Review Article

ISSN 2689-1085

Journal of Pediatrics & Neonatology

Social Support Intervention for Parents of Child with Cancer: A Systematic Review

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Received: 27 Apr 2026; **Accepted:** 29 May 2026; **Published:** 06 Jun 2026

Citation: Khatun S, Rahman MH, Haque A, Akter K, Haque S, Haque MS. Social Support Intervention for Parents of Child with Cancer: A Systematic Review. J Pediatr Neonatal. 2026; 8(1): 1-9.

ABSTRACT

Background: *Parents may experience psychological problems when a child with cancer is hospitalized. Parents are the key person for the children daily living when they are experiencing with cancer. The objective of this review was to systematically review and evaluate the studies related social support intervention on psychological outcomes for parents of child with cancer. A systematic literature search was performed using electronic databases (i.e., CINAHL, PubMed, Medline, Cochran Library, and Google Scholars) from October 2019 to March 2020. Selection Criteria: Included studies were RCTs of psychological interventions that delivered treatment to parents of child (under 18 years of age) with cancer compared to active control, wait list control and non-experimental studies related to social support for parents of children with cancer. The excluded studies if the research subjects were only adolescents, and children of over 18 years old, and studies that had less than 10 subjects. The studies were selected by using PRISMA model. Assessing risk of bias the authors used JBI appraisal checklists, Cochran Collaboration's tool and ARMSTAR. This study was approved by the Institutional Review Board, National Institute of Advanced Nursing Education and Research (NIANER). The authors included fourteen articles including two RCTs, five Quasi-experimental, two systematic review, two literature review and prospective longitudinal and descriptive design. These data provided a comprehensive picture about the impact of the key types of social support intervention i.e. building family strength (BFS) program, informal support collaborative stress management, psychosocial intervention, mHealth supportive care, supportive nursing intervention, and group-based training supportive nursing intervention on parental psychological outcomes.*

This review provides an evidence to support the use of social support intervention to improve psychological outcomes of parents of child with cancer. Further research is also needed to identify whether social support intervention can impact on psychological outcomes of parents of child with diverse problems.

Keywords

Psychological Outcomes, Social Support, Parents, Child, Cancer.

Introduction

The rate of cancer has increased significantly all over the world. Cancer is the 2nd leading cause of death in child aged 5-14 years [1]. Approximately, 84% of children with cancer live in low-

income and middle-income countries [2]. In India, the incidence rate was 38-124 per million children per year [3]. In Bangladesh, the incidence of cancer was 7.8/ million person-years for children (0-14 years) in the last 2011-2014 [4]. Cancer is one of the leading causes of child morbidity and mortality in Bangladesh.

Childhood cancer has been described as a life-changing experience for parents and many parents struggle to adapt to the diagnosis of cancer in young child. Studies showed that the emotional and existential crisis associated with uncertainty of the course of cancer often obstructs the parents' ability to cope [5]. Parents experienced as a sense of loss of control, anxiety, depression [6]. The shock of diagnosis, morbidity of therapy, disruption of family, social development and ongoing uncertainty about disease relapse affect both parents and their children [7]. Parents of children with cancer may receive insufficient emotional support and have difficulties coping with their situation [8]. Dealing with stressful situation may be overwhelming for parents and coping resources could be insufficient. In the present study, psychological outcome or adjustment refers to the adaptations/coping of psychological stress/distress. To help parents in the cancer trajectory social support is an important initiative.

Social support has been defined as a resource provided by other person [9]. Social support highlights the role individuals can play to solve daily situations in crisis moments" [10]. According to House and Khan, there are main three types of supportive social interaction: emotional support, informational support, and instrumental support. In theory, each kind of support can influence one or more of the illness reactions [11]. Emotional support including listening, empathizing, encouraging, and relaxing can help to restore self-esteem or reduce feelings of personal inadequacy, reduce distress, and improve interpersonal relationship [11]. Informational support involves the provision of information used to guide or advice that may enhance perceptions of control providing by parents with ways of managing their child illness and coping with symptoms [11].

Study on supportive care showed effects in reducing parents' emotional distress [12]. In a systematic review, it was revealed that peer support has a positive effect on psychological outcome of parents when their children were suffering from chronic condition [13]. A number of strategies for enhancing parent support have been proposed as a response to stress. Interventions designed to provide support to parents experience lower stress and participate in a child's medical care [14].

In the present study, the authors' goal was to determine the conditions under which type of social support beneficially influence to parental psychological outcomes or adjustment to cancer. The author reviewed the studies that examine the effect of social support intervention on psychological outcomes. There were some studies conducted in western countries. Moreover, there is no such research conducted in Bangladesh. Therefore, the authors critically reviewed both interventional and descriptive studies related of social support intervention and psychological outcomes or adjustment to determine which aspects of social support will be benefited for parents of children with cancer.

Methods

PICO Question

Do the social support intervention (I) affect psychological outcomes (O) of Parents of children with cancer (P) comparing with standard care (C).

Criteria for Considering Studies

Inclusion and Exclusion criteria

The literature search was aimed at identifying available, current, and best research studies that assess interventions and non-intervention targeting parents of children with cancer. Therefore, the literature review was selected as the research method, such as problem identification (PICO), key wards, and criteria for inclusion and exclusion of article selection, definition of information to be extracted from the reviewed articles.

Types of Studies

The authors included randomized controlled trials (RCTs), quasi-experimental in which participants had been randomly allocated to an experimental study, systematic review, literature review, prospective cohort study, and descriptive study that were related to the study title.

Types of Participants

The authors included studies that targeted parents including fathers, mothers, and primary caregivers, children who were eligible to take part in a social support intervention program. The authors were addressing the impacts of parenting programs on aspects of parental psychosocial functioning such as stress, depression, and coping. The inclusion criteria for the articles are: parents of children with chronic condition/cancer including cancer; the children of 2-18 years old; publications in English and published until 2020. The authors did not limited the searching publication (as current) and only RCTs and systematic review for getting the most relevant and strong evidence. The authors excluded those publications that research subjects were only adolescents' children of over 18 years old, and studies that have less than 10 subjects.

Primary Outcomes: Psychological outcomes, coping, adjustment.
Secondary Outcomes: Stress, quality of life, depression, anxiety, wellbeing, and self-efficacy.

Search Methods for Identification of Studies

Electronic Searches: The search was carried out in December 2019 to June 2020. All search strategies used for this update are reported as Figure 1. The authors searched the electronic databases such as Cochran Central Register of Control Trials, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Medline, and Google Scholars. The author also searched the reference lists of articles identified through database searches were examined for further relevant studies. During searching the author

used some key wards such as parents, fathers, mothers, caregivers, children, pediatric, cancer, malignancy, neoplasm, social support, group support, emotional support, informational support. Care was taken to use the key wards that are considered as descriptors and Medical Subject Heading (MeSH) as Figure 2.

Data Collection and Analysis

Selection of Studies: The authors identified titles and abstracts of studies through searching of electronic database and reviewed the results to determine whether the studies that appeared relevant. Then the author reviewed independently assessed full copies of papers that appeared to meet the inclusion criteria. The total number of titles, abstracts and full-texts found the search and the selection process of the articles are presented in Figure 3.

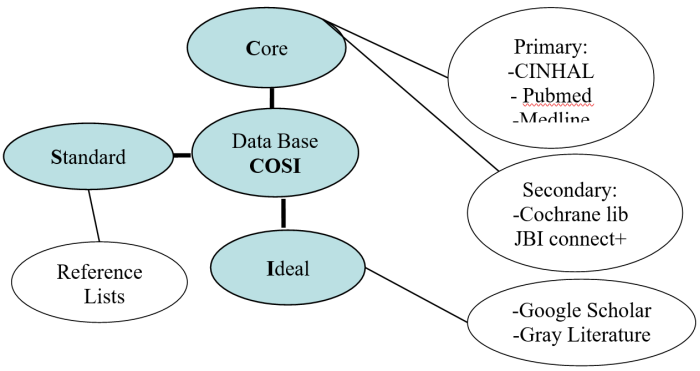

Figure 1: Searching Databases.

First the words parents, social support, group support, child, and cancer were used and next, the word child replaced by pediatric or children and parents replaced by fathers, mothers, or primary caregiver. In CINHAL, 80 references were found. The authors found more references from different databases. For example, PubMed=328, Medline= 200, Cochran library=3, google scholars and other sources=32 references were found. The authors also tried to find out the gray literature and two references were found. Finally, the authors found total 643 references from different databases. Among 643 records, five hundred and sixty (560) references were excluded due to redundancy. Then the authors' screened 83 references and excluded 40 references by the titles based on the relevancy. After that 43 references were screened and excluded 22 references by the abstracts due to not meet the inclusion criteria, duplication and un-published dissertations. The remaining 21 references checked by the full-text and excluded 07 articles due to studies were not based on social support, social support for only children, and subjects were not parents. As a final point, the authors decided to include fourteen (14) full text articles that addressed the guiding question and fulfilled with the established criteria.

Timing of Outcomes Assessment

(1) Post-intervention assessment, immediately post intervention (up to one month following the delivery of the intervention), (2) short-term follow-up assessment, two to six months post intervention, and (3) long-term follow-up assessment and more than six months.

Assessment of Risk of Bias

For each included study, we independently completed JBI (Joanna Briggs Institute) appraisal checklists and Cochran Collaboration's tool, and ARMSTAR (Assessing the Methodological Quality of

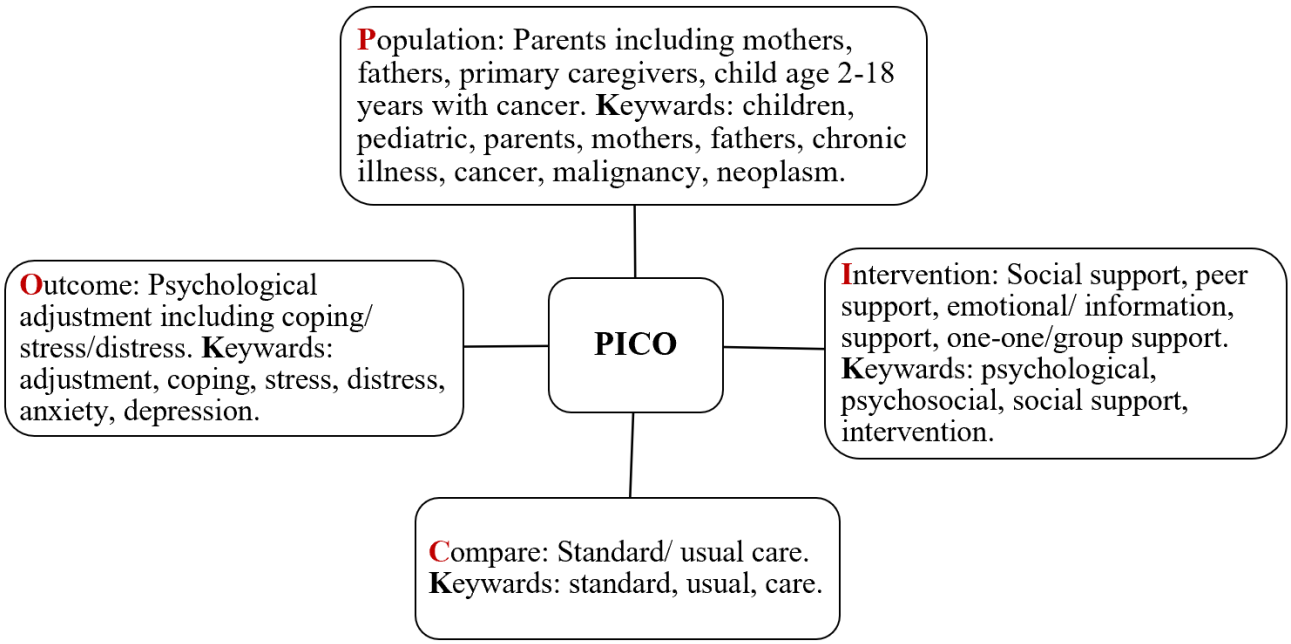

Figure 2: Searching Keywards.

Systematic Reviews) for assessing risk of bias (Table 1, Figure 4). Initially we individually appraised the studies for the risk of bias. After that we seated together and discussed on some confusions by reviewing studies. After discussion, we make consensus and finalized the quality of articles.

As Figure 4 showed the risk of bias for a single experimental study. The authors assessed the degree to which: the allocation sequence was adequately generated ('sequence generation'); the allocation was adequately concealed ('allocation concealment'); knowledge of the allocated interventions was adequately prevented during the study ('blinding'); incomplete outcome data were adequately addressed; reports of the study were free of suggestion of selective outcome reporting; the study was apparently free of other problems that could put it at high risk of bias. Each domain was allocated one of three possible categories for each of the included studies: low risk of bias, high risk of bias, or unclear risk' where the risk of bias was uncertain or unknown.

Results

Data Synthesis

This literature review provided an overview of the relevant literature on the effects of different types of support.

Study Flow Diagram

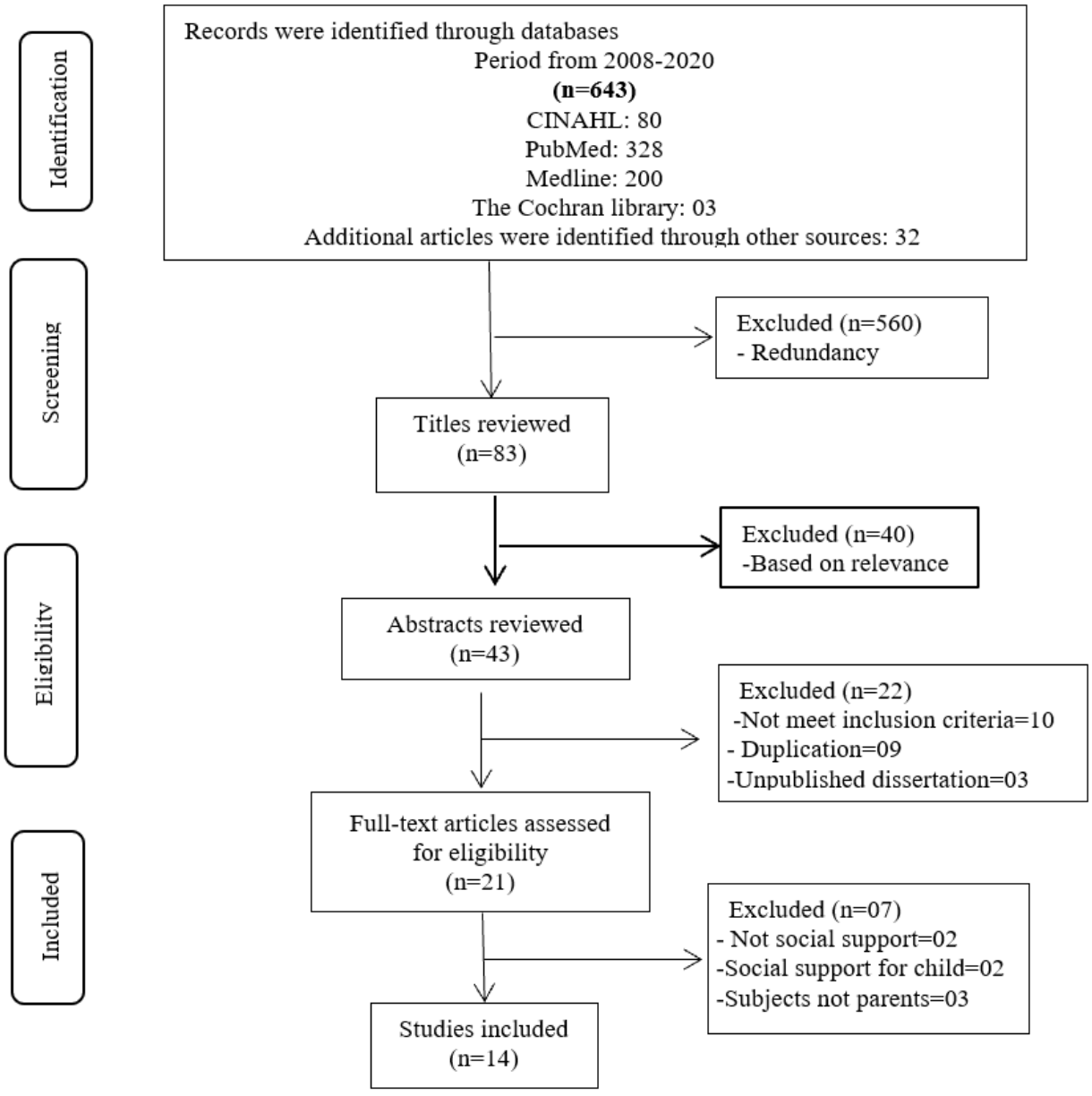

Figure 3: Process of Study Selection.
Source: PRISMA flow diagram, McKenzie et al.

Table 1: Risk of Bias (using JBI appraisal checklists, Cochran Collaboration's tool, AMSTAR).

Evidence	Level of Evidence	Low risk of bias	Unclear bias	High risk of bias	Grade	Included
Evidence 1	RCT (I)	•			High quality 8/10 (80%)	Included
Evidence 2	RCT (I)	•			High quality 7/10 (80%)	Included
Evidence 3-4	Systematic review (I)	•			Moderate quality 8/11 (73%)	Included
Evidence 5-8	Quasi/pretest-posttest (II)	•			Moderate quality 7/10 (70%)	Included
Evidence 9	Quasi/pretest-posttest (II)	•			High quality 8/10 (80%)	Included
Evidence 10-12	Literature review (III)	•			Moderate quality 7/9 (78%)	Included
Evidence 13	Prospective longitudinal (III)	•			Moderate quality 7/9 (78%)	Included
Evidence 14	Descriptive study (IV)	•			Moderate quality 7/9 (78%)	included

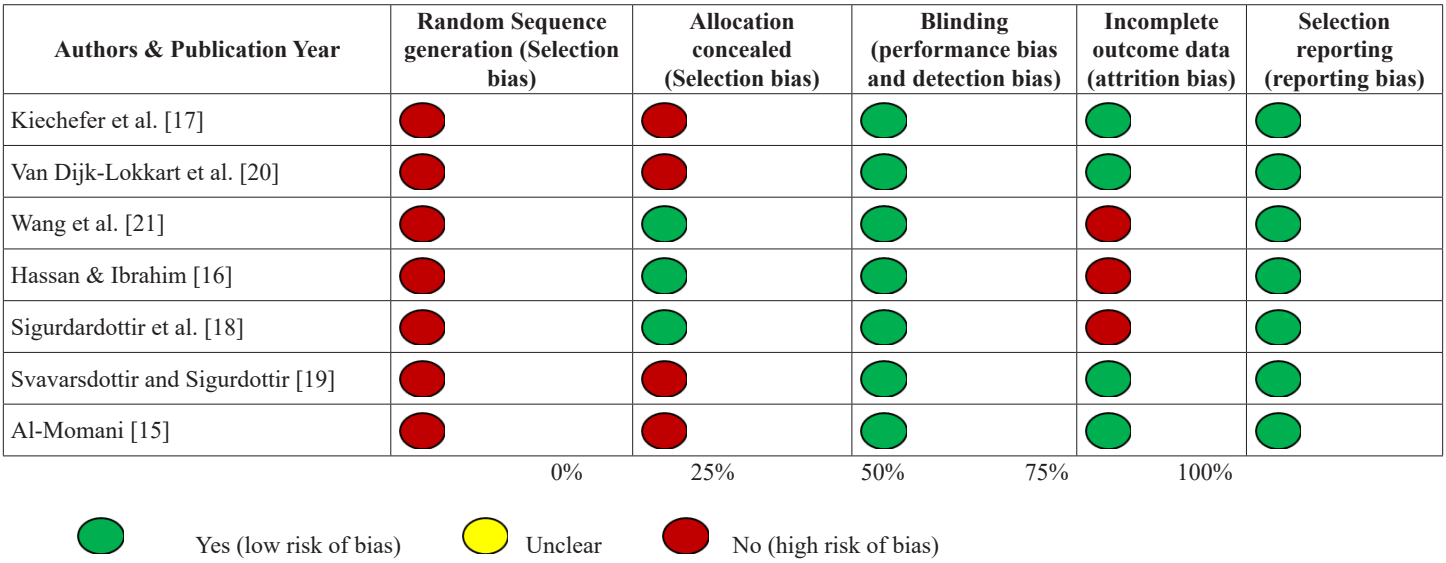

Figure 4: Risk of Bias for a Single Experimental Study.

Table 2: Characteristics of included studies.

Design	Setting	Participants	Measurements (outcomes)	Adverse effect
Included studies were two RCTs [17,20], two systematic reviews [22]; five quasi-experimental [15,16,18,19,21]; three literature reviews [23,24,26]; two prospective and descriptive studies [28,27].	Above half of the studies (5 studies) were conducted in the United States. The remaining studies were Netherland and Asian countries.	An inclusion criterion for this updated review was that participants who were parents, mothers, fathers, caregivers, adoptive parents or guardians [15-20,22,24,26,28].	The included studies used a range of standardized instruments to measure similar outcomes. For example: Coping (F-COPES), Depression (CES-D 10), Self-efficacy scale, Quality of life (family impact scale), Coping health inventory for parents, Family adaptation scale, Family hardiness index, Beck depression inventory, Satisfaction index, GHQ (Goldberg general health questionnaire).	No study reported adverse effects.

Characteristics of the Included Studies

Included studies

The analysis of fourteen selected articles was critically appraised using Cochran Collaboration's tool and JBI critical appraisal checklists for systematic review, randomized/ quasi-randomized trials, and descriptive studies. Because the unavailability of RCTs the authors considered other types of studies that were related with the research question.

Discussions

Summary of the Main Results

This review included a total of fourteen (14) studies that are categorized into three sections:

Interventional (RCT & Quasi-experiment), systematic review, literature reviews, and others studies (Table 2). Interventional studies were conducted evaluating the short-term (3-6 months) and long-term (one year or more) impact on parents psychological outcomes including psychological adjustment, coping, quality of life, psychological wellbeing, depression, and self-efficacy [15-21]. The results indicated that parenting programs were

Table 2: Synthesis of the Selected Studies.

SL. NO	Authors, Country, & Quality of Study	Design & Population & Study Sample	Name of Intervention, Interval between intervention & Data Collection	Outcomes Measures	Effectiveness
1	Kieckhefer et al. [17] -Washington -QG:8/10; 80%	-A 2-arm trial (RCT) -Parents of child with chronic condition -Sample:110 -Intervention=69 -Control =41	- building on family strengths program - 7-session BFS - 2-hrs/week -baseline -6-month surveys	-Self efficacy Scale - Shared Management (P-C SM) -Coping (F-COPES) -Depression (CSE-D 10) -Family Impact Scale	Parents had higher scores on self-efficacy to manage the child's condition (p= 0.049), coping with childhood chronic illness (p<0.001), parent–child shared management of the condition (p=0.097), family quality of life (p=0.010), and lower scores on a measure of depressive symptoms (p=0.046) at the 6-month end-point.
2	Van Dijk-Lokkart et al. [20] -Netherlands -QG: 7/10; 70%	-Part of the QLIM-RCT - Children and parents -68 participants -One group intervention	-Psychosocial intervention program - March 2009-2013 -12 weeks -6 session (60 minutes/ session) - one session/week	-Usefulness, Strain, and Burden Question (1-5point likert scale) -Satisfaction scale -Evaluation Questionnaire	-Parents reported that expression of feeling (mean=6.2; SD 1.9) is most important in enhancing coping in mothers. -Parents rated "expression of feelings" as the most important topic (mean=6.2; SD=1.9).
3	-Ogez et al. [22] -Canada -QG: -11/ 12	-Systematic review -Related literature -Studies=27 - Parents of child with cancer	-Psychosocial intervention program	-Primary outcomes: PTS, Emotional Distress, Quality of Life, Uncertainty	-Eleven programs based on models of change from cognitive-behavioral, systemic and counseling theories were identified. Many models included a sound theoretical framework, targeted outcomes, as well as implementation strategies. -Acceptability and treatment fidelity were not available for one-third of the programs. -Future reports should document the development and design redesign stages prior to conducting efficacy trials.
4	Barlow et al. -USA -QG: -11/ 12	-Systematic review -Related literature -Studies=48 - mothers, fathers, grandparents, foster parents, adoptive parents or guardians	- Group-based training program	-Primary outcomes: depressive symptoms, anxiety, stress -Secondary outcomes: Self-Esteem, Anger Guilt, Aggressive	-Group-based parenting programs led to statistically significant short-term improvements in depression: anxiety (SMD -0.22, 95% CI -0.43 to -0.01), stress (SMD -0.29, 95% CI -0.42 to -0.15), anger (SMD -0.60, 95% CI -1.00 to -0.20), guilt (SMD -0.79, 95% CI -1.18 to -0.41), confidence (SMD -0.34, 95% CI -0.51 to -0.17) and satisfaction with the partner relationship (SMD -0.28, 95% CI-0.47 to -0.09). However, only stress and confidence continued to be statistically significant at six month follow-up, and none were significant at one year. There was no evidence of any effect on self-esteem (SMD -0.01, 95% CI -0.45 to 0.42).
5	-Wang et al. [21] -China -QG:7/10; 70%	-Quasi-study design - Parents of child with acute lymphoblastic leukemia -intervention=51 -observation = 50	-mHealth supportive care intervention -2 sessions	-7 Measures 1. SAS (Zung's Self-Rating Anxiety Scale) 2. SDS (Zung's Self-Rating Depression Scale 3. PSSS(The Perceived Social Support Scale) 4. ZBI (The Zarit Burden Inventory) 5. PPUS (The Parents' Perception of Uncertainty Scale) 6. The Medical Outcomes Study 36-item Short Form (SF-36) 7. Konowledge Questionnaire	-The intervention reduced parents' -anxiety (Dint(Post-Pre)=−7.0 [SD 13.1], Dobs (Post-Pre)=−0.4 [SD 15.8], t90=−2.200, P=.03) -uncertainty in illness (Dint(Post-Pre)=−25.0 [SD 8.2], Dobs(Post-Pre)=−19.8 [SD 10.1], t90=−2.761, P=.01), -improved parents' social function (Dint(Post-Pre)=9.0 [SD 32.8], Dobs(Post-Pre)=−7.5 [SD 30.3], t90=2.494, P=.01), -Increased parents' knowledge of ALL and care (Dint(Post-Pre)=28.4 [SD 12.4], Dobs(Post-Pre)=17.2 [SD 11.9], t90=4.407, P<.001).
6	Hassan & Ibrahim [16] -Egypt - QG:7/10;70%	-Quasi-study pre-immediately after and one month after the intervention. -caregivers of children with cancer -Group 1=30 -Group 2=30	- Supportive nursing intervention program -7 sessions	- 3 Tools 1. Interviewing Questionnaire 2. ZBI (Zarit Burden Inventory) 3. CHIPS (Coping Health Inventory	- Mean burden of care score before, immediately after, and 1 month after the intervention was 42.2, 33.7, and 25.6, respectively, in the study group and 44.2, 46.1, and 48.5, respectively, in the control group. The mean burden score in the study group significantly decreased in comparison with the control group (p < .001). - Mean coping pattern score before, immediately after, and 1 month after the intervention was 32.8, 47.5, 53.6, respectively, in the study group and 34.7, 30.7 and 26.2, respectively, in the control group. The mean coping pattern score in the study group significantly improved in comparison with the control group (p < .001).

SL. NO	Authors, Country, & Quality of Study	Design & Population & Study Sample	Name of Intervention, Interval between intervention & Data Collection	Outcomes Measures	Effectiveness
7	Sigurdardottir et al. [18] -USA (Iceland) -QG: 7/10; 70%	-Quasi-experimental -Mothers & Fathers -Total 15 families -Mother=15 -Fathers=12	-Web-based educational and support intervention -May 2008 to January 2009 - 4 months web-based intervention - baseline (T1) - after 4 months (T2)	-Cancer Web-ESI, 2 questionnaires -Pediatric Quality of Life Questionnaire (PedsQL) -Wellbeing, Family Adjustment, Children Adaptation,	-The group comparison of the average favorability score by family member category was significant (F=4.3; P=0.02).
8	Svarsdottir & Sigurdardottir, [19] USA (Iceland) -QG: 7/10; 70%	Quasi-experimental -Total 10 families	-Family level intervention & Support	- Family Hardiness Index (FHI) - Family Adaptation Scale (FAS)	- Most of the families indicated that the intervention was important, and helpful to maintain social support and psychological stability.
9	Al-Momani [15] -Jordan -QG:8/10; 80%	-A pre-posttest experimental control group -Mothers having child with cancer -Intervention=40 -Control=40	-Informal support: a collaborative stress management -5 planned meeting -1 hour/day (1-2pm) -completed interview at two weeks of enrollment & at discharge time -during revisited time	--Participant Satisfaction Index (PSI) -Arabic-Language Modified Version of Beck Depression Inventory-1 (BDI-1)	-Experimental group reported lowest level of stress. -No significant different between two groups -Informal support to mothers of cancer children with informal support will help in managing stress.
10	-Steele et al. [23] -Massachusetts -OG: 8/10: 80%	- Literature Review -Articles for families with cancer children	-Standards for Psychosocial Care	-Parents adjustment	-**Three key findings**: (i) youth diagnosed with cancer are at risk for negative adjustment difficulties; (ii) parents are at risk for negative adjustment outcomes; and (iii) support and intervention provides clear benefit in helping youth and parents adjust.
11	Kerr et al. [26] -USA -QG: 7/9; 78%	-Integrated review -Parents of child with cancer -Total studies=49 (quantitative=25+ qualitative =20+mixed method =04	-Supportive care needs	-Questionnaire/Survey (n=25) quantitative studies -Focus group (n=04) -Interviews (n=17) - mixed method (n=04)	-Parents need informational, emotional, practical, psychosocial, and spiritual support
12	Pedro et al. [24] - USA -QG:7/9; 78%	Integrated review -Parents of child with cancer -Total studies=15	Social support	-Social support -Trajectory of cancer	-Parents need more emotional and informational support during treatment -Did not mentioned any effect of the studies
13	Hoekstra-Webbers et al. [27] -Netherland -QG:7/9; 78%	Prospective longitudinal study -Parents with Chronic Conditions -128 parents	- Completed within 14 days of diagnosis (T1) -at 6-month (T2) -at 12 months (T3)	-Goldberg General Health Questionnaire as an index of psychological distress (GGHQ Goldberg & Williams)	-Support significantly predicted distress of fathers. -No persisting support was found.
14	Nursyamsiyah [28] -Indonesia QG:7/9;78%	-Descriptive -Parents of children with leukemia	--	-Multidimensional scale for perceived social support (MSPSS)	-The result showed that there was high (family subscale score) social support perceived by parents.

Note: QG=quality grade, N/A=not applicable, T1=time one, T2=time two

effective after intervention in producing statistically significant improvements in a number of aspects of parental psychological outcomes or adjustment.

Kieckhefer et al. [17] conducted a randomized control trial and used Building Family Strengths (BSF) program for parents of children with chronic conditions. The results showed that there was a significant improvement of coping p<00.01), family quality of life (p=0.01), and decreased depressive symptoms (p=0.04). Another study conducted by Van Dijk-Lokkart et al. [20] conducted a psychosocial intervention program form parents of children with cancer. The results showed expression of feeling (M=6.2, SD=1.9) was the most important in enhancing coping of mothers. From the quasi-experimental studies it was found that supportive nursing intervention significantly reduced parental anxiety and uncertainty [21] decreased caregiver burden [16] increased quality of life [18]. Another study showed that family level intervention and social support was important to maintain psychological stability of mothers of children with cancer [19]. Al-Momani [15] conducted a pre-posttest design informal support for stress management

program and showed that there was a lowest level of stress among mothers of child with cancer.

From the systematic review it was found that group-based parenting programs led to statistically significant short-term improvements in depression: stress (SMD-0.29, 95% CI-0.42 to -0.15), anxiety (SMD-0.22, 95% CI-0.43 to -0.01), anger (SMD-0.60, 95% CI-1.00 to -0.20), guilt (SMD -0.79, 95% CI-1.18 to -0.41), confidence (SMD-0.34, 95% CI-0.51 to -0.17) and satisfaction with the partner relationship (SMD-0.28, 95% CI-0.47 to -0.09). However, Ogez et al. [22] conducted a systematic review using psychosocial intervention program on PTS, emotional distress, QOL, and uncertainty. The results indicated that acceptability and treatment fidelity were not available for one-third of the programs [22].

Steele et al. [23] conducted literature review using standards for psychosocial care on parents' adjustment and reported that support and intervention provides clear benefit in helping youth and parents adjustment. The analysis of integrated literature review and other studies allowed authors for the identification of social support specially, emotional support and informational support to parents of children with at the time of receiving cancer treatment when they seek support which can help parents to adjust the cancer trajectory [24]. This finding is consistent with the earlier literature review that identified the associations of emotional, informational, and instrumental support to psychological adjustment to cancer [25]. In addition, a literature review (49 studies) including multi-designs the author identified six types of support including informational (88%), emotional (84%), psychosocial, practical, and spiritual support on parental psychological adjustment [26]. From the prospective study it was found that parents received more support at the child's diagnosis however, they received less support and more dissatisfaction with support at later period or after one year [27]. Another descriptive study showed that there was a high social support perceived by parents [28].

Overall Completeness and Applicability of Evidence

These data provide a comprehensive picture about the impact of the key types of psychological interventions i.e. building family strength (BFS) program, Informal support intervention, and group-based support (emotional and informational support) on parental psychological outcomes. The studies were conducted in a diverse cultures and countries including USA, Netherland, Jordan, China, Egypt, and Indonesia. All studies did not examine the effectiveness of program in terms of psychological outcomes of fathers. Some studies measured only mothers' psychological outcomes as a parent. As research suggest that fathers' psychological adjustment is the key the wellbeing of children. Therefore, it is reasonable to implement social support intervention to the parents of children with cancer for improving better psychological outcomes based on the context of Bangladesh culture.

Limitations

There were some limitations of the present review process. Most of the studies have lack of control group, small sample size, had convenience sampling, and short term follow up period. Finally, random allocation does not guarantee equally of means between groups at pre-test and post-test standard deviation (SD) may be inflated by a differential response to intervention and may underestimate the effect size attributed to the intervention. Moreover, the authors included some descriptive studies which may not follow the systematic review and affect the generalizability of the study results.

Authors' Conclusions

Implication for Practice

This review provided an evidence to support the use of group-based support interventions to improve parental psychological outcomes. The findings also suggest that the benefits are short-term and that parents may need additional support if the improvements are to be maintained over time. Although there is insufficient evidences to clearly demonstrate an impacts on paternal psychosocial functioning, however, the limited evidence suggests that parenting programs have potential to improve the psychosocial functioning of fathers as well as mothers. Evidence about the importance of paternal psychosocial functioning on the wellbeing of children, alongside numerous policy directives pointing to the need to provide better support for fathers, suggest that parenting programs should also be offered to the fathers or mothers.

Implication for Future Research

The findings suggest that future research should address the need for longer or more intensive programs or for post-intervention support. The findings suggest that effectiveness is limited to the short term only and future research should as such address the reasons for this including the need for longer or more intensive programs or for post-intervention support. In addition, the findings of this study suggest that parents need more social support to improve their psychological stability. Therefore, future social support intervention is needed to identify whether social support intervention can impact on psychological outcomes of parents of children with cancer.

Acknowledgement

The authors would like to thank Professor Oh Eui Geum from Yonsei University College of Nursing in South Korea and Busakorn Punthmatharith from Prince of Songkla University in Thailand for their valuable feedback and recommendations on this study.

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