# Complementary and alternative medicine for attention deficit/hyperactivity disorder: An Eastern Cape study

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**To the editor:** Attention deficit/hyperactivity disorder (ADHD) is a syndrome of developmentally inappropriate and socially disruptive behaviour beginning in childhood and is characterised by varying degrees of hyperactivity, inattention and impulsiveness.[1] Diagnosis is made using DSM-IV criteria.[2] Little is known about ADHD on the African continent.[3] ADHD is reported to affect 3 to 5% of school-going children, of which the majority are boys.[4,5] Research by Meyer[6] suggests that ADHD is the most prevalent child psychiatric disorder in South Africa. A recent prevalence study conducted in various language groups in South Africa showed that, when a teacher rating scale was used, figures for prevalence similar to those in Western countries were obtained.[5] The Hyperactivity/Attention Deficit Support Group of South Africa estimated in 2004 that 10% of all South African children may have characteristics associated with ADHD.[3] No official statistics on the prevalence of ADHD in South Africa are available, however.[3]

Various medicines have been accessed for the treatment of attention deficit/hyperactivity disorder (ADHD). It is the psychostimulants, however, that remain the drugs of choice for treating ADHD and have been the most effective, most commonly used and most extensively studied.[7,8] Atomoxetine HCl was the first non-stimulant registered for the treatment of ADHD in South Africa in June 2005.[9] A comprehensive treatment programme for ADHD should, however, include psychological, educational and social measures and not medication alone.

There is growing interest among patients, medical practitioners, health care administrators and third-party payers in complementary and alternative medicine (CAM) for ADHD.[10] Since ADHD has no cure, many families may try CAM at some stage.[11] There are remarkably few systematic studies on the prevalence of CAM use in ADHD, however.[12] Numerous and often controversial treatments are therefore promoted for ADHD[13], with consumers often not knowledgeable about the usefulness or effectiveness of these therapies. The most often-used of these therapies are dietary modifications, dietary supplements, herbal treatments, biofeedback, sound therapy, exercise and chiropractice.[10,13,14] Little is known about the use of these therapies alone or in combination with pharmacological treatment for ADHD in South Africa, however. The primary aim of the study was therefore to investigate the treatment and care of children and adolescents diagnosed with ADHD in the Eastern Cape, with a focus on the use of CAM.

A questionnaire survey was conducted in 2006. Ninety-four pharmacies in the Eastern Cape were randomly selected and contacted during October 2006. Fifty-four responsible pharmacists indicated their willingness to participate in the study, indicating the number of questionnaires that they were likely to distribute (a total of 522 was likely). The questionnaires, accompanied by letters to the parents of children diagnosed with ADHD explaining the study and by self-addressed envelopes to enable the parents to return the questionnaires, were personally delivered to each responsible pharmacist during November 2006. Each participating pharmacist completed a consent form on acceptance of the questionnaires. Follow-up telephone calls to serve as reminders were made to the responsible pharmacists during January 2007. Fifty-one questionnaires were returned (indicating a response rate of 9.77%).

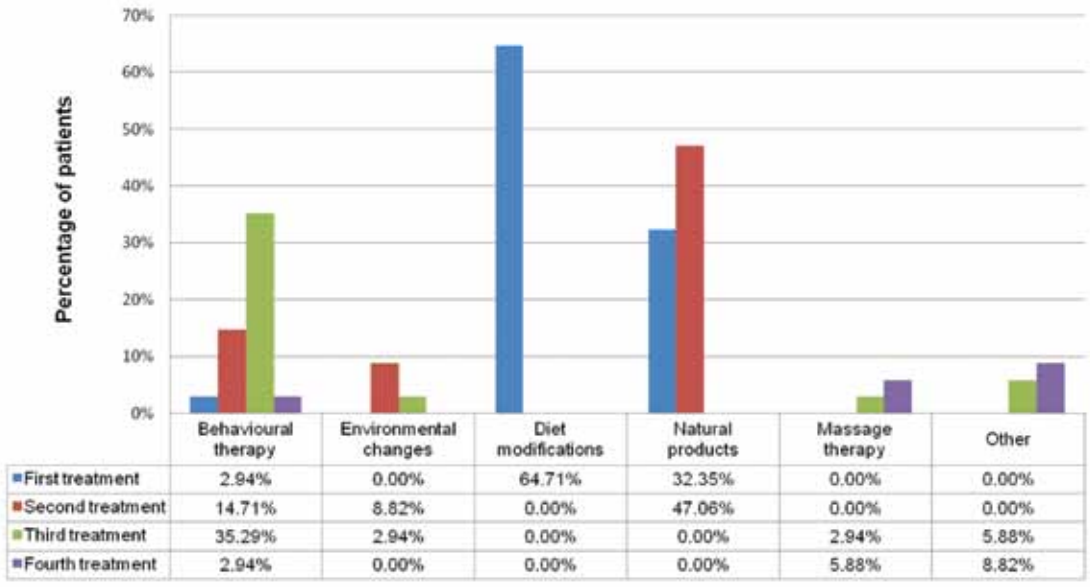
This article reports on the results of only one component of the larger study, namely the use of other treatments (CAM therapies) for ADHD. The parents had been asked whether their children had used any alternative treatments and, if so, what these treatments were. They had also been asked how long CAM therapies had been used and whether they were still being used. They had furthermore been asked about changes relating to symptom control while CAM therapies for ADHD were being used.

The data were analysed with Microsoft Excel®. Descriptive statistics were then calculated.

The majority of the patients were male (73.58%) and the average age was 10.27 (SD = 2.54) years. Almost all the patients (96.08%) had been initiated on methylphenidate, with only two patients using atomoxetine. Ritalin® had been prescribed to 74.51% of the patients. Thirty-nine patients (76.47%) had undergone a dosage or medication change after the original diagnosis of ADHD. Thirty-four (66.67%) of the parents indicated that their children or adolescents had tried alternative treatments.

In a study conducted in Australia,[11] 67.6% of families with children with ADHD also reported CAM use. Figure 1 indicates the alternative treatments used and the order in which they had been used. As can be seen, natural products, such as Eye q®, Biostrath® and evening primrose oil, had been used most often, followed by diet modifications. Other alternative treatments included occupational therapy, the playing of more sports, physiotherapy, speech therapy and remedial therapy.

**Figure 1: Complementary and alternative medicine (CAM) used by patients (n = 34)**




| | Behavioural therapy | Environmental changes | Diet modifications | Natural products | Massage therapy | Other |
|---|---|---|---|---|---|---|
| First treatment | 2.94% | 0.00% | 64.71% | 32.35% | 0.00% | 0.00% |
| Second treatment | 14.71% | 8.82% | 0.00% | 47.06% | 0.00% | 0.00% |
| Third treatment | 35.29% | 2.94% | 0.00% | 0.00% | 2.94% | 5.88% |
| Fourth treatment | 2.94% | 0.00% | 0.00% | 0.00% | 5.88% | 8.82% |

The children and adolescents had used the alternative treatments for an average of 20.65 (SD = 25.26) months (range: 2 months to 8 years and 4 months). Only 11 (21.57%) patients were still using alternative treatments at the time of the study, indicating that the respondents felt that the alternative treatments had not been effective. Only nine (17.65%) of the respondents indicated that there had been a change in symptoms while the alternative treatments were being used. Two respondents indicated that the most notable change had been seen when the alternative therapy was used in combination with pharmacological treatment. The National Institute of Mental Health Multimodal Treatment Study of ADHD[15] indicated that at 24 months after initiation of therapy the greatest improvement in ADHD and oppositional-defiant symptoms had been seen in the patients who received both medication and behavioural therapy.

The study was too small to reach definite conclusions regarding the usefulness of CAM therapies in ADHD but it did provide some baseline information that can be used in further studies. Limitations of the study were that the questionnaires had been distributed only to the parents of children who received their medication from community pharmacies and that the questionnaires had been distributed prior to the summer school holiday, which could have negatively affected the response rate.

There has been a move towards the use of more non-pharmacological and natural therapies in the treatment of chronic conditions but this study found that symptom control was insufficient when pharmacological treatments for ADHD were stopped and only non-pharmacological treatments were used. There is indeed a place for alternative therapies in the treatment of ADHD but this should take place in combination with pharmacological treatment. Further studies are needed to determine the usage patterns and effectiveness of CAM in the treatment of ADHD.

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## References

1. Martindale. 34th ed. Sweetman SC, editor. London: Pharmaceutical Press; 2005.
2. Biederman J, Faraone SV. Attention-deficit hyperactivity disorder. Lancet. 2005;366(9481):237–248.
3. Lloyd G, Stead J, Cohen D. Critical new perspectives on ADHD. Oxfordshire: Routledge; 2006.
4. Wilens TE, Biederman J, Spencer TJ. Attention deficit/hyperactivity disorder across the lifespan. Ann Rev. 2002;53(1):113–131.
5. Meyer A, Eilertsen DE, Sundet JM, Tshifularo JG, Sagvolden T. Cross-cultural similarities in ADHD-like behaviour amongst South African primary school children. S Afr J Psychol. 2004;34(1):123–139.
6. Meyer A. Attention deficit/hyperactivity disorder among North Sotho speaking primary school children in South Africa: Prevalence and sex ratios. J Psychol Afr. 1998;8:186–195.
7. Markowitz JS, Devane CL. Attention-deficit hyperactivity disorder and the rise in methylphenidate use. US Pharm. 2000 November;(Suppl):3–12.
8. Attention deficit hyperactivity disorder – hyper or hype? Medifile. 1999;13:65–67.
9. New treatment available for ADHD: Atomoxetine. Medifile. 2006 (Jan/Feb);20:1–3.
10. Sawni A, Thomas R. Pediatricians' attitudes, experience and referral patterns regarding complementary/alternative medicine: A national survey. BMC Complementary and Alternative Medicine. 2007;7(18) [cited 2009 June 12]. Available from http://www.biomedcentral.com/1472-6882/7/18
11. Sinha D, Efron D. Complementary and alternative medicine use in children with attention deficit hyperactivity disorder. Journal of Paediatrics & Child Health. 2005 (Jan/Feb);41(1–2):23–26.
12. Chan E. The role of complementary and alternative medicine in attention-deficit hyperactivity disorder. J Dev Behav Pediatr. 2002;23:S37–S45.
13. Selikowitz M. ADHD: The facts. New York: Oxford University Press; 2006.
14. Brue AW, Oakland TD. Alternative treatments for attention-deficit/hyperactivity disorder: Does evidence support their use? Altern Ther Health Med. 2002 (Jan/Feb);8(1):68–74.
15. MTA Cooperative Group. National Institute of Mental Health Multimodal Treatment Study of ADHD follow-up: 24-month outcomes of treatment strategies for attention-deficit/hyperactivity disorder. Pediatrics. 2004;113(4):754–761.