The first camps in Turkey for asthmatic children: six years' experience

Ülker Öneş[1], Nihat Sapan[2], Mehtap Yazıcıoğlu[3], Nermin Güler[1], Zeynep Tamay[1], Ayper Somer[1], Yakup Canıtez[2]

Department of Pediatrics, [1]Istanbul University Istanbul Faculty of Medicine, Istanbul, [2]Uludağ University Faculty of Medicine, Bursa, and [3]Trakya University Faculty of Medicine, Edirne, Turkey

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The first asthma camp in Turkey was organized for one week in İznik in September 1996. The camps were continued annually around the same time of the year in 1997, 1998, 2000, and in the consecutive years thereafter. The camp includes educational, sports and social activities. Children's knowledge about asthma and their attitudes towards physical and social activities were evaluated by a questionnaire. Pulmonary function tests were performed on the first and last day of the camp. There was no statistically significant difference between the mean spirometric values of the first and last day of the camp in spite of a vigorous physical and social program. Children enhanced their skills and knowledge about asthma and gained self-confidence in participating in sportive and social activities during the camp program. They did not experience any emergency room visit in the following year.

In conclusion, a summer camping experience is very beneficial for asthmatic children in terms of both self-education and social and physical participation.

Key words: asthma camp, asthma, children.

Asthma is an important chronic illness of childhood worldwide and also in Turkey. The prevalence of asthma in childhood throughout the world varies between 1.6% and 36.8% according to the International Study of Asthma and Allergies in Childhood (ISAAC) study[1]. The highest rates are seen in England, Australia, New Zealand, and Ireland and the lowest in Eastern Europe, the Middle East and Far Eastern countries. The prevalence of childhood asthma in Turkey varies between 3.8% and 12.9%[2-5]. The prevalence of physician-diagnosed asthma in Istanbul, which is the largest city with more than 10 million inhabitants, was 9.8%[6]. The economic burden is a growing issue of concern, with numerous emergency room visits and high drug costs.

One of the recognized goals in the care of children with asthma is to build up their self-confidence to enable them to fully participate in normal childhood activities. A summer camping experience is very beneficial for asthmatic children. The camp provides an environment that encourages social activities, reduces anxiety and creates a sense of independence. Another major advantage of the camp is the opportunity it provides to educate the child about asthma. A child can benefit medically, psychologically and socially in a positive environment. Follow-up studies have demonstrated that the camping experience has a positive impact on self-care skills, self-image and general control of asthma [7-11].

Summer camps for children with asthma have been in existence for many years in developed countries[12-13]. The first asthma camp in Turkey was organized in İznik (Marmara region) in September 1996. Camps were continued annually around the same time of the year in 1997, 1998 and 2000 and in consecutive years thereafter. The asthma camp in 1999 was cancelled because of the tragic earthquake on 17 August 1999 in the Marmara region. The unique asthma camp program and its effects on asthmatic children are summarized in this report.

Material and Methods

Patients: Children (aged 7-16 years with mild-to-moderate asthma) who were followed-up in the Pediatric Allergy Outpatient Clinics of Istanbul Medical University, Uludağ Medical University, Trakya Medical University and Cerrahpaşa Medical University and who were willing to attend the camp were accepted in the study. A brief written consent was obtained from the parents permitting their children to participate in the asthma summer camp and to be treated in an emergency if a severe asthma attack developed. Children with recent and frequent hospitalizations, hypoxic seizures, and psychological or severe emotional problems were excluded. Children who participated in the asthma camp once and were eager to attend again were also included in the subsequent asthma camps.

Planning Committee: The planning committee included a medical director, a nurse with asthma, a technician responsible for respiratory therapy, allergists, residents and medical students. The medical director was a pediatric allergist responsible for recruiting qualified physicians to provide medical coverage during the camp. The director was also responsible for ensuring that appropriate medications and emergency equipment were available at the camp, and for transporting critically ill children to the local emergency departments, if needed. Before the camp activities started, the medical staff performed physical examinations of the children, checked peak expiratory flow rates and monitored their receipt of their anti-asthmatic medications. The location of the camp had full sports facilities including experienced teachers for swimming, tennis and basketball.

All of the children and the medical personnel were insured for accidents throughout the camp.

Camp Schedule: There was a semi-Olympic sized swimming pool and a small pool for the beginners, as well as tennis, basketball and volleyball courts.

The camp day started at 8:00 a.m., followed by physical exercise for 15 minutes, and breakfast at 8:30. Activities such as swimming and tennis lasted for three hours. The kids were given some free time before lunch which was provided at noon. The afternoon program began with a 1.5-hour rest period from 12:30 to 14:00, followed by swimming until 16:00. Tennis and swimming instructors provided constant supervision for their groups throughout the day. An educational program was scheduled from 17:00 to 17:45. On the first day of the camp, the children received educational sessions on asthma, and on the second day they were trained about the proper use of spacer devices and peak flow meters and breathing exercises. The children spent some time with the psychologists over the following two days, and the next two days they took lessons on photography, sculpting and painting. One day was reserved for visits to museums and historical places in the neighborhood. From 17:45 to 18:45, the children were offered activities such as basketball, darts and chess. Dinner was served at 19:00 and evening activities started at 20:00, and included disco dancing, camp fire, Olympic games and drama class. In the Olympic games, children competed in two groups, at the end of which each child received an award for his special feature.

The children were in bed by 22:00, and slept in rooms assigned according to age and sex. A physician or a medical student or a nurse chaperoned four children in each room.

Camp Fee: A reasonable fee for the camp, US$75 per week, was requested from the participants. Pharmaceutical sponsors and the Association of Pediatric Respiratory Tract Diseases subsidized approximately 25-30% of campers who could not afford the full fee.

Pulmonary Function Assessment: Pulmonary function tests were performed on the first and last day of the camp using a portable spirometer (Microlab).

Assessment of Children's Level of Knowledge About Asthma: Starting with the last two camps, the children were requested to complete a questionnaire (Table I) concerning asthma on the first day of the camp.

Assessment of the Camp by Children: Also implemented as of the last two camps, the children completed a questionnaire (Table I) on the last day of the camp in which they were asked to evaluate the camp experience.

Results

Thirty children and 16 medical personnel were enrolled during the first year of the camp. In the consecutive two years, the number of

Table I. Questionnaires about (1) Asthma and (2) the Camp

1. Asthma questionnaire
   1. What is asthma?
   2. Does an asthmatic child use medication when he has no complaints?
   3. Can an asthmatic child do sports?
   4. Which medication must the asthmatic child take when he experiences shortness of breath or cough?
   5. Can an asthmatic child do all sports?
   6. Do you use an inhalation device? If so, please describe.

2. Camp questionnaire
   1. Did you like the camp? Why?
   2. Which was your favorite night activity?
   3. Which was your favorite sport?
   4. Did you like the meals? Which were your favorites?
   5. Did you like your teachers? Did you feel uncomfortable with anybody? Why?
   6. Was there any activity that you did not enjoy? Why?
   7. Did you learn new things about asthma?
   8. Was there any difference between this camp and your other previous vacations?
   9. Did you enjoy being with the other asthmatic children?
   10. Did you learn any knowledge or skill here?
   11. Did you enjoy having a vacation away from home?
   12. Are there any further suggestions?

participating children was 42 and 33 and of medical personnel 20 and 30, respectively. There were 66 children in the fourth year, 67 in the fifth, and 53 in the sixth year. The number of medical personnel was the same for the last five camps. The median ages and sex distribution of the children are reported in Table II.

Table II. Patient Features and Number of Personnel in the Camps

	1996	1997	1998	2000	2001	2002
Number of patients	30	42	33	66	67	53
Age range (years)	8-16	7-14	8-14	8-15	7-16	7-17
Median age (years)	11	12	13	10	11	11
Sex distribution (M/F)	24/6	34/8	24/9	41/25	52/15	34/19
Duration of asthma (years)	1-13	1-13	1-12	1-12	1-13	1-12
Number of personnel	16	20	30	30	30	30

Ten, 15, 12, 40, 42, and 40 children in 1997, 1998, 2000, 2001 and 2002, respectively, already knew how to swim, but improved their style and increased their lung capacities. The rest of the children were trained for swimming for three days in the small pool, and then allowed to swim in the semi-Olympic pool.

The forced vital capacity (FVC), forced expiratory volume in 1 second (FEV1) and peak expiratory flow (PEF) values are shown in Table III. There was no statistically significant difference between the first and the last day of the camps regarding these parameters. Although all children participated in all activities vigorously throughout the camp, no significant decline was detected in FVC, FEV1 or PEF values.

Less than 10% of the children experienced a mild-to-moderate acute asthmatic attack in each camp. They received inhalation therapy with salbutamol and oral steroids for a brief period based on the attack severity.

The evaluation of the questionnaire revealed that more than 90% of the children were informed about triggers and medications but did not understand what asthma is. Only half of them knew the difference between the rescue therapy and the prophylactic therapy. Eighty percent thought that an asthmatic child could do some sports under the condition that he

Table III. Pulmonary Function Test Results of the Children Attending the Asthma Camp [mean values (% predicted)]

Year	1996	1997	1998	2000	2001	2002
FVC						
First day	89	81	82	83	80	78
Last day	86	80	82	83	81	76
FEV1						
First day	85	88	90	90	88	89
Last day	85	88	89	91	88	85
PEF						
First day	77	76	80	74	74	77
Last day	79	75	82	75	75	73

FVC: forced vital capacity, FEV1: forced expiratory volume in 1 second, PEF: peak expiratory flow.

does not sweat. Thirty percent of the children were not using their devices properly and needed further education. The favorite night activity was the Olympic games event. The children, most of whom did not do sports on a regular basis, enjoyed participating in sports activities, especially swimming. They liked all the meals, but requested more pizzas, sausages, and pastries. They responded positively regarding the teachers, and also reported that they had received valuable information which they previously did not know about asthma. For most of the children, the camp was their first experience of being separated from their parents. They were very happy to be with the other asthmatic children and on their own.

Children who participated in the asthma camp did not experience any emergency room visit in the following year. Twenty to thirty percent of children in each camp also joined the next asthma camp as it was a very enjoyable experience for them.

Discussion

Summer camps for children with asthma have been arranged for many years in developed countries, especially in the United States, and the positive impact on asthmatic children has been shown[12,13].

Summer asthma camp has been held annually in İznik, Turkey since 1996, and we have also observed that summer camps are very beneficial for asthmatic children.

It is generally believed that asthmatic children cannot do sports activities well. However, asthmatic children can do all sports, especially swimming, if optimum and adequate conditions are provided. In fact, 11% of American athletes who participated in the 1984 Olympic games were asthmatic and 54% of them were medalists. Mark Spits and Tom Dolan were Olympic swimmers with asthma who received gold medals in 1972 and 1996, respectively. Throughout our camp experience, all children participated in the physical exercises, swimming, and tennis lessons, and expanded their range of physical activities in a safely controlled environment. Although the camp program was vigorous, we did not detect any significant decline in mean FVC, FEV1 or PEF values of children between the first and the last day of the camps. We observed mild acute asthmatic attacks only in a minority of the patients. These findings point out that asthma is not an obstacle to enjoying a wide range of activities in optimum conditions. The children's eagerness to attend the camp more than once demonstrated their greater degree of confidence in participating in a wide range of physical activities.

The questionnaire about asthma showed that nearly half of the children were not properly informed regarding effective management of asthma. Although educational programs covering asthma in outpatient clinics can improve self-management of asthma, there is not always adequate time or optimum conditions for these types of programs in Turkey due to excess patient burden in outpatient clinics. However, asthma camps provide sufficient time for children and personnel for educational programs, in addition to which children can practice and learn how to manage with the disease on their own.

The questionnaire about the camp showed that children enjoyed being with other asthmatic children. The realization that they were not alone as an asthmatic child fostered a greater sense of well-being. Another reason for their willingness to attend the camps again might have been the opportunity it presented to share the same environment, social and physical activities with children like themselves. The children went through a camp experience far from their parents for the first time in their life, and did well, which also fostered self-confidence. The parents were reassured that their children could be away from home and handle it easily, and this reassurance gave them an extra sense of security.

It is also reported that asthma exacerbations, hospital admissions and missed school days are reduced considerably in asthmatic children who exercise on a regular basis [10]. Asthma camp can be the first step for encouraging the asthmatic child and the parents to undertake physical activities on a regular basis.

The fact that the children did not experience an emergency room visit in the following year is another favorable outcome of the camp. But this may also be attributable to the inclusion criteria of mild-to-moderate asthmatics. Age range and asthma severity were the only inclusion criteria for attending the asthma camp. We think that any asthmatic child can benefit from asthma camps.

In conclusion, our results demonstrated that an asthma summer camp is very beneficial and has a positive medical, social, and psychological impact on asthmatic children. The life quality of asthmatic patients can be enhanced in this way. Our asthma camp experience may serve as a model for other institutions that would like to promote outdoor activities for children with asthma.

REFERENCES

1. The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema: ISAAC. Lancet 1998; 25: 1225-1232.
2. Saraclar Y, Sekerel BE, Kalaycı Ö, et al. Prevalence of asthma symptoms in school children in Ankara, Turkey. Respir Med 1998; 92: 203-207.
3. Kendirli GS, Altıntaş DU, Alpaslan N, et al. Prevalence of childhood allergic diseases in Adana, Southern Turkey. Eur J Epidemiol 1998; 14: 347-350.
4. Karaman O, Türkmen M, Uzuner N. Allergic disease prevalence in İzmir. Allergy 1997; 52: 689-690.
5. Ones U. Prevalence of Asthma in Tropical Countries. Issues in Tropical Pediatrics, Vth International Congress of Tropical Pediatrics 1999; Jaipur, India.
6. Öneş Ü, Sapan N, Somer A, et al. Prevalence of childhood asthma in Istanbul, Turkey. Allergy 1997; 52: 570-575.
7. Gotz M, Deutsch J, Singer P. Summer holiday camps for asthmatic children - an attempted assessment. Wien Klin Wochenschr 1978; 90: 699-702.
8. Silvers WS, Holbreich M, Go S, et al. Champ Camp: the Colorado Children's Asthma Camp experience. J Asthma 1992; 29: 121-135.
9. Punnet AF, Thurber S. Evaluation of the asthma camp experiences for children. J Asthma 1993; 30: 195-198.
10. Sorrels VD, Chung W, Schlumpberger JM. The impact of a summer asthma camp experience on asthma education and morbidity in children. J Fam Pract 1995; 41: 465-468.
11. Kelly CS, Shield SW, Gowen MA, et al. Outcome analysis of summer asthma camp. J Asthma 1998; 35: 165-171.
12. Liebert MA, Inc. Asthma camps: an up-to-date listing. Pediatr Allergy Immunol 1991; 5: 39-50.
13. Liebert MA, Inc. Asthma camps: an up-to-date listing. Pediatr Allergy Immunol 1992; 6: 115-138.