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The Impact of Atopic Dermatitis on the Quality of Life Children in Sanandaj, Western Iran

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Abstract

Background: Eczema or atopic dermatitis (AD) is one of the most prevalent skin diseases in the world. Although, the disorder is not fatal, it can cause life quality reduction. The aim of the current study was to investigate the impact of atopic dermatitis on life quality of 1-6-year-old children.

Materials and Methods: The current study is a descriptive and analytical one designed to assess quality of life (QOL) in 1-6-year-old children with atopic dermatitis in Kurdistan province (West of Iran). All the children who attended skin clinic of Besat Hospital, Sanandaj- Iran, during 2014 and 2016, participated in the study. Quality of life questionnaires were used to obtain data. Parents of the participating children were asked to complete the questionnaire. Index of Scoring Atopic Dermatitis (SCORAD) was used to determine the severity of the disease. The study data were analysis using Stata-12 software.

Results: During the study, 53 children with atopic dermatitis were identified and 66.04% were male. According to the classification of SCORAD index, 54.36% of the children (19 subjects) were included in the moderate group (SCORAD 14-40) and 63.46% (33 persons) in the severe group (SCORAD> 40). Mean of life quality score was 9.24 ± 10.48 (range 0-30) and there was no statistically significant difference between the genders (P >0.05).

Conclusion: There was a positive correlation between the quality of life and pain severity in AD children; and children with atopic dermatitis had low quality of life and itching, wound, discomfort and sleep disorder, were the factors that mainly impact on their life quality.

Key Words: Atopic dermatitis, Children, Pain severity, Quality of life.

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1- INTRODUCTION

Eczema or atopic dermatitis (AD) is one of the most prevalent skin diseases in infants and children (1). Dermatitis is a term used for various forms of skin diseases including itching, redness and skin dryness. Eczema has different types; Atopic dermatitis is one of the most prevalent types (2). Atopic dermatitis is considered as a multifactorial disease, since various environmental factors in addition to genetic factors have been implicated in its formation (3, 4). The disease can be crusty in long-term lesions; it is typically formed in the first year of life and is eliminated by 16 years in 60% of cases (5). The prevalence of the disease is increasing (6). The prevalence of AD in the world is reported to be 7% to 25%; the prevalence in Europe and the U.S.A is 10-20% and 17%, respectively (7). Also, the severity of the disease reduces with increase in the age of children (8). The prevalence of the disease in children is 15% to 20% in developed countries, too (9). The increase in the disease prevalence has made it to become a major world problem (10). Skin disease changes the patient's appearance and affects quality of life (11). In patients with severe cases, in addition to economic burden, psychological burden is imposed on the families (1, 12).

Quality of life (QOL) is a very widespread concept which measures the effect of a disease or disorder on limitation of an individual's daily activities (13, 14). Atopic dermatitis effect on quality of life includes effect on all aspects of the emotional, social and physical life of the patient and his/her family (15). These people lack the required energy have sleep disorder, as well as mental and spiritual problems with limitations in their social life. Depression, anxiety and stress are the most common psychiatric diagnoses in these patients (16, 14). Although, atopic dermatitis has no threat to life, it can be minatory to patient's quality of life (13). The current research can lead to a better perception of the disease and its effects on quality of life for more suitable care, and in order to promote children's quality of life. The aim of this study was to evaluate the effects of atopic dermatitis on the quality of life of children aged 1 to 6 years. Therefore, the significance quality of life survey of these patients is that, it can lead to a better perception of the disease severity, offer better treatment services to these patients and offer program for promoting the level of children's quality of life in terms of activity rate, capability, mental health, and also offer precautionary measures to their parents.

2- MATERIALS AND METHODS

2-1. Study design and population

This is a cross-sectional (descriptive-analytical) study. The study population includes all children with atopic dermatitis in Sanandaj, Kurdistan province, Iran, who had referred to skin clinic of department of pediatrics of Besat hospital in Sanandaj from September 2014 to March 2016.

2-2. Methods

Due to the fact that the study period was 1 and half years, all the patients were included by the census method. Sampling method was used as available. QOL questionnaire was administered to the parents of all the children with atopic dermatitis who attended the skin clinic of Besat hospital, Sanandaj city, Iran, after explaining the study to them and obtaining testimonial. In addition to the questionnaire, questions were asked on demographic characteristics of patients and parents, and also, Scoring Atopic Dermatitis (SCORAD) questionnaire was completed by the physician. Participation in the study was voluntary and the parents who did not tend to participate in the study were excluded. The questionnaire was

completed by parents of children with Atopic Dermatitis.

2-3. Measuring tools: validity and reliability

QOL questionnaire is a questionnaire with 10 questions including symptoms, behavior, sleep, play disorder, family activities, meals, medical care, personal clothing and hygiene. The maximum score for each question is 3; maximum and minimum score of QOL is 30 and 0, respectively. Higher score indicates low life quality. Separate question was designed for parents to estimate disease severity from 0 to 4 (17, 18). The reliability and validity of the questionnaire was proven in previous studies (5, 19, 20). Scoring atopic dermatitis (SCORAD) is an index to assess the extent and severity of skin lesions and disease complaints (such as itching during the day and insomnia). SCORAD score grading is in this way that people whose SCORAD score is less than 14 are in the mild group, people whose SCORAD score is 14-40 are in the moderate group, and people whose SCORAD score is 40 and more than 40 are in the severe group (21).

2-4. Inclusion and exclusion criteria

Inclusion criteria for children were the age of 1 to 6 years old and children with atopic dermatitis; children, whose parents were not willing to participate in the research project or were not reliable in completing their children information, were excluded from the study.

2-5. Data Analysis

After obtaining the information, the data were entered into Stata-12 software. Descriptive objectives of this study were calculated with mean quantitative statistics and standard deviation (SD). T-test was used to calculate the mean score of the quality of life in two groups of severe and moderate. The significance level was considered $P<0.05$.

3- RESULTS

The results showed that during the study period (September 2014 to March 2016), 53 children were diagnosed of atopic dermatitis; of these, 66.04% were male and 33.96% were female. The mean age of the females was 4.27 ±1.6 years and in males, it was 4.25 ±1.54 years old. According to classification of SCORAD index, 36.54% of the children (19 persons) were included in the moderate group (SCORAD 14-40), and 63.46% (33 persons) in the severe group (SCORAD> 40). The mean score of quality of life of all the participants of the study was 9.24 ± 10.48 (range 0-30). The mean score of Quality of life in males and females were 11.2±5.57 and 10.16±8.7, respectively. The study results showed that there was no statistical significant relationship between the Quality of life score and gender ($p>0.05$). The mean score of Quality of life in the participants whose SCORAD score were in the moderate group was 7.84±4.08 and in participants who were in the severe group, it was 12.72±7.38, in terms of disease severity. There was a statistical significant relationship between the mean score Quality of life and disease severity ($p=0.002$), and participants who had greater severity of the disease, had lower Quality of life (**Table.1**).

In investigation of the mean of the quality of life score in terms of each 10 questions, the results of current study showed that the highest mean score was related to the problems of skin itching and sleep problems which the highest mean had been allocated to them. These results showed that the problems of skin itching and sleep problems of children can have the most effect on reducing the quality of life of parents (**Figure.1**). The results of current study showed that, in investigation of the mean of the quality of life score of each 10 items, the mean score of each of these 10 items (except for treatment item) is significantly different between the severe

and moderate groups, and the moderate group has better quality of life in each item (except for treatment item)($p<0.05$) (**Table-2**).

Table-1: The relationship between Scoring atopic dermatitis and the QOL based on gender in children with atopic dermatitis

Atopic dermatitis	Number (%)	QOL (mean ± SD)	P-value
Gender			
Male	35 (66.04)	11.2±5.57	0.3
Female	18 (33.96)	10.16±8.7	
Total case	53(100)	10.48±9.24	
Severity			
Mild (<14)	0	0	0.002
Moderate (14-40)	19 (36.54)	7.84±4.08	
Severe (≥40)	33 (63.46)	12.72±7.38	

QOL: Quality of life; SD: Standard deviation.

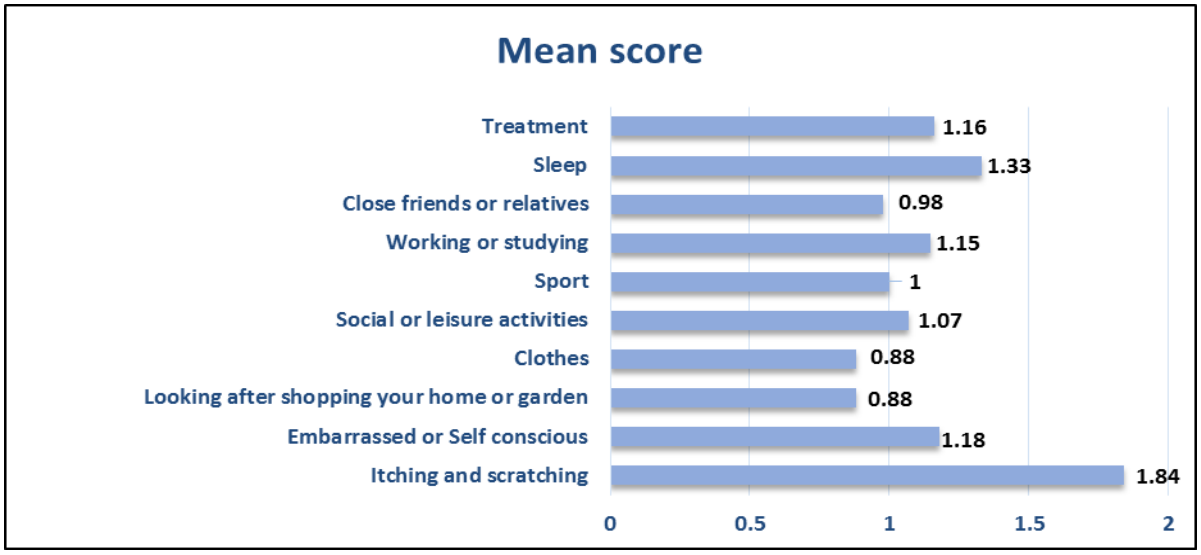

Fig.1: The mean of each 10 questions of the quality of life in children with atopic dermatitis.

Table-2: The mean score of the quality of life in terms of each 10 questions

Items of QOL	Total	Mild	Moderate	Severe	Severe vs. Moderate
				Mean ± SD	P-value
Itching and scratching	1.84±0.96	----	1.52±0.84	2.06±0.99	0.02
Embarrassed or Self conscious	1.18±1.07	----	0.89±0.87	1.39±1.14	0.05
Looking after shopping your home or garden	0.88±0.43	---	0.73±0.24	1±0.39	0.3
Clothes	0.88±0.86	---	0.42±0.13	1.18±0.88	0.008
Social or leisure activities	1.07±0.98	---	0.66±0.34	1.33±1.05	0.009
Sport	1±0.64	----	0.72±0.39	1.18±1.1	0.06
Working or studying	1.15±0.92	----	0.7±0.26	1.46±0.98	0.02
Close friends or relatives	0.98±0.86	----	0.73±0.38	1.09±0.87	0.07
Sleep	1.33±0.87	----	0.84±0.6	1.63±0.89	0.006
Treatment	1.16±0.91	-----	1±0.66	1.27±1.03	0.1

QOL: Quality of life; SD: Standard deviation.

Each item of QOL questionnaire has been individually investigated in **Figure.2**. For instance, in the question of itching and scratching, most of the parents (33.96%) stated that skin itching in children has had a great impact on the quality of their life; while 9.43% of participants believed that skin itching in children has not had any impact on the quality of their life. In the question of sleep and treatment, 9.43% of parents believed that sleep and treatment has had a great impact on the quality of life for parents (**Figure.2**).

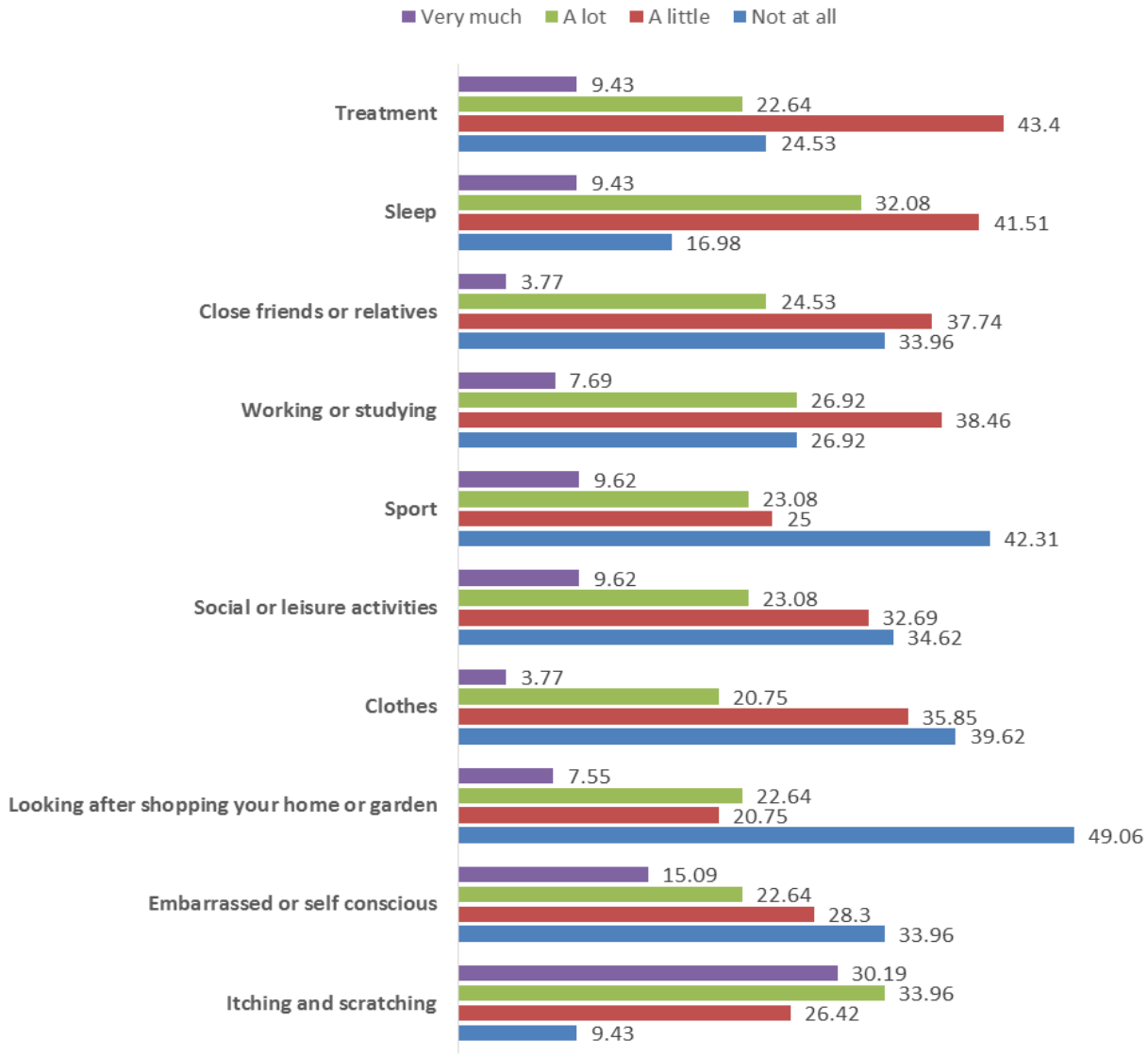

Fig.2: The percent for each individual question of the dermatitis family impact questionnaire.

4- DISCUSSION

The current study included 53 children with atopic dermatitis, and 66.04% of patients were males. The study results showed that according to the SCORAD index classification, 36.54% of the children were included in the moderate group (SCORAD 14-40), and 63.46% in the severe group (SCORAD> 40). Quality of life score was 9.24 ± 10.48 (range 0-30), and there was no statistical significant difference between the males and females with regards to the quality of life (p = 0.3).

The mean score of quality of life was 10.48±9.24, which had a significant relationship with pain score in the two groups (moderate and severe) (p = 0.002). At present study, itching, scarring, discomfort and sleep disorder had the most impact on the quality of life. Studies have shown that mean prevalence of AD is 6.7% in the world (ranged 0.1 to 19.9%). Dermatitis prevalence is 9.8% in Kurdistan province, 3.14% in Birjand (3), 2.35% in Ahwaz (22), 1.25% in Sharekurd (23), and the difference can be due to different climates in the cities (1).

Regarding the climate and nature, Kurdistan province is mountainous part of Iran with high plains and broad valleys across the region. Furthermore, its climate is influenced by warm and humid Mediterranean air mass that can affect prevalence of the disease (24). The study results showed that 66.04% of the children with AD were males. According to International Study of Asthma and Allergies in Childhood (ISAAC), the disease prevalence was more in females than males, which is contrary to the current study (4). The study results showed that there was no statistical significant relationship between score of Quality of life and participants' gender, but the results did not correspond to results of Chernyshov et al. (25) study. With regards to the fact that the study included specific age group (1-6 years), maybe by conducting it using higher age groups would show statistical significant difference in life quality of males and females with AD. Generally, patients with AD experience lower quality of life as compared to healthy people (26). The results of several studies showed that there is a strong and inverse relationship between the quality of life and severity of the disease (24, 27). In this study, the total score of QoL was 10.48±9.24 which is lower than the results of Lee et al. (28) that showed better quality of life in children; while the total score of quality of life in this study was higher than that of Chernyshov et al. (25). Different Quality of life in the studies is due to differences in life style, culture and difference in the study groups in terms of age category; current study results showed that there is a relationship between disorders in life quality of children and AD with disease severity. These results are in line with those of Kim et al. (29), Monti et al. (30), and Alzolibani et al. (31). The less disease severity has less effect on life quality (14, 32, 33). Some studies showed that AD has negative impact on patients' life quality, and there is a strong and positive correlation between the negative impact and increase in disease severity. The correlation can be influenced by eczema location spread and individual's ability to control the disease. Different studies' results showed that face eczema significantly affects life quality (14, 27).

Different studies in Western countries showed that main complications such as itching; sleep disorder and mood shifts, are AD complications which affects children's life quality (13). Other reported problems in children are difficulty in treatment, dressing, relationship with friends and disorder in play, weak self confidence among friends and disorder in children's entertainment (14, 29). The current study results showed that the most negative effect on life quality of children with AD is related to itching, pain discomfort and sleep disorder problems; 19.30% of the patients in current study believed that itching, pain and discomfort problems have great impact on their life quality.

In the studies of Alzolibani et al. (31), Boukes et al. (34), and Hon et al. (35), the most negative effect on children's quality of life is related to itching and sleeps disorders. The study results showed that almost 7.55% of the parents of the children with AD believed that the disease has great impact on children's relationship with

friends, play and children recreations, while it was 2% in Walker study (36). This difference is due to social and cultural differences in various societies. These results are in line with that of Maksimovic et al. (37). In other studies, disorder in carrying out activity (38), and sleep quality (39), and avoiding friends (40), were also reported. Atopic dermatitis has impact on individuals' entertainment and educational activities besides relationship with friends.

In the study of Beheshti et al. (41) that was conducted in guidance schools of Qazvin (Iran), more than 10% of the people with atopic dermatitis reported great effects of the disease on recreational and educational activities. Results of the current study showed that 9.34% of the parents have many problems in relation to their children's disease and did not use any medication. The study results showed that there is no statistical significant relationship between treatment problems and pain severity. In a study by Walker (36), 12% of the patients did not use any medication for the treatment.

4-1. Limitations of the study

The study limitations include lack of attention on seasonal changes and small sample size. Conducting the study using a larger sample size and upper age group would reflect better results

5- CONCLUSION

The results showed that distraction technique had a good effect on the intensity of pain in children. Given the need for pain control and its effects on the course of treatment, further studies are needed to be done.

6- CONFLICT OF INTEREST: None.

7- ACKNOWLEDGMENTS

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