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THE EFFECT OF GROUP COUNSELING IN REDUCING PARENTAL STRESS AND DEPRESSION IN JORDANIAN MOTHERS OF CHILDREN WITH AUTISM

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ABSTRACT

This study aimed to investigate the impact of a group counseling program on reducing parental stress and depression among mothers of Jordanian children with autism. A purposive sample comprising 40 mothers of children with autism was selected from three autism centers in Zarqa and Rusaifa in Jordan; these participants were then randomly assigned to either an experimental group (N = 20) or control group (N = 20). Participants were asked to complete both the Parental Stress Index–Short Form (PSI–SF; including its three sub-scales) and an amended Arabic version of the Depression, Anxiety and Stress Scale (DASS): pre- and posttest by both groups, and a six-week follow-up test by the experimental group. A CBT-based group counseling program was designed and 14 sessions were held three times per week over a four-week period. The difference between the pre- and posttest scores for the two groups revealed that the experimental group was significantly more likely to have lower levels of parental stress and depression. Furthermore, there was a significant difference in scores between the experimental group's posttest and follow-up assessment: Total Stress (Total PSI), Parental Distress (PD), and depression had all decreased significantly; Parent–Child Dysfunctional Interaction (PCDI) had also decreased, but not significantly; however, although not significantly, stress levels associated with a Difficult Child (DC) had increased.

Contribution/Originality: This study confirms the findings of previous studies that CBT-based group counseling is effective in improving the well-being of mothers caring for a child with autism. However, its primary contribution is revealing that alternative, more effective strategies need to be identified for addressing both the stress associated with a difficult child and parent–child dysfunctional interactions.

1. INTRODUCTION

Caregivers, especially mothers, of children with autism disorder (AD) who have complex needs often face demands that go far beyond those children with typical development: stigma, physical stress, severe financial difficulties, and ongoing social isolation (Ghunaim & Al-Smadi, 2018; Seltzer et al., 2009). Many studies agree that there is an increased rate of mental disorders among caregivers, indicated by higher feelings of stress, anxiety, and depression reported by caregivers of children with AD. In addition, caregivers reporting more problems with child behavior also revealed increased feelings of stress, anxiety, and depression (Lecavalier, Leone, & Wiltz, 2006; Lovell, Moss, & Wetherell, 2015). There is a good deal of empirical evidence, in fact, that parenting a child with AD is associated with high levels of mental health problems and a low quality of life (Da Paz & Wallander, 2017; Ilias, Cornish, Kummar, Park, & Golden, 2018).

Autism is defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) (American Psychiatric Association (APA), 2013a) as a chronic condition of a child's developmental progress characterized by social dysfunction and delayed development of basic psychological functions associated with social and linguistic skills, including attention, sensory perception, and motor development. These symptoms present during the first three years, and although the psychological and environmental causal factors are not yet known, it is thought they originate in the brain and central nervous system. It is generally well-known that children with AD exhibit limited and repetitive behaviors with specific communication and social interaction difficulties (APA, 2013a), and these accumulated deficiencies often affect all family members, but especially parents and particularly mothers, negatively, which can lead to adverse health and psychological consequences, such as a low quality of life (Allik, Larsson, & Smedje, 2006), more physical health problems, and greater physical pain among mothers (Khanna et al., 2011). Compared with parents of children with either typical development or other developmental disabilities (e.g., intellectual disability or cerebral palsy), parents or caregivers of children with also experience an increased incidence of negative emotional–psychological outcomes, such as parental stress, anxiety, and depression (Hayes & Watson, 2013).

The global prevalence of AD is 1 in 68 children, and estimated to be 1 in 500 in Jordan, with a higher incidence among boys than girls at a ratio of 4:1, although AD is not known to be related to any ethnic or social factors (Bseiso, 2018). Unfortunately, no studies provide the exact percentage, only partial estimates, of people with AD in Jordan or any other Arab country (Al-Najadat & El-Zraigat, 2016). From the evidence, parents of children with AD are often at high risk of caregiver stress syndrome—also known as caregiver burnout or caregiver burden—a condition of physical, emotional–psychological, and mental fatigue, alongside negative such attitudes as anxiety, anger, resentment or guilt due to the constant demands for care and attention from patients with chronic conditions (Abu Shuaib & Batayneh, 2011; Catalano, Holloway, & Mpofu, 2018). Further, Ghunaim and Al-Smadi (2018)noted that when a child is diagnosed with a disability, the family "strives to maintain patterns of interaction, roles, and rules that were established in advance to manage and organize the family's daily activities. It also tries to address the problems caused by the disability, but the consequences on the family are often negative; family capacity may be insufficient to meet the emotional, social, and financial requirements imposed upon it by a person with a disability" (p. 306). Moreover, it is highly probable that a child with AD will be affected by a dual disorder (e.g., pathological–fears-related disorders, obsessive-compulsive disorder (OCD), or attention–deficit/hyperactivity (ADHD)) that increases the burden on and difficulties for parents or caregivers who are responsible for managing and controlling the child's behavior, which explains much of the formers' plight and poor mental and physical health (Catalano et al., 2018; Prata, Lawson, & Coelho, 2018).

Extensive research has been undertaken into the causal factors of poor mental health among parents caring for children with AD in particular. Some studies found a positive linear relationship between the severity of autism symptoms in the child and the stress levels of their mother (Hastings et al., 2005), while others discovered a close connection between avoidance coping—escaping from the situation—and parental stress and depression among parents of children with AD (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001). Cumulative evidence confirms that the vast majority of such parents suffer from negative, nonadaptive psychological outcomes, predictors for which are high stress levels, lacking social support, and using ineffective coping techniques (Mancil, Boyd, & Bedesem, 2009); however, research also indicates positive effects of caring for a child with AD, such as increased spirituality (Ekas, Whitman, & Shivers, 2009). Studies concerning mothers of children with AD were also undertaken in Arabian countries. In Saudi Arabia, Al Towairqi, Alosaimi, Al Zaidi, Helmy, and Al Sherif (2015) concluded that autism is significantly associated with the stress levels experienced by and burden imposed on mothers of children with AD, contributing to the higher incidence of depression among them. Likewise, Al-Farsi, Al-Farsi, Al-Sharbati, & Al-Adawi (2016) observed that all indicators of stress, depression, and anxiety are higher among caregivers of children with AD than those with intellectual disabilities or typical development in the Sultanate of Oman. Finally,

Rayan and Ahmad (2017) found that positive reappraisal coping interventions adopted by 104 Jordanian parents of children with AD is negatively associated with levels of depression, anxiety, and stress after controlling for age and gender variables.

Therefore, studies conducted in both Eastern and Western societies confirm that therapeutic mechanisms are essential to support vulnerable family caregivers, especially mothers, of children with AD. Consequently, researchers have quickly designed interventions specifically targeted at the challenges faced by and adverse effects on parents' mental health, followed by several systematic evaluations of their effectiveness on the outcomes, such as improved problem-solving, coping, and stress management skills. The narrative review of Da Paz and Wallander (2017) experimentally tested the effects of interventions aimed at improving the mental health of parents of children with AD. From among the 13 studies that matched the inclusion criteria revealed that treatments produced medium–large effect sizes, showing a statistically significant increase in parental stress levels and general health, as well as a decrease in depression and anxiety. The most promising interventions included cognitive behavioral therapy (CBT), stress management skills, relaxation techniques, expressive writing, mindfulness-based stress reduction, and acceptance and commitment therapy. And in a systematic review by Catalano et al. (2018) evaluated 23 studies conducted in 13 countries, including Jordan, on the use of therapeutic programs to improve the mental health of parents of children with AD, with the specific aim of identifying the basic features common to all these interventions. They reported that therapeutic interventions should encompass parental self-perspective-taking and real-time problem-solving.

Based on these findings and the lack of Arabian, and Western, psychological experimental studies into the effectiveness of counseling for mothers of children with AD, the current study explores the effect of cognitive behavioral group counseling in reducing stress levels and depression among mothers of children with AD in Zarqa Governorate, Jordan.

Gender-specific treatment groups have long been considered the most appropriate choice for women for several reasons (Grenard-Moore & Vasquez, 1990). First, some may benefit from these groups' emphasis on gender identity, enabling women to realize that they are allowed to care for themselves as well as others and receive care and mutual support from other women. As a result, women can learn to value themselves and other women far more, as well as to take an opportunity to focus on those issues peculiar to women from a woman's perspective. Second, women's groups enable members them to develop and renew satisfying relationships and connections within which feelings such as sadness, loss, and anger can be induced, tolerated, understood, respected and acted upon together.

Sevim (2007) examined the effect of a stress management program on reducing levels of anxiety, depression, and suicide risk in 44 mothers of children with AD in Turkey. These mothers were divided into either an experimental or control group, both of which completed Beck's Depression Inventory (BDI) for anxiety, depression, and suicide risk pre- and posttest. Having received no therapy, the control groups showed no significant difference from pretest to posttest; however, although anxiety levels and suicide risk did not change significantly for the experimental group, a statistically significant reduction in depression was evident posttest. Similarly, Alqadi (2010) assessed the effect of group counseling on reducing stress levels among parents of children attending autism centers in Taif City, Saudi Arabia. The 15 parents comprised 9 mothers and 6 fathers, who were also divided into experimental and control groups. Results from the Gilliam Autism Rating Scale and Parental Stress Scale (PSS) indicated statistically significant differences from pretest and posttest between the two groups in favor of the experimental group. In addition, Rayan and Ahmad (2016) had undertaken another, earlier, study of 104 Jordanian parents of children with AD to determine the impact of mindfulness-based intervention on their perceived depression, anxiety and stress. Once more, parents were randomly assigned to either an experimental or control group, with those in the latter not participating in any program. Parents in the experimental group joined a five-week mindfulness-based intervention program and significantly improved their levels of depression, anxiety, and

stress compared with the control group: the effect size ranged from moderate (0.42) to large (0.85). Meanwhile, a study undertaken in the West by Dykens, Fisher, Taylor, Lambert, and Miodrag (2014) investigated the effect of a group therapy program on reducing parental stress, depression, and anxiety, and improving life satisfaction among a group of 243 American mothers of children with disabilities: AD (65%) and other disabilities (35%), who were randomly assigned to mindfulness-based interventions or positive psychology practices groups. Each group participated in a group therapy program of six weekly sessions, with each mother being assessed before, during and 6 months after treatment. The results revealed that both groups experienced a significant reduction in parental stress, depression, and anxiety, and increase in life satisfaction, particularly for depression and anxiety in the follow-up tests. Moreover, mothers in the mindfulness group exhibited a significantly greater level of improvement in depression, anxiety, sleep, and psychological well-being than the positive psychology group.

Other Western and Eastern studies have focused on CBT in this area. In the USA, Feinberg et al. (2014) examined the effectiveness of a CBT program in teaching problem-solving skills to 110 mothers of children with AD to reduce the stress and depressive symptoms they experienced. Of the two groups, the 59 mothers in the experimental group reported significantly lower stress levels and less depressive symptoms than the 61 in the control group posttest as well as at three-month follow-up. In Spain, Ruiz-Robledillo and Moya-Albiol (2015) similarly evaluated the effectiveness of CBT-based group therapy on lowering stress levels, depression, mood swings, and physical symptoms among 17 parents (10 mothers and 7 fathers) of children with AD. The results likewise showed that caregivers reported significantly lower levels for all problems posttest and at one-month follow-up.

In Jordan, Al Horany, Hassan, Baba, and Juhari (2011) evaluated the effect of CBT on reducing depression in 60 mothers and fathers of children with AD, divided at random equally between the experimental and control groups. Pre- and posttest results indicated that, compared with the control group, the experimental group reported significantly less depression over time; the results also showed that group CBT caused 50% of the variation in depression among participants. Awawdeh (2017) also examined the impact of CBT-based group therapy on improving the mental health among 30 mothers of children with AD in Hebron, who were assigned at random equally to the experimental and control groups. The results revealed statistically significant posttest differences for psychological (i.e., depression, anxiety, isolation, self-insufficiency, and hypersensitivity), physical, and social well-being between the groups, in favor of the experimental group. Likewise, 30 mothers of children with AD in Iran were studied by Mohamadipoor and Yari (2017) to determine the effect of CBT on depression and anger. The experimental and control groups each included 15 mothers, who completed BDI and Spielberger's State-Trait Anger Expression Inventory pre- and posttest. Unlike the control group, the experimental group participated in eight weekly two-hour group therapy sessions, but only reported significantly lower levels on the BDI. Finally, Karaman (2018) investigated the effect of group CBT and stress-response psycho-training on stress levels among a 28 Turkish mothers of children with AD by allocating 10 to a CBT group, 7 to placebo-based activities, and 11 to a control group. Again, the posttest levels of perceived stress were significantly lower in the CBT group only.

These studies highlight the significant benefits of group CBT-based counseling for stressed and depressed mothers of children with AD. However, much less interest and far fewer studies have been undertaken in Arabian than Western communities; the literature review for the current study retrieved only two studies focusing on this group of mothers were conducted in Jordan (Al Horany et al., 2011; Rayan & Ahmad, 2016). This study therefore extends the research in this specific area among those mothers of one or more children with AD.

1.1. Study Problem

It is evident that caring for children with AD is a considerable challenge that puts family life under extreme stress. In particular, the higher level of needs and demands results in parents expending a great deal of time, effort, and patience on caring and participating in treatments for their children, possibly at the expense of other important

roles and parental tasks. This often leads to a greater prevalence of fatigue, parental stress, depression, anxiety, and other mental or physical health problems (Hoefman et al., 2014), as well as financial problems due to high health-care costs, disruption to or loss of employment, which further increases the burden (Khanna et al., 2011).

In light of these long-term and multidimensional needs of children with AD, it is vital that psychologists and counselors working with their families develop, and assess the effectiveness of, therapeutic interventions to help parents cope with any adverse effects. Thus, the study problem is addressed through the following research question: "What is the impact of a group counseling program on reducing levels of parental stress and depression in Jordanian mothers of child with autism?"

1.2. Study Hypotheses

The current study seeks to test the following hypotheses:

Hypothesis 1 (H1): There are statistically significant differences, at the α level of 0.05, between the mean scores of the experimental and control groups on the posttest parental stress (including sub-scales) and depression scales.

Hypothesis 2 (H2): There are no statistically significant differences, at the α level of 0.05, between mean scores of the experimental group on the parental stress (including sub-scales) and depression scales posttest and at six-week follow-up.

1.3. Importance of the Study

The importance of the current study in practical terms can be summarized as follows:

1. To investigate the impact of a cognitive behavioral counseling group program, specifically designed for the current study, among mothers of children with AD: its role in improving psychosocial functioning (i.e., reducing parental stress and depression) to enable mothers to apply coping techniques effectively and support their children better.
2. To provide mothers with the skills to cope with the major and ongoing changes to family life required in caring for children with AD. A series of transformations in individual and family life, ranging from emotional and behavioral to economic effects and diverse living conditions, depends on effective coping skills to improve long-term maternal well-being and support for children with complex developmental, physical, and behavioral needs.
3. To provide scientific tools and materials for counselors working in clinics and women's and family care centers to develop effective therapeutic programs for mothers of children with AD, which will also benefit and enhance the psychological and family counseling profession.

In addition, the study's importance on a theoretical level includes the following:

1. To add new information to the field of psychological and family counseling.
2. To clarify the effectiveness of CBT-based therapeutic programs for caregivers, especially women and mothers, of children with special needs, for which insufficient research exists.
3. To extend the volume of research on the impact of CBT-based group counseling programs on the mental health among Jordanian mothers of children with AD, which contributes quality and original research to the field of counseling interventions for mothers and families of children with developmental disorders.

1.4. Purpose of the Study

The current study aims to:

- Examine the effect of a CBT group counseling program in improving mental health among mothers of children with AD.
- Highlight the psychological needs of mothers of children with developmental disabilities and the role of counseling interventions in supporting the medical as well as psychological treatment plans for children with AD in Jordan and other Arab countries.

- Promote the importance of providing both psychosocial interventions for mothers and health-care services for children with AD simultaneously.

1.5. Limitations of the Study

The generalizability of the current study's findings depends on the demographic and health features of the sample population—mothers of children with AD reporting high levels of parental stress and depression—and the psychometric characteristics of the self-report instruments used in this study. Its limitations, therefore, lie in the conditions and duration of the group counseling program, which ran from Sunday October 7 to Thursday November 1, 2018, in three care centers for children with AD located in Zarqa and Rusaifa, Jordan. In addition, the study focused on the effect of group counseling in reducing parental stress and depression in Jordanian mothers of children with AD), meaning the generalizability of the results depends on the degree to which the participants adequately represent the community from which they were sampled.

1.6. Definition of Study Terms

Group Counseling: This is defined as a program based on CBT and the psychoeducational techniques designed by the authors to reduce levels of parental stress and depression in a group of mothers of children with AD In this study, the program consists of 14 sessions, of one or two hours, three times per week over a four-week period.

Parental Stress: This type of stress is associated with the parenting role: maternal and paternal effectiveness, lifestyle constraints due to parenting responsibilities, parental disputes, interactions with incapable and below-average children, and potential disappointment in a child or a child's rejection of their parent (Abidin, 2011). In this study, parental stress levels are assessed by participants selecting an appropriate score on the research instrument.

Depression: This is defined as a state of extreme sadness, leading to a sense of helplessness, inferiority, despair, and disappointments, as well as a low level of attention and concentration, social withdrawal, and self-isolation (Lovibond & Lovibond, 1995). Participants again select an appropriate score on the research instrument to indicate depression levels in this study.

Jordanian Mothers of Children with Autism: This refers to the purposive sample of mothers from those attending an autism care center in Zarqa, Jordan, for professional support for both themselves and their children. The 40 mothers selected all lived with their husbands and families, which included a child, aged between 4 and 13 years, diagnosed with AD. For the study, the mothers were equally distributed at random between experimental and control groups.

Autism: This is defined as a type of neurodevelopmental disorder that comprises two main aspects: (1) social function and communication deficits and (2) restricted interests and repetitive stereotypical behavior (APA, 2013a). A lifelong condition, autism generally presents during the first three years of life.

2. METHOD AND MATERIALS

2.1. The Study Methodology and Design

This study adopted a quasi-experimental approach, first randomly assigning the purposive sample of mothers equally between experimental and control groups, both of which were subject to a pretest assessment. The experimental group then participated in the group counseling program, followed by posttest and six-week follow-up assessments. Meanwhile, the control group received no group counseling, after which a posttest assessment was undertaken.

2.2. Study Variables

The independent variable in this study was the experimental treatment (i.e., the group counseling program, while the dependent variables were the participants' posttest and follow-up scores on the parental stress and depression scales.

2.3. Study and Sample Populations

The study population comprised the 105 mothers of children diagnosed with AD attending three government autism care centers—Center for Special Education, Zarqa; Shuaa Al Amal Association for Rehabilitation of Persons with Disabilities, Rusaifa; and Hittin Center for Early Detection of Disabilities and Community Rehabilitation/Ministry of Social Development, Rusaifa—from October to November 2018. The purposive sample population numbered 40 mothers who matched the study criteria: expressing desire and consent to participate in the counseling program; experiencing high–moderate levels of parental stress and depression; and providing continuous care for their children over a 2–8-year period. These mothers were randomly assigned to either the experimental (n = 20) or control (n = 20) groups.

The demographic attributes showed that the participants ranged from 25 to 52 years of age (mean (M) = 35; standard deviation (SD) = 5.7), 52.5% having completed a secondary and 47.5% a university education. All were Jordanian and married (100%), with over half (57.5%) being housewives, of which 9 women had left work due to their child's condition, while the others were employed (42.5%). With regard to their families, 60% included 5–6 members, 3–4 in 27.5%, and 7 or more in 12.5%, while 85% were classed as middle-income families according to their monthly income. In terms of the 40 children diagnosed with AD, 34 were male and 6 female, aged from 4 to 13 years (M = 7.32; SD = 6.7), among whom a diagnosis of autism had been given within the first 2 years for 47%, 4 years for 40%, and after 5 years or more for 13%. Based on each center's records, their average IQ (M = 72.6; SD = 12.1), ranging from moderate impairment (47) to below-average functioning (90), indicated severe intellectual disability. In addition, their average scores on the Arabic version (Shammari & Sartawi, 2002) of the Childhood Autism Rating Scale (Schopler, Reichler, & Rochen Renner, 1988) (M = 39.4; SD = 6.4), ranging from 26 to 55, revealed mild–severe childhood autism. A detailed breakdown of the ratings showed 70% (28) with severe, 25% (10) with moderate, and 5% (2) with simple disabilities. Accordingly, the majority of the children (87.5%) do not regularly attend formal school, while the remainder (12.5%) attend special kindergarten schools for autistic children. Consequently, the 40 study participants indicated elevated pretest parental stress (M = 135.7; SD = 6.1) and moderate pretest depression (M = 50.7; SD = 7.8).

2.4. Study Tools

2.4.1. Parental Stress Scale

The current study used the Parenting Stress Index–Short Form (PSI–SF) developed by Abidin (2011), which consists of 36 statements assigned equally across three sub-scales: (1) Parental Distress (PD), (2) Parent–Child Dysfunctional Interaction (PCDI), and (3) Difficult Child (DC), combining into a Total Stress scale. An adapted Arabic version of the PSI–SF has been used in earlier studies (Bani Mustafa, 2011; Damra & Al-Smadi, 2016; Dardas & Ahmad, 2014), proving to have good reliability (r = 0.98; α = 0.945) and validity. The tool is available in the public domain, and the authors translated it from English to Arabic once more, verifying both the accuracy of the translation and conformity and linguistic integrity of the items through an expert in English and Arabic.

2.4.1.1. Validity of the Scale

The face validity of the PSI–SF was assessed by a group of 10 expert judges, all of whom held a PhD in Psychological Counseling, Special Education, or Psychological and Educational Measurement. As the inter-rater validity was 80%, confirming the tool's high validity and suitability for the current study, all 36 items were retained.

2.4.1.2. Reliability of the Scale

The reliability of the PSI–SF was verified using the following two methods:

1. Test–Retest: With a two-week interval in between, a pilot sample 30 mothers, selected from the study population but not members of the sample population, completed the final version of PSI–SF twice. The results showed statistical significance at $\alpha = 0.01$, with correlation coefficients for Total Stress ranging from 0.226 to 0.915, 0.332–0.835 for PD, 0.330–0.864 for PCDI, and 0.330–0.990 for DC.
2. Internal Consistency: Cronbach's alpha was calculated and resulted in $\alpha = 0.890$ for Total Stress, $\alpha = 0.846$ for PD, 0.7794 for PCDI, and 0.861 for DC.

The PSI–SF was thus reliable and suitable for the current study.

2.4.1.3. Scoring Method

The final form of the PSI–SF comprised 36 items, for each of which participants indicated their level of parental stress on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The scores were calculated for the each of the three sub-scales as well as the overall scale, with the higher the total scores, the higher the parental stress levels. The total score could range from 36 to 180, subdivided into three categories: 36–84 indicating low parental stress, 85–132 moderate levels, and 133–180 high levels.

2.4.2. Depression Scale

Symptoms of depression, anxiety, and stress were identified by items derived from The Depression, Anxiety and Stress Scales 42 (DASS–42), which was developed by Lovibond and Lovibond (1995), who also collaborated on with a modified short Arabic version (Taouk, Lovibond, & Laube, 2001) for use with Arab immigrants living in Australia. For the current study, a 14-item Depression Scale (DS) was derived from the DASS–42 and translated from English to Arabic, which verified for the accuracy of the translation and conformity and linguistic integrity of the items by an expert in English and Arabic.

2.4.2.1. Validity of the Scale

The DS was modified in an earlier study of Jordanian mothers (Alaedein & AlKhateeb, 2017), becoming a 16-item scale after the addition of item 2–"I found it difficult to work up the initiative to do things" and item 10–"I suddenly felt depressed." This Arabic 16-item DS was shown to be reliable ($r = 0.939$; $\alpha = 0.887$), while its face validity, assessed by the aforementioned expert judges, was given an inter-rater value of 90%. Thus, due to its high level of validity and suitability for the current study, the 16-item DS was employed.

2.4.2.2. Reliability of the Scale

The reliability of the DS was verified using those described above:

1. Test–Retest: The final form of the DS completed by a pilot sample of 30 mothers from the study population but not included in the sample population, with a two-week interval in between. The correlation coefficients for the total score ranged from 0.576 to 0.899, and showed statistical significance at $\alpha = 0.01$.
2. Internal Consistency: Cronbach's alpha was calculated and produced a value of $\alpha = 0.868$ for the total score.

Thus, the DS was confirmed as reliable and suitable for the current study.

2.4.2.3. Scoring Method

The participants evaluated their level of depression according to the frequency or severity of their experiences over the preceding week for each of the 16 items of the DS on a 4-point Likert scale: always (4), usually (3), sometimes (2), and never (1). Higher levels of depression were indicated by higher total scores, which could range from 16 to 64; hence, 16–27 indicated a low level of depression, 40–51) a moderate level, and 52–64 a high level.

2.5. Group Counseling Program

To investigate the impact of the group counseling program (the independent variable) on parental stress and depression (the dependent variables), 14 sessions of 1.5–2 hours each, three times per week, was provided over a four-week period between Sunday October 7 to Thursday November 1, 2018 to the 20 mothers in the experimental group at the Hittin Center for Early Detection of Disabilities and Community Rehabilitation, Zarqa, Jordan. The content of the program was based on the concepts and techniques of cognitive behavioral therapy (Hofmann, Asmundson, & Beck, 2013), social learning (Banciura, 1977), group counseling, and psychoeducation (Yalom, 1995). Moreover, to increase the program's effectiveness, the content was tailored to take into account factors shown to improve the well-being of caregivers of children with AD. The group counseling sessions included a. The therapeutic techniques adopted included explanation, instruction, modeling, role-play, reinforcement, feedback, and homework; meanwhile, particular such group therapy techniques (Yalom, 1995)as trust, cohesion, showing caring and interest, acceptance, self-disclosure, and emotional catharsis were also employed. Each session addressed a specific topic, briefly described below, and periodic evaluations were undertaken to determine the extent to which participants benefited from and identify any negative and positive issues with the program.

Session 1. Introducing members, establishing a trusting relationship, and describing the problem): The first session focused on introductions: (1) members making one another's acquaintance, stating the purpose of the group to reduce parental stress and depression), describing the problem and explaining CBT therapy, agreeing on group rules and clarifying the each participant's expectations, and setting the first homework task.

Sessions 2 and 3. (Assessing the problem according to Beck's cognitive model, defining the relationship between thinking, feeling, and behavior, and teaching the cognitive behavioral model of depression): These sessions aimed to: explore parental stress and depression and its causes in the participants (ABC Model); learn about negative automatic thoughts (ATs) that result in irrational thoughts and cognitive errors and how thoughts mediate between external stimuli and emotional reactions and resulting behavior; and explain how Beck's cognitive model reduces depression, with particular reference to situations presented by the participants, including its effect on relationships with other family members as well as their child with AD. A personal project was also set as homework: "My story with my child" and completing the Mood Thermometer.

Sessions 4 and 5. (Reviewing the Daily Record of Dysfunctional Thoughts (DRDT)): These sessions concentrate on recording negative ATs on a daily basis and recognizing such ideas include overgeneralization and magnification of negatives and minimization of positives; then, learning and practicing cognitive restructuring: replacing negative ATs with more positive and rational ideas. The sessions also cover problem-based coping skills, self-care, developing positive friendships and effective social support networks, modeling, mental relaxation to deal with stress and depression. To conclude, participants discuss their problems and how group therapy helps in dealing with them, and their homework is reviewed.

Session 6. (Revealing true success stories from caregivers of children with AD to provide hope for recovery): This session instills hope by relating the story of Karyn Seroussi and her son as a model for other mothers of children with AD. It emphasizes positively accepting reality and vigorously persevering to resolve the issues around caring for their child: Karyn endeavored to relieve her son's symptoms and improve his quality of life in the face of doctors' pessimism (Seroussi & Rimland, 2000); in collaboration with another mother, she established a newspaper in 1997, as well as the Autism Network for Dietary Intervention international support group.

Sessions 7 and 8. (Learning goal-setting and problem-solving skills to increase social support, plus self-instruction and self-talk to control negative thoughts): These provided participants with the skills to set goals and solve problems, and also demonstrated the importance of joining in fun activities with their child to help improve feelings of distress. The interaction between thoughts, feelings, and behaviors were revisited and participants were also shown how self-instruction and self-talk affect the self-regulation of feelings. In practical terms, participants

prepared a schedule of weekly activities: listing the items they wanted to achieve that week (i.e., goal-setting), arranging them in order of importance (i.e., prioritization), and allocating time to each item (i.e., time management).

Sessions 9 and 10. (Learning cognitive restructuring strategies)**:** In these sessions, the participants were introduced to and practiced cognitive restructuring using real-life situations: ATs and consequent feelings were observed, then reattribution techniques were applied to consider alternative rational perceptions and change thought processes. The homework required participants to rate their weekly accomplishments.

Sessions 11–13. (Learning coping skills and dealing with parental stress**):** These sessions introduced participants to the necessary skills for dealing with stressful situations and negative feelings positively and effectively, as well as facilitating communication with others: seeking help, taking exercise, finding a confidant to listen to their problems, letter-writing, and verbalizing and visualizing their feelings). Each participant completed the following sentences: "The only thing I have learned in this group that I want to continue working on is ..." and "My hope for my child in the future is ..." The participants then presented their new experiences from their current perspective and how what they had learned benefited their children, how they felt as mothers, and how they were now able to manage stress.

Session 14. (Implementing the learned techniques, evaluating progress, and closing the program): In this final session, participants reflected on their new experiences and what they had gained from participating in the group. They also explored the extent to which they could achieve their objectives by applying the new techniques to their daily life. In addition, strategies, such as friendship networks and support groups, are suggested to prevent setbacks and pursue improvements in coping with depression and parental stress related to caring for their child with AD.

The validity of the CBT-based group counseling program used in this study was assessed by eight expert judges, who were professors in psychological counseling and special education from different Jordanian universities. Seven (87.5%) of them agreed on the content and strategies, although a reduction in the number of sessions was advised; thus, the program was judged valid and implemented following the suggested adjustments.

2.6. Study Procedure

Interested mothers were provided with an information pack, including a consent form, during a special meeting at the autism center. They were informed that participation was voluntary and confidential, and withdrawal was permitted at any point. Each potential participant was asked to read and sign the consent form. All procedures were conducted in line with the ethical principles of the psychological counseling profession and research involving humans, as cited in the Declaration of Helsinki (World Medical Association (WIMA), 2013). The research protocol was also ethically approved by the locally appointed responsible authorities for the autism center in Zarqa, Jordan.

Those mothers who provided written consent were screened for parental stress and depression levels in a semi-structured interview to collect baseline data (Time 1). The participants were then randomized to either an experimental or control group. Members in the former commenced a four-week CBT-based group counseling program, while those in the latter continued with their regular activities, such as attending the health information lectures, over the same four-week period. Posttest, both groups were assessed again (Time 2), with only the experimental group undergoing a six-week follow-up evaluation (Time 3).

2.7. Data Analysis

To test this study's hypotheses, the descriptive statistics of mean (M), and standard deviation (SD) were calculated for the study variables. In addition, to determine the significance of the difference between the posttest means of the experimental and control groups, multivariate analysis of covariance (MANCOVA) and one-way analysis of covariance (ANCOVA) were performed. The homogeneity of regression slopes (Width & Ahotola, 1978) for both groups were previously tested in Time 1 using Levene's Test for homogeneity of variances, which resulted in F-values of 0.162 for the PSI and 0.265 for the DS that were not statistically significant at the 0.05 level. These results indicated an homogeneity of variance condition in the data, confirming that ANCOVA was an

effective method for analyzing data in this study. The effect size (η^2) was also measured, as well as a paired sample t-test for comparing the posttest means and experimental group's follow-up scores, to determine the effectiveness of the counseling program on the dependent variables. An overall significance level of $p < 0.05$ was selected with regard to the inter- and intragroup differences, and all results were tested against a two-tailed α level of 0.05. SPSS® version 15.0 was used for all the statistical analyses.

3. RESULTS

3.1. Results for Hypothesis 1

H1: There are statistically significant differences, at the α level of 0.05 between the mean scores of the experimental and control groups on the posttest parental stress (including sub-scales) and depression scales. Statistical analyses were performed on the data first from the PSI and then the DS.

3.1.1. *Parental Stress Index–Short Form*

Table 1 presents the means (M), standard deviations (SD), adjusted means, and standard errors (SE) of both groups' (N = 40) pre- and posttest scores for Total Stress (Total PSI), PD, PCDI, and DC.

Table-1. Descriptive statistics for the experimental and control groups from the PSI–SF (N = 40).

Scale	Group	N	Pretest		Posttest		Adjusted posttest	
			Mean	SD	Mean	SD	Mean	SD
PD	Experimental	20	46.30	4.21	42.01	2.08	41.78	0.704
	Control	20	43.99	3.09	44.22	3.70	44.44	0.704
PCDI	Experimental	20	44.88	4.06	39.16	2.17	39.19	0.754
	Control	20	45.87	3.29	45.47	3.94	45.44	0.754
DC	Experimental	20	45.61	2.77	39.44	1.57	39.32	0.660
	Control	20	44.79	3.17	44.79	3.61	44.91	0.660
Total PSI	Experimental	20	136.79	6.17	120.61	3.54	120.30	0.872
	Control	20	134.66	6.29	134.48	3.98	134.79	0.872

PD: Parental Distress; PCDI: parent–child dysfunctional interaction; DC: difficult child; PSI = Parental Stress Index.

Table 1 shows a difference between the adjusted posttest means of the experimental and control groups on all scales, in favor of the former: Total PSI = 120.3 vs. 134.8; PD = 41.8 vs 44.4; PCDI = 39.2 vs. 45.4; and DC = 39.3 vs. 44.9. Thus, the group counseling program had an impact on parental stress. However, to determine whether these differences were statistically significant at the α level of 0.05), a MANCOVA was performed using Wilks' λ on the mean posttest scores of both groups (see Table 2).

Table-2. MANCOVA results for PSI by group variable.

Impact	Wilks' λ	F-value	Degrees of freedom (df)		*p*-value	η^2
Group	0.198	44.433	3	33	*0.000	0.802

Note: * Statistically significant at the α level of 0.05 significance.

As shown in Table 2, the Wilks' λ value of 0.198 is so close to 0 as to confirm the differences between the mean scores: values nearer 0 indicate differences, values nearer 1 indicate no differences (Abbasi, 2011). The other statistical results ($F(3,33) = 44.43$; $p < 0.000$; $\eta^2 = 0.802$) also indicate that these differences are significant at the α level of 0.05. Finally, the effect size reveals that the CBT-based group counseling program accounted for 80.2% of the variation in parental stress between the two groups.

Furthermore, the effect of the counseling program on the three sub-scales of the PSI–SF sub-scales was examined by performing another MANCOVA (see Table 3).

Table-3. MANCOVA results for PSI sub-scales group.

Source of variance		Sum of squares	df	Mean square	F-value	*p*-value	η^2	Practical significance (R^2)
Pretest	PD	15.183	1	15.183	1.669	0.205	0.046	–
	PCDI	10.167	1	10.167	0.975	0.330	0.027	–
	DC	8.050	1	8.050	1.008	0.322	0.028	–
Group	PD	59.604	1	59.604	*6.551	0.015	0.158	0.187
	PCDI	330.720	1	330.720	**31.720	0.000	0.475	0.543
	DC	264.061	1	264.061	**33.080	0.000	0.494	0.520
Error	PD	318.471	35	9.099				
	PCDI	364.920	35	10.426				
	DC	279.390	35	7.983				
Corrected	PD	391.521	39					
	PCDI	782.844	39					
	DC	582.069	39					

Note: * Statistically significant at the α level of 0.05); ** Statistically significant at the α level of 0.01.

As can be seen from Table 3, statistically significant posttest differences exist between the experimental and control groups for all the sub-scales: PD at $\alpha < 0.05$, and PCDI and D at $\alpha < 0.01$. This is confirmed by the other statistical results: $F(1,35) = 6.6$, $p < 0.05$ for PD; $F(1,35) = 31.7$, $p < 0.01$ for PCDI; and $F(1,35) = 33.1$, $p < 0.01$ for DC. In addition, Table 3 shows the considerable significance of the effect size of the counseling programs 15.8% for PD, 47.5% for PCDI, and 49.4% for DC, as well as the respective practical significance of the differences between the two groups (18.7%, 53.4%, and 52%), with the best improvement in PCDI (53.4%), followed by DC (52%), and PD (18.7%) as the least.

It is concluded from the significant impact of the CBT-based group counseling program on parental stress that H1 is supported.

3.1.2. *Depression Scale*

Table 4 presents the means, standard deviations, adjusted Means and standard errors of both groups' (N = 40) pre- and posttest scores for the DS.

Table-4. Descriptive statistics for the experimental and control groups from the DS (N = 40).

Scale	Group	N	Pretest		Posttest		Adjusted posttest	
			Mean	SD	Mean	SD	Mean	SD
Depression	Experimental	20	51.22	8.12	37.52	3.08	37.47	1.033
	Control	20	50.21	7.82	43.48	5.75	43.52	1.033

From Table 4, a difference exists between the adjusted means of the experimental and control groups, in favor of the experimental group (37.8 vs.43.5), which indicates the impact of the CBT-based group counseling program on depression. To determine whether the difference was statistically significant at the α level of 0.05), a one-way ANCOVA was performed (see Table 5).

Table-5. One-way ANCOVA posttest DS scores by group (N = 40).

Source of variance	Sum of squares	df	Mean square	F-value	*p*-value	η^2	Practical significance (R^2)
Pretest	21.931	1	21.931	1.030	0.217	0.027	–
Group	364.953	1	364.953	*17.132	0.000	0.316	0.324
Error	788.176	37	21.302				
Total	66768.606	40					
Corrected	1165.085	39					

Note: * Statistically significant at the α level of 0.05 significance.

The results in Table 5 reveal that there was a significant difference between the groups ($F(1,37) = 17.13$; $p < 0.05$). Furthermore, the effect size of 31.6% and practical significance of 32.4%) indicates that the group counseling program reduced the participants' depression levels; thus supporting H1.

3.2. Results for Hypothesis 2

H2: There are no statistically significant differences, at the α level of 0.05,) between the mean scores of the experimental group on the parental stress (including sub-scales) and depression scales posttest and at six-week follow-up. Descriptive statistics were calculated and a paired sample t-test was performed to determine the difference in the experimental group's (N = 20) results posttest and at follow-up for parental stress and depression.

Table 6 shows the results as follows.

Table-6. Descriptive statistics and t-test results for difference between experimental group's posttest and follow-up results from PSI–SF and DS (N = 20).

	Scale	Test	Mean	SD	t-value	*p*-value
Parental Stress	PD	Posttest	42.01	2.08	*5.814	0.000
		Follow-up test	35.94	4.10		
	PCDI	Posttest	39.16	2.17	0.256	0.801
		Follow-up test	38.93	4.03		
	DC	Posttest	39.44	1.57	1.761-	0.094
		Follow-up test	41.13	3.93		
	PSI Total	Posttest	120.61	3.54		0.031
		Follow-up test	116.01	7.67	*2.336	
Depression	Total	Posttest	37.52	3.08	6.887	0.000
		Follow-up test	32.08	4.07		

Note: * Statistically significant at the α level of 0.05 significance.

Table 6 shows a statistically significant difference ($\alpha = 0.05$) between the posttest and follow-up scores for both parental stress and depression, with improvement in both continuing form posttest to follow-up (M = 120.6 to 116 for overall parental stress; M= 37.5 to 32 for depression).

It can also be seen from Table 6 that PD (M = 42 to 35.9) and PCDI (M = 39.2 to 38.9) continued to improve between posttest and follow-up, but were only statistically significant for PD. On the other hand, DC did not do the same (M = 41.1 to 39.4), but the difference was not statistically significant. Thus, H2 is partially rejected.

4. DISCUSSION

The current study aimed to examine the impact of a CBT-based group counseling program on reducing the levels of parental stress and depression among mothers of children with AD. Two research hypotheses were tested, the results for the first of which showed statistically significant posttest differences ($\alpha = 0.05$) between the experimental and control groups for both parental stress and depression in favor of the experimental group, indicating the beneficial effect of the group counseling program among mothers of children and supporting the hypothesis.

In general, these findings correspond with those of previous studies that also investigated the effect of group counseling based on CBT and psychoeducation to reduce stress levels and depression in mothers of children with AD (Al Horany et al., 2011; Alqadi, 2010; Awawdeh, 2017; Dykens et al., 2014; Feinberg et al., 2014; Karaman, 2018; Mohamadipoor & Yari, 2017; Rayan & Ahmad, 2016; Ruiz-Robledillo & Moya-Albiol, 2015; Sevim, 2007). Moreover, this study is consistent with the meta-analyses (Catalano et al., 2018; Da Paz & Wallander, 2017) that have demonstrated the role and effectiveness of group CBT and stress management dealing with parents' perspectives and emerging problem-solving skills to improve maternal mental health.

It can therefore be deduced that, in terms of group therapy, CBT improves self-awareness and recognition of individual strengths and weaknesses among mothers, and helps with making changes, especially in attitudes towards and beliefs about autism. In addition, learning skills for managing thoughts and feelings enhances mothers' abilities to deal effectively with negative moods and cope with stress. Furthermore, participating in a group in which members shared the same concerns, the mutual support and sympathy available—a prominent feature of group therapy—played a crucial role in normalizing problems and facilitating coping and adaptation processes. In this study, though, it is possible that learning and implementing in-depth cognitive reconstruction distinguishes the group counseling program used. The tailored program helped mothers to reflect on past experiences in their families that had increased stress and generated depressive symptoms, enabling their thoughts and feelings to be identified followed by an emotional catharsis of the frustration and tension associated with those experiences. This program has also facilitated positive changes beyond the actual sessions: the techniques helped most mothers cope better with their difficult role, responsibility, and emotions, while learning to share their experiences, including feelings of stress and depression, helps mitigate their sense of isolation. Consequently, the result of this study confirm the idea that when a client gains a good understanding of their psychological difficulties, they can then start learning new skills to manage their symptoms (Wolgensinger, 2015).

Finally, these positive results can be attributed to several facilitating factors (Rogers, 1986): (1) the counseling techniques, such as unconditional acceptance, empathy, authenticity, mutual respect, and trust-building, used in a safe environment; (2) the therapeutic and healing processes (Yalom, 1995), such as self-disclosure, feedback, risk-taking, caring, acceptance, hope, and a sense of strength; (3) the participant-centered group activities (Corey, Corey, & Corey, 2015), enabling members to apply the techniques and skills learned in the sessions in their daily life. The most important factor was the opportunity to talk, conservatively or openly, about their own experiences and the associated feelings of stress and depression, and their role in and perceptions of dealing with their children's behavioral difficulties. This process was helped particularly by the systematic approach during group sessions: participants self-tested the difficulties every week through recording and writing about their experiences in their roles as mothers and wives, in which they felt inadequate if not failures.

The results for the second hypothesis also indicated statistically significant differences between the experimental groups' posttest and follow-up mean scores for parental stress and depression. In fact, a significant reduction was only observed in Total Stress PD, and depression. Nevertheless, the fact that the participants retained their therapeutic gains showed the group counseling program's long-term effects. In general, these findings are consistent with those results of the few Arab and Western studies that have also demonstrated the long-term effectiveness of group counseling programs in significantly improving stress and depression among parents of children with AD (Al Horany et al., 2011; Dykens et al., 2014; Feinberg et al., 2014; Ruiz-Robledillo & Moya-Albiol, 2015).

The positive results of the current study can be attributed to the participant-centered approach of the group counseling program: the techniques and skills were focused on participants' facing the psychological challenges in their own homes and finding effective ways to deal with their feelings of despair and failure. Participants also learned goal-setting and problem-solving skills to help enhance their social support network, since the support provided to mothers children with AD from family members, friends, and professionals plays a crucial role in their psychological well-being (Damra & Al-Smadi, 2016). Furthermore, it was observed during the sessions, particularly those concerned with problem-solving skills, that several common and persistent difficulties were discussed by the mothers: "I feel trapped at home because my child's condition"; "I need to find a school near home that provides a whole day study"; "Unfortunately, I can't discuss my child's condition with my relatives/friends"; "My child screams/cries all day; I feel frustrated and often respond by shouting"; "I've lost my job and my relationship with my husband is not good—we frequently argue"; "I feel restricted staying at home; I'm losing all my links with the outside world." Consequently, the importance of addressing parents' perceptions and equipping them with the skills

necessary to solve the problems of their real-life, everyday situations—thus improving their mental health—was emphasized. It was also evident that mothers of children with AD were in real need of psychological interventions and organized social support because of the significant impact on their levels of stress and depression (Al Towairqi et al., 2015).

The findings of this study verify the validity of the CBT interventions reported in the psychological literature: meeting information needs and providing cognitive skills for coping with stress and depression were identified as basic contributory factors to reducing psychological distress among parents. The findings also confirmed that parental distress should be addressed directly through the traditional Beck cognitive model, focusing on cognitive reconstruction techniques. Although the counseling techniques in this study improved the quality of the relationship between the mother and their child, as demonstrated by the significantly lower levels of parental stress and distress, and depression in the long term, caution is still required when making generalizations: the strategies adopted to resolve those issues of caring for a difficult child and the resulting dysfunctional interactions must be reviewed because the mothers were unable to maintain their skills for facing these challenges over time. With regard to this aspect, further studies on alternative interventions should be undertaken to ensure long-term positive outcomes.

5. CONCLUSION

In light of the study results, the following recommendations are presented:

1. Further studies to be conducted on the most effective interventions with which counselors and professionals can address the current unmet mental health needs among mothers of children with developmental disabilities. The findings will help improve not only maternal well-being but also the care of and services for families of children with complex developmental, physical, and behavioral needs in the long term (Dykens et al., 2014).
2. Awareness, and thus interest, to be raised among psychologists and counselors working with families living with AD to design therapeutic interventions specifically tailored to help parents cope more effectively with the consequences and impacts on their lives of providing long-term care for a child with AD.
3. The current study should be repeated with a larger sample of mothers facing difficulties in caring for and controlling the behavior of children with AD, over a longer period and in different geographical locations. In addition, future studies should explore a family counseling component providing psychoeducation to other significant family members, such as fathers and/or siblings.
4. Training workshops are advisable to encourage team members working in autism care centers and community services to identify the specific needs of mothers seeking help with the difficulties faced by themselves, their child, and their families. Teams should learn about the diagnostic tools available, and how to apply those tools, to ensure mothers' psychological difficulties are detected early.

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REFERENCES

Abbasi, A. (2011). *Analysis of differentiation: Applications in social sciences using (SPSS)*. Cairo, Arab Republic of Egypt: Institute of Statistical Studies and Research, Cairo University.

Abidin, R. (2011). *Parenting sress index professional manual* (4th ed.). Lutz, FL: Psychological Assessment Resources.

Abu Shuaib, M., & Batayneh, O. (2011). The impact of a training program in modifying the attitudes of parents of autistic children towards their children. *Studies: Educational Sciences, 3*(Appendix 2), 504-525.

Al-Farsi, O., Al-Farsi, Y., Al-Sharbati, M., & Al-Adawi, S. (2016). Stress, anxiety, and depression among parents of children with autism spectrum disorder in Oman: A case–control study. *Neuropsychiatric Disease and Treatment*, *12*, 1943–1951.Available at: https://doi.org/10.2147/ndt.s107103.

Al-Najadat, H., & El-Zraigat, I. (2016). The effectiveness of functional communication training In decreasing undesirable behaviors and developing social skills among autistic children in Jordan. *Dirasat for Educational Sciences*, *43*(Supp1), 695-709.

Al Horany, A., Hassan, S., Baba, M., & Juhari, R. (2011). Efficacy of group cognitive behavioral therapy on depression among Muslim parents of autistic children in Jordan. *Australian Journal of Basic and Applied Sciences*, *5*(12), 827-832.

Al Towairqi, W., Alosaimi, W., Al Zaidi, S., Helmy, F. F., & Al Sherif, E. (2015). Depression among mothers of autistic spectral disorder children. *International Journal of Contemporary Pediatrics*, *2*(2), 119-126.Available at: https://doi.org/10.5455/2349-3291.ijcp20150511.

Alaedein, J., & AlKhateeb, A. (2017). Effect of group cognitive behavioral counseling in reducing anxiety and depression and improving social support among female patients with diabetes mellitus and hypertension. *Educational Journal, Kuwait University*, *32*(4), 259-299.

Allik, H., Larsson, J.-O., & Smedje, H. (2006). Health-related quality of life in parents of school-age children with Asperger syndrome or high-functioning autism. *Health and Quality of Life Outcomes*, *4*(1), 1-8.

Alqadi, K. (2010). The effectiveness of a counseling program in reducing parenting pressures in autistic parents. *Journal of Educational and Social Studies, Helwan University, Cairo*, *16*(2), 239-271.

American Psychiatric Association (APA). (2013a). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.

American Psychiatric Association (APA). (2013b). Intellectual disability fact sheet.

Awawdeh, S. (2017). *The effectiveness of a counseling program to improve the degrees of mental health among mothers of children with Autism Syndrome in Hebron Governorate*. Unpublished Master Thesis, University of Hebron, Hebron, Palestine. Retrieved from: https://www.mobt3ath.com/uplode/book/book-18319.pdf.

Banciura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, *84*(2), 191-215.Available at: https://doi.org/10.1037/0033-295X.84.2.191.

Bani Mustafa, M. (2011). Parental stress as perceived by parents with children with disabilities and normal children in the light of some variables: A comparative study. *University of Sharjah, Journal for Humanities and Social Sciences*, *8*(3), 41-61.

Bseiso, H. (2018). *On the world day of Autism: People with autism in Jordan are honored*. Amman, Jordan: Al Ghad Newspaper.

Catalano, D., Holloway, L., & Mpofu, E. (2018). Mental health interventions for parent carers of children with autistic spectrum disorder: Practice guidelines from a Critical Interpretive Synthesis (CIS) systematic review. *International Journal of Environmental Research and Public Health*, *15*(2), 341-364.

Corey, M., Corey, G., & Corey, C. (2015). *Groups: Process and practice* (9th ed.). Monterey, CA: Brooks/Cole.

Da Paz, N. S., & Wallander, J. L. (2017). Interventions that target improvements in mental health for parents of children with autism spectrum disorders: A narrative review. *Clinical Psychology Review*, *51*, 1-14.Available at: https://doi.org/10.1016/j.cpr.2016.10.006.

Damra, L., & Al-Smadi, J. (2016). Level of support among families of children with disabilities in Jordan. *Dirasat: Educational Sciences*, *43*(3), 1137-1150.

Dardas, L., & Ahmad, M. (2014). Psychometric properties of the P arenting S tress I ndex with parents of children with autistic disorder. *Journal of Intellectual Disability Research*, *58*(6), 560-571.Available at: https://doi.org/10.1111/jir.12053.

Dunn, M. E., Burbine, T., Bowers, C. A., & Tantleff-Dunn, S. (2001). Moderators of stress in parents of children with autism. *Community Mental Health Journal*, *37*(1), 39-52.

Dykens, E. M., Fisher, M. H., Taylor, J. L., Lambert, W., & Miodrag, N. (2014). Reducing distress in mothers of children with autism and other disabilities: A randomized trial. *Pediatrics*, *134*(2), e454-e463.Available at: https://doi.org/10.1542/peds.2013-3164d.

Ekas, N. V., Whitman, T. L., & Shivers, C. (2009). Religiosity, spirituality, and socioemotional functioning in mothers of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 39*(5), 706-719.Available at: https://doi.org/10.1007/s10803-008-0673-4.

Feinberg, E., Augustyn, M., Fitzgerald, E., Sandler, J., Suarez, Z. F.-C., Chen, N., . . . Silverstein, M. (2014). Improving maternal mental health after a child's diagnosis of autism spectrum disorder: results from a randomized clinical trial. *JAMA Pediatrics, 168*(1), 40-46.Available at: https://doi.org/10.1001/jamapediatrics.2013.3445.

Ghunaim, L., & Al-Smadi, J. (2018). The influence of daily life stressors, severity of behavior problem, and coping strategies on family adaptation in families with Autism Spectrum disorders and intellectual disability. *Dirasat for Educational Sciences, 45*(1), 303-316.

Grenard-Moore, S., & Vasquez, M. (1990). *Women's therapy groups-professional training*. Austin, TX: The University of Texas at Austin.

Hastings, R. P., Kovshoff, H., Ward, N. J., Degli Espinosa, F., Brown, T., & Remington, B. (2005). Systems analysis of stress and positive perceptions in mothers and fathers of pre-school children with autism. *Journal of Autism and Developmental Disorders, 35*(5), 635-644.Available at: https://doi.org/10.1007/s10803-005-0007-8.

Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders, 43*(3), 629-642.Available at: https://doi.org/10.1007/s10803-012-1604-y.

Hoefman, R., Payakachat, N., van Exel, J., Kuhlthau, K., Kovacs, E., Pyne, J., & Tilford, J. M. (2014). Caring for a child with autism spectrum disorder and parents' quality of life: Application of the CarerQol. *Journal of Autism and Developmental Disorders, 44*(8), 1933-1945.

Hofmann, S., Asmundson, G., & Beck, A. (2013). The science of cognitive therapy. *Behavior Therapy, 44*(2), 199–212.

Ilias, K., Cornish, K., Kummar, A., Park, M., & Golden, K. (2018). Parenting stress and resilience in parents of children with autism spectrum disorder (ASD) in Southeast Asia: A systematic review. *Frontiers in Psychology, 218*(9), 280-294.

Jacobson, J. W., & Mulick, J. A. (2000). System and cost research issues in treatments for people with autistic disorders. *Journal of Autism and Developmental Disorders, 30*(6), 585-593.

Karaman, Ö. (2018). Effect of stress-response psycho-training on the stress levels of mothers with Autistic children. *Universal Journal of Educational Research, 6*(3), 571-575.Available at: https://doi.org/10.13189/ujer.2018.060320.

Khanna, R., Madhavan, S. S., Smith, M. J., Patrick, J. H., Tworek, C., & Becker-Cottrill, B. (2011). Assessment of health-related quality of life among primary caregivers of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 41*(9), 1214-1227.

Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behavior problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research, 5*(3), 172-183.

Lovell, B., Moss, M., & Wetherell, M. (2015). The psychophysiological and health corollaries of child problem behaviours in caregivers of children with autism and ADHD. *Journal of Intellectual Disability Research, 59*(2), 150-157.Available at: https://doi.org/10.1111/jir.12081.

Lovibond, S., & Lovibond, P. (1995). *Manual for the depression anxiety sress scales* (2nd ed.). Sydney: Psychology Foundation of Australia.

Mancil, G. R., Boyd, B. A., & Bedesem, P. (2009). Parental stress and autism: Are there useful coping strategies? *Education and Training in Developmental Disabilities, 44*(4), 523-537.

Mohamadipoor, M., & Yari, M. (2017). The effect of cognitive behavioral therapy on reducing the depression and anger of mothers with autistic children. *Palma Journal, 16*(2), 611-615.

Prata, J., Lawson, W., & Coelho, R. (2018). Parent training for parents of children on the autism spectrum: A review. *Health, 5*, 3.

Rayan, A., & Ahmad, M. (2017). Psychological distress in Jordanian parents of children with autism spectrum disorder: The role of positive reappraisal coping. *Archives of Psychiatric Nursing, 31*(1), 38-42.Available at: https://doi.org/10.1016/j.apnu.2016.07.017.

Rayan., A., & Ahmad, M. (2016). Effectiveness of mindfulness-based interventions on quality of life and positive reappraisal coping among parents of children with autism spectrum disorder. *Research in Developmental Disabilities, 55*, 185-196.Available at: https://doi.org/10.1016/j.ridd.2016.04.002.

Rogers, C. (1986). A client-centered/person-centered approach to therapy. In L Kutash & A. Wolf (Eds.), Psychotherapist's casebook (pp. 197-208). San Francisco, CA: Jossey-Bass.

Ruiz-Robledillo, N., & Moya-Albiol, L. (2015). Effects of a cognitive-behavioral intervention program on the health of caregivers of people with autism spectrum disorder. *Psychosocial Intervention, 4*(1), 33-39.Available at: https://doi.org/10.1016/j.psi.2015.01.001.

Schopler, E., Reichler, R., & Rochen Renner, B. (1988). *The childhood Autism rating scale (CARS)*. Los Angeles, CA: Western Psychological Services.

Seltzer, M. M., Almeida, D. M., Greenberg, J. S., Savla, J., Stawski, R. S., Hong, J., & Taylor, J. L. (2009). Psychosocial and biological markers of daily lives of midlife parents of children with disabilities. *Journal of Health and Social Behavior, 50*(1), 1-15.Available at: https://doi.org/10.1177/002214650905000101.

Seroussi, K., & Rimland, B. (2000). *Unraveling the mystery of autism and pervasive developmental disorder: A mother's story of research & recovery*. New York, NY: Simon & Schuster.

Sevim, B. (2007). *The effects of stress management program for mothers of children with Autism*. Master Thesis, Middle East Technical University, Ankara, Turkey.

Shammari, T., & Sartawi, Z. (2002). The validity and reliability of the Arabic version of Childhood Autism Rating Scale (CARS). *Journal of the Academy of Special Education, Saudi Arabia, 1*(4), 1-32.

Taouk, M., Lovibond, P., & Laube, R. (2001). *Psychometric properties of an Arabic version of the depression anxiety stress scales (DASS21)*. Sydney, AS: Cumberland Hospital, New South Wales Transcultural Mental Health Centre.

Width, A., & Ahotola, O. (1978). *Analysis of covariance*. Beverly Hills, CA: Sage Publications.

Wolgensinger, L. (2015). Cognitive behavioral group therapy for anxiety: Recent developments. *Dialogues in Cinical Neuroscience, 17*(3), 347-351.

World Medical Association (WIMA). (2013). World medical association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA, 310*(20), 2191-2194.

Yalom, I. (1995). *The theory and practice of group psychotherapy* (4th ed.). New York, NY: Basic Books.