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Complementary and Alternative Medicine Use in Children Under Five Years in Primary Health Care Centers in Bahrain

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Abstract

Introduction: There is an increase in use of complementary and alternative medicines (CAM). We aimed to assess the prevalence of CAM use by parents for their children aged less than five years; common types used and factors influencing their use.

Methods: This cross sectional study was done by interviewing parents of children aged less than 5 years attending primary health care centers in Bahrain between the period of 15th May till 30th of June 2014.

Results: Prevalence of CAM use was found to be 93.3%. Most common types used were natural therapy (86.7%). Among factors related to CAM use; health center & nationality were the only significant ones.

Conclusion: Our study demonstrates high prevalence of CAM use among parents for their children aged less than five years. Family and friends are the main source of recommendation for CAM use, and majority of parents do inform their physicians about CAM use.

Keywords: Alternative medicine; Primary health care

Introduction

According to the Cochrane Collaboration, complementary and alternative therapies and medicines (CAM) include a large variety of methods to prevent or treat illness, or promote health and well-being using practices and ideas outside the domain of conventional medicine [1].

As CAM practices include many methods, they are commonly categorized into broad groups such as natural products, mind and body medicine, and manipulative and body-based practices [2]. While some methods may fit into more than one group, categorization facilitates probing their usefulness and determining their overall effect among different cohorts and diseases.

There is a notable increase in CAM use in children worldwide, with prevalence rates up to 73% in some regions [3]. A recent study from New Zealand demonstrated that 29% of the children admitted with acute problems had received CAM at some point in their life [4], As for in children with chronic diseases, CAM use ranges from 23.9% in the USA [5], 51% of children in England and Australia, 30% in Holland, and 48.9% in Turkey [6]. It actually went up to 65% in Jordanian children with cancer [7].

In the Middle East, the most common form of CAM used is honey in Nablus, Palestine (among pediatric oncology patients), Jordan and Turkey, followed by herbal preparation like olive oil, black seeds and dates. In Turkey, patients use CAM to mitigate effects of the disease, to prevent recurrence of disease, to increase percent of blood values, and to feel psychologically relieved [8,9]. On the other hand, in places like the USA, the use of natural products such as non-vitamin or non-mineral commodities is more common, followed by chiropractic or osteopathic manipulation [10]. Interestingly, these studies have shown that mothers with higher levels of education were more likely to give CAM to their child [11,12].

To date, there have been no studies investigating CAM use among Gulf States. The current study was designed to explore CAM practices in children living in Bahrain.

Methods

This is a cross sectional study that included 435 Bahraini & non Bahraini parents of children under the age of five years. They were approached on presenting to one of the primary health care centers (PHC) in Bahrain. Children who attended with a caregiver other than the parents were excluded from the study, in addition to those who were non-Arabic or English speakers.

Study design and statistical analysis

According to the Central Information Organization, The latest estimated population of those <5 years in Bahrain, was 91558 persons in July 2011, (51% male & 71.6% Bahraini nationals). The sample size was estimated to be 384 using the following formula (adopted from (MaCorr Research, 2015) [13].

$$SS = \frac{Z^2 * p(1-p)}{C^2}$$

Z = Z value (1.96 for 95% confidence level)

P = percentage picking a choice, expressed as decimal (0.5 for sample size needed)

C = Confidence interval, expressed as decimal, 0.05 = +/- 5

Correction for finite population:

$$\text{new SS} = \frac{SS}{1 + \frac{ss-1}{Pop}}$$

POP= Population

Given that the expected response rate was 80%, our sample size was set at 435 participants to decrease the bias & overcome the non-responders.

Data were collected in the period from the 15th May to 30th of June 2014; using a structured coded questionnaire conducted by face to face interviews with the parents. The study included both Bahraini and non-Bahraini, muslim and non-muslim and Arabic and non-Arabic speakers.

The questionnaire was developed by the researchers and then modified according to a pilot study which was conducted on 100 participants, followed by validation through implementing reliability test with the result 0.93.

The data were anonymized and analyzed according to child's demographic data (gender, age, nationality, health centers, child health), parents' demographic data (gender, age, educational level, job and financial status) and CAM use by parents for their children was analyzed by the type used and factors associated with its use.

Descriptive analysis was done using SPSS 21 which computed simple descriptive analysis including frequencies for categorical data, mean & standard deviation for numerical data (child & parents age).

Cross tabulation was done for some of the categorical data using Chi-Square, Fisher's Exact, and Cramer's V to test when there was a statistically significant difference between the groups.

All participants gave written informed consent. The study design and the questionnaire were approved by the local Ethics Committee in the Ministry of Health in Bahrain.

Results

A total of 435 parents attending the PHC centers in Bahrain were interviewed during the study period with a response rate of 96.9%.

Tables 1 and 2 show demographic data of the families included in the study. 54.5% of children were males and 84.1% were Bahraini, with the mean age was 1.86 ± 1.32 years (Table 1). The majority of interviewed parents were mothers (81.8%) with a mean age of 31.43 ± 6.15 years.

Variables		n (%)
Child Gender	Male	237 (54.5)
	Female	198 (45.5)
	Total	435 (100)
Child Age	<1 Year	152 (34.9)
	1- <3 Year	187 (43)
	3- <5 Year	36 (22.1)
	Total	435 (100)
Nationality	Bahraini	366 (84.1)
	Non-Bahraini	69 (15.9)
	Total	435 (100)
Health Center	NBB Arad	71 (16.3)
	Naim	69 (15.9)
	A'ali	139 (32)
	Hamad Kanoo	91 (20.9)
	Kuwait	65 (14.9)
	Total	435 (100)

	Excellent	242 (55.6)
	Average	165 (37.9)
	Below Average	28 (6.4)
Child Health	Total	435 (100)

Table 1: Child demographic data.

Variables		**n (%)**
	Father	79 (18.2)
	Mother	356 (81.8)
Parent's Relation to Child	Total	435 (100)
	<30 Years	172 (39.5)
	30-39 Years	221 (50.8)
	>=40 Years	42 (9.7)
Parent's Age	Total	435 (100)
	Intermediate or Below	41 (9.4)
	Secondary	152 (34.9)
	University	242 (55.6)
Parent's Education Level	Total	435 (100)
	Professional	145 (33.3)
	Unemployed/ Retired	242 (55.6)
	Others	48 (11.0)
Parent's Job Status	Total	435 (100)
	Excellent	51 (11.8)
	Good	246 (56.8)
	Average or Below	136 (31.4)
Parent's Financial Status	Total	435 (100)

Table 2: Parent's demographic data.

Variable	**Yes n (%)**
Have you ever used CAM?	406 (93.3)
Natural Therapy	352 (86.7)
Alternative Practices	5 (1.2)
Mind-Body Practices	298 (73.4)
Manipulative Methods	295 (72.7)
Energy Therapy	3 (0.7)

Table 3: Prevalence of CAM use and its type by parents for children <5 years.

As shown in Table 3, the prevalence of CAM use was 93.3% with 95% Confidence interval (90.95 – 95.65). The most common type used was natural therapy (86.7%).

This included distilled water (e.g.: legah water, mergadoosh water, zemotach water, mint water and other traditional known herbal medicines in Bahrain, followed by herbs such as thyme, and certain types of food (e.g.: honey, dates, onion, cane sugar, parsley and mint leaves) (Figure 1).

This was followed by mind-body practices (73.4%), with almost all families using faith healing and prayer (Figure 2). More than half (54% and 62.5% successively) of the users, found these two practices very helpful, with very few (3% with both) reporting side effects.

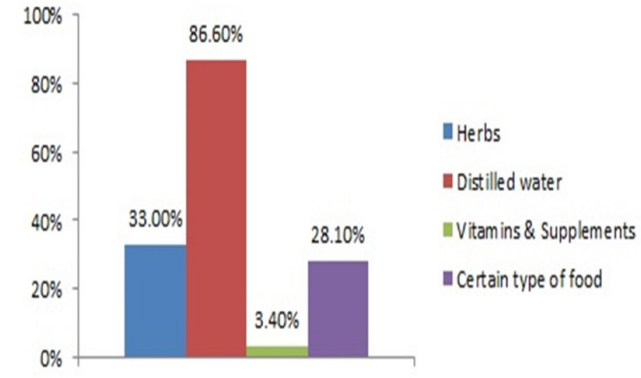

Figure 1: Types of natural medicine and its percentage of use.

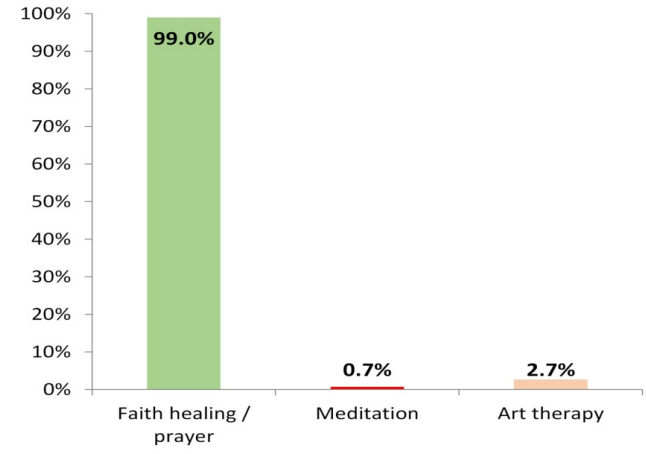

Figure 2: Types of mind-body practices.

The third most common CAM used was manipulative and body based method (72.7%) (Table 4). Almost all (99%) used massage with more than half, using it for acute illness (56.3%) & improved wellbeing (57.3%). More than two thirds (67.3%) found it very helpful, and very few reported side effects (2.1%).

Variable	Yes		No	
	n	(%)	n	(%)
Acute Illness	166	56.30%	129	43.70%
Abdominal Pain/ Distention/ Vomiting	79	49.70%	80	50.30%
Constipation/ Diarrhea	11	7.10%	144	92.90%
URTI	53	34.20%	102	65.80%
Musculoskeletal Complaints	37	23.90%	118	76.10%
Chronic Illness	7	10.80%	58	89.20%
Improve Wellbeing	169	57.30%	126	42.70%

Table 4: Reason for manipulative and body based methods use.

Nationality was the only significant factor related to CAM use (Table 5) and all parents' demographic data were statistically insignificant in relation to CAM use (Table 6).

Variable		CAM User	Test	P-Value
		n (%)		
Child Gender	Male	223 (94.1%)	Chi-Square	0.487
	Female	183 (92.4%)		
Child Age	<1 Year	140 (92.1%)	Chi-Square	0.748
	1- <3 Year	176 (94.1%)		
	3- <5 Year	90 (93.8%)		
Nationality	Bahraini	356 (97.3%)	Fisher's Exact	0.001
	Non-Bahraini	50 (72.5%)		
Child Health	Excellent	224 (92.6%)	Chi-Square	0.729
	Average	156 (94.5%)		
	Below Average	26 (92.9%)		
Pre-Existing Disease	Yes	91 (95.8%)	Chi-Square	0.278
	No	315 (92.6%)		

Table 5: CAM use in relation to child demographic data.

Variable		Have you ever used CAM?				Test	P-Value
		Yes		No			
		n	(%)	n	(%)		
Parent's Relation to Child	Father	70	88.60%	9	11.40%	Chi-Square	0.063

	Mother	336	94.40%	20	5.60%		
	<30 Years	165	95.90%	7	4.10%		
	30-39 Years	203	91.90%	18	8.10%		
Parent's Age	>=40 Years	38	90.50%	4	9.50%	Chi-Square	0.203
	Intermediate or Below	35	85.40%	6	14.60%		
	Secondary	144	94.70%	8	5.30%		
Parent's Education Level	University	227	93.80%	15	6.20%	Chi-Square	0.093
	Professional	135	93.10%	10	6.90%		
	Unemployed/ Retired	228	94.20%	14	5.80%		
Parent's Job Status	Others	43	89.60%	5	10.40%	Chi-Square	0.497
	Excellent	48	94.10%	3	5.90%		
	Good	230	93.50%	16	6.50%		
Parent's Financial Status	Average or Below	126	92.60%	10	7.40%	Chi-Square	0.922

Table 6: CAM use in relation to parent's demographic data.

Discussion

The reported worldwide prevalence of CAM use in pediatric outpatients is 29-58% [14], ranging between 58-73% in Middle East countries [5,15]. The much higher prevalence of 93% found in our study may be related to many factors including: cultural and traditional acceptance, easy availability, low cost, and beliefs regarding safety of CAM in comparison to conventional medicine. In addition, we included almost all known forms of CAM in our questionnaire which most probably reduced the chances of missing a CAM user compared to other studies.

As with most of the other studies conducted worldwide [8,9,16] we too found that natural therapy is used more frequently than any other modality. This is particularly more prominent in Bahrain as it exports distilled herbal water through 29 local factories and there are many traditional herbal shops (Hawaj) widely spread throughout most governorates, making it very easy for people to use this CAM modality more than others. In addition, we considered the terminology and categorization of herbal products when we designed our questionnaire taking into account the definition of herbs and dietary supplement according to The Dietary Supplement Health and Education Act of 1994 (DSHEA). We therefore defined a dietary supplement as a substance intended to supplement the diet that is not represented by a conventional food group. Herbs and other botanicals and their extracts or concentrates were specifically mentioned as being dietary supplements.

Mind and Body practices were the second prevalent type of CAM used. Most, if not all participants used faith healing and prayer. They commonly read Qur'an, used (Shabba), practiced incantation (Roqea Sharaaeya) or pray to improve well-being (including getting rid of envy, preventing illnesses, reliving irritability or improving child's behavior) and curing acute and chronic illnesses. This can be related to religious, cultural and traditional beliefs; that recommend and encourage its use. For example: In Muslims' Holy Qur'an , a well-known ayah is (And when I sicken, then He healeth me), Surratt: Ash-Shu'ara, Ayah 80 , which means that God is responsible for healing human beings by believing in him, obeying his commands, especially those related to health & sickness. It is also known for Muslims that reading certain ayah or Doaa can cure certain illness. In Arabic: ") ". This modality was either done by the parents for their children or by an Islamic Clerk (Sheikh). A very small number used art therapy and meditation which is likely because of unavailability of the special practitioners needed for these modalities as they are not very popular in the Bahraini community.

Manipulative and body-based methods were the third most common type used. Acute illness and improved wellbeing were the main reasons for use of this type.

Almost all parents used massage for their children mainly for abdominal pain/distention/vomiting followed by respiratory symptoms and musculoskeletal complaints. Other modalities of this type like chiropractic and osteopathic were used infrequently. This finding is in accordance with the 2007 NHIS report of chiropractic/osteopathic manipulation and massage ranking in the top 10 CAM therapies among both adults and children. However, this survey a higher use of chiropractic or osteopathic manipulation compared to massage while we found a higher use of massage. This could be due to unawareness of people about availability of these modalities in Bahrain. In addition, it is considered costly in comparison with massage that can be provided by the parents, grandmothers and traditional healers.

Limited awareness and knowledge about Energy Therapy and Alternative Medical Practices uses in health issues was the main reason for those to be the least modalities used.

Among the studied factors related to CAM use, nationality was the only significant factor. It was more prevalent among Bahraini participants due to the availability of different CAM modalities which are traditionally commonly used. While those used by Non-Bahrainis may not be available locally.

It is well known that patients (or parents in this case) usually seek advice from their relatives or friends before seeking medical or specialist advice. Also, in our community grandmothers are usually involved in taking care of children at this age group either directly or indirectly. This is mainly due to the fact that most of non-Bahraini live within nuclear families in Bahrain, thus the influence of extended family recommendations will be much lower.

Despite it being statistically significant, relation of nationality to CAM use could be a spurious result. As non-Bahraini were not represented adequately and more importantly, some of the Bahraini participants in our study are originally from other countries.

Conclusion

To our knowledge this is the first study probing CAM use in children conducted in Bahrain. Our comprehensive questionnaire yielded important and novel insights on the use of these measures. We found that the prevalence of CAM use by parents for their children aged less than five years attending PHC centers in Bahrain is 93.3%. While it is quite high, it actually could be an underestimation of the real situation, as many CAM users may have been missed in our study. This is because only Arabic and English speakers only were included; therefore a large number of patients attending health centers who do not speak either language were missed. In addition, most children with chronic diseases follow up in secondary care centers, and our sample was recruited from primary health centers. This decreases the sample size of this particular group included in the study. Finally, religion was not included in the questionnaire even though it is an integrated part of Mind and Body practices.

Despite these limitations, the data demonstrates that the most common types of CAM used were natural therapy followed by Mind and Body-Based methods, with energy therapy being the least type used. The findings underscore the importance of prompting physicians to ask more details about CAM use and including it as an integral part of child screening booklets in children health care centers. It is also very important to encourage education of physicians and parents about CAM use and to report CAM side effects through educational campaigns and workshops.

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