



Complementary and alternative medicine usage in Scottish children and adolescents during cancer treatment



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A B S T R A C T

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Aim: To determine the prevalence of the use of CAM and spiritual practices in the paediatric oncology population of SE Scotland and to establish both the reasons for their use and the perceived benefits.

Methods: A retrospective survey was performed using previously piloted questionnaires. These were distributed to families whose children were <18 years and diagnosed with cancer. Demographic and clinical data were collected, descriptive statistics were used to establish frequencies and univariate associations were established by χ^2 test.

Results: Of 169 families approached, 74 (44%) returned completed questionnaires. 41 (55%) families used CAM and 42 (57%) sought spiritual remedies whilst receiving conventional treatment. Higher socio-economic status was the only factor associated with CAM usage and the most popular therapies were vitamins and minerals ($n = 22$; 53%), followed by massage ($n = 12$; 29%) and fish oils ($n = 12$; 29%). Most families used CAM to reduce stress and, overall, CAM was perceived to be beneficial.

Conclusion: The high prevalence of CAM usage in this population highlights the need for physicians to enquire routinely about CAM use and warrants high-quality interventional studies to assess safety and efficacy.

Summary: The use of Complementary and Alternative Medicine (CAM) among paediatric patients during cancer treatment is popular worldwide, yet data from the UK are scarce. This study showed that more than half of this Scottish cohort used CAM and that there was an overall positive perception of the effect that these therapies had on the patients. Also, socio-economically advantaged families might be more likely to use CAM in Scotland.

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1. Introduction

The use of complementary and alternative medicine (CAM) among children and adolescents during cancer treatment ranges between 6 and 91% worldwide [1] and in the UK from 33 to 40% [2,3]. The choice of CAM varies from country to country; in the UK the most commonly reported are aromatherapy, massage and multivitamins, whilst in the USA it is herbal remedies [1]. Most studies have been performed in the USA [1], while in the UK there is

a lack of evidence exploring the prevalence and reasons for CAM use with only two published articles to date [2,3]. Neither was conducted in Scotland, emphasising the need for data within this patient population.

The survival rate of children with cancer has improved substantially in the last decades as a result of improvements in conventional cancer treatment, however children still suffer major complications, which may themselves not be relieved by conventional medicine [4]; many families therefore use CAM [1], which is defined as health practices and products that are usually not provided by conventional medicine [5]. Some also use either support groups or spiritual practices, themselves not generally considered CAM [1]; surveys have however shown these to be very popular among children with cancer and their families [6]. In the context of healthcare and specifically paediatric oncology, 'spiritual practices' are activities undertaken by patients and their families, which they

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believe and or hope will help them to deal with cancer and its treatment and all the physical and psychological sequelae that this entails [7]. These activities comprise both organised religion and individual spirituality including secular meditation [8].

CAM has the potential to significantly improve the quality of life of childhood cancer patients and their families by reducing stress and alleviating symptoms [9]. However, many therapies, especially those of biological origin, interact with conventional cancer treatment increasing their toxicity or reducing the efficacy of the actual treatment [10]. Taking into consideration the potential benefits and adverse effects of CAM plus the lack of data available from Scotland, our aims were: (i) to determine the prevalence of CAM in the paediatric oncology population from SE Scotland whilst patients were receiving conventional treatment, (ii) the frequency and reasons for their use (iii), the perceived benefits among users and (iv) to compare rates of CAM usage with both spiritual practices and involvement with support groups. The expectation is that the results of this study will inform physicians about the profile of families whom are more likely to use CAM and the reason behind their choice, thereby facilitating an open dialogue regarding future patient use of CAM.

2. Materials and methods

2.1. Patient selection

Our survey included:

- (i) Children aged <18 years
- (ii) Diagnosed with cancer according to The International Classification of Childhood Cancer, third edition (ICCC-3) or Langerhans cell histiocytosis.
- (iii) Diagnosed between January-2001 and June-2009 and attending the Royal Hospital for Sick Children (RHSC) for follow up between January-2007 and December-2009.

- (iv) Resident in SE Scotland (NHS Lothian, NHS Borders, NHS Fife, NHS Tayside)
- (v) Children with Acute Lymphoblastic Leukaemia were considered after they had completed a year into their treatment, while for all the other cancers six months was enough for enrolment. This was done in to assess CAM usage during treatment exclusively.

Exclusion criteria:

- (i) Children on palliative care or those who had second cancers or died were excluded out of respect for the families.

Demographic and clinical data of non-repliers were selected randomly in a 1:1 control:case ratio at the end of the study using a computer generated sequence.

2.2. Questionnaire process

The questionnaire was designed based on the definition of CAM by the National Center for Complementary and Alternative Medicine (NCCAM (2006)) [5], then piloted and modified accordingly (Table 1 and Supplemental Digital Content I). The final version consisted of 5 main sections: (i) alternative health care providers; (ii) unconventional cancer therapies; (iii) the use of special or restrictive diets; (iv) the use of dietary supplements and herbs and (v) mind-body techniques. Two extra sections not defined as CAM by NCCAM (2006) were added to the questionnaire for comparative purposes; (vi) the use of support groups and (vii) spiritual practices. Given the overlap between spirituality and religion [8], the questionnaire combined both by asking only about general spiritual practices. These included activities such as praying and healing rituals. Ethical approval was obtained from the Scottish (Lothian) National Health Service committee.

Table 1
Characteristics of the $n = 74$ paediatric oncology “participants” and $n = 74$ randomly selected “non-participants” (control).

Parameters	Participants			Non-participants			P
	Median	IQ	CI	Median	IQ	CI	
Age at diagnosis (years)	4.4	6.7	5.03–7.02	6.8	9.32	6.30–8.71	^a 0.1
Length of treatment (years)	0.83	1.83	0.98–1.48	1	1.85	1.16–1.76	^a 0.2
	<i>n</i>	%		<i>n</i>	%		
Gender							^b 0.4
Male	45	61		39	54		
Female	29	39		35	47		
Diagnostic criteria	74	100		74	100		^b 0.7
Haematological malignancies	31	42		26	35		
Brain tumours	10	13.5		19	26		
Solid tumours	29	39		23	31		
Other malignancies	2	3		2	3		
Treatment (>1 possible)							
Chemotherapy	60	81		55	74		^b 0.1
Radiotherapy	6	8		3	4		
Chemotherapy + Radiotherapy	5	7		11	16		
Surgery	25	34		18	24		
Cranial radiotherapy	14	19		3	4		
No treatment	2	3		4	5		
Deprivation							
Most deprived (I & II)	12	16		27	36		^b 0.005
Most advantage (III–V)	62	84		47	63		
Ethnicity							
White	73	99		72	97		^b 1
Non-white	1	1.4		2	3		

Deprivation: I indicates most deprived and V least deprived.

^a Mann Whitney U.

^b χ^2 Test.

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