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Effect of Parents' Empowerment on Quality of Life among School-Aged Children with Bronchial Asthma

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Abstract: - Asthma affects child's quality of life and overall health specially school age children. Parents and children with asthma should be able to achieve good asthma control. For this reason, the purpose of this study was to evaluate the effect of parents' empowerment on quality of life among school age children with bronchial asthma. The design of this study was a quasi -experimental design. It was conducted at Chest Hospital Outpatient Clinic in Mit Khalaf Village at Menoufia Governorate. A purposive sample of 40 school age children with acute or severe asthma and their parents were selected from the previously mentioned setting. Four data collection instruments were used. Parents knowledge structured interviewing questionnaire sheet, parents' performance observational checklist, pediatric asthma symptom scale and pediatric asthma quality of life questionnaire (PAQLQ). The results of this study showed that the majority of studied children (87.5%) had poor quality of life on pretest. Meanwhile the majority of them (82.5% and 77.5% respectively) had good quality of life on post and follow-up tests. It was concluded that children with bronchial asthma whose parents received empowerment education intervention had better QOL on post and follow-up test than on pretest. Therefore, this study recommended that parent empowerment education intervention should be provided in primary care settings for children with bronchial asthma and their parents to enhance QOL.

Keywords: *parent empowerment, quality of life, bronchial asthma.*

Introduction

Within the previous few years, bronchial asthma has emerged as the most common non communicable respiratory disease affecting children globally (Nagiub et al., 2022). Asthma is a major cause of morbidity and mortality resulting in significant health and economic burden. (Zarei et al., 2020). Global Initiative for Asthma, (2022) guidelines estimate the global prevalence to be up to 20% in children. Therefore, it is for good reason that childhood asthma remains an important recent focus for researchers (Akar-Ghibril et al., 2020; Kothalawala, et al., 2020; Lebold et al., 2020; To et al., 2020).

In addition, asthma is relatively common in Egypt and probably under diagnosed and under treated, particularly among children from less wealthy families. It is a public health problem not just for high-income countries; it occurs in all

countries regardless of the level of development. Pediatric asthma accounts for a large proportion of childhood hospitalizations, healthcare visits, absenteeism from day care/school and missed work days by parents. For example, in Egypt up to one in four children with asthma is unable to attend school regularly because of poor asthma control (Ali et al., 2021).

Worldwide, the prevalence of bronchial asthma is more than 339 million people had asthma (World Health Organization, 2020). In Egypt, 8% of children are estimated to complain from bronchial asthma (Mohammed et al., 2020). In Menoufia Governorate, the prevalence of childhood bronchial asthma among primary school children is 6.5% (Ghonem, 2022). Bronchial asthma is considered the third leading cause of hospitalization among children under the age of 15 and one of the leading causes of absenteeism from school (Serebrisky & Wiznia, 2019).

Furthermore, The burden of the disease of asthma is vast, as 6.1 million children under 18 years of age were found to collectively have missed 10.5 million school days per year. Asthma-related expenses are substantial, totaling $80 billion per year in economic costs; this includes "physician clinic visits, emergency department visits, inpatient hospital stays, mortality, and school absenteeism" (Woodley, 2019).

Asthma is the most common chronic childhood disease in childhood, while associated with a decreased quality of life, as well as many direct and indirect "societal costs" (Pape et al., 2021). Asthma is a heterogeneous respiratory disease, usually characterized by chronic airway inflammation with variable air flow limitation. This result in asthma symptoms such as cough, wheeze, shortness of breath and chest tightness. These symptoms are intermittent and are often worse at night or during exercise. Triggers vary from child to another and make asthma symptoms worse. It is triggered by viral infections (colds), dust, smoke, fumes, changes in the weather, grass and tree pollen, animal pelt and feathers, strong soaps and perfume (O'Byrne, et al., 2022).

Asthma symptoms may be mild, moderate, or severe. Exacerbations of asthma symptoms result in school and work absence, activity intolerance, and emergency hospital visits for asthma. Nocturnal asthma exacerbations commonly cause sleeplessness. Therefore, asthma symptoms can interfere and interrupt the activities of daily life and can have an adverse impact on the quality of life (QOL) for people with the disease, including children and their caregivers. Uncontrolled management of asthma presented by frequent waking-up at night, frequent wheezes, visiting Emergency Rooms (ER), or hospital admission was associated with poor QOL of both asthmatic children (Sagheb, et al., 2022).

Moreover, bronchial Asthma is a stressful condition for children that negatively affect different aspects of their QOL including activity limitation, symptoms and emotional function and so, their caregivers in the management of asthma symptoms present challenges. Asthma causes serious burden on children's health related quality of life (HRQL), despite the availability of effective and safe treatment. Children with asthma experience limitations in daily activities like attending school and participating in play activities or sports. Thus, asthma accounts for more school absenteeism than any other chronic disease. Prolonged absence or multiple brief absences from school may contribute to poor school

performance. In addition to missing school interferes with the child's peer acceptance. Also asthma can disrupt sleep, ability to concentrate, and memory. Furthermore, repeated trips from the classroom to the school nurse to access asthma medication can disrupt learning. Mentally, asthmatic children suffer from depression perhaps because of the isolation that can result from their uncontrolled symptoms (Elnady et al., 2020).

So, parent empowerment is the process of assisting the patient's family to attain mastery in self-modification. The parent's role is the same as a group helping its members to develop in different aspects of their life. parent empowerment enhances parents' skills and knowledge in controlling asthma. As part of the parent empowerment course involves training parent members on how to use inhalers, respiratory assist devices, and activity and nutrition of children with asthma. Participation in parent empowerment programs has a significant association with multiple outcomes. So, the quality of life of school-age children with asthma has improved as a result of parent empowerment (Dardouri et al., 2021; Sangnimitchaikul, et al., 2022).

Purpose

The purpose of this study was to evaluate the effect of parents' empowerment on quality of life among school age children with bronchial asthma.

Research Hypotheses

The following research hypothesis was formulated to achieve the purpose of the study:

Parents' empowerment will improve quality of life among school age children with bronchial asthma on posttest than on pretest.

Methods

Research design:

A quasi-experimental design was used for this study (pre and posttest).

Research Settings

This study was conducted in Chest Hospital Outpatient Clinic in Mit Khalaf Village at Menoufia Governorate.

Sampling:

A purposive sample of 40 school age children with acute moderate or severe asthma and their parents attending Chest Hospital Outpatient Clinic. The number of children who had acute moderate asthma was 16 children. While, children who had acute severe asthma was 24 children. Children age ranged from 6-12 years are included. But parents who were not interested to participate in this study were excluded. Also, children who had other chronic health problems associated with bronchial Asthma or children with special needs or need special education such as mental retardation, autism and deaf were excluded.

Instruments

In order to achieve the purpose of the study, four instruments were utilized for data collection: -

<u>Instrument one:-</u> Parents Knowledge Structured Interviewing Questionnaire.

It was designed by the researcher after reviewing related literature (Rashmi et al., 2021). This instrument was divided into two parts:

- **Part one: Social characteristics of studied parents:** It included questions about:- age, level of education, occupation and family members, place of residence, etc .
- **Part two: Parents' Knowledge about Bronchial Asthma**. It was developed by the researchers after review of related literature such as Rodríguez & Sossa (2005). It contained 42 questions about concept of

bronchial asthma (2 questions), aggravating factors (3 questions), pathophysiology (2 questions), symptoms (3 questions), diagnosis (2 questions), warning signs (4 questions), treatment (16 questions) and prevention of bronchial asthma attack (10 questions).

Scoring system for each question:-

Items	Score
Don't know/incorrect answer	0
Incomplete answer	1
Correct and complete answer	2

Total score (0-16) was determined as follows:-

Items	Score
Poor knowledge < 65%	< 28
Satisfactory knowledge 65- 80%	28 - < 34
Good knowledge > 80%	≥ 34 – 42

Reliability of the instrument:-

The reliability of this instrument was done to determine the extent to which items in the questionnaire were related to each other by Cronbach's co-efficiency alpha for the questionnaire (a = 0.88).

Instrument two: Parents' Performance Observational Checklist

It was developed by the researcher based on review of related literature (Centers for Disease Control and Prevention, 2019). It was used for assessing parents' performance for correct use of metered dose inhaler. included 3 phases (preparation, performance and follow up phase). The first phase included 3 steps (hand washing, preparing medicine and explaining the procedure), the second phase included 11 steps (remove the cap and hold the inhaler upright, use a spacer according the doctor prescription, stand or sit up your child straight, shake the inhaler,…etc.) and the third phase included 4 steps (observe the child condition, assess his /her breathing status, rinsing the mouth of child and clean the inhaler). The total score for the procedure was 36 points.

Scoring system for Parents' performance:-

Items	Score
Incorrect done	1
Correct done	2

Total Scoring System for Parents' Performance:-

Items	Score
Incompetent performance < 80%	≤ 28
Competent performance ≥ 80%	> 28- 36

Reliability of the instrument:-

The reliability of this instrument was done to determine the extent to which items in the questionnaire were related to each other by Cronbach's co-efficiency alpha for the questionnaire (a = 0. 75).

Instrument three: - Pediatric Asthma Symptom Scale

It was modified and translated to Arabic by the researcher based on a review of related literature from Marielena et al., (2000). It was used for assessing asthma symptoms. It was divided into two parts:

- **Part one**: **Social Characteristics of studied Children**:- It included children' age, gender, class grade, birth order, etc.
- • **Part two: Pediatric Asthma Symptom Scale:-** It included 8 items; 5 items related asthma symptoms (such as cough , wheezing, dyspnea, asthma attack, chest pain), one item related number of asthma attacks, one item related awakened at night due to asthma symptoms and one item related severity of asthma in the last 4 weeks.

Scoring system for asthma symptoms during the last 4 weeks

Items	Score
Never	1
Few Days	2
Some Days	3
Most Days	4
Every Day	5

Scoring system for number of asthma attacks during the last 4 weeks

Items	Score
No Attack	1
1 Attack	2
2-4 Attacks	3
5-12 Attacks	4
More than 13 Attacks	5

Scoring system for awakened at night due to asthma symptoms during the last 4 weeks:

Items	Score
Never	1
Few Nights	2
Some Nights	3
Most Night	4
Every Night	5

Scoring system for pediatric Asthma severity:

Items	Score
Very Mild	1
Mild	2
Moderate	3
Severe	4
Very severe	5

Total Scoring for Asthma Symptom Scale:

Items	Score
Well controlled of asthma symptoms	8 - 15
Partially controlled	16 – 30
Uncontrolled of asthma symptoms	31 – 40

Reliability of the instrument:-

The reliability of this instrument was done to determine the extent to which items in the questionnaire were related to each other by Cronbach's co-efficiency alpha for the questionnaire (a = 0. 80).

<u>Instrument four:</u> Pediatric Asthma Quality of Life Questionnaire (PAQLQ)

It was developed by the researcher based on review of related literature (juniper et al., 1996). It was used for assessing the quality of life for children with bronchial asthma. It contained three domains (23 questions).

- **The First domain (physical function)** It included 10 items such as how were you bothered with coughing during the last week, did your asthma make you feel tired in the past week, how bothered are you about asthma attacks during the last week,…etc).
- **The Second domain (emotional function)** included 8 items (e.g. did your asthma bother you during (activity 1....) during the last week, how bothered are you about asthma attacks during the past week ,…etc).
- **The Third domain (activity function)** included 5 items (e.g. did your asthma made you feel frustrated the last week, did you feel worried, concerned or troubled because of your asthma during the past week , …etc).

Total score was determined as follows:-

Items	Score
Always	1
Sometimes	2
Never	3

Total Scoring System for Pediatrics Asthma Quality of Life:

Items	Score
Poor Quality of Life	**< 60%**
Good Quality of Life	**≥ 60%**

Reliability of the instrument:-

The reliability of this instrument was done to determine the extent to which items in the questionnaire were related to each other by Cronbach's co-efficiency alpha for the questionnaire

(a=0.77).

Validity:

For validity assurance, the four instruments were submitted to a jury of five specialists including two professors, one assistant professor of pediatric nursing and one professor and another assistant professor in pediatrics to ascertain their relevance, coverage of the content and clarity of the questions. The instruments were approved to be valid according to the judgment of the experts.

Pilot study

It was carried out on 10% of the sample (4 children with their parents) after the instruments were developed and before starting the data collection to test the practicability, applicability and to estimate the needed time to fill instruments. No necessary modifications were done.

Ethical Consideration:

- An official approval was obtained from the Ethical and Research Committee of the Faculty of Nursing, Menoufia University.
- A written consent was obtained from parents and their children who will participate in the study.
- An initial interview was conducted with each participant to inform them about the purpose. benefits of the study and explain that participation in the study was voluntary and participants can withdraw from the study at any time without penalty.
- Each participant was assured of the confidentiality and anonymity of parents and their children through coding all data.
- Participants were assured that the questionnaires would be fulfilled by participant themselves or by the researcher through personal interview. Also, they were informed that the nature of questionnaire wouldn't cause any physical or emotional harm to participants.

Procedure:

- Prior to data collection, an official written permission to carry out the study was submitted from the Dean of the Faculty of Nursing to the directors of the setting after submitting an official letter from the dean of the Faculty of Nursing at Menoufia University explaining the purpose, outcome of the study and the method of data collection.
- Parents who have fulfilled inclusion criteria were invited to participate in the study and the purpose of the study was explained to each child and their parents to gain their cooperation to share in the study.
- Data collection for this study was conducted for a period of 6 months extending from the 1st of May 2021 to the end of November 2021.
- At the beginning of the study, the researcher introduced herself and explained the purpose and nature of the study to the parents.
- Pre intervention assessment was done for parents' knowledge about their children disease(from the first of May 2021 to the end of July 2021) by using instrument one part two (pretest).
- Pre intervention assessment for parent's performance for correct use of a metered dose inhaler was done by the researcher for three months (from the first of May 2021 to the end of July 2021) by using instrument two (pretest).
- Assessment of Pediatric Asthma Symptoms Scale was done by the researcher for three months (from the first of May 2021 to the end of July 2021) by using instrument three(pretest).
- Assessing of quality of life of children with bronchial asthma was conducted for three months (from

the first of May 2021 to the end of July 2021) by using instrument four (pretest).

- The content of parents empowerment was based on their powerlessness points that were determined during the preintervention phase.
- Health education sessions were provided by the researcher to parents and their children to empower them at outpatient clinic of pediatrics in Chest Hospital at Mit Khalaf. The parents were divided into five groups. Each group included 8 parents accompanied by their children. Each group received three sessions. Each session lasted for 45 minutes. The researcher met each group three days per week from 10:30Am to 11:15 or 11:30 Am. Oral presentation, group discussion ,demonstration and re-demonstration and feedbacks were used. Also, an explanatory booklets were distributed between parents and their children.
- The first session was about knowledge related to definition of bronchial asthma, pathophysiology of bronchial asthma, etiologic and aggravating factors (triggers),signs and symptoms of bronchial asthma, early warning signs of asthma attacks, diagnostic tests and complications of bronchial asthma.
- The second session reviewed topics discussed in the previous session. Also, Parents received more information about bronchial asthma treatment (types, use, illustrate the discuss the most common asthma medications , their mechanism of action, types of asthma inhaler devices that deliver medicine as diskus inhaler, turbuhaler and nebulizer and how to use this devices, side effects, methods to prevent these side effects of bronchial asthma medications. Besides, practical procedure about how to use a metered dose inhaler and all parents were asked to show how they use their metered dose inhaler one by one.
- The third session started by reviewing all previously mentioned topics. Besides, Parents received more information about how to prevent asthma attacks in children and how to improve quality of life of children.
- A posttest was done one week after completion of parents' empowerment classes to reassess parents' knowledge regarding bronchial asthma by using instrument one (posttest 1) and reassess parents' performance about how to use a metered dose inhaler for two months by using instrument two (posttest 1).
- A second posttest was done after four weeks following parents' empowerment to reassess parents' knowledge regarding bronchial asthma by using instrument one (posttest 2) and reassess parents' performance about how to use a metered dose inhaler for two months by using instrument two. Also, assessment of control of asthma through pediatric asthma symptoms scale by using instrument three was done. Assessment of quality of life for children was done by using instrument four.
- A follow- up test was done after three months following parents' empowerment to reassess parents' knowledge about bronchial asthma by using instrument one. Also, reassess parents' performance about how to use a metered dose inhaler by using instrument two and reassess control of asthma through pediatric asthma symptom scale by using instrument three. Finally, reassessment of childrens' quality of

life was done by using instrument four (posttest 3).

Statistical Analysis:

Data was entered and analyzed by using SPSS (Statistical Package for Social Science version 22). Graphics were done using Excel program. Qualitative data were presented in the form of frequency distribution tables, number and percentage.

Results:

Table 1 shows social characteristics of studied parents. It was obvious from this table that It was obvious from this table that three quarters (75%) of studied mothers were between 25 - < 30 years. As regard to mothers' education, it was observed that more than one third (36%) of the studied mothers had diploma while more than one quarter of them (28.5%) had bachelor and (21.5%) had institute.

Figure 1 shows mean of total knowledge scores regarding bronchial asthma for improving quality of life for studied children on pre, post and follow up tests. As indicated in the figure, Mean scores of total parents' knowledge on pre intervention were 37.90 ± 9.07 compared to 60.90 ± 6.63, 59.38 ± 7.94 and 57.98 ± 9.67 on post and follow up tests respectively.. Therefore, there were very highly statistical significant differences between levels of parents' knowledge on pre, post and follow-up tests (P<0.0001).

Table 2 represents mean score of levels of parents' practices regarding correct use of metered dose inhaler on pre, post and follow-up tests. This table represented that the majority of parents had competent performance regarding correct use of metered dose inhaler on post and follow-up tests than on pre intervention (90.0%, 85.0%, 82.5% Vs 12.5%). Therefore, there were very highly statistical significant differences between parents' practices on pre, post and follow-up tests (P<0.0001).

Figure 2 shows correlation between grand total score of knowledge and grand total score of practices among studied parents'. It reflected that there was a strong positive very highly statistical significant correlation between grand total score of knowledge and grand total score of practices (P<0.0001).

Table 3 represents characteristics of studied children. It shows that less than half (40%) of studied children's age with bronchial asthma ranged from 6-8 years with mean of 8.60 ± 1.98. Regarding family history, the majority of children (80%) have someone in their family had bronchial asthma.

Figure 3 shows pediatric asthma symptom scale items on pre, post and follow-up tests. The majority of children had improvement of mean score of total pediatric asthma symptom scale on post and follow-up tests compared to pretest (13.95 ± 4.16 and 14.40 ± 4.64 VS 26.08 ± 5.41) . For this reason, there were very highly statistical significant between children (P <.0001).

Table 4 shows percentage of studied children according to their total level of quality of life on pre, post and follow- up tests. This table revealed that the majority of children on post and follow-up tests had good quality of life compared to pretest (82.5% and 77.5% VS 12.5% respectively). For this reason, there were very highly statistical significant differences between parents' practices on pre, post and follow-up tests (P<0.0001)

Figure 4 shows mean distribution of total quality of life for studied children with asthma. As illustrated in the table, the majority of children showed an improvement in their total level of quality of life regarding physical, activity and psychological function

domains on post and follow-up tests than on pre intervention.

Figure 5 shows correlation between overall quality of life and grand total score of knowledge among studied parents'. It reflected that there was a strong positive highly statistical significant correlation between overall quality of life with grand total score of practices (P<0.0001).

Figure 6 shows correlation between overall quality of life and grand total score of practices among studied parents'. It reflected that there was a strong positive very highly statistical significant correlation between overall quality of life with grand total score of practices (P<0.0001).

Results:

Table (1): Characteristics of studied parents

characteristics of studied parents	N0.	%
Mother's age/Years		
≤20	0	0.0
20 - < 25	2	5.0
25 - <30	21	52.5
≥30	5	12.5
Mother's education		
Read and write	4	10.0
Diploma	14	35.0
Institute	4	10.0
Bachelor's	13	32.5

Figure (2): Mean of total knowledge scores about bronchial asthma for studied children on pre, posttests and follow- up intervention.

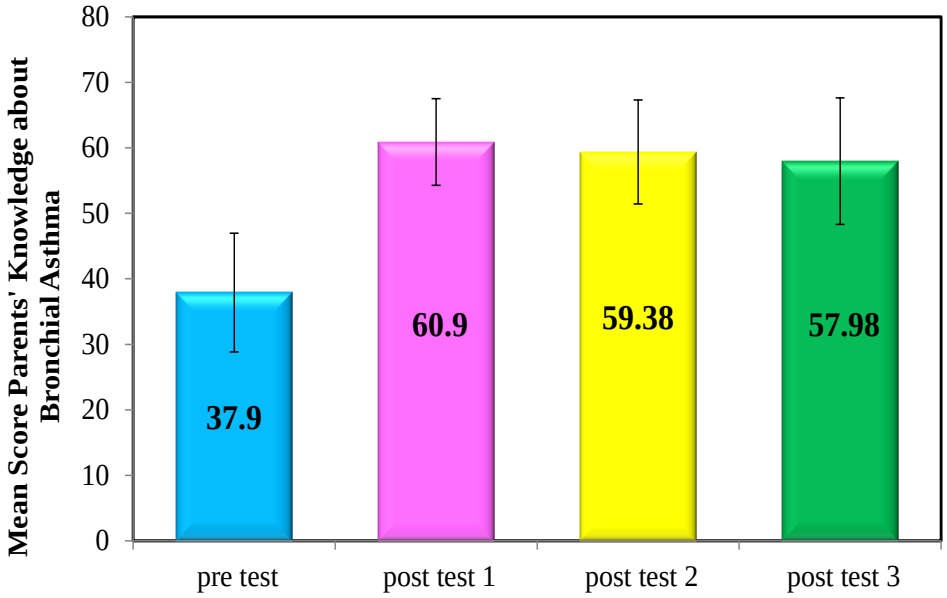


Table (2): Levels of parents' practices related to correct use of metered dose inhaler on pre, posttests and follow-up test.

Items	Pre test (N=40)		Posttest 1 (N=40)		Posttest2 (N=40)		Posttest 3 (N=40)		Q	P
	No.	%	No.	%	No.	%	No.	%		
Incompetent Performance	35	87.5	4	10.0	6	15.0	7	17.5	70.909*	<0.001*
Competent Performance	5	12.5	36	90.0	34	85.0	33	82.5		

Figure (2): Correlation between total score of parents' knowledge and total score of parents' practices with regression line.

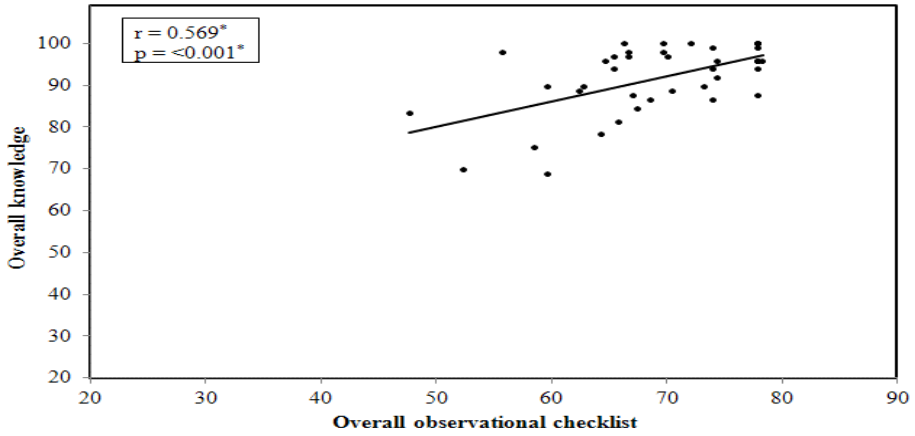


Table (3): Characteristics of studied children.

characteristics of studied children	No.	%
Age		
6 - < 8 years old.	16	40.0
8 < 10 years old.	11	27.5
10 < 12 years old.	8	20.0
12 years old	5	12.5
Family history with asthma		
Yes	32	80.0
No	8	20.0

Figure (3): Means of pediatric asthma symptoms.

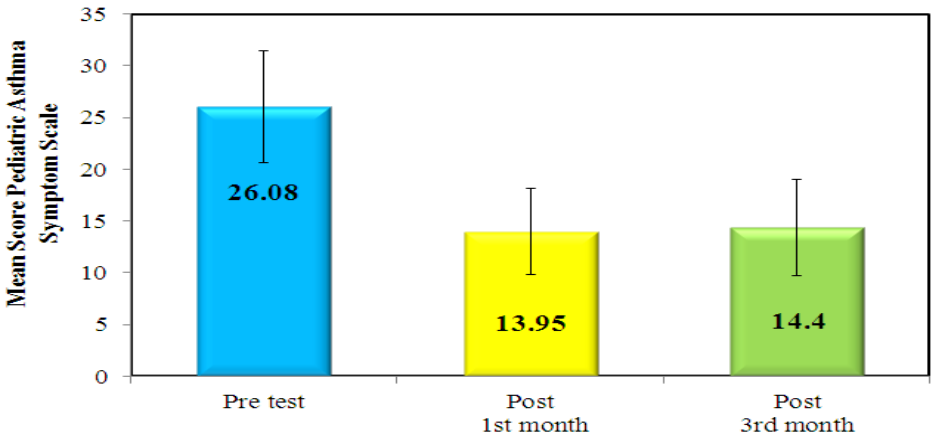


Figure (4): Means of levels of quality of life for studied children having asthma

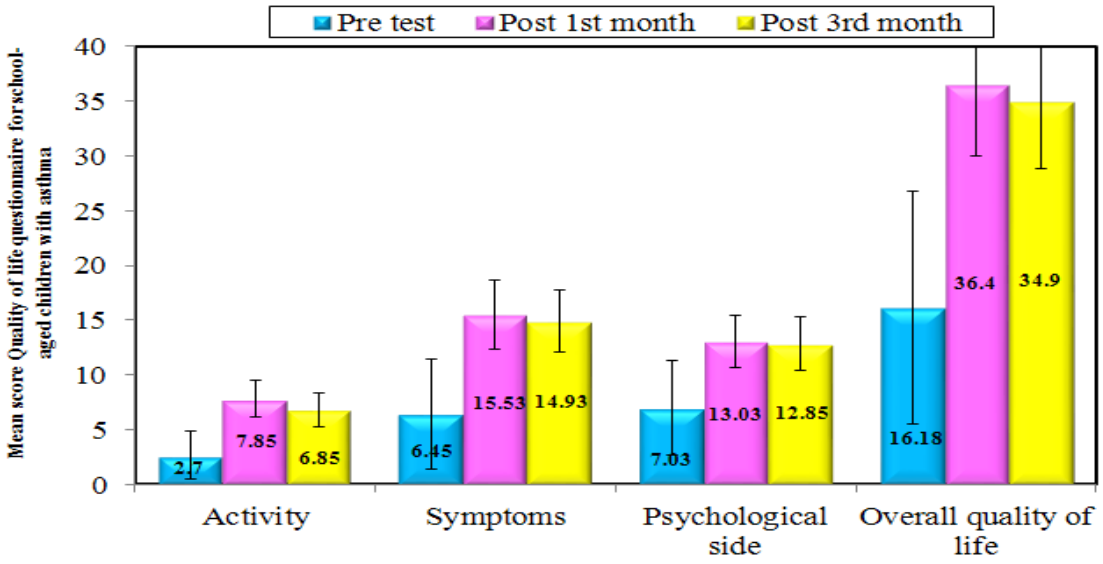


Figure (5) Correlation between Overall quality of life and grand total score of knowledge of studied parents'.

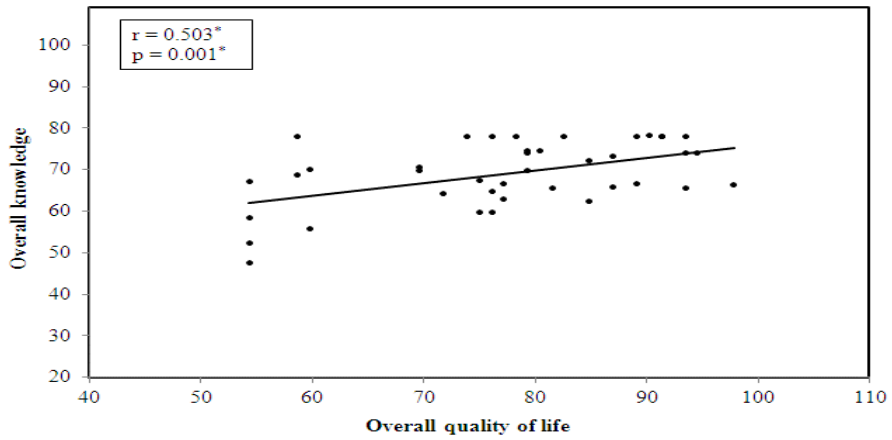
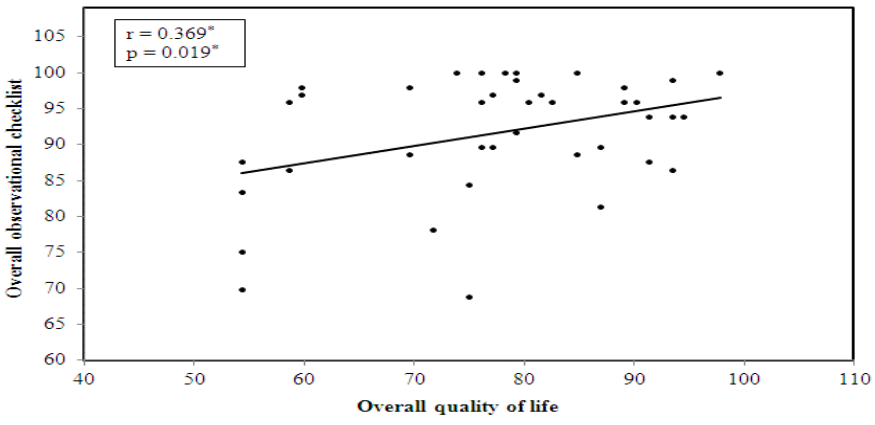


Figure (9) Correlation between Overall quality of life and grand total score of performance of studied parents'



Discussion

Bronchial asthma in children epitomizes an ongoing world health dilemma. Asthma is an incurable, lifelong condition that places children at increased risk for functional impairments, decreased quality of life, school absences, increased healthcare utilization and irreversible structural airway remodeling. Unfortunately, fewer than 50% of children with asthma are adherent to management regimens, leading to increased disease morbidity and mortality and potentially irreversible airway damage.

Moreover, children with uncontrolled asthma have greater visits to the emergency department and to their pediatrician's office due to their asthma symptoms, ,consequently decreasing their quality of life (World Health Organization, 2020). Also, it imposes a great economic burden on family and consequently on community. Therefore, nurses and health care providers should manage this condition effectively by providing efficient asthma education. So, parent empowerment aimed to increase asthma knowledge, thereby enhancing asthma self-management and improving quality of life which will reduce the burden of disease and economy loss (Kashaninia, et al., 2018).

Also, the current study illustrated that there was a significant improvement in overall knowledge about asthma on posttests (1 and 2) and follow- up test than on pretest. This result came in line with El-husseiny et al ., (2020) who conducted a study about "Effect of Mobile-Based Education versus Booklet-Based Education on Mothers' Knowledge and Practice towards their Children with Bronchial Asthma" . It was found that there was a significant improvement in their total level scores of knowledge and practice after education. From the researcher's view, this could be due to enhancement of parents' knowledge via oral presentation, group discussions, feedback, booklets and demonstration of educational films about bronchial asthma concept, trigger factors ,management and prevention of bronchial asthma. On the contrary, Ali et al., (2019) who conducted a study about "About Assessment The Level Of Knowledge Of Parents Asthma In Their Children at Makah City In Saudi Arabia 2019". It was reported that nearly two thirds of studied parents answered questions correctly regarding asthma. This could be attributed to the availability of the specialized clinics for asthma education as a part of the care provided for each patient's visit by trained asthma educators.

Concerning parents' practice regarding preparing, using and follow up of metered dose inhaler (MDI) on pre, post and follow up tests. This study illustrated that the majority of parents had competent performance on post and follow- up tests than on pretest. From the researcher's perspective, this could be attributed to the educational guidelines which were used by the researcher and the simple methods of teaching (oral presentations, group discussion, feedbacks and explanatory booklets as well as educational film) that were used in sessions which in turn helped parents to acquire and improve their practices about using metered dose inhaler for their children. This result was consistent with Taib et al., (2021) who conducted a study about "The effect of paediatric asthma education programme (PAEP) on use of inhaler and the health-related quality of life of asthmatic children caregiver in hospital university sains malaysia". It was explained that the majority of parents had a significant improvement

in using of the inhaler post intervention.

In relation to controlling of asthma symptoms on pre, post and follow-up tests, this study illustrated that the majority of studied children had well controlled of asthma on post and follow up tests compared to pre-test. From researcher's view, this could be attributed to parents' empowerment courses which involved identifying and managing trigger factors, activity and nutrition of children with asthma. Besides, improved skills about MDI that helped to reduce asthma attacks and improve the clinical signs and symptoms of the disease.

This result was consistent with Kashaninia et al., (2018) who conducted research about " Effect of family empowerment on asthma control in school-age children". They reported that Family empowerment significantly improved asthma symptoms in school-age pediatric patients posttest. This could have contributed to fewer asthma symptoms and exacerbations, decreased use of rescue medication, fewer nighttime awakenings and improved quality of life.

The current study hypothesized that parents' empowerment will improve quality of life among school age children with bronchial asthma on posttest than on pretest. In relation to this hypothesis, the findings of the current study clarified that children had higher levels of quality of life after parents' empowerment on post and follow- up tests than on pretest. From the researcher's perspective, this could be attributed to the educational sessions that were based on empowering parents which in turn helped parents to acquire knowledge and skills, self-management of asthma, reduce the incidence of the acute episodes, identify and control triggers factors which could produce positive health outcomes.

In the same context, Sangnimitchaikul, et al., (2022) who conducted a study about "The Effectiveness of a Family-Based Asthma Self-Management Program in Enhancing the Asthma Health Outcomes in School-Age Children" mentioned that the majority of studied parents reported that significant increased asthma control status and quality of life in the children following the implementation of family-based asthma self-management program.

From the investigator's point of view, this could be related to the effectiveness of parent empowerment which in turn helped parents to acquire and improve their knowledge about bronchial asthma as well as enhance the performance of MDI.

Conclusion

Based on the findings and hypothesis of the present study, the following was concluded:

School aged children with bronchial asthma who received the Parent empowerment had better QOL on post and follow- up tests than on pretest.

Recommendations

1. Based on the conclusion of the current study, the following recommendations can be proposed:
2. Further studies should be implemented on a larger sample of children and their parents in other pediatrics departments to ensure the generalizability of results.
3. Parents empowerment should be integrated into the daily routine care delivered by health care provider at all pediatric chest clinics to enhance quality of life for all children with bronchial asthma.
4. Simple written guidelines about bronchial asthma disease, common triggers, prevention and management in addition to different

method of teaching such as group discussion and presentation should be available at all chest clinics for parents of children with bronchial asthma.

5. A comprehensive booklet about promoting QOL for bronchial asthma should be available at each chest clinics.
6. In service educational training program should be designed and provided for parents and children with bronchial asthma to educate them ways to enhance QoL of their children in all chest outpatient clinic of hospital.

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