



Complementary and alternative medicine among hospitalized pediatric patients



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ABSTRACT

Objectives: To estimate the prevalence and describe the characteristics of complementary and alternative medicine (CAM) use among hospitalized children, and to discover the awareness of medical staff regarding CAM use.

Design/Setting: Parents of children aged 0–18 years admitted to the Pediatric Division at Assaf Harofeh Medical Center in Israel between January and July of 2015 (n = 146) were provided a questionnaire regarding socio-economic status and evaluating the CAM use. The medical charts of the participants were reviewed in order to establish whether or not CAM use was documented.

Results: Of those who completed the questionnaire, 78 (54.3%) were using CAM. The major indications for CAM use were colic and teething. CAM use was advised by the family in 44.9%, physician 34.6%, pharmacist 34.6%, friends 30.8%, previous experience 23.1, advertisements 18%, nurses 6.4%, and homeopaths 2.6%. The family physician was aware of CAM use was in 42%. During the admission, only 5 patients were asked about CAM use (3.4%) by the medical staff. Reviewing the medical charts revealed there was no documentation of CAM use in any of the participants. Socio-demographic analysis of our population revealed no differences between users and non users of CAM, but significant differences in belief in CAM (p = 0.018) were found. CAM use was age related; the older the child the less the use (p = 0.010).

Conclusion: CAM use is common among hospitalized pediatric patients and is often overlooked by the medical staff. CAM use should be included in the medical history.

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1. Introduction

Complementary and alternative medicine (CAM) covers a heterogeneous spectrum of medical practices that purport to prevent or treat disease. By definition, CAM practices are not part of conventional medicine. Many complementary medicines, particularly herbal medicines, have a long history of traditional use. However, most are of unproven efficacy by today's standard. The lack of evidence does not necessarily mean that complementary medicines lack efficacy or are unsafe, but that rigorous clinical investigation has not yet been undertaken.^{1,2}

In recent years there has been a steady increase in CAM used by adults, and also among infants and children.^{3,4} The main use

in children is for chronic diseases that frequently require medical attention or multiple hospitalizations,⁵ but it is also frequently used among healthy children.^{6,7} According to a recent National Health Statistics Report, in the United States, 38% of adults and 12% of children use one or more types of CAM.¹ However, since health care providers often neglect to ask patients about CAM use, it may be medically unsupervised.⁸

A multi-country approach has been used, including Western, Eastern and Southern Europe, Latin America, and Israel, in order to assess both global approaches and country differences regarding attitudes towards and usage of natural remedies and homeopathy in children up to 12 years of age. This study revealed the percentage of CAM recommendations given to pediatric patients in the 12 months prior to study entry was as follow: Germany 57, Spain 50.7, Russia 60.9, Bulgaria 60.6, Colombia 51.5 and Israel 36.1.⁹

There is little information on CAM use in hospitalized infants and children. Some CAM can cause side effects and even interactions with other drugs or treatments.^{8,10} The use of these substances

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could delay the diagnosis of a hospitalized child or even lead to an incorrect diagnosis due to interactions between the CAM being taken. The increase in the frequency of CAM use, combined with the potential effect on the treatment given to the child, requires thorough questioning regarding CAM use during inpatient hospitalization and this should be noted in the child's medical chart.^{11,12}

One study that was performed in our medical center and involved admitted adult patients, revealed that CAM consumption was common amongst patients hospitalized in internal medicine wards and was often overlooked by the medical team.¹⁰ These findings have raised suspicions about a similar phenomenon among children. The aim of this work was to describe the prevalence of CAM use among pediatric hospitalized patients, and to find out the awareness of the medical staff regarding CAM use and the attitude of parents and their knowledge regarding CAM. We hypothesized that CAM use is common among infants less than 2 years and even more common among infants less 1 year of age because of the high incidence of many symptoms for which conventional medicine has no effective solution such as infantile colic, teething pains, runny nose and upper respiratory tract congestion in infants.

2. Patients and methods

Commonly used CAM therapies included non vitamin, non mineral, natural products; deep breathing exercises; meditation; chiropractic care; yoga; massage; and diet-based therapies. In the current study we focused on non mineral, natural and herbal products, homeopathy and diet-based therapies.

The study was conducted between January and July of 2015. Pediatric patients aged 0–18 years that were admitted to the Pediatric ward at Assaf Harofeh Medical Center in Israel were included. The pediatric ward treats internal diseases and has around 300 admissions per month. The study was carried out randomly by the researchers. Therefore, not all the admitted children during the study period were included. Patients whose parents refused to participate in the study were excluded. A questionnaire evaluating the use of CAM was provided to the parents of inpatients. Afterwards, the medical charts of the participants were reviewed in order to evaluate whether or whether not CAM use was documented and taken into consideration when making medical decisions.

The questionnaire was based on a modified questionnaire developed and used previously in the community health care in Israel¹³ and included information regarding socio-economic status (child and parental age, sex, parental education and type of employment), admission reason, and use of CAM (type, purpose, source of recommendation, perception of helpfulness, and percentage of parents informing their physician about CAM utilization). The study was approved by the local Helsinki Review Board.

2.1. Statistical analysis

Categorical variables were reported as numbers and percentages. For continuous variables, Kolmogorov-Smirnov test was used. Chi-square analysis was used for univariate analysis in order to examine the relationship between CAM use and single variables. The *t*-test was used in order to examine the relationship between CAM use and continuous variables. Multivariate analysis was conducted using a logistic regression model. Statistical analysis was performed with SPSS; a *p* value of <0.05 was considered significant.

3. Results

One hundred and fifty one parents were involved, and 146 children were included in the final analysis (96.6% of responsiveness). Five parents refused to participate: 3 of them were new immigrants

Table 1
Characteristics of the participants.

Characteristics	All participants (n = 146)	
Gender (male)	80 (54.8%)	
Mean age (years ± SD)	3.88 (1.63)	
CAM use	78 (53.4%)	
Child's position in family	55 (37.7%)	
First	36 (24.7%)	
Second	27 (18.5%)	
Third	28 (19.2%)	
Fourth of more		
Admission reason	76 (52.1)	
Infectious	11 (7.5%)	
Neurologic	24 (16.4%)	
Respiratory	25 (17.1%)	
Gastrointestinal	10 (6.8%)	
Other		
Mean maternal age (years ± SD)	33.28 (7.04)	
Mean paternal age (years ± SD)	36.88 (8.25)	
Parents' education	Mother	Father
Less than 12 years	17 (11.6%)	26 (17.8%)
High school only	65 (44.5%)	69 (47.2%)
University	64 (43.8%)	51 (34.9%)
Parents' education	Mother	Father
Less than 12 years	62 (42.5%)	21 (14.4%)
Low	29 (19.9%)	47 (32.2%)
Medium	36 (24.7%)	37 (25.3%)
High	19 (13.0%)	41 (28.1%)

Table 2
Indications for dietary supplement.

Indication for dietary supplement	Participants (n = 78)
Colic pain	39 (50.0%)
Teething pain	28 (35.9%)
Strengthening and providing energy	17 (21.8%)
Abdominal pain – other than colic	8 (10.2%)
Nasal congestion	10 (12.8%)
Strengthening while taking antibiotics	13 (16.7%)
Cough	9 (11.5%)
Other	11 (14.1%)

and had language difficulties, and other 2 had no patience to complete the questionnaire. The study involved 146 children (54.8% male) whose parents completed the questionnaire. The average age of the children was 3.88 years. The average age of the mothers was 33.28 years and the fathers 36.88 years. Seventy-eight children (54.3%) were taking CAM. [Table 1](#) illustrates the characteristics of the participants.

The major indications for CAM use were colic and teething as summarized in [Table 2](#).

Preparations commonly used were Gripe Water (Indiamart, India), Galy-Col Bay (Unda SA, Brussels, Belgium), Babyzim (SAM-ON, Israel), Simicole (CTS, Israel), Gingi-gel (Ricerfarma, Italy), herbal products of various manufacturers (chamomile, vinson, ginger), homeopathic agents and nutritional supplements. Seventy-three of the participants (93.5%) consumed more than one CAM (152 treatments in 78 participants).

In this study, we also examined who advised parents to use CAM for their children, and found that a family member (44.9%) was the most common person recommending CAM use, followed by physicians (34.6%), pharmacists (34.6%), friends (30.8%), previous experience (23.1%), advertisements (18%), nurses (6.4%) and homeopaths (2.6%).

The study also examined family physician awareness of CAM use. Of the 152 treatments, only 64 were reported to the fam-

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