

SYSTEMATIC REVIEW

Empowerment Approaches for Enhancing the Quality of Life of Mother With Children Having Special Needs : A Systematic Review

Eka Falentina Tarigan¹, Trias Mahmudiono², Nunik Puspitasari³, Fatimah Binti Ahmad Fauzi⁴

¹ Doctorate Degree Program in Public Health, Faculty of Public Health, Universitas Airlangga, 60115, Surabaya, East Java, Indonesia

² Department of Nutrition, Faculty of Public Health, Universitas Airlangga, 60115, Surabaya, East Java, Indonesia

³ Department of Biostatistics and Populations Studies, Faculty of Public Health, Universitas Airlangga, 60115, Surabaya, East Java, Indonesia

⁴ Department of Community Health, Faculty of Medicine and Health Sciences, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia

ABSTRACT

Introduction: The mother's ability to provide care for her child is influenced by the mother's quality of life. When a mother experiences a decline in her quality of life, it is feared that her ability to provide care will not reach optimal levels. This research aims to identify empowerment approaches to improve the quality of life for mothers who have sick or disabled children. **Materials and methods:** A systematic review was conducted using data from six electronic databases, including Scopus, Web of Science, Science Direct, EBSCOhost, ProQuest, and PubMed. To be eligible for inclusion, studies had to follow intervention designs and qualify as original research from 2016 to 2023. The included study criteria are intervention study designs, English language, measuring empowerment to improve the quality of life for mothers, and original research from January 1, 2016 to December 31, 2023. The final result full text studies included for the review were 8 articles. The review protocol for this systematic review has been registered with Prospero (CRD 42024517071). **Results:** Empowerment mothers who have disabled children is more effective face to face, the empowerment process is carried out continuously. The most effective measuring tool for measuring quality of life is the WHOQOL-Brief. Health workers should actively promote empowerment programs to mothers. It is necessary to develop a homogeneous empowerment model for one type of special need so that it focuses more on understanding the points of problems experienced by mothers, the interventions provided are adapted to the model development. **Conclusion:** Empowerment programs effectively improve the quality of life of mothers with disabled children, especially when conducted face-to-face and continuously. Standardized models tailored to specific needs and active roles of health professionals are essential for success.

Malaysian Journal of Medicine and Health Sciences (2025) 21(SUPP7): 242-252. doi:10.47836/mjmhs.21.s7.28

Keywords: Empowerment , Disabled children, Quality of life, Mother, Brief

Corresponding Author:

Trias Mahmudiono, PhD

Email: trias-m@fkm.unair.ac.id

Tel : 082332777122

INTRODUCTION

Most children interact most closely with their mothers. The interaction between mother and child is based on care, affection, respect and a feeling of belonging. The interaction of mother and child is the main factor that influences factors related to child care, social support and environmental factors. Interaction between mother and child refers to the mother's response to the child's growth and development and daily activities. The closeness between mother and child will affect the mother's psychology when the child experiences unhealthy conditions because it is related to parenting stress (1).

Quality of life is an individual's view of life and daily

activities. Quality of life is a multidimensional construct related to the domains of personal development, self-determination, interpersonal relationships, social inclusion, rights, emotional well-being, physical well-being and material well-being (2). The term "quality of life" in a broad sense is a parameter that can be achieved through the interaction of many factors including an individual's standard of living, education, health, emotional state, well-being, and his relationship with the social environment. The main dimensions of quality of life according to Whmeyer & Schalock are emotional well-being, interpersonal relationships, material well-being, physical, social and environmental well-being (3).

Several research results (Donald. J. Hernandez & Jeffrey S. Napierala, 2014) show that the quality of life of mothers has a significant influence on the quality of children. The capacity and ability to provide care to children is influenced by the parents' physical and emotional health conditions. When parents experience

a decline in their quality of life, it is feared that their ability to provide care will not reach optimal levels (4). The following is some research data related to the quality of life of mothers who have children with specific health conditions. From one hundred mothers who have children with disabilities, 36% of mothers experience physical health problems, 36% of mothers experience psychological problems, 46% of mothers experience problems in social interactions, 44% of mothers experience problems with the environment. The main source of strength and support for children with disabilities is the family, so promotive and preventive programs to improve the quality of life of mothers of children with disabilities must cover all aspects of life that can be accessed in society and the environment. Guidelines for health workers to improve the quality of life of mothers who have children with disabilities should include assessments of physical, psychological health and parental functioning with a focus on basic health to assist families of people with disabilities in providing professional support and meeting parents' special needs (5).

Data obtained from 50 mothers who had children with myelomeningocele (MMC) showed that mothers of healthy children had better perceptions of quality of life than mothers of children with myelomeningocele (MMC) and overall perceptions of their own health. Mothers of children with myelomeningocele (MMC) have a low quality of life in all quality of life domains. Children with MMC require complex treatment and long-term commitment from the family for the therapy and education process. The condition of a mother who has a poor quality of life because of her child's condition will affect the quality of care, both treatment and the development of other children, so an empowerment intervention is needed that focuses on improving the mother's quality of life (6).

Mother and child have an inner bond and this bond reflects physical and emotional comfort even in uncomfortable situations. Poor maternal quality of life is directly related to physical health, psychological conditions, social relationships and relationships related to environmental aspects. The meaning of the childcare process is often misunderstood by some health workers, because they only focus on the child's condition without paying attention to the mother's condition as well. A mother's poor quality of life will affect her parenting and the care given to her child. If the mother's quality of life is not paid attention to, children who are sick or abnormal will not receive optimal care, leading to a negative impact on the child's development (7).

Assessment of the mother's quality of life is positively related to family function, family function is defined in 5 components, namely adaptability (sharing resources, level of satisfaction with the attention received), participation (refers to family communication and

joint decision making for problem solving, growth (growth). emotional, physical and spiritual), affection (satisfaction with the intimacy of family relationships and family interactions) and resolution (sharing time and satisfaction with commitments set by family members). Family function greatly determines the direction of a child's development (8).

There are several interventions and strategies implemented to improve the quality of life, including empowerment approach. Empowerment is an important indicator of an individual's ability to access and utilize services effectively to cope and achieve desired outcomes for themselves and their children. The aim of empowering mothers is to bring about positive changes that improve the quality of life. The empowerment approach essentially puts emphasis on decision-making autonomy. Efforts to empower families comprised of: (1) Enabling the creation of an atmosphere that allows the family's potential to develop; (2) Empowering the family's potential through concrete steps involving the provision of various inputs and opening up multiple opportunities; and (3) Protecting the interests of weak family members (9).

Several previous studies have focused only on the psychological domain or individual therapy without considering family-based approaches that can have a broader impact on maternal and child well-being. Previous studies have only reviewed the description of the quality of life in mothers with special needs children descriptively. There has never been a previous study that reviews empowerment interventions for mothers with special needs children. This study even comprehensively reviews empowerment interventions by comparing the effectiveness of various empowerment approaches both directly and virtually.

This research aims to identify types of empowerment that are effective in improving the quality of life of mothers. In several literature reviews, there has been research on interventions carried out to improve the quality of life of mothers, but there have been no reviews that focus on empowering mothers to improve the quality of life, so the author is interested in reviewing empowerment approaches mother that are effective for improving the quality of life of mothers. Is continuous face to face empowerment (I) more effective than continuous virtual empowerment (C) in improving the quality of life of mothers with children with special needs (O) in several countries (P) ?

MATERIALS AND METHODS

The review protocol for this systematic review has been registered with Prospero (CRD 42024517071). On March 6, 2024, changes were made to the inclusion criteria for the original search technique, Empowerment to Improve Quality of Life for Mothers, to include a

broader subgroup of studies of mothers with children with disabilities to explore the effects of interventions in a more diverse population. This change was followed by adjustments to the search strategy to include additional databases and maximize comprehensive literature searches.

Search Strategy

A literature search was carried out in bibliographic databases regarding items related to empowerment carried out to improve the quality of life for mothers with sick or disabled children in several countries. A systematic review was conducted using data from six electronic databases, including Scopus, Web of Science, Science Direct, EBSCOhost, ProQuest, and PubMed. The keywords used are empowerment, improve, quality of life, mother to find relevant research. The search update was conducted from January 1, 2024 to November 30, 2024.

Study selection

The included study criteria are intervention study designs, English language, measuring empowerment to improve the quality of life for mothers, and original research from January 1, 2016 to December 31, 2023. Two reviewers conducted the screening process, encompassing title screening, abstract screening, full-text screening, and data abstraction, to ensure an unbiased selection. Both reviewers used the JBI Critical Appraisal Tool as a standard automation tool when there was a risk of bias. Finally, eight articles were included after the full-text screening.

Data extraction and quality assesment

Two authors and a team of reviewers were involved in data extraction, including author, year, city where the study was conducted, population, intervention, control, outcome measure, conclusion (including empowerment to improve the quality of life of mothers) and quality assessment. Next, a methodological assessment was carried out on eight articles using the quality assessment tool (QAT) for intervention studies proposed by the National Institutes of Health.

RESULTS

Search Result

Key word : (Empowerment*OR Intervention*) AND ("Improve") ("Life quality" OR "quality of life") AND (Mother) AND ("Child disability" OR "child with disability" OR Disabilities OR "Children with disabilities" OR "Disabled children" OR "Special Needs Children*"). There were 166 articles identified from the initial database search. After 68 duplicate records were removed, 98 articles were elicited for eligibility screening. Fifty-two articles were excluded due to review articles, observational study design, irrelevant outcomes, written in other than English language, and the research conducted more than seven years ago.

Hence, 46 articles were screened for the full text, a further 38 articles were excluded because it does not measure the quality of life in mothers in accordance with the specific objectives of this study. The reasons for the 38 articles being exclusion criteria due to research focus on the child's quality of life, family income, and mental health, and no element of empowerment interventions. So that the final result full text studies included for the review were 8 articles.

Study details from the eight articles reviewed are presented in Figure I. In Figure I is visible : Flow diagram of search strategy, screening, and included studies.

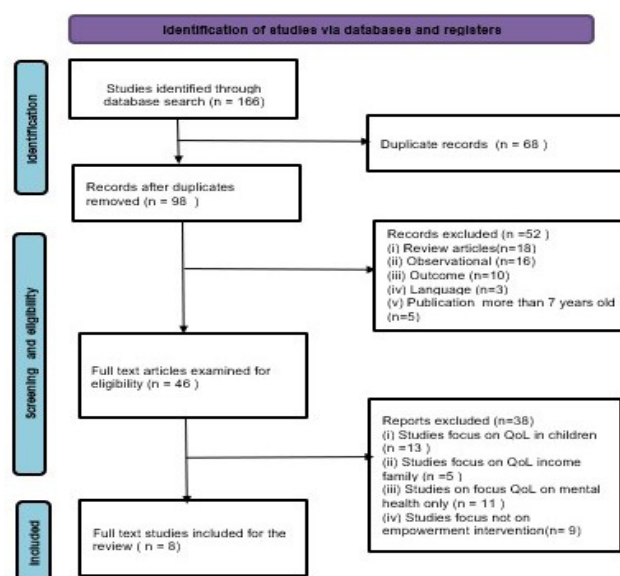


Figure 1: Flow diagram of search strategy, screening, and included studies.

Methodological quality assessment

Methodological assessment was carried out using QAT for intervention studies in the selected studies. The reason for using QAT for this study is because this study is an intervention study and QAT is considered the best because of its ability to provide detailed and specific methodological assessments. QAT allows for evaluation of the impact of interventions with higher accuracy because this tool evaluates how the intervention was carried out, the quality of outcome measures, and how the data were analyzed. This ensures that the selected studies are truly suitable to answer the research question with adequate internal validity, thus providing more reliable and better interpretable results. The results obtained were that the entire article had a fairly good score after assessing methodological quality using QAT (<https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>). Details of the methodological quality assessment are presented in Table I.

Participants

In research conducted by Yildiz & Cavkaytar (11), Bourke-Taylor et al., (12), Fallahi & Hemati Alamdarloo, (16) and Dindar et al., (17) the participants in the four

studies were mothers who have children with disabilities such as intellectual disability, cerebral palsy, Down syndrome, autism, fragile X and mental retardation. In research conducted by Rajabi et al., (10), Moghadam et al., (15) and Abdel-Salam et al., (14), the participants in this study were mothers who had children who were sick, namely asthma, lupus and mothers who have HIV. In the study Okhovat et al., (13), the respondents in this study were mothers who had babies less than one year old.

Data collection process in the included studies

All researches are interventional study design. Data collection was carried out by collecting questionnaires, namely in research conducted by Rajabi, et al., (10) there were 172 mothers who had children with asthma who filled out the demographic questionnaire and quality of life for children's asthma caregivers questionnaire (PACQLQ). In research conducted Yildiz G and Cavkaytar A, (11) 18 mothers who had children with intellectual disabilities completed the Beach Center Family Quality of Life (BCFQOL) questionnaire, the family needs survey (FNS) and the PSIDA Implementation Evaluation Checklist. In research conducted by Taylor, et al., (12) 36 mothers who had children with cerebral palsy, Down syndrome, autism, and fragile. In research conducted Okhovat, et al., (13) the respondents in this study were mothers who had babies aged less than one year who filled out the SF-36 quality of life questionnaire, to measure breastfeeding self-efficacy using the BSES-SF questionnaire instrument. Dennis. In research conducted Salam, et al., (14) on 60 mothers who had children with asthma, they filled out a Quality of Life questionnaire adapted from Skevington, the self-efficacy questionnaire was adapted from the standardized Likert type rating scale from Kankaras. In research conducted Moghadam, et al., (15) 40 mothers who had HIV completed the demographic questionnaire and WHOQOL-HIV-Brief. Research conducted by (Fallahi F & Alamdarloo G.H, (16) on 30 mothers who had children with disabilities filled in a 28 point general health questionnaire and in research conducted by Dindar, et al., (17) on 60 mothers who had children with intellectual disabilities filled in 24 points multidimensional caregiver burden questionnaire.

Individual characteristics

In research conducted by Rajabi, et al., (10) The results of the Chi-square and Fisher's exact tests revealed no significant between-group differences regarding mothers' age, employment and educational status, place of residence, and smoking. The means of mothers' age in the experimental and control groups were 33.44 ± 6.69 and 32.72 ± 5.75 , respectively ($P > 0.05$). In research conducted Yildiz G and Cavkaytar A, (11) The study participants included were between 42 and 68 years old and the children with ID were between 20 and 35 years

old, and all mothers were housewives. Analysis of the education levels of the participants demonstrated that 88% of mothers were primary school graduates and 22% were middle school graduates. Furthermore, all families except one had social security benefits, the average monthly income of the households was between £ 850 and 2000. Thus, the participants had low education and socio-economic levels. In research conducted by Taylor, et al., (12) The characteristics of mothers ($N = 36$), Nearly two-thirds of mothers had professional training, a degree or higher. Most (86%) were partnered. Half (50%) reported that they had been diagnosed with a health condition since their child's diagnosis and half of mothers had been diagnosed with a mental health condition. Fifteen women had a musculoskeletal issue, including carpal tunnel syndrome ($n = 4$). Nearly one-third of women saw a medical or health practitioner at least monthly. Twenty-five women cited their partner as one of their most important life supports (top 3 supports). Only one mother smoked. The average alcohol consumption was four serves per week (one glass/serve with a $SD = 3$) and the range was none ($n=5$) to 15 ($n=1$). Per the questionnaire at T1, 19 women agreed that their health affected their ability to care for their child. In research conducted Okhovat, et al., (13) Inclusion criteria include willingness to participate in the study, primiparous mothers, having an under one year-old infant, physical health of the child and absence of chronic diseases and chromosomal-genetic defects, no underlying disease, access to mobile phones for connecting to virtual space, ability to use internet and media literacy. Iranian nationality, consent to participate in the study, ability to understand questions or literacy for reading and writing, and not participating in any other clinical trials at the same time. In research conducted Salam, et al., (14) According to mothers characteristic, Half (50.0%) of studied mothers were in the age group $30 < 40$, with mean $\pm SD = 31.2667 \pm 6.516$. Also, less than three quarter (70.0%) of studied mothers were living in rural areas. Meanwhile, more than one third (40.0%) of studied mother had secondary education. In research conducted Moghadam, et al., (15) The women in the group had no differences in terms of the sociodemographic characteristics. In research conducted by Fallahi F & Alamdarloo G.H, (16) 30 mothers who have children with disabilities were divided into 2 groups (15 intervention groups and 15 control groups). In research conducted by Dindar, et al., (17) The study consists of 60 people, who were divided equally in the intervention group and in the control group. Results of the study showed that the mean age was 6.815 ± 39.37 and 10.176 ± 42.6 in the intervention and control groups, respectively {within the age range of 51-60 (8%), 41-50 (21%), 31-40 (24%) and 21-30 (7%)}. The mean SD age of the children was 7.10 ± 3.43 and 10.43 ± 3.081 in the intervention and control groups, respectively.

Table I: Methodological quality assessment of included studies by using the NIH quality assessment tool for Intervention studies.

Author, year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Overall quality
Rajabi, et all, 2016	Y	Y	Y	Y	Y	N	N	NA	NA	NA	Y	Y	NA	Y	Fair
Yildiz G and Cavkaytar A, 2020	Y	Y	Y	Y	Y	N	N	NA	NA	NA	Y	Y	NA	Y	Fair
Taylor, et al., 2018	Y	Y	Y	Y	NR	NR	N	NR	NR	NA	Y	NR	NA	Y	Fair
Okhovat, et al., 2022	Y	Y	Y	Y	NR	N	N	NA	NA	NA	Y	Y	NA	Y	Fair
Salam, et al., 2023	Y	Y	Y	Y	NR	NR	N	NR	NR	NA	Y	Y	NA	Y	Fair
Moghadam, et all, 2018	Y	Y	Y	Y	NR	N	N	NA	NA	NA	Y	NR	NA	Y	Fair
Fallahi F & Alamdarloo G.H, 2019	Y	Y	Y	Y	Y	N	N	NA	NA	NA	Y	Y	NA	Y	Fair
Dindar, et all, 2016	Y	Y	Y	Y	Y	N	N	NA	NA	NA	Y	Y	NA	Y	Fair

Note : Quality was rated as 0 for poor (0-4 out of 14 questions), i for fair (5-10 out of 14 questions), or ii for good (11-14 out of 14 questions).

1. Was the study described as randomized trial, a randomized clinical trial, or an RCT?
 2. Was the method of randomization adequate (i.e., use of randomly generated assignment)?
 3. Was the treatment allocation concealed (so that assignments could not be predicted)?
 4. Were study participants and providers blinded to treatment group assignment?
 5. Were the people assessing the outcomes blinded to the participants' group assignments?
 6. Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?
 7. Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?
 8. Was the differential drop-out rate (between treatment groups) at endpoint 16 percentage points or lower?
 9. Was there high adherence to the intervention protocols for each treatment group?
 10. Were other interventions avoided or similar in the groups (e.g., similar background treatments)?
 11. Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?
 12. Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?
 13. Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?
 14. Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?
- Abbreviations : NA, not applicable; NR, not reported; Y, yes; N, No.

Table II: Characteristics of the included studies in this systematic review.

Author, year	City where the study was conducted	Population	Intervention	Control	Outcome measure	Conclusion
Rajabi, et all, 2016	Iran	172 mothers who had the children with asthma	The empowerment steps taken include increasing knowledge, self-efficacy, and self-esteem and evaluation.	Mothers in the control group received a booklet containing parenting information.	The research instrument was a demographic questionnaire and child asthma caregiver quality of life questionnaire (PAC-QLQ).	Quality of life scores in the intervention group showed higher quality of life (P<0,001). Family-Centered Empowerment Model significantly improves the quality of life of mothers who have children with asthma. Considering the important role of mother in providing care to their sick children, nurses are encouraged to use this method to encourage mother's active participation in providing care to their children ⁽¹⁰⁾ .
Yildiz G and Cavkaytar A, 2020	Turkey	18 mother who have children with Intellectual disabilities	Parent training sessions are conducted on a group basis with 4 sessions with duration 1 hour each session using audiovisual and animation materials.	The control group did not participate in training.	Beach Center Family Quality of Life (BCFQOL), The family needs survey (FNS) dan PSIDAI-Implementation Evaluation Checklist.	The research result showed a significant difference between the control and intervention groups, where the quality of life of mothers who received training increased compared to before the intervention. Improvements occurred most significantly in the emotional/psychological health domain and parenting dimensions ⁽¹¹⁾ .

CONTINUE

Table II: Characteristics of the included studies in this systematic review. (CONT.)

Author, year	City where the study was conducted	Population	Intervention	Control	Outcome measure	Conclusion
Taylor, et al., 2018	Melbourne	36 mothers who have children with cerebral palsy, Down syndrome, autism, fragile children with cerebral palsy, Down syndrome, autism, fragile	The intervention carried out was an evaluation of a trial program Healthy Mothers Healthy Families (HMHF) program consists of 6 workshop activities. All workshop activities last 3 hours and are facilitated by an occupational therapist and specialist doctor.	There is no control group.	Instruments measuring physical activity with The Health Promoting Activities Scale (HPAS), Instrument measuring mental health with Depression Anxiety and Stress Scale, and empowerment with family empowerment scale.	The results obtained showed significant changes in reporting at 4 time points, including participation in healthy activities (p=0.017), depression, anxiety, stress symptoms (p=0.017, 0.016, 0.037, respectively), and empowerment (p=0.009). Conclusion: Coupled with qualitative findings, these results indicate that maternal empowerment through the Healthy Mothers Healthy Families (HMHF) program effectively improves health and well-being outcomes for mothers of children with disabilities ⁽¹²⁾ .
Okhovat, et al., 2022	Iran	A pair of mothers and babies aged less than 1 year at the Yazd Community Health Center, Iran.	The research was conducted for two months. There are two stages of intervention. The first stage is designing an empowerment program regarding education about breastfeeding, and receive baby growth and care information from caring for children under 1 year of age in a virtual group. The second stage is implementing the empowerment program prepared in the first stage with a pre-test/post-test design in two groups (intervention and control). The control group will receive services.	The control group will receive routine health services including visits to the health center to check the baby's growth and care information from health workers.	SF-36 quality of life questionnaire, to measure breastfeeding self-efficacy using the BSES-SF Dennis questionnaire instrument.	The empowerment carried out not only combines virtual education and experience with peer groups in strengthening mothers' knowledge but can also improve mothers' physical and mental health and reduce medical costs by using virtual and telephone assistance ⁽¹³⁾ .

CONTINUE

Table II: Characteristics of the included studies in this systematic review. (CONT.)

Author, year	City where the study was conducted	Population	Intervention	Control	Outcome measure	Conclusion
Salam, et al., 2023	Benha	60 mothers who have children with lupus	The empowerment steps taken are increasing knowledge and self-efficacy, two learning sessions per week for three weeks held using demonstration and presentation methods lasting 30-45 minutes and process evaluation to assess feedback at the beginning of each session.	There is no control group.	The Quality of life questionnaire was adapted from (Skevington, et al 2004), the self-efficacy questionnaire was adapted from the standardized Likert type rating scale from (Kankaras, 2017).	Mother's knowledge and skills increased after implementing empowerment compared to before the intervention. The mother's self efficacy and quality of life also increased after the intervention was implemented for two months, from the beginning of December 2022 to the end of January 2023 ⁽¹⁴⁾ .
Moghadam, et all, 2018	Iran	120 women suffering from HIV at Imam Khomeini Hospital, Iran	40 people in the intervention group received training in two 60-minute sessions at 1-week intervals in the form of lectures, discussions and questions and answers.	40 people in the control group received routine procedures, namely counseling that is usually carried out in hospitals.	Demographic questionnaire and WHOQOL-HIV-Brief	There was a significant difference in quality of life before intervention and after intervention. Findings showed that knowledge increased after intervention in education (P ¼ 0.02) and empowerment groups (P 0.006); also, the empowerment group showed significant differences in psychological (P ¼ .006) and spiritual (P ¼ .001) and total quality of life (P ¼ .004). According to this research, the empowerment of HIV-positive women is effective in improving their quality of life ⁽¹⁵⁾ .
Fallahi F & Alamdarloo G.H, 2019	Iran	30 mothers who have children with disabilities were divided into 2 groups (15 intervention groups and 15 control groups).	15 mothers who have children with disabilities in the intervention group received psychological empowerment intervention.	The 15 mothers who had disabilities in the control group did not receive any intervention	28-point general health questionnaire.	There were significant differences in general health, anxiety and social interaction function in the intervention group, namely the group that received psychological empowerment intervention ⁽¹⁶⁾ .
Dindar, et all, 2016	Quchan Iran	60 mothers who have mentally retarded children were divided into 2 groups, 30 intervention groups and 30 control groups.	30 mothers in the intervention group were given religious-spiritual empowerment strategies using an Islamic approach for 2 weeks (6 sessions).	30 mother in the control group were not given the intervention, but after the intervention was completed in the intervention group the training content was presented to the control group.	24-point multidimensional caregiver burden questionnaire (Novak and Guest, 1989).	The results of the Mann-Whitney test showed a variation of 21% and 5% there was a statistically significant difference between the intervention and control groups, respectively (p=0.0001); it can be concluded that religious-spiritual strategy training significantly influences mother's parenting to be better both in the intervention group ⁽¹⁷⁾ .

DISCUSSION

The condition of sick children and the condition of children with disabilities will affect the mother's quality of life, so information is needed regarding interventions in the form of empowerment that must be carried out effectively to improve the mother's quality of life so that the mother's good quality of life will have a direct impact on her child's upbringing. Study article show that the empowerment intervention are applied to mothers as the subjects. Most children interact most closely with their mothers. The interaction between mother and child is the main factor that influences parenting, social support and environmental factors. Interaction between mother and child refers to the mother's response to the child's growth and development and daily activities. The closeness between mother and child will affect the mother's psychology when the child experiences abnormal conditions such as disabilities because it is related to stress when providing care (1).

Empowerment -based health education programs can help mothers manage, develop skills and increase knowledge, affection and quality of life in the family. Identification of the type of empowerment provided from 8 articles evaluated that there were 7 articles that provided direct or face-to-face intervention in the form of training, counseling, workshops, question and answer lectures, role playing, practice and discussions. There is 1 article that provides virtual intervention, namely research conducted by Forogh Okovat, et al. The virtual intervention was carried out in two stages. The first stage is designing an empowerment program regarding education about breastfeeding, baby growth and development and caring for children under 1 year of age in a virtual group. The second stage is the implementation of the empowerment program prepared in the first stage. Educational materials will be sent to mothers and then additional explanations about educational content will be given via virtual. In this session, mothers from this group will also share their experiences regarding the growth and development of their babies in the virtual group (13).

Empowerment will be more successful if carried out through partnerships and using appropriate methods and techniques. Based on the results of research to examine differences in knowledge acquisition in vulnerable population communities from 2019-2020 who received face-to-face training (n=440) compared to those who received virtual training (n=173), the results showed that face-to-face participants had better knowledge compared to participants who received virtual training. Even though existing literature shows that virtual learning is as effective as face-to-face learning, this is not true in the field. This could be due to the quality of the instruction given, participant preparation, presentation style or material. Providing education that is carried out directly makes it easier for information givers to find out

feedback from participants rather than virtually so that this feedback can be used as a benchmark in evaluating participants' understanding of the material provided. Another reason is technical difficulties such as internet stability and a less conducive environment, making it more difficult for participants to concentrate via virtual media. Another challenge if education is provided virtually is that close eye contact with the application used and reduced mobility can cause participants to experience boredom when receiving education (18).

The findings from this study article are that the duration of the implementation of empowerment is given over a period of time that varies in terms of stages, duration and length of intervention. The time for empowerment applied varies between 1 - 8 months, but the minimum implementation of empowerment in all articles is 1 month with a duration varying between 40-180 minutes per session. According to Ascraft et al, it is impossible for an empowerment program to be implemented in just one session because there are several stages that must be carried out to become empowered. Empowerment means efforts made to increase knowledge and skills. Empowerment-based health education programs can help mothers manage, develop skills and increase knowledge, affection and quality of life in the family. Empowerment is carried out with full awareness and participation from the parties to increase individual capacity and capability as a development resource so that they are able to recognize the problems faced in developing and help themselves towards a better situation, are able to explore and utilize available natural resources for their own benefit and group, and able to exist clearly by benefiting from it. Empowerment is a "process of becoming", not an "instant process" so it must be carried out continuously (19).

The findings from this study article relate to the instruments used to measure the quality of life of mothers who have children with disabilities. The instruments used to measure maternal quality of life are WHOQOL-Brief, SF-36 quality of life questionnaire, Caregiver burden questionnaire, Empowerment with family empowerment scale and Beach Center Family Quality of Life (BCFQOL). WHOQOL-Bref is the most widely used method as an instrument for evaluating quality of life. WHOQOL-Bref was used in quality of life measurement studies from several different countries that showed differences in the quality of life of family members. The differences in quality of life are influenced by welfare, individual factors, family support, individual support and systemic factors. Treatment or therapy also has a big impact on psychological health, such as experiencing depression and health problems experienced by the family (20).

This study shows The results of the intervention to increase knowledge, self-efficacy, self-esteem and evaluation showed that the quality of life score showed a higher quality of life. The Family-Centered

Empowerment Model significantly improves the quality of life of mothers who have children with asthma. Considering the important role of mothers in providing care to their sick children, nurses are encouraged to use this method to encourage mothers' active participation in providing care to their children (10).

The parent training program intervention for children with intellectual disabilities regarding the perception of family quality of life, there was a significant difference between the control group and the intervention group, where the quality of life of mothers who received training increased compared to before receiving the intervention. Improvements occurred most significantly in the emotional/psychological health domain and parenting dimensions(11). The results of the HMHF Program intervention consisting of 6 workshops obtained significant changes in reported significant changes in 4 time points including participation in healthy activities, depression, anxiety, stress symptoms and empowerment. Coupled with qualitative findings, these results indicate that maternal empowerment through the HMHF program is effective in improving health and well-being outcomes for mothers of children with disabilities (12). The intervention findings of providing educational books containing educational material showed that knowledge increased after the intervention in the education sector and empowerment groups also the empowerment group showed significant differences in psychological and spiritual and total quality of life. According to this research, empowerment of HIV-positive women is effective in improving their quality of life (15).

The results of the psychological empowerment intervention were obtained from covariance analysis of the pre-test and post-test results of the intervention group and the control group, namely that general health was better in the intervention group, physical health was also significant in the intervention group. There is a significant difference in the anxiety and social interaction function of the intervention group, meaning that psychological empowerment interventions have been proven to improve general health, anxiety and social interaction in mothers who have children with disabilities (16).

From the 26 items of the WHOQOL-BREF questionnaire statement on Quality of Life, the range of the transformed quality of life score results is divided into 4 categories in each domain, namely: a. 0-25 = less; b. 26-50 = sufficient; c. 51-75 = good; d. 76-100 = very good. The results of the research conducted by Dindar, et al, a comparison of the average score of maternal tension in caring for children in the two groups showed a significant difference in results after two weeks of intervention, the score in the intervention group decreased slightly to 87.21% and in the control group's score increased by 5%. There was a statistically significant difference between the intervention and control groups, it can

be concluded that religious-spiritual strategy training significantly influences mother's parenting to be better. both in the intervention group (17).

The statistical tests used in all studies are in accordance with research with an experimental study design, namely to test the null hypothesis (Ho) or statistical hypothesis in accordance with the appropriate statistical test techniques (measurement scale, data, number of sample groups and parametric and non-parametric test requirements. The statistical tests used in all studies are in accordance with descriptive statistics and inferential statistics and regression analysis, namely 5 studies using the t-test and Chi-square test, 2 studies using the Mann Whitney Test, other tests used are Fisher's exact test, Wilcoxon test and multiple linear regression.

Empowerment is an important indicator of the ability of mothers who have children with special needs to be able to access and utilize services effectively to overcome and achieve desired outcomes for themselves and their children. Empowering efforts consist of: Enabling, namely creating an atmosphere that allows the potential of mothers who have children with special needs to develop, secondly, Empowering, namely strengthening the potential of mothers who have children with special needs through concrete steps involving the provision of various inputs and opening up various opportunities. which will make mothers more empowered to maintain their quality of life, the third is Protecting, which is an effort to overcome the weakness of not developing the potential of mothers who have children with special needs in maintaining their quality of life (9).

This review reinforces the finding that family-based empowerment models are more effective than therapy-based models in improving the quality of life for mothers of children with special needs. These results are consistent with several previous studies, but this study provides additional insight by showing that the in-person approach is superior to the virtual approach because it allows for more dynamic interactions and better feedback. In addition, this review identified the WHOQOL-Brief as the most appropriate measure to evaluate the intervention, which has not been explicitly addressed in previous studies."

Limitation

The research reviewed is about empowerment to improve the quality of life for mothers. The variation of intervention duration in the articles has a different range of intervention duration (1–8 months) making it difficult to determine the optimal duration of the most effective empowerment. The dependence of the results of research articles on secondary data sources because this study is review-based so that it does not conduct direct experiments, which can cause bias from the studies analyzed.

To evaluate various aspects of the evidence, including risk of bias, inconsistency, indirectness of evidence, inaccuracy, and publication bias, researchers conducted an assessment using GRADE. GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) is a tool designed to assess the certainty or confidence of evidence in systematic reviews. The authors assessed the main results (outcomes), effect sizes, number of respondents, level of certainty and conclusions level of certainty. There were 6 studies with a high level of certainty and low risk of bias seen from the real intervention effect approaching the estimate (confidence level of higher than 0.95) and there were 2 studies with a moderate level of certainty because the effect size of the intervention was large but there were limitations. Sampling time restriction and the long spiritual self-care training process were limitations in the present study which limited the possibility of doing research with bigger sample size.

Future Recommendation

To overcome the variation of intervention duration The variation of intervention duration, so that longitudinal studies are needed for further researchers to determine the ideal duration for interventions that have the most significant impact on the quality of life of mothers and the long-term impact of empowerment interventions on improving the quality of life of mothers who have children with special needs.

Because this study is review-based, which can cause bias from the studies analyzed. It is recommended for further researchers to conduct more structured intervention research, for example experimental research with a more controlled design, namely randomized controlled trials (RCTs) so that the assessment of the effectiveness of empowerment results will be more valid.

CONCLUSION

The results of the review of 8 articles found that the subjects of empowerment interventions were carried out on mothers, fathers and other caregivers and the most effective intervention results were directly to mothers because most children interact most closely with their mothers. Based on the type of empowerment carried out directly (training, counseling, workshops, Q&A lectures, role playing, practice and discussion) or virtually, it shows that empowerment carried out directly is the most effective because we can see the right response and feedback to the subject. Based on the duration of empowerment from 8 articles, the duration varies between 1-8 months. Empowerment will be effective if it is carried out continuously and not enough for just 1 session. Based on the measuring instruments used to measure the quality of life used, namely WHOQOL-Brief, SF-36 quality of life questionnaire, caregiving burden questionnaire, empowerment with a family empowerment scale and Beach Center Family

Quality of Life (BCFQOL). WHOQOL-Bref is the most effective measuring instrument as an instrument for evaluating quality of life. Between the empowerment model centered on treatment or therapy and the family-centered empowerment model, the most significant intervention results are seen from the increased quality of life scores in the family-centered empowerment model. The improvement in quality of life from the domains of physical health, psychological health, the domain of interaction with others and the environmental domain, the most significant increase in scores occurred in the emotional/psychological health domain and the dimensions of childcare and empowerment interventions in the psychological domain were proven to improve general health, anxiety and social interaction in mothers who have children with special needs.

REFERENCES

1. Lee IS, Jeon JH. Influence of hardiness, mother-child interactions, and social support on parenting stress among North Korean refugee mothers: a cross-sectional study. *Child Health Nursing Research*. 2022 Oct 1;28(4):269–79. doi : 10.4094/chnr.2022.28.4.269
2. Mohamad Aun NS, Zakaria SM, Ahmad Badayai AR, Idris IB, Mohd Daud TI, Mohd Fazree SD. Quality of Life among Mothers of High Functioning Autism Spectrum Disorder (HFASD)Adolescents. *Int J Environ Res Public Health*. 2022 Jun 1;19(11). doi : 10.3390/ijerph19116663
3. Christodoulou P, Christopoulou F, Stergiou A, Christopoulos K. Quality of Life of Parents of Children With Disabilities. *European Journal of Education and Pedagogy*. 2020 Nov 25;1(1). doi : 10.24018/ejedu.2020.1.1.1
4. Nurhidayah I, Imtihana T, Adistie F. Kualitas Hidup Orang Tua Dengan Anak Disabilitas. *Journal JNC*. 2020 Oct 3;3(3):142–9. doi : https://doi.org/10.24198/jnc.v3i3.22524
5. Mahmutović J, Veladžić N, Hadžiomerović AM, Branković S, Konjo H, Omerović Đ. Quality of life of mothers who have children with developmental disabilities. *Journal of Health Sciences [Internet]*. 2020 [cited 2023 Jun 14];10(3):183–90. Available from: <http://www.jhsci.ba>. doi : https://doi.org/10.17532/jhsci.2020.969
6. Okurowska-Zawada B, Wojtkowski J, Kućak W. Quality of life of mothers of children with myelomeningocele. *Pediatr Pol*. 2013 May;88(3):241–6. doi : https://doi.org/10.1016/j.pepo.2013.02.001
7. Carneiro M de N de L, Gomes DL, da Fonseca AA, Ripardo RC. Relationship between Quality of Life and Adult Attachment Factors in Mothers of Children with and without Type 1 Diabetes. *Int J Environ Res Public Health*. 2023 Dec 1;20(23). doi : 10.3390/ijerph20237109.
8. Azazy S, Nour-Eldein H, Salama H, Ismail M.

- Quality of life and family function of parents of children with attention deficit hyperactivity disorder. *Eastern Mediterranean Health Journal*. 2018;24(6):579–87. doi : 10.26719/2018.24.6.579
9. Noor M. Pemberdayaan Masyarakat. *Jurnal Ilmiah Civis*. 2011 Jul 2;1(2):87–99. doi : <https://doi.org/10.26877/civis.v1i2/Juli.591>
 10. Rajabi R, Mahmoudirad G, Sabzevari SS, Borhani F, Yazdanparast E, Faramarzipor M. The Effect of Family-Centered Empowerment Model on Quality of Life Among Mothers of Asthmatic Children. *Modern Care Journal*. 2016 Jan 20;In Press(In Press). doi : <https://doi.org/10.17795/modernc.9602>
 11. Yildiz G, Cavkaytar A. Division on Autism and Developmental Disabilities Effectiveness of the Parent Training Program for Supporting the Preparation of Individuals with Intellectual Disability for Adulthood on Mothers' Quality of Life Perceptions. 2020;55(2):201–14. doi : <https://www.jstor.org/stable/27077911>
 12. Bourke-Taylor HM, Jane F, Peat J. Healthy Mothers Healthy Families Workshop Intervention: A Preliminary Investigation of Healthy Lifestyle Changes for Mothers of a Child with a Disability. *J Autism Dev Disord*. 2019 Mar 15;49(3):935–49. doi : 10.1007/s10803-018-3789-1
 13. Okhovat F, Okhovat S, Karimiankakolaki Z, Yoshani N. The effect of educational support intervention including peer groups for infant care on the growth rates of infants, breastfeeding self-efficacy and quality of life of their mothers in Iran: study protocol. *Reprod Health*. 2022 Dec 1;19(1). doi : 10.1186/s12978-022-01523-6
 14. Abdel-Salam AA, Mohammed S, Aziz AE, El Sayed El Araby M, Sharshour SM, Nursing P. Tanta Scienfic Nursing Journal Effect of Family Empowerment Model on Quality of Life and Self-Efficacy of Mothers Toward Children with Systematic Lupus Erythematosus. Vol. 29. 2023. doi : 10.21608/TSNJ.2023.306388
 15. Moghadam ZB, Rezaei E, Sharifi B, Nejat S, Saeieh SE, Khiaban MO. The Effect of Empowerment and Educational Programs on the Quality of Life in Iranian Women with HIV. *J Int Assoc Provid AIDS Care*. 2018 Mar 21;17. doi : 10.1177/2325958218759681
 16. Fallahi F, Hemati Alamdarloo G. Effectiveness of Psychological Empowerment on General Health of Mothers of Children With Disability Under the Community-Based Rehabilitation Program. *J Rehabil*. 2019 Jan 30;326–39. doi : 10.32598/rj.19.4.326
 17. Dindar M, Rahnama M, Afshari M, Moghadam MP. The effects of spiritual self-care training on caregiving strain in mothers of mentally retarded children. *Journal of Clinical and Diagnostic Research*. 2016 Dec 1;10(12):1–5. doi : 10.7860/JCDR/2016/23844.8948
 18. Gross G, Ling R, Richardson B, Quan N. In-Person or Virtual Training?: Comparing the Effectiveness of Community-Based Training. *American Journal of Distance Education*. 2023;37(1):66–77. doi : 10.1080/08923647.2022.2029090
 19. Kandati Fini, Mantiri Michael, Monintja Donald. Pemberdayaan Masyarakat Nelayan di Kecamatan Siau Barat Selatan Kampung Batusenggo. *Jurnal Eksekutif*. 2019;2(2):1–8. doi : <https://ejournal.unstrat.ac.id/v3/index.php/jurnaleksekutif/article/view/23888>
 20. Nunes AC, Luiz EAM, Barba PC de S Della. Family quality of life: An integrative review on the family of people with disabilities. *Ciencia e Saude Coletiva*. 2021;26(7):2873–88. doi : 10.1590/1413-81232021267.06962019.