest that in most cases, any type of intervention led to positive effects on parents' distress and well-being.

Nevertheless, this review had a number of limitations. It was conducted to highlight the benefits of psychological support and interventions to parents with preschool children with ASD. The most significant concern is the restricted quantity of available research based on inclusion and exclusion criteria. Despite the small number of studies, in this review it was presented a promising body of research concerning the support and well-being of parents with preschool children that got recently diagnosed with ASD.

However, there are significant methodological limitations that have to be taken into account for future research. Specifically, each research had a different research design, sample size, sample characteristics, measurements, and variables. So, it is difficult to make any definite conclusions about the most appropriate and effective intervention and approach for parents to get psychologically supported.

This review, despite the limitations, shed light on a number of discrepancies regarding the effectiveness of the most known interventions and approaches concerning the psychological support of parents with children with ASD. Further research with other samples will be needed for validation of the study results. All of the authors of the studies mentioned recommend a replication with larger samples as small or moderate differences in a small sample cannot be detected. Also, it is necessary the assessment of the outcomes over a longer follow-up period as some of these studies had not a follow-up assessment.

If consistent findings are confirmed by replication and follow-ups some conclusions could possibly be made about the effectiveness of each intervention. This will allow better support to parents with children that got recently diagnosed, with implications not only to their well-being but also to parent-child interactions and the functionality between family members.

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