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Effect of Family Empowerment Nursing Intervention on Caregivers' Strains and Health-Related Quality of Life of Children with Hepatitis C

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Abstract:

Background: Hepatitis C virus infection is a community and pediatric problems, needs for supporting their mothers to decrease their strains and powering their children quality of life. **Aim**: To examine effect of family empowerment nursing intervention on caregivers' strains and health-related quality of life of children with hepatitis C. **Design**: A quasi-experimental research design. **Setting**: The study was carried out at outpatient clinics in National Liver Institute at Shebin El-Kom, Menoufia University, Egypt. **Sample**: Purposive sample composed of 160 caregivers and their children with hepatitis C were recruited. **Tools of the study:** 1. Structured interviewing questionnaire. 2. Modified Index of Caregivers' Strain 3. Pediatric Quality of Life Inventory Version 4. **Results**: The main findings of current study showed that at pre family empowerment intervention, most (90%) of family caregivers had suffering from high level of strains while only 10% had low level of strains compared to post family empowerment intervention, there was statistically significant decreased in high level of caregivers' strain. Additionally, there was statistical significance improvement in the quality of life of children having hepatitis C; at post family empowerment intervention compared to pre intervention. **Conclusion**: Family empowerment intervention was effective in reducing family caregivers' feeling of strain and enhances health related quality of life in children with hepatitis C. **Recommendations**: The need for establishing health education units in every outpatient clinics to provide therapeutic education to children and their family caregivers.

Keywords: HCV infection, Family empowerment, Caregivers' strain, Children' quality of life.

Introduction

Hepatitis C virus (HCV) is infection that causes a global problem in health. Its sero-prevalence had an estimated 2.8% increase over the past decade, equivalent to more than 185 million infections (3% of the world's population). Near to three quarters of infected persons are living in middle income countries (**Petruzziello et al., 2016**). The present worldwide estimation of the numbers of children under 15 years old living with chronic long-term HCV infection is 2.1 millions (**World Health Organization, 2017).** Mother to child is most common method of transmission and the leading cause of infection in children having HCV and statistics from Pakistan and Egypt estimate that 25% to 50% of HCV infection cases in children less than 5 years of age, correspondingly, were caused by prenatal infection transmission (**Benova, Awad, Miller, & Abu-Raddad, 2015; Benova, Awad, & Abu-Raddad, 2017).**

The majority of family caregivers suffering from care burden, which was linked to care giving to their children with chronic long term illness (**Adelman et al., 2014**). Burden of care result from care-giving is construct of a multi-dimension, which contains physical emotional, psychological and economic effect plus correlated stressful feelings such as embarrassment, shame, feeling of guilt, anger, and self-blame (**Adelman et al., 2014; Cohen, Cook, Kelley, Sando& Bell, 2015**). Burden described as objective or subjective burden; objective burden point to changes in routine of household, family or societal relationships, work, spare time and physical health; whereas subjective burden includes subjective suffering among relatives, including effect on mental health (**Sav et al., 2015;van den Born-van Zanten, Dongelmans, Dettling-Ihnenfeldt, Vink, & van der Schaaf, 2016**).

Family caregivers play a major role in providing care giving assistance and contact with hepatic patient. Family caregivers support their children to fulfill their basic needs and giving direct care such as administration of medication and treatments, providing personal hygiene and preparation of meals. The assistance also provides a combination of direct care, health education, enhancing self-care and contributing in the prevention of complications in hepatic patients and help in minimizing the transmission of infection (**Shelbaya et al., 2015**).The first degree relatives are directly involved in the care of children at the majority of the time. Giving care to someone is physically and emotionally a massive task. The caregivers are usually inadequately skilled, unsatisfactory informed, and not satisfied with the degree of support available after discharge so that, they are enforced to be strained with actual nature which may result in undermined physical and mental functioning (**Vericilerinin& İle, 2017**).

Chronic hepatitis C is a chronic disease that directly affects the quality of life (QoL) of children and their families. According to World Health Organization, quality of life consists of perceptions of individuals from their life condition with look upon to their culture, goals, value system, standards, concerns and expectations **(Shelbaya et al., 2015)**. Health team members can influence patients' QoL in the course of investigation of individuals' health and its provision. Also they can find out the negative effect of the course of the disease on individuals' QoL. Empowerment of the families is one of the methods to enhance children with chronic diseases QoL (**Mankoula, 2016**).

Empowerment is the process which facilitates the perceived of self-efficacy; this process assists, the person will be able to evaluate the actual cause of the problem, they get prepared to solve problems by good judgment, sharing knowledge and skills jointly between health team and that person. The process of sharing the knowledge and skills will improve the person to the perceived self-efficacy, so become able to carry out the preferred behavior **(Cortez et al., 2017**). Family empowerment intervention is a kind of empowerment, which is result from the interaction between healthcare providers and families, brings about a sense of control over family life and leads to positive changes that get better the strengths, abilities, and skills of the family. Taken together, the aim of the empowerment of an ill child and his/her parents can be to assist them deal with and efficiently handle the disease complications to accomplish a higher level of QoL (**Davarpanah et al., 2017**).

Moreover, team of health care should perform interventions focused on empowering families to increase the QoL and abilities of the family members so that they can face the obstacles related to their health (**Minooei, Ghazavi, Abdeyazdan, Gheissari, &Hemati, 2016, Moriyama, et al., 2019**). There is a need for implementing evidence-based international guidelines aim to prevent and manage hepatitis C particularly in children. Also, health education approach is necessary to lessen the burden of HCV and certain programs should be applied to improve caregivers and their children quality of life. Also, raise public awareness on transmission and prevention of infection **(El-Ghitany, Farghaly& El-Wahab, 2016).** Therefore, the aim of the current study is to evaluate the effect of family empowerment nursing intervention on caregivers' strains and health-related quality of life of children with hepatitis C**.**

Significance of the study

Hepatitis C virus (HCV) is a universal health burden infects about 5.8% of children in a number of developing countries and causing thousands of annual new infections. Egypt has the maximum international prevalence nearly 9% countrywide rates; and about 50% rates in definite rural areas due to explicit methods of infection. The prevalence in healthy Egyptian children is monitored to range from 1.4% to 5.8% **(Kandeel, 2017)**.

The majority of families can effectively adopt themselves with unrelieved disease of their children and a number of them may also not be successful in adapting to it. The main cause of that is the deficient in access of the family to true information about the disease, lack of adequate support resources, elevated treatment costs, and mental status. Family should receive correct information on diseases and involved in all decision-making and associated care actions for their children. Moreover, families play a certain role in ensuring health and well-being of the children and have a considerable effect on their life. Hence, healthcare system constantly should take action to change care from child centered care to family-centered one based on empowerment (**Mashayekhi et al., 2015**).

The families should be live their lives in peace with mental and physical health from the starting time of diagnosing their children' chronic disease and have the capability of making decisions and determination of priorities for their own needs as well as their children's **(Crespo, Santos, Tavares, & Salvador, 2016)**. In order that, the researchers of current study decided to highlight on such group of patients and their families.

Aim of the Study:

To examine the effect of family empowerment nursing intervention on caregivers' strains and health-related quality of life of children with hepatitis C.

Research Hypotheses:

1.Family caregivers who will be received the empowerment intervention will have lower feeling of strain at post intervention than pre intervention.

2.Children with hepatitis C who will be involved in the empowerment intervention will have improved health related quality of life at post intervention corresponding to pre intervention.

Subjects and Method

Study Design

Quasi-experimental research design with pre and posttest used to accomplish the purpose of the study.

Study Setting

The study was conducted at outpatient clinics at National Liver Institute in Shebin El-Kom, Menoufia Governorate, Egypt. This setting is one of the most common and valued settings which serves the majority of Middle East nations with different liver viral diseases.

Subjects of the Study

Purposive sample composed of 160 family caregivers and their children with hepatitis C, attending outpatient liver clinics in National Liver Institute at Shebin El-Kom, Menoufia University, Egypt. The subjects of the study were chosen according to the following **inclusion criteria**: Both sexes of family caregivers for children between 3-12 years old who were medically diagnosed with hepatitis C and agree to participate in the study. **Exclusion criteria:** Children with any special needs as mental retardation, autism, deaf and damp since it effects on the nature of the study, and caregivers with substance abuse or mental problems.

Size of the Sample: Based on the previous review of literature and medical records for the children flow rate to the outpatient clinics in National Liver Institute at Menoufia University, Egypt, 160 of family caregivers and their children with hepatitis C were needed to have a confidence level of 95% based on this formula:

$$n' = \frac{n}{1 + \frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2 N}}$$

where:
Z is the z score
ε is the margin of error
N is population size
p̂ is the population proportion

Tools of Data Collection: Three tools were utilized to collect the data for this study as the following:

I. Structured interviewing questionnaire: It was developed by the researchers based on the previous related literatures review and included two parts:

a. Socio-demographic characteristics of caregivers and personal characteristics of their children: It involved age of caregiver, sex, level of education, job status, social status and income as well as their child's age, sex, and school grade.

b. Medical data of children: it included the present history of viral hepatitis C such as duration of the diseases, and receiving regular medical treatment.

II. Modified Index of Caregiver Strain (MICS):

It was adopted from Thornton & Travis, 2003. It used by the researchers to measure family caregivers strain related to care provision. It composed of 13 items and the response of each item in the form of three points Likert scale (0-2 points)and scoring for each item is zero for 'no' response, 1 point for 'sometimes', 2 points for 'yes'. The overall score of MCSI calculated by sum the scores of all scale items. The overall score of MCSI was 26. The level of caregivers strain was categorized into: low caregivers strain from <13score and high strain from 13-26score. The validity and reliability for this scale was tested by Thornton & Travis, 2003 with Cronbach's alpha of MCSI r=0.88 that indicated good reliability of the tool.

III. Pediatric Quality of Life Inventory (PedsQL) Version 4 (Varni et al., 2001):

It was established and tested for the validity and reliability by **Varni et al., 2001** with Cronbach's alpha of (r= 0.89).PedsQLVersion4 is approach to assess health-related quality of life in healthy children and those with acute and chronic health problems. In the present study, PedsQL used by researchers to measure health-related quality of life in hepatitis C children. It contained 23 items which grouped into four subscale involved 1. Physical function (eight items), 2. Social function (five items), 3. Emotional function (five items) and 4. School function (five items). From the four main subscales, three scores can be measured: Total quality of life score, physical health score based on the physical function items, and a psychosocial health score that linking emotional, social and school items).On each item of the PedsQL 4.0, each subject was requested to specify how much of a problem each item has been during the previous month using five points Likert scale response (0-4), in which zero (never), one (almost never), two (sometimes), three (often), and four (almost always). In the present study for simplicity of interpretation, scores were changed on a scale from 0 to 100 instead of 0 - 4; so, the higher score (100) indicating better health related quality of life and the lower score (0) indicating worst health related quality of life. Responses were scored where; (never=100, almost never=75, sometimes=50, often=25, almost always=0). Physical function total score was calculated by sum of the items over the number of items answered in physical function. Psychosocial function total score was calculated via sum of the items over the number of items answered in emotional, social and school function. Scale total scores were calculated as the summation of the items over the number of items answered on all scale.

Validity of the instruments:

The instruments of the study were translated to Arabic language by specialists, then Arabic version was translated into English and any variance in the meaning was considered. Arabic version of the tools were validated to confirm the validity contents of the translated version by original one by four experts in the field of family and community health nursing, pediatric health nursing, community medicine and pediatric medicine. The modifications were carried out on clearness of the sentences and suitability of the contents according to panel recommendations.

Pilot Study

It was conducted on 10% of study sample (Caregivers and their children with hepatitis C) for assessing clearness of the study instruments, and determines the required period of time to fill questionnaire. According to the pilot study results, modifications and interpretations of specific questions were completed. The sample of pilot study not included in the total sample size of the research work to confirm constancy of the responses.

Ethical considerations

All the ethical issues in conducting the study were followed by researchers.

The primary permission was attained from the scientific research ethics Committee of the Faculty of Nursing Menoufia University to approve the instruments**.** Also, the official permission to perform the present study was achieved by the researchers from the official authorities after explanation of study purpose and procedures of data collection. Moreover, written informed consent was obtained from caregivers of the study sample who agree to join in the study after clarification the study purpose and reassurance the subjects of study about their privacy of the data obtained. The subjects of study sample well informed that, they can withdraw from the present study at any time if they required.

Data Collection Procedure

- Collection of the data was conducted over 12 months period starting from the first of September 2018 until the end of September 2019.
- An official letters were taken from the Faculty of Nursing, Menoufia University to the administrators of National Liver Institute at Shebin El-Kom, Menoufia Governorate and director of outpatient clinics to get their permission for data collection.
- The researchers introduced themselves for each caregiver and his/her child who had hepatitis C and offer simple description about the aim and nature of the work, and taken their agreement to participate in the study.
- Then each caregiver and his/her child were interviewed at outpatient clinics of National Liver Institute at Shebin El kom, Menoufia University using structured interviewing questionnaire to collect socio demographic characteristics of caregivers and their children, and medical history assessment of children related disease. At that time, assessment of family caregivers strain related to care provision using tool II and health-related quality of life of hepatitis C children using tool III.
- The questionnaires were filled two times before session of family empowerment and two month after the last family empowerment session in identical time points.
- The average period time for filling questionnaires was about 25-30 minutes.
- The data obtained was utilized as baseline assessment (pretest).
- Empowerment nursing intervention was designed and implemented by the researchers for family caregivers and their children. The overall aim of the family empowerment intervention was to provision children and their caregivers' confidence, advising about the disease, empowering against worried situations and getting with appropriate method of problem solving to increase participants' self-efficacy, decreases caregivers’ strain level and enhance the quality of life of the children with hepatitis C. Family empowerment nursing intervention contains four steps as follow:

✓ **First step:** To enhance knowledge of caregivers and their children about hepatitis C. The study subjects divided into groups, two groups were taken per week and each group composed of 3–5 members; they were met two times per week. This step included two sessions. The duration of each session was 35-45-minutes. At every session, free discussion was allowed among participants to exchange their experiences and ask any questions about the conducted session. At the first session, the children and their caregivers offered themselves, then the overall and behavior goals, method of evaluation, and responsibilities of the subjects in educational sessions were explicated by the researchers. Likewise, they received knowledge about anatomy, physiology and liver function, meaning of hepatitis c, incubation period, causes, risk factors, clinical manifestations, complications and guidelines about treatment plan and regular checkup was discussed with the children and their caregivers by using assistive educational materials as poster, lecture and group discussion. At the end of this session, given the participants with a guide booklet about hepatitis C. This booklet was designed by the researchers after revising the previous related literature; it included knowledge about causes, clinical manifestation, proper health diet.

At the second session, the participants took part in question and answer, counseling and group discussions related to the nature and variety of needs and problems facing the children and their family to identify new problems. Also, this session concentrated on handling strain, motivation, societal support and deal with strategies which are focused on problem and emotion. Group discussion/reflection according to life capabilities of the participants, question and answer methods were used to be aware of techniques of problem solving.

✓ **Second step:** To enhance self-efficacy and competence, two learning sessions per week for two weeks was held by demonstration and re- demonstration teaching methods and practical presentation method. The duration of each session about 50-60 minutes. The researcher clarified to the children the following skills and its significance, such as methods of transmission of infection and ways of prevention to others. The researchers presented the procedure of the skills in front of the participants as hand hygiene, tooth brushing, dealing with blood, wounds and sharp objects. The participants were provided a chance to acquire skills by training and recurrence of the skills to be capable of performing it. Finally, participants got completely efficient in the skills.

✓ **Third step:** To enhance self-esteem through encouragement participation in learning activities. At this stage, the children were encouraged to join in all teaching sessions, identifying concerns related to chronic disease and encourage their caregivers' to help them. Children were requested to perform all learned skills in every group discussion sessions to have active role in their self-care.

✓ **Fourth step:** It included evaluation method. In order to assess feedback at the start of every session, two verbal questions were requested to the children and their caregivers from the prior session. Moreover, evaluation of self-efficacy was performed by asking the children to indicate the related skills properly. Evaluation of self-esteem and confidence was assessed by level of cooperation in education. After four weeks of holding the latest session, the researchers were made calls telephone to every participant to assure on the recommended skills and to be confident about use of the presented materials. Final evaluation two month later, the posttest was performed to the children and their caregivers by using the same pretest tools to assess the level of caregivers' strain and children quality of life after application of empowerment sessions.

Statistical Analysis

After collection of data, data was coded and transformed into specially planned form to be suitable for computer entry process. Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data were expressed as mean & standard deviation (X±SD) and analyzed by applying paired t-test for comparison between pre and post- test. Qualitative data were expressed in the form of number and percentage and analyzed by using Chi-square test (X^2) for 2X2 table. Significance level was set at P value <0.05 for clarification of finding of tests of significance.

Results

Table 1: Reveals that 83.75% of children were between age of six and twelve years with mean age of 9.11±3.07 years. Also, 60% of children were males,56.25%of them in primary schools and60% of children suffer from the disease more than 6 months. Moreover, 87.5% take the medication of hepatitis C regularly.

Table 2: Shows that the mean age of studied caregivers was 37.21 ± 5.23 years, 87.5% were females and 73.8% of them were mothers. Also, 81.25% of caregivers were married, 74.4% live in rural areas and 66.25% not working. Moreover, 52.5% of caregivers reported that their income/month had enough hardly.

Figure 1. Illustrates that at pre family empowerment intervention, 90% of family caregivers had suffering from high level of strains while only 10% had low level of strains compared to post empowerment intervention, there was statistically significant decreased (45%)in high level of caregivers' strain (χ^2=36.923, P<0.001). Likewise, there was a statistically significant decreased in the mean total score of caregiver's strains at post empowerment intervention 12.90± 3.22 compared to pre empowerment intervention 20.03 ±4.19 (P<0.001).

Table 4: Reveals that at post family empowerment intervention, there was statistically significant improvement in mean total scores of health related quality of life of hepatitis C children compared to pre family empowerment intervention. Additionally, there was a statistically significant improvement in mean scores of health related quality of life subscales included physical functioning and psychosocial functioning (including emotional, social and school) of children with significance differences between pre and post family empowerment intervention (P <0.001).

Table 1: Distribution of socio-demographic characteristics and medical history of studied children(N=160)

Socio-demographic characteristics	No.	%
Age (year)		
3-	26	16.25
6-	70	43.75
9-12	64	40.0
Child sex		
Male	90	60.0
Female	70	40.0
Child education		
Preschool	22	13.8
Primary school	90	56.25

Preparatory school	48	30.0
Duration of the disease		
Less than 6 months	70	40.0
More than 6 months	90	60.0
Medication intake for hepatitis C regularly		
No	20	12.5
Yes	140	87.5

Table 2: Distribution of socio-demographic characteristics of studied caregivers (N=160)

Socio-demographic characteristics	No.	%
Caregivers' sex		
Male	20	12.5
Female	140	87.5
Age of caregiver		
<40 years	112	70.0
>40 years	48	30.0
Mean ± SD	37.21 ± 5.23	
Caregivers' relation degree		
Mother	128	73.8
Father	20	15.0
Sister	8	5.0
Others	4	2.5
Place of residence		
Rural	119	74.4
Urban	41	25.6
Caregivers' education		
Illiterate	18	11.25
Read and write	38	23.75
Secondary education	84	52.50
University education	20	12.50
Job status		
Not work	106	66.25
Work	54	33.75
Social status		
Married	130	81.25
Widow	12	7.50
Divorced	18	11.25
Family income		
Not enough	68	42.5
Enough hardly	84	52.5
Enough and more	8	5.0

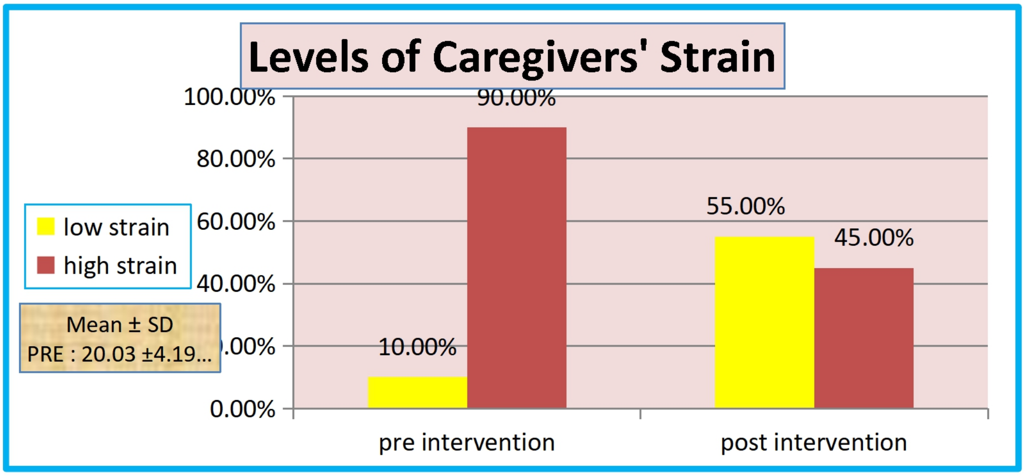

Figure 1: Distribution of caregiver's strains levels at pre and post intervention (N=160)

Table 4: Distribution of mean scores of health- related quality of life subscales of children with hepatitis Cat pre and post intervention (N=160)

Health related quality of life subscales	**Pre intervention** Mean ±SD	**Post intervention** Mean ± SD	**Paired t test**	**p-value**
- Parent report for toddler (2- 4years)				
Physical function	75.23 ±13.6	85.61 ±13.4	12.198$^{(HS)}$	<0.001
Psychosocial function	79.38 ±12.2	86.62 ±12.9	9.453$^{(HS)}$	<0.001
Quality of life total score	78.61 ±9.5	85.77 ±9.6	7.519$^{(HS)}$	<0.001
-Young child report (5-7years)				
Physical function	74.28 ±13.5	80.37 ±13.6	7.974$^{(HS)}$	<0.001
Psychosocial function	76.2 ±13.1	84.23 ±12.1	9.830$^{(HS)}$	<0.001
Quality of life total score for young children	74.66 ±9.7	82.29 ±8.7	9.878$^{(HS)}$	<0.001
- Child report (8-12years)				
Physical function	83.81 ±11.6	89.63 ±11.1	7.86$^{(HS)}$	<0.001
Psychosocial function	77.87 ±12.7	84.68 ±11.9	8.119$^{(HS)}$	<0.001
Quality of life total score for old children	83.37 ±9.6	88.53 ±10.5	4.761$^{(S)}$	<.005

NB: $^{(HS)}$ = ($p<0.001$)

Discussion

Empowerment of the families is one of the best ways to get better health in children with chronic diseases. Empowerment of family includes the interaction among health professionals and the families, so that it causes a common sense of control of families' life and result in accomplishment to optimistic changes in the direction of power, capability, and enrichment of families' skills. The goal of nursing intervention in empowering families is to enhance the ability of family members in order that they can overcome the existing barriers in health setting **(Minooei et al., 2016)**.Therefore, the aim of the current study was to examine the effect of family empowerment nursing intervention on caregivers' strains and health-related quality of life of children with hepatitis C.

The present study hypothesized that family caregivers who will be received the family empowerment intervention will have lower feeling of strain at post intervention than pre intervention. The current results answering the first hypothesis and revealed that, most of family caregivers had suffering from high level of strains while only ten percentage had low level of strains at pre family empowerment intervention compared to post empowerment intervention, there was statistically significant decreased in high level of caregivers' strain to less than half (P <0.001). Moreover, there was statistically significant decreased in the total mean score of caregiver's strains at post family empowerment intervention 12.90± 3.22 compared to pre empowerment intervention 20.03±4.19 (P<0.001).This result was consistent with **Shoghi et al., (2019)**, they showed that the empowerment of parents of children with cancer has an impact on reducing their care burden, and using this empowerment model is recommended to the treatment team, especially nurses. Additionally, this result was consistent with **Yeh et al., (2016**), they concluded that their program of family empowerment resulted in decreased parental strain and increased family function (p < .0001). Furthermore, this finding was congruent with the finding of study conducted by **El Malky et al., (2016**), they found that the majority of studied caregivers has severe feeling of burden 72.5% at pre intervention, which decreased to 7.5% post nursing intervention with high statistical significance difference p value <0.001. These similarities may be due to that such program which aimed to manage family caregivers' strain; could be facilitated and increased self-care abilities and feeling of satisfaction among family caregivers.

The researchers of present study face some difficulties in order to find related studies in review of literature on the effect of family empowerment on family caregivers and their children with hepatitis C and most of studies was focused on effect of family centered empowerment on family caregivers' burden level and patients with other chronic diseases. For instance, **Deyhoul et al., (2020**), **El Melegy et al., (2016**) and **Etemadifar et al., (2014)**. All of them have conducted their studies to examine and clarify to what extent family empowerment programs or intervention was helpful in decrease family caregiver feeling of burden or strains.

Moreover, the current result answering the second hypothesis and revealed that at post family empowerment intervention, there was statistically significant improvement in mean total score of health related quality of life of children with hepatitis C compared to pre intervention. Additionally, there was a statistically significant improvement in mean total score of physical functioning and psychosocial functioning of children with significance differences between pre and post family empowerment intervention. This finding was consistent with **Minooei et al., (2016**) they found significant differences in the total mean score of the children's QOL from their own point of view in the physical and psychosocial functioning and also in the total QOL score in the intervention group before and after the intervention (P<0.05). Furthermore, this result was on the same line of study carried out by **Rostami et al., (2020)** showed that there was statistical significant difference in total score of QoL in children after intervention between the two groups(P=0.03).

Likewise, **Behairy, (2016)**, concluded that there was a statistical significant difference between studied groups on the subject of physical, emotional and school functioning parameters in both parents' and child's QoL score as it was significantly higher in HCV, also there was statistical significant difference among studied groups regarding social parameter of parents' report of QoL score. In addition, this result agreed with **Sheikhiet al., (2019)** they showed that in the family-centered case group compared with the participatory care model as well as the control group in the report of the child and parents in all dimensions of quality of life (physical, emotional, social and educational dimensions) and total quality of life score after intervention, there was a significant statistical difference ($p > 0.001$). Also, this result was consistent with the study conducted by **Ahamed, (2018)** who showed that, significant improvement was presented in QoL after carrying out of family empowerment intervention for children with chronic kidney diseases and their parents and also, illustrated that family empowerment model was efficient in enhancing the QoL for children having chronic kidney diseases. Also, This result was consistent with **Khanjari et al., (2019)** who indicated that there was significant improvement in domains of health and functioning, family, social--economic, psychological--spiritual, and the total quality of life after the family-centered education in adolescents suffering from spinal cord injuries ($P > 0.05$)

The overall conclusion could be answering the fact that the definite steps in the empowerment model encourage the children to engage and participate actively in the course of action. Besides enhancing the children's self-efficacy and self-confidence through raising their participatory training in the intervention of the study. Additionally, encouraging the use of diverse training methods and different resources on the basis of children's levels of understanding, their QoL was likely to get better across all quality of life dimensions.

Conclusion

According to the finding of the current study the following are concluded:

At post family empowerment intervention, there was statistically significant decreased in high level of caregivers' strain compared to pre intervention. Additionally, there was statistically significant improvement in health related quality of life of hepatitis C children at post family empowerment intervention compared to pre intervention.

Recommendations

- The need for establishing health education units in every outpatient clinics to provide therapeutic education to children and their family caregivers.
- Conducting further studies to investigate effectiveness of its approaches of patients' education in nursing practice.

Practical implications

The family empowerment approaches suitable in serving children with hepatitis C and their family caregivers improve their quality of life, and reducing family caregivers' feeling of strain. Because the model has easy, logical, and economical design, it can be applied by nurses and other healthcare providers.

Conflict of interest

The authors declare no conflict of interest.

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