

Caregiving Strain and Parenting Self-Competence among Caregivers of Children with Special Care Needs: A Group-Based Intervention

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Abstract

Background: Caring for children with special care needs places persistent psychological and physical strain on the caregivers, which could have a deteriorating effect on their self-competence and overall functioning. **Aim of the study:** The study aimed to evaluate the effect of a group-based intervention on caregiving strain and parenting self-competence among caregivers of children with special care needs. **Subjects and Methods; Research design:** A quasi-experimental (pre-test/post-test) study was conducted at Sabeel Association for children with special care needs in Zefta City, Gharbia governorate. **Subjects:** A Convenient sample of 47 caregivers of children with special care needs was recruited. **Tools of data collection:** Data were collected by three tools; **(1)** An interview questionnaire including; socio-demographic characteristics of caregivers and clinical characteristics of their children, **(2)** Caregiver Strain Questionnaire-Short Form, and **(3)** Parenting Sense of Competence (PSOC) scale. **Results:** Statistically significant improvements in all dimensions of caregiver strain ($p < 0.001$) were found after the implementation of the intervention. As well, there was a statistically significant improvement in parenting satisfaction, efficacy, and PSOC ($p = 0.0001$), indicating improvements in parenting self-competence of the participated caregivers in post intervention phase. Also, the results revealed a high statistically significant negative correlation between parenting self-competency score and caregivers' strain score in post-intervention ($r = -0.48$ at $p = 0.001$). **Conclusion:** The group-based intervention had a positive effect on improving caregivers' self-competence and lessening their caregiving strain. **Recommendations:** Group-based interventions should be widely implemented in community healthcare centers to enhance caregiver self-competence and alleviate caregiving strain.

Key words: Caregivers, Caregiving Strain, Children with Special Care Needs, Group-Based Intervention, Self-Competence

Introduction:

Children with special care needs (CSCN) are defined as: "Those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond

that required by children in general" ^(1,2). Providing care and support for CSCN is very challenging for the whole family ⁽³⁾, especially the parents not only as the primary caregivers but also as family members who have multiple roles and responsibilities

(employee, student, parent, spouse, and more). Special care needs of the affected child brew an extra burden (strain) on parents physically, socially, emotionally, and psychologically ⁽⁴⁾.

Caregiver strain often referred to as caregiver burden describes the added strain of caring for someone with special needs ⁽⁵⁻⁷⁾. It encompasses the negative consequences, challenges, responsibilities, and demands experienced by the primary caregiver of a child with special needs ^(8, 9). Objective and subjective strain are the two main dimensions of caregiver strain ⁽¹⁰⁾. Objective caregiver strain refers to observable negative consequences of the child's issues, such as disruptions to daily routines, social activities, work, and finances. Subjective internalized strain involves inward feelings of worry, guilt, and exhaustion, while subjective externalizing strain includes outward expressions of anger, resentment, or embarrassment ⁽¹¹⁾.

Caregiver strain has been linked to mental health-related quality of life (HRQOL), maladaptive coping, and family functioning ⁽¹²⁾. It is also a predictor of parents' participation in peer support groups ⁽¹³⁾, caregiving responsibility, and coping styles ⁽¹⁴⁾. Additionally, caregiver strain is associated with poorer employment outcomes and has detrimental effects on caregivers of children with emotional and behavioral disorders ^(3, 15). Moreover, parents' perception of overall burden (strain) was negatively associated with parents' self-efficacy ⁽¹⁶⁾.

Parental competence encompasses the perception of how well one meets the expectations of parenting as defined by society, alongside the satisfaction derived from the role of being a parent ⁽¹⁷⁾. It refers to the ability of parents to effectively guide their child's behavior, facilitating learning and social interaction in a supportive manner, devoid of shaming, criticism, or physical

punishment ⁽¹⁸⁾. Competent parents are also more steady, less stressed in facing parenting challenges, and more satisfied with their parental role ⁽¹⁹⁾.

Parent self-competence is a critical area of interest in both scholarly research and practical interventions designed to prevent or mitigate problematic behaviors in children ^(20, 21). Evidence supports a positive correlation between parental competence and the emotional and behavioral adaptation of children with special educational needs; higher levels of parenting satisfaction were linked to fewer overall difficulties in these children, while increased parenting efficacy was associated with enhanced prosocial behaviors ⁽²²⁾.

Parents of children with special care needs have important and various support needs and could benefit from interventions that focus on particular problems and outcomes throughout the course of their child's condition ⁽²³⁾. Empowering parents of CSCN through education and sharing information, knowledge, and skills with them, is essential to help them overcome feelings of powerlessness and helplessness and gain the confidence and ability to take responsibility for child care ⁽²⁴⁾. In addition, knowledge is an important indicator of parenting practices and attitudes as it affects parenting skills and interactions with the child ⁽²⁵⁾. Parenting attitudes and parents' self-competence appear to be closely related ⁽²⁶⁾.

The matching of parents with similar needs or experiences and the facilitation of parent contact appear to be the key components in designing effective interventions ⁽²⁷⁾, and here comes the importance of group-focused interventions in reducing caregiving strain and improving parental competence. Group-based interventions can boost the self-competence, self-efficacy, and emotional well-being of caregivers of children with special care needs ^(28, 29). Caregivers turn to these initiatives to enhance their abilities, master

strategies for solving problems, or find support due to difficulties they encounter in implementing their desired parenting approach as the unique traits of the child with special care needs may require specialized skills beyond the basic knowledge, attitudes, and practices essential for parenting⁽³⁰⁾.

Aim of the study:

Evaluate the effect of a group-based intervention on caregiving strain and parenting self-competence among caregivers of children with special care needs.

This aim was accomplished through the following specific objectives:

- Assess caregivers' strain and parenting self-competence before and after the intervention.
- Plan, implement, and evaluate the effect of group-based intervention on caregiving strain and parenting self-competence among caregivers of children with special care needs.

Hypotheses:

- **H1:** Caregivers' strain scores will be lessened after the implementation of the intervention.
- **H2:** Parenting self-competence scores will be improved after the implementation of the intervention.

Subjects and Method:

Research Design:

The study utilized a quasi-experimental research design (pretest and posttest).

Setting:

The study was conducted at Sabeel Association for children with special care needs in Zefta City, Gharbia governorate.

Sample:

A convenience sample of 47 caregivers of children with special needs was recruited from the above-mentioned setting.

Sample size calculation:

The sample size was determined by estimating the differences between

the pre-test and the post-test mean stress levels of parents caring for children with special care needs based on the study by López-Liria et al.⁽³¹⁾, in which the mean pretest stress was 89.5 (SD = 21.9) and the mean posttest stress was 105.5 (SD = 25.38). By using the OpenEpi free software program. The estimated sample size was 47 caregivers, based on a 90% study power (β error = 20%) and a 95% level of confidence (α error = 5%).

Tools of data collection:

Data were collected by three tools as follows;

Tool I: An interview questionnaire in Arabic language was developed by the researchers. It included two parts;

- **Part one: Demographic data:** This was for collecting data concerning the demographic characteristics of the caregivers. It entails questions about their age, education, job, social status, income, residence, and crowding index.
- **Part two: Clinical characteristics of children with special needs:** It entails data about the child's gender, age, birth order, age at diagnosis, disease duration, diagnosis, type of disability, presence of another chronic illness, spouse help in caring for the child, support of family/close friends/close relatives in the care of the child, and hours spent in the care of the child with special needs (hour/day).

Tool II: Caregiver Strain Questionnaire-Short Form 11:

The CGSQSF11 is a self-report questionnaire consisting of 11 items developed by Brannan et al.⁽⁸⁾. It is used to assess the level of strain caregivers experience in caring for their child. The items from the original CGSQ form a three-factor structure consisting of the following factors:

- Objective strain (4 items).

- Subjective internalized strain (4 items).
- Subjective externalized strain (3 items).

Scoring system:

Points are assigned to each item using a 5-point Likert-type scale that ranges from 1 (not at all) to 5 (very much). Strain cut-off points; lower strain (range of 1-18 points), moderate strain (19-< 36 points), and high strain (with \geq 36 points).

Tool III: Parenting Sense of Competence (PSOC) scale

This scale is a 16-item questionnaire developed by **Johnston and Mash** ⁽³²⁾. It was used to assess parents' confidence in their ability to manage their children's problems. This is a standardized instrument with proven validity and reliability and has been widely used in numerous previous studies ^(33, 34). It yields two subscales.

- **The efficacy subscale** (7 items) measures parents' self-perceptions regarding the abilities and understanding required to be a good parent.
- **The satisfaction subscale** (9 items) measures the degree of respondents' feeling of comfort and capability in their role as parents and the value they place on the parental role.

Scoring system:

The responses are on a 6-point Likert-type scale: "strongly agree", "agree", "mildly agree", "mildly disagree", "disagree", and "strongly disagree". These are scored from 6 to 1. The scoring was reversed for negatively stated items so that a higher score means more satisfaction and more parenting efficacy. For each of the two subscales and the total scale, the scores of the items were summed up. The total scale was categorized into;

- **A score >75** is considered a high PSOC.

- **A Score of 58-74** is considered a moderate PSOC.
- **Scores under 58** are considered low PSOC.

Content validity and reliability:

To ensure the validity of the scales, the researcher translated it into Arabic using back-retranslation which is a common technique used to ensure the cultural and content validity of the translated tools ⁽³⁵⁾. The tools were revised and validated by a panel of three experts in the specialties of community, Psychiatric, and Pediatric nursing at Zagazig University. No modifications were made following the panel's judgment on the appropriateness, sentence clarity, relevance, and item sequences. Tools reliability was verified by Cronbach's Alpha reliability test, which was performed to confirm its internal consistency, and its value was 0.776 for CGSQ and 0.72 for PSOC.

Pilot study:

To determine the feasibility, objectivity, applicability, clarity, sufficiency, and internal consistency of the study tool as well as to find any potential flaws in the methodology or instrument, a pilot study involving five caregivers was carried out before the start of data collection. The caregivers who participated in the pilot study were included in the main sample size as there were no modifications.

Administrative and Ethical considerations:

The Zagazig University Faculty of Nursing's Scientific Research Ethics Committee provided official ethical approval. The caregivers were given a thorough explanation of the study's objectives before providing their informed consent. A code number assigned to each caregiver was carefully used to ensure the confidentiality and anonymity of the obtained data. The caregivers in the study participated voluntarily, and this was supported by the fact that they were made aware of their right to discontinue the study at any time.

Finally, the data gathering and intervention implementation processes did not interfere with the flow of work in the study settings.

The official permission from director of the association (Sabeel) was secured after submission the formal letter from the Faculty of Nursing, Zagazig University.

Field work:

The fieldwork was conducted within six months, which began in July 2023 and ended in December 2023. The study was carried out through the following phases;

▪ **Preparatory phase:**

It comprises reviewing the recent pertinent national and international literature using textbooks, periodicals, the internet, and online journals in the different aspects concerning caregiving strain and parenting self-competence for preparing the study tools, booklet, and intervention.

▪ **Assessment phase:**

In this phase, the researchers interviewed the caregivers privately before the intervention. During the interview, researchers tested the willingness of the caregivers to be part of a group by asking them to share their stories and experiences of caregiving their children in a group and exploring how this would make them feel.

After that, the caregivers were given an explanation of the study's purpose, duration, and activities and the researchers obtained the consent of the caregivers who welcomed to participate. Caregivers completed an individual interview questionnaire (pre-test) to assess their caregiving strain and self-competence. The interview questionnaire lasted for an average of 20-30 minutes for each participant to complete. The data collected during this phase served as the basis for subsequent comparisons to assess the intervention's effectiveness.

▪ **Planning phase:**

The researchers tailored the content of the intervention sessions to the caregivers' needs and the study aim based on the findings obtained from the data analysis of the assessment phase, and relevant literature. The intervention's goals and objectives were developed in the form of a booklet using the identified needs, prerequisites, and inadequacies. The sessions of the intervention focused on;

Session one: Acquaintance session (opening, introduction, welcome, participants' expectations of the intervention, the sessions' time, content, extent, and basic rules of group-based intervention).

Session two: Overview of different forms of disabilities in children (definition, classifications, causes of disability, and basic needs of children with disabilities).

Session three: Developmental milestones of CSCN, the impact of disability, and appropriate interventions.

Session four: Challenges associated with raising CSCN.

Session five: Caregivers (definition, different categories of caregivers of CSCN, and their key responsibilities).

Session six: Strain of caring for CSCN (risk factors and signs of caregiving strain and strategies of dealing with caregiving strains).

Session seven: Training on breathing exercises, relaxation techniques, and problem-solving skills, time management.

Session eight: This session was the termination of the intervention focused on where caregivers of children with special needs can get support. The researchers appreciated the caregivers' role in the study and wished them all the best in their lives.

▪ **Implementation Phase (Description of the Group-Based Intervention):**

The intervention consisted of eight group meetings of 3 hours. Participants were divided into four groups with approximately 12 caregivers in each group. These groups were homogenous where caregivers of the children of the same type of disability were met together to ensure their sharing of the common interests and caregiving strain. Group meetings were conducted weekly and held in the meeting rooms in the selected associations, with caregivers arranged in a circle. The researchers ran the group and were the real protagonists of the intervention as they decided on the topics to be addressed based on the predetermined schedule, the participant's needs, and the relationships established among them.

Due to the functioning of the associations, it was not possible to ensure that the caregivers participating in the group-based intervention would be the same throughout every session. For this reason, the group was run as open-ended where new participants could join at any time and members could come and go at any point throughout the intervention. The fundamental principle of these groups is that their essence remains the same over time regardless of whether the same participants attend as people are free to join activities after they have already begun and attend as many sessions as they can.

There was a fixed structure for each session, consisting of three phases; opening, central, and closure. **Opening phase:** Each session started with a summary covering what was provided during the previous session and the objectives of the current one. To facilitate greater understanding and learning, the researchers use a variety of teaching methods and materials, including role-playing, demonstration, reinforcement, videos, and pictures to convey the main contents of the session.

Central phase: Caregivers were asked to introduce themselves and share their experiences in caring for their children and completing the sentence "I am (person's name) and I experience.....". Participants in the group could potentially change every week and a new caregiver could join to encourage the foundation of the group and debrief on what had emerged in the past meetings. The researchers supported the caregivers to share their experience with the group by asking them to do so using stimulus images.

Closure phase: The question "How are you and what are your takeaways from this meeting?" was posed to the caregivers. Closure's objective was to gather discoveries and reveal the caregiver's feelings.

The duration of each session was determined by the active participation and responses of the caregivers, the time allowed, and the content of each session, which took into account the use of language appropriate to the diverse educational and sociocultural backgrounds of the participating caregivers.

During the sessions, caregivers also realized that collaboration enables them to better handle the challenges stemming from a life of caring for CSCN. Participants also discovered that sharing their personal caregiving experiences and problems with the group could alleviate their strain and ameliorate their competence in caring for children.

▪ **Evaluation phase:**

The post-test was administered immediately after the implementation of the intervention to evaluate the effectiveness of this intervention by comparing the change in post-test scores of caregiving strain and parenting self-competence with the pretest.

Statistical analysis:

Using IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp, all data were gathered, tabulated, and statistically analyzed.

Quantitative data were expressed as mean \pm SD, median and range, and qualitative data were expressed as number & percentage. The percentages of categorical variables were compared using the Chi-square test or Fisher Exact test when appropriate. The marginal Homogeneity Test was used to compare paired ordinal data. Paired t was used to compare between paired variables. Pearson's correlation coefficient was calculated to assess the relationship between various study variables, The (+) sign indicates direct correlation & the (-) sign indicates inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. All tests were two-sided. P-value < 0.05 was considered

Results:

Table 1: Reveals that 53.2% of the studied mothers were aged more than 30 years with a mean age of 32.9 ± 6.3 years. Secondary-educated mothers represented 55.3% of the studied sample. Also, 57.4% of fathers were craftsmen or had a private business. Family income was enough for 57.4% of the studied families. The same table shows that 85.1% of mothers were housewives and 78.7% of them lived in rural areas.

Table 2: Shows that 70.2% of the studied children were more than 6 years old with a mean age of 6.85 ± 2.14 years. Also, 63.8% of children with special needs were males and 61.7% of them had a moderate disability. Intellectually disabled children represented 29.8% of the studied sample; their mean age at diagnosis was 3.85 ± 1.91 years. The number of hours caregivers spent in the care of their child with special needs ranged from 3 to 24 hours/day.

As for caregiver strain, **table 3:** Shows generally high percentages of strain before the intervention. This was highest for objective strain, subjective internal strain, subjective external strain, and total strain (55.3%, 78.7%, 74.5, and 61.7 respectively). After

implementation of the intervention, statistically significant improvements were revealed in all dimensions of caregiver strain ($p < 0.001$).

Concerning parenting self-competence, **table 4:** Demonstrates that 83.0% of the studied caregivers had low levels of satisfaction about their parenting role, 59.6% had moderate efficacy in parenting, and 55.3% had low total parenting self-competence at the pre-intervention phase. In the post-intervention phase, there were statistically significant improvements in parenting satisfaction, efficacy, and total parenting self-competence ($p = 0.0001$). The percentage of caregivers having high self-competence rose from 0.0% in the pre-intervention phase to 76.6% in the post-intervention phase.

Table 5: Reveals a statistically significant negative correlation between the parenting self-competence scores and caregivers' strain scores at pre and post-intervention phases ($r = -0.322$ at $p = 0.027$ and $r = -0.48$ at $p = 0.001$) respectively.

Discussion:

The findings of this study lend credence to the study's hypothesis and confirm that the group-based intervention efficiently accomplished its objectives to reduce caregivers' reported strain and enhance parenting self-competence among caregivers of children with special care needs.

The current study's findings showed that the highest proportion of caregivers experienced the uppermost levels of objective, subjective internal, subjective external and total strain before implementing the group-based intervention. This strain is likely due to the demands of caring for a child with intellectual or developmental disabilities, who often face significant delays in communication, social development, adaptive skills, and academic knowledge. These children are also more prone to exhibiting challenging behaviors, mental health

issues (e.g., anxiety and depression) as well as self-care difficulties that render them completely dependent on their caregivers and compel them to spend more time providing care than other siblings. In addition to a lack of social support, the shame and guilt attached to caring for a sick child, as well as financial hardship, can be emotionally taxing, contributing to a decline in overall well-being and causing role strain.

The findings of the present study synchronize with a recent study, which revealed that the examined caregivers experienced a range of negative feelings, such as grief and shame, due to the strain of caring for their child living with disability (CLD) ⁽³⁶⁾. Supporting evidence for these inferences is an Indonesian study by **Asa et al.** ⁽³⁷⁾, which found that participants who cared for CLD experienced a range of psychological challenges, including feelings of anger, sadness, and frustration stemming from a variety of factors, including the community's rejection of their children and the stigma associated with having a child with a disability. Similarly, a study conducted in Egypt confirmed our findings, indicating that the strain of custody of a child with a disability intensifies, leading caregivers to experience mental and physical health challenges. These difficulties can significantly impact their quality of life if they do not have access to adequate support ⁽³⁸⁾.

The present study demonstrated that all aspects of caregiver strain improved significantly after implementation of the group-based intervention, highlighting the efficacy of this type of intervention since the goal of this intervention was to teach carers how to handle daily living routines and incorporate therapy into their child's life, sharing experiences among group members and seeking support, this promotes a sense of cohesiveness within the group and may have helped to lessen the strain. This result coincides with an Indian study, which

emphasized the importance of a family-centered intervention program in easing caregiver stress and fostering family empowerment for parents of children with developmental delays ⁽³⁹⁾. Likewise, a study in Japan found that a peer-group-based online intervention program helped reduce the care burden among study participants ⁽⁴⁰⁾. Meanwhile, Caregivers, particularly mothers, experience less stress and strain while receiving social support ⁽⁴¹⁾.

Regarding the parenting self-competence during the pre-intervention phase, slightly more than half of the studied sample exhibited low levels of the overall percentage of PSOC, compared to about two-fifths of them exhibited moderate levels; on the same aspect, the greatest percentage of caregivers expressed lowered level in the satisfaction with the parenting subscale. Additionally, slightly less than two-thirds of the studied caregivers divulged moderate efficacy in the parenting subscale compared to less than one-third, which exhibited low levels. This may be attributed to the reality of having a child with an intellectual or developmental disability, necessitating increased caregiving responsibilities and the management of difficult circumstances associated with raising such a child, leading to feelings of helplessness and disappointment. These factors collectively influence their sense of competence and approach to parenting. As well caregivers may also have certain expectations regarding the maturation and development of their children. Nevertheless, they were unexpectedly faced with their children's impairment, which had an impact on their level of contentment with parenting and their perception of their efficiency as a parent.

The findings mentioned above were corroborated by previous research, indicating that when a family member has a developmental disability, it typically has a comprehensive impact on the entire

family unit. This is primarily because the primary caregiver assumes additional caregiving duties and devotes more time to the disabled child, resulting in diminished resources for fulfilling other obligations and maintaining relationships within and outside the family⁽⁴²⁾. In a similar vein, an additional investigation carried out in Kuwait revealed that mothers who have children with intellectual disability displayed diminished levels of self-efficacy and held pessimistic perceptions regarding their parenting capabilities⁽⁴³⁾.

This study found that caregivers' total PSOC scores and parenting satisfaction and efficacy subscale scores improved significantly after the intervention. On the other hand, there was a high statistically significant negative correlation between parenting self-competence score and caregivers' strain score post-intervention. These findings imply that involving caregivers in sessions that specifically address training in child behavioral management, positive parent-child interactions, emotional communication skills, time management, adaptive coping, parenting consistency, and skill practice corresponded to greater effectiveness of group-based interventions in improving a caregiver's perception of his/her competencies as a parent. These results were accepted by the prior meta-analysis study, which found that the higher doses of behavioral techniques teaching parents to manipulate the antecedents of behavior (i.e., stimulus control techniques), especially by explicitly anticipating potential misbehavior of the child (e.g., Prioritizing foresight and developing a strategy before engaging in a challenging circumstance) are linked to favorable outcomes in terms of parental self-competence and mental well-being⁽⁴⁴⁾.

Correspondingly, several prior studies endorsed this finding, suggesting that parent-implemented intervention can reduce parental stress and strain⁽⁴⁵⁾ and strengthen parental

engagement and feelings of competence^(46 - 48). In the same way, our findings were analogous to the earlier study's findings, which showed that mothers valued having a safe space to talk about their emotions and ideas in a non-judgmental group setting to feel less stressed. The introspection and collective discussion enabled them to elucidate their competencies and constraints to address occupational challenges. This instilled a sense of self-reliance in them and enhanced their proficiency in parenting⁽⁴⁹⁾.

Conclusion:

The group-based intervention effectively reduced caregivers' strain and boosted their parenting self-competence. Improvements in parenting self-competence were associated with the reduction in caregivers' strain, demonstrating the intervention's positive effect on caregiver well-being and efficacy. Thus, group-based interventions can be a valuable tool in supporting caregivers and improving their parenting experiences.

Recommendations:

- Group-based interventions should be widely implemented in community healthcare centers to enhance caregiver self-competence and alleviate caregiving strain.
- Develop and implement more tailored interventions to address the individual needs of caregivers as personalized approaches can ensure more effective outcomes.
- Longitudinal studies should be conducted for a better understanding of the lasting effects of group-based interventions on strain and parenting self-competence.

Table (1): Demographic characteristics of caregivers of children with special care needs (n.47)

Caregiver characteristics	N	P
Mother age		
≤30 years	22	46.8
>30 years	25	53.2
Mean± SD		32.9±6.3
Median (range)		33(23-43)
Mother education		
Illiterate	5	10.6
Primary	4	8.5
Secondary	26	55.3
University	10	21.3
postgraduate	2	4.3
Mother job		
Housewife	40	85.1
Private work	5	10.6
Governmental job	2	4.3
Mother social status		
Married	44	93.6
Divorced	3	6.4
Father education		
Illiterate	11	23.4
Secondary	22	46.8
University	14	29.8
Father job		
Not work	10	21.3
Private/craftsman	27	57.4
Governmental job	10	21.3
Father social status		
Married	44	93.6
Divorced	3	6.4
Family Income		
Enough	27	57.4
Not enough	20	42.6
Residence		
Rural	37	78.7
Urban	10	21.3
Crowded index		
<1	6	12.8
>1	41	87.2

Table (2): Demographic and clinical characteristics of children with special care needs (n.47)

Child characteristics		N	%
Child Gender	▪ Female	17	36.2
	▪ Male	30	63.8
Child age per years	▪ <6 years	14	29.8
	▪ ≥6 years	33	70.2
	Mean ±SD Median (range)		6.85±2.14 6(4-11)
Child Order	▪ Alone	11	23.4
	▪ The oldest	12	25.5
	▪ The middle	16	34.0
	▪ The youngest	8	17.0
Child Age at Diagnosis	Mean ±SD Median (range)		3.85±1.91 4(0.5-8)
Disease duration	▪ ≤1 years	10	21.3
	▪ >1 years	37	78.7
	Mean ±SD Median (range)		3.21±2.23 2(0.5-8.5)
Diagnosis	▪ Intellectual disability	14	29.8
	▪ Speech delay	10	21.3
	▪ Specific learning disorder	6	12.8
	▪ Autism	5	10.6
	▪ ADHD	12	25.5
Types of Disability	▪ Mild	12	25.5
	▪ Moderate	29	61.7
	▪ Severe	6	12.8
Presence of chronic illness	▪ Yes	4	8.5
	▪ No	43	91.5
Spouse help degree in the care of the disabled child	▪ Very helpful	12	4.6
	▪ Helpful	10	21.3
	▪ Little helpful	26	55.3
	▪ Never help	9	19.1
Support of family/close friends/close relatives in the care of the child	▪ Always	5	10.6
	▪ Sometimes	22	46.8
	▪ Never	20	42.6
How many hours are spent in the care of the child with special care needs (hour/day)?	▪ Partial time	33	70.2
	▪ All day (24h)	14	29.8
	Mean ±SD Median (range)		11.77±8.25 8 (3-24)

Table (3): Effect of the group-based intervention on caregivers' strain

Caregivers' Strain	Pre n.47		Post n.47		p-value
	No.	%	No.	%	
Objective strain					
▪ High strain	26	55.3	4	8.5	0.0001
▪ Moderate strain	16	34.0	31	66.0	
▪ Low strain	5	10.6	12	25.5	
Mean ±SD	12.34±4.18		8.23±3.27		
Median (range)	14(5-18)		8(4-18)		
Subjective internal strain					
▪ High strain	37	78.7	4	8.5	0.0001
▪ Moderate strain	9	19.1	27	57.4	
▪ Low strain	1	2.1	16	34.0	
Mean ±SD	15.26±3.46		7.79±3.05		
Median (range)	16(6-20)		8(4-16)		
Subjective external strain					
▪ High strain	35	74.5	1	2.1	0.0001
▪ Moderate strain	9	19.1	27	57.4	
▪ Low strain	3	6.4	19	40.4	
Mean ±SD	10.98±3.18		6.21±1.85		
Median (range)	11(3-15)		6(4-11)		
Total Strain					
▪ High strain	29	61.7	0	0.0	0.0001
▪ Moderate strain	18	38.3	35	74.5	
▪ Low strain	0	0.0	12	25.5	
Mean ±SD	38.66±6.79		22.15±4.98		
Median (range)	38(24-48)		22(13-34)		

Marginal homogeneity test, Paired t-test p<0.05 significant

Table (4): Effect of the group-based intervention on parenting self-competence among caregivers of children with special care needs

Parenting self-competence	Pre		Post		p-value
	n.47		n.47		
	No.	%	No.	%	
Satisfaction with parenting					
▪ High	2	4.3	25	53.2	0.0001
▪ Moderate	6	12.8	13	27.7	
▪ Low	39	83.0	9	19.1	
Mean ±SD	29.79±7.04		43.47±6.83		
Median(range)	32(17-45)		46(27-51)		
Parenting efficacy					
▪ High	5	10.6	35	74.5	0.0001
▪ Moderate	28	59.6	10	21.3	
▪ Low	14	29.8	2	4.3	
Mean ±SD	25.17±6.29		34.58±4.7		
Median(range)	25(13-41)		36(20-41)		
Total Parenting self-competence					
▪ High	0	0.0	36	76.6	0.0001
▪ Moderate	21	44.7	11	23.4	
▪ Low	26	55.3	0	0.0	
Mean ±SD	54.79±6.46		78.83±8.61		
Median(range)	56(39-69)		80(58-91)		

Marginal homogeneity test, Paired t-test, $p < 0.05$ significant

Table (5): Correlation between caregiver strain and parenting self-competence scores at pre and post-intervention

Variables	Parenting Self-Competence			
	Pre-intervention		Post-intervention	
	r	P	r	P
Caregiver strain	-0.322	0.027	-0.48	0.001

Pearson's correlation coefficient (r) ** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

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