

# The use of complementary and alternative therapies in Western Saudi Arabia

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## ABSTRACT

**الأهداف:** دراسة استخدام العلاجات المكملية والبدلية (CAT) في منطقتنا خاصة في الأطفال ذوي الأمراض المزمنة، ومحاولة معرفة الأسباب المؤدية لها.

**الطريقة:** أجريت دراسة مستقبلية على عينة عشوائية من أمهات الأطفال المراجعين لعيادات الأطفال العامة والتخصصية بمستشفى جامعة الملك عبد العزيز - جدة - المملكة العربية السعودية، خلال الفترة ما بين 2006م وحتى 2008م. تم استخدام استبيان مقنن ومكون من 50 سؤال حول معلوماتهم الشخصية، الاجتماعية، الطبية وعن تفاصيل استخدامهم للعلاجات المكملية والبدلية CAT لأطفالهم.

**النتائج:** تمت مقابلة 79 من أمهات الأطفال المراجعين في فترة الدراسة وقد كانت حالات هؤلاء الأطفال حادة في 47%، مزمنة أو متكررة في 53% وقابلة للعلاج في 84% من الحالات. مثلت الحالات العصبية نسبة 25% من الأطفال. استخدمت 33 سيدة 42% العلاجات المكملية والبدلية CAT لأطفالهن، وكانت غالبيتها قبل استشارة الطبيب بنسبة 57%. كما تم استخدام علاجات روحية أو دينية في 82%، علاجات عشبية في 30% وعلاجات جسمانية في 21% من الحالات. علماً بأن العوامل المؤدية إلي هذا الاستخدام تضمنت: عمر الطفل (أقل من عام) ( $p=0.008$ )، انخفاض مستوى التعليم لدي الآباء ( $p=0.01$ )، وجود مرض مزمن ( $p=0.00008$ )، أو عصبية ( $p=0.0009$ )، واستخدام سابق لعلاجات مكملية وبدلية CAT في العائلة ( $p<0.0001$ ).

**خاتمة:** تقوم الكثير من الأسر باستخدام العلاجات المكملية والبدلية CAT، وعادتا ما يكون ذلك قبل استشارة الطبيب. يجب علي طبيب الأطفال مساعدة هذه الأسر وتبنيها من عدم وجود دراسات علمية عن مفعول هذه العلاجات لدى الأطفال.

**Objectives:** To examine the use of complementary and alternative therapies (CAT) in our region, particularly for children with chronic conditions, and explore contributing factors to their use.

**Methods:** A prospective random sample of mothers visiting the out patient department of King Abdulaziz University Hospital in Jeddah, Saudi Arabia were

identified from the 1st of June, 2006 to the 31st of May, 2008. A survey using a structured 50-item questionnaire was used to examine their demographics, child's medical problem, and the use of CAT.

**Results:** Seventy-nine mothers were interviewed, and their child's condition was acute in 47%, chronic, or recurrent in 53%, and treatable in 84%. Neurological complaints were reported in 25%. Thirty-three (42%) families used CAT in their child, mostly (57%) before seeking medical help. Religious and spiritual healing was used in 82%, oral, or topical preparations or herbs in 30%, and physical interventions in 21%. Factors associated with using CAT included child's age  $<1$  year ( $p=0.008$ ), less than high school education of the fathers ( $p=0.01$ ), chronic medical condition ( $p=0.00008$ ) or neurological disorder ( $p=0.0009$ ), and positive family history of using CAT ( $p<0.0001$ ).

**Conclusions:** Many parents refer to CAT typically before seeking medical help. Pediatricians should counsel and caution parents regarding the lack of studies demonstrating efficacy and safety of CAT in young children.

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Families frequently seek therapies from natural sources, or environmental therapies over which they may exert some control.<sup>1</sup> They may turn to interventions that offer hope consistent with their values, culture, and religious beliefs.<sup>2,3</sup> This is particularly true when medical treatments are ineffective, or associated with significant sided effects. Complementary and alternative therapies

(CAT) are not taught in medical schools, are not provided in hospitals, are not reimbursed by third-party payers, and lack evidence of effectiveness.<sup>4,5</sup> Examples include herbs, oils, other dietary supplements, spiritual healing, and physical treatments such as acupuncture, and cauterization.<sup>6-8</sup> There is evidence that the use of such therapies among general pediatric patients is increasing, particularly for children with chronic, or recurrent conditions.<sup>9,10</sup> The incidence is highest for oncology, or incurable patients accounting for >60% of consultations to a holistic medicine service in one study.<sup>11</sup> Some of CAT are now offered in hospitals, including religious or spiritual healing practices, and counseling, massage, and acupuncture for patients with severe pain.<sup>12</sup> Many families have strong beliefs in these therapies and may not discuss their use with the physician.<sup>13,14</sup> Many CAT have potential negative effects, interactions with medical treatments or significant expenditures.<sup>15</sup> As well, their use may affect compliance and follow-up with medical treatments and interventions.<sup>16</sup> Therefore, pediatricians should be aware and take a detailed history regarding CAT use. The aim of this study was to examine the use of CAT in children and explore possible contributing and correlating factors to their use. These issues are frequently ignored and have not been studied systematically in our region. We hypothesized that CAT are frequently used by Saudi families for chronic or neurological conditions, and are usually recommended by senior members in the family. Social pressure on young and inexperienced parents with decreased education may contribute highly to CAT use in Saudi families.

**Methods.** The mothers of a series of children visiting the pediatric out patient department were identified randomly over a 2 year period (June 2006 to May 2008). Families were identified through referrals, and follow-up consultations to various general, and specialty pediatric clinics at King Abdulaziz University Hospital (KAUH) in Jeddah, Saudi Arabia. King Abdulaziz University Hospital is a multi-specialty adult, and pediatric hospital providing tertiary medical care for most of the regional population of western Saudi Arabia. The KAUH is the main teaching center of the western region. Consenting mothers were assured that taking part in the study was voluntary and that their identity would remain anonymous. A structured 50-item questionnaire was designed to examine the family demographic characteristics, details of the child's medical problem, including history of epilepsy, and any associated physical or mental disability (Table 1). The mothers were then asked in details on their use of complementary, and alternative therapies (Table 2). A likert scale item<sup>17</sup> was included to examine their response. Response categories to the likert scale item

were: 1) not effective at all, 2) some effect, 3) moderately effective, and 4) very effective. The authors conducted the interviews during an outpatient clinic visit. The KAUH review board approved the study design, and questionnaires.

The data were tabulated using Epi Info, version 6,<sup>18</sup> and the results were examined by Chi-square statistics to identify the magnitude of significant associations when present. A *p*-value less than 0.05 was considered statistically significant.

**Results.** Seventy-nine mothers were interviewed during the study period. Socio-demographic variables of the included families are summarized in Table 3. Many mothers were of Saudi Arabian nationality (48%), housewives (89%), and married (97%). Most of the families (83%) lived in the Jeddah area. The child's medical problems were acute in 47%, chronic, or recurrent in 53%, and treatable in most (84%) children. Only 6.5% had a progressive severe medical disorder. Neurological complaints were reported in 25% with mental retardation in 14%, cerebral palsy in 19%, and epilepsy in 17%. Around 50% had recurrent clinic visits, and 22% had recurrent emergency room visits in the 6 months preceding our interview. Thirty-three (42%) families reported using CAT in their child, mostly (57%) before seeking medical help. Most families (45%) were

**Table 1 -** List of factors that were assessed to correlate with using complementary and alternative therapies (CAT).

Factors
<i>Child related factors</i>
Child's age*
Gender
School grade
Nationality
Mental retardation
Physical handicap such as cerebral palsy
<i>Mother and family related factors</i>
Mother's age, highest education, and employment
Father's age, highest education,* and employment
Marital status
Family monthly income
City of origin
Family history of using CAT*
<i>Disease related factors</i>
Underlying diagnosis
Acute versus chronic*
Benign versus serious
Static versus progressive
Treatable versus non-treatable
Neurological disorder*
Epilepsy
Frequency of hospital admissions
Frequency of clinic visits

\*Factors significantly associated with using CAT (*p*<0.05).

**Table 2** - Questions related to the use of complementary and alternative therapies (CAT).

Questions
<i>Use of CAT</i>
Did you ever use CAT?
Before or after seeking medical help?
Recommended by whom?
Reasons for seeking CAT?
Diagnosis of the provider?
Type(s) used (religious, spiritual, physical, preparations)?
Did any family member ever use CAT (mother/father/child)?
If yes, which type?
<i>Effects of CAT</i>
How effective was it?
Side effects of CAT?
Do you continue CAT / how frequent?
Cost per visit?
Were you advised to stop medical drugs?
<i>Patient-physician interaction</i>
Did you consider stopping all medical treatments?
Did you ever stop medical treatments after using CAT?
If yes, what happened?
Did you consider telling your doctor about your CAT use?
Did you actually tell your doctor?
Did your doctor ask you about CAT use?
Did you like your doctor to tell you about CAT?

**Table 3** - Some socio-demographic characteristics of the study families (n=79).

Demographics	Results in the study sample
Child's age	1-16 years (mean 4.9, SD 4.5)
Mother's age	20-51 years (mean 34, SD 7.7)
Father's age	26-66 years (mean 40, SD 9.3)
<i>Parent's education</i>	
None	7% fathers/14% mothers
School grade	58% fathers/62% mothers
College or university	35% fathers/24% mothers
<i>Father's employment</i>	
Regular/office work	38%
Labor worker	27%
Teacher	9%
Military	8%
Professional	6.5%
Business	6.5%
Unemployed	5%
<i>Family's monthly income</i>	
<3000 SR (800 USD)	46%
3000-15,000 (800-4000)	48%
>15,000 SR (>4000 USD)	6%

SR - Saudi Riyals, USD - American Dollars

self referred and the treatment was recommended by other family members in 24%, friends in 24%, or others in 7% of cases. Reasons for seeking CAT included no benefits of the medical treatments in 28%, strong beliefs in CAT in 28%, routine use in 24%, chronic nature of the illness in 12%, and untreatable disorder in 8%. The

CAT provider usually gave no diagnosis, however, if such diagnosis is provided (20% of case); it was usually a bad (envy) eye (60% of cases). Of the 42% who used CAT, 19% used more than one therapy including religious, and spiritual healing, such as prayers, readings from the holy book "Quran", and drinking of the holy water "Zamzam" (82%), oral or topical preparations or herbs (30%), physical interventions, such as cauterization (12%), and special religious procedures, such as blood letting "Hijama" (9%). Regarding the likert scale items, 30% found no effect, 15% some effect, 36% moderate effect, and 18% found strong beneficial effects of the used CAT. Side effects were noted by 18%. Pain, irritability, and local infection were reported with cauterization. The cost of CAT was less than 100 SR (27 USD) in most cases (91%), and 27% continue on these treatments. Only 12% considered stopping their medical treatments, and 6% were instructed to stop their drugs by the CAT provider. Family history of using CAT was positive in 52%. Only 25% of families considered telling their doctor regarding CAT use, and 31% actually did tell their doctor. Only 18% mentioned that their doctor asked them regarding CAT use, and all wanted their doctor to tell them about it. Several factors were significantly associated with using CAT, including child's age <1 year (69% versus 38%,  $p=0.008$ ), less than high school education of the fathers (64% versus 41%,  $p=0.01$ ), chronic medical condition (81% versus 29%,  $p<0.0008$ ) or neurological disorder ( $p=0.0009$ ) and finally positive family history of using CAT (78% versus 23%,  $p<0.0009$ ). Other socio-demographic variables, such as parent's age, occupation, origin, or income, did not have a statistically significant impact. Other medical variables, including frequency of hospital visits, had no statistically significant correlations.

**Discussion.** This study documented that many Saudi families (42%) are using CAT, even before seeking medical help. Factors significantly associated with using CAT included child's age <1 year, low father's education, chronic or neurological disorder, and positive family history of using CAT. Even in developed countries, such as the USA, the use of CAT is increasing dramatically. Up to 65% of the population reports the use of CAT.<sup>19</sup> Also, many American medical schools now offer courses on alternative therapies. Most of our families were self-referred, and the treatment was recommended by other family members or friends in 48% of cases. A common reason for seeking CAT was the lack of definitive medical cure; however, 52% used CAT rather routinely, based on their own strong personal beliefs. Top reasons for using CAT include enhancing health, and helping with common chronic symptoms.<sup>20</sup> Herbs are also appealing to those who perceive nature as

benevolent and healing.<sup>21</sup> However, many patients are also looking for management of symptoms rather than a cure. The majority of our Muslim families (82%) used religious, and spiritual healing, such as prayers, readings from the holy book "Quran", and drinking of the holy water "Zamzam". Other authors have found prayer and spiritual healing as one of the most often sought CAT.<sup>22</sup> Invasive and painful procedures were less commonly used (cauterization in 12% and blood letting in 9%) with significant side effects (pain, irritability, and local infection). Pediatricians should advise caution on potential side effects of such procedures, and toxicities from herbs, and dietary supplements. Associated with this is the mistaken perception that a naturally-derived product is always safe, and free of unwanted side effects.<sup>23-25</sup> The belief that "more is better" is particularly concerning since many herbal products have biological activity that can lead to severe toxicity.<sup>26</sup> Pediatricians may be concerned that families who use CAT are unsatisfied with medical care, and may abandon effective therapies for unproven alternatives. However, these families rarely abandon their mainstream pediatricians. Although 6% of our patients were instructed to stop their medical drugs by the CAT provider, this was rarely carried out. The CAT was typically used as an adjunct rather than an alternative to mainstream medical care. In the USA, up to 19% of prescription drug users used herbs, or vitamin supplements concurrently.<sup>27</sup> Studies have also documented that the proportion of children who had seen their primary care pediatrician during the acute illness did not differ according to use of complementary treatments.<sup>28</sup> Except in rare cases, no studies have demonstrated the effectiveness of CAT in preventing, or treating pediatric disorders.<sup>29,30</sup> The available evidence is unconvincing, and full of methodological shortcomings, and inconsistencies. Up to 70% of our families found some benefit from the used CAT, however, this effect was weak when examined using the likert scale (only 18% found strong benefits). This is not proof of its effectiveness as the patients were also using medical treatments. The cost of CAT in our patients was low, which might encouraged their use. In fact, 19% of them were using more than one CAT. This was also documented in other developing countries, where CAT are often less expensive, and more accessible than conventional drugs.<sup>31</sup> Only 31% of our patients told their doctor regarding using CAT, which is similar to the numbers reported in the literature.<sup>32</sup> The reason for not telling was usually "it was not important for my doctor to know" and 60% also reported that "the doctor never asked".<sup>32</sup> In fact, only 18% of our patients mentioned that their doctor asked them about CAT use, and all of them wanted their doctor to tell

**Table 4 -** Recommendations for pediatricians when faced with family discussions related to alternative, complementary, and unproven therapies.

Recommendations
1. Actively listen to the family and the child with chronic illness.
2. Seek information for yourself and be prepared to share it with families.
3. Evaluate the scientific merits of specific therapeutic approaches.
4. Identify risks or potential harmful effects.
5. Provide families with information on a range of treatment options.
6. Educate families to evaluate information about all treatment approaches.
7. Avoid communicating a lack of sensitivity or concern for the family's perspective.
8. Recognize when the family feels threatened.
9. Guard against becoming defensive.
10. If they select CAT, offer to assist in monitoring and evaluating the response.

them about it. Physicians should counsel, and caution parents regarding the lack of studies demonstrating the efficacy and safety of CAT in children.<sup>33</sup> The American Academy of Pediatrics has established recommendations for pediatricians who discuss CAT with their families as summarized in Table 4.<sup>34</sup> If the patient chooses to proceed, a plan should be agreed on for ongoing monitoring for both benefits, and adverse effects. A non judgmental attitude should be maintained. This will allow open channels of communication for monitoring and future discussion. A patient's decision to pursue CAT is not an acceptable justification for a physician to terminate care of a patient.

There are some limitations to our study. Our sample is relatively small, but representative of the general pediatric population with variable socio-cultural backgrounds. All cases were recruited from the outpatient department. This may limit our ability to generalize from our findings as minor or more acute, life threatening conditions are not well represented in our sample. As well, our findings may not apply to other regions of the Kingdom that were not represented in the study.

We conclude that many parents refer to CAT typically before seeking medical help. Most families are self-referred and have strong personal beliefs in CAT. Factors significantly associated with using CAT included child's age <1 year, less than high school education of the fathers, chronic medical condition, or neurological disorder, and positive family history of using CAT. Physicians should counsel, and caution parents regarding the lack of studies demonstrating efficacy, and safety of CAT in children.

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