

AN INSIGHT INTO THE USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINES AMONG PATIENTS WITH ATOPIC ECZEMA IN CENTRAL DURBAN, SOUTH AFRICA

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**Abstract**

**Background:** Complementary and alternative medicines (CAM) are increasingly popular globally with frequent use amongst patients with atopic eczema (AE). Despite increased AE prevalence in South Africa (SA), no local data on CAM-use for this disease exists.

**Methods:** A cross-sectional study utilizing a comprehensive questionnaire qualifying and quantifying CAM use in patients with AE. We interviewed 206 AE patients; 106 from a public hospital dermatology clinic and 100 from private dermatology practices in central Durban. One-way analysis of variance (ANOVA) compared means of continuous predictors across 3 or more groups. Differences in frequencies of categorical explanatory variables by CAM and AE were assessed using Pearson chi-square ( $\chi^2$ ) test or Fishers exact test.

**Results:** There were 143 children, 63 adults; 163 females and 43 males. Races represented were Black (56%), Indian (33%), Coloured (6%) and White (4%). 135(66%) reported current or previous CAM use. Common reasons were family/friends' recommendations (42%) and media-influence (23%). Frequently used CAMs were vitamins (35%), aromatherapy oils (27%), herbal creams (26%), traditional African medicines (23%) and homeopathy (19%). Non-disclosure to the dermatologist was high (59%). Almost half (48%) said they were not questioned about CAM use. More Indian patients used CAM ( $p=0.001$ ) and Muslims were most frequent CAM users ( $p=0.044$ ). Although not statistically significant, the more educated and higher income bracket used CAM more. 28% felt CAM had fewer side-effects, 28% felt it was safer than conventional medicine and 35% felt CAM was more natural.

**Conclusion:** The detailed trends of CAM use by South Africans for AE is an important addition to the current literature. Dermatologists and healthcare professionals addressing patients with AE need to be more familiar with CAM types that patients may explore as this could impact on the overall clinical outcome.

**Keywords:** Dermatology; complementary medicines; alternative medicines; atopic eczema,

**Introduction**

Atopic eczema (AE), a chronic, relapsing disease, is the commonest inflammatory skin condition in children and adults (Deckers et al., 2012). A systematic review (SR) of epidemiological studies, revealed an increasing prevalence in Africa with approximate doubling of lifetime prevalence in South Africa (SA) (Deckers et al., 2012).

Numerous studies have demonstrated the increased use of complementary and alternative medicine (CAM) amongst dermatological patients (Baron et al., 2005; Buchar et al., 2012; Eisenberg et al., 1998; Magin & Adams, 2007). Atopic eczema was reported to be the most frequent dermatological condition where CAM was sought (Baron et al., 2005; Bielory & Lupoli, 1999; Ernst, 2000). Several cross-sectional studies, in Ireland (Hughes et al., 2007), United Kingdom (Johnston et al., 2003), Korea, (Kim et al., 2013) United States (Simpson et al., 2003) and Norway (Jensen, 1990) have qualified and quantified CAM-use in AE.

A prevalence-study of traditional medicine (TM) and CAM in the general SA-population, showed declines in TM-use but increased CAM-use over 13 years (Peltzer, 2009). Population and health facility-based surveys indicated that both play important roles in SA healthcare delivery, however, lack of data about the extent of CAM-use in varying conditions was reported (Peltzer, 2009). Other SA studies highlighting CAM's popularity were amongst an Indian population (Singh et al., 2004) and in HIV patients (Peltzer et al., 2008).

We found no African studies that explored CAM-use in AE and thus devised a comprehensive questionnaire to quantify the extent of CAM-use, types utilized, influence of age, gender, race, socio-economic status and education level on CAM-use in AE. We believe ours is the first African study to provide this information within the context of AE. This study yields new insights beneficial to dermatologists, paediatricians, general practitioners (GPs), pharmacists and CAM practitioners that treat patients for AE.

Studies in Africa that explored CAM-use in individuals afflicted with AE are scarce. We thus devised a comprehensive questionnaire to explore CAM-use within central Durban, South Africa. The objectives of this study were to determine the types of CAMs utilized and to quantify the extent of CAM-use in patients with AE. Furthermore, the demographic and socio-economic attributes were explored to determine their influence on CAM-use.

## **Materials and Methods**

This cross-sectional study comprised 206 patients selected from both the public and private sector to provide a broader demographic profile. The sample size was calculated based on population estimates from studies of AE patients attending public and private hospitals (Dlova et al., 2017; Dlova et al., 2015). These studies considered the number of AE patients attended to per month in both public and private sectors. By measuring the patient volume per month at these facilities, population estimates were achieved. Using a sample size calculator (with a 95% confidence level and a 5% margin of error) in consultation with a biostatistician, a sample of 206 patients was selected. A consecutive sampling method was implemented until the full sample size was reached.

### **Location**

King Edward VIII Hospital (KEH) was the public health facility, where 106 patients were selected. This facility was chosen as it is largest teaching hospital and largest dermatology clinic in KwaZulu-Natal, South Africa. Five private dermatology practices in central Durban were selected by means of purposive sampling. These were selected based on proximity as well as the resident dermatologists' willingness to allow the researchers to interview patients attending their respective practices. Amongst these private practices, 100 patients were selected.

### **Inclusion Criteria**

Patients of all ages with an existing diagnosis of AE confirmed by a consulting dermatologist at the respective practices, who provided informed consent (themselves/parent/caregiver) were recruited. Public-patients were recruited over 3 months. Informed written consent was obtained from these patients and they were interviewed face to face. isiZulu being the main language of the predominantly Black population in KwaZulu-Natal, necessitated the presence of a translator.

Patients attending private practices were asked by the consulting dermatologist if they were keen to participate in the study. Those that were agreeable provided contact details and were contacted and interviewed telephonically where a verbal consent was obtained. These patients were recruited over a period of 6 months. For children, the parent/primary caregiver was interviewed.

### **Exclusion criteria**

Patients with other types of eczema or where the diagnosis was not confirmed by the consulting dermatologist were excluded from the study.

### **Questionnaire**

The comprehensive questionnaire was developed with reference to several questionnaires used in international studies and was modified to suit the current context (Baron et al., 2005; Johnston et al., 2003; Kim et al., 2013). The questions created by these authors were used as a guideline which was further modified and adapted to suit the context of this study and location. The authors acknowledge the studies which assisted in the development of the questionnaire. The questionnaire was further reviewed by an expert research/clinical dermatologist and was then piloted amongst 10 patients thus enabling us to address ambiguity and structure. The main themes of the questionnaire are summarised in Table 1.

**Table 1:** Main Themes addressed in Study Questionnaire

<b>SECTION</b>	<b>A</b>	<b>Demographics</b>
		Patient particulars, Practice attending for treatment, Gender, Religion, Race, Age of Patient/Care-giver, Level of Education, Average gross monthly household income
<b>SECTION</b>	<b>B</b>	<b>Treatment Management of Atopic Eczema</b>
		Duration of disease, current dermatologist prescribed treatment e.g. steroid creams/tablets/syrup, antihistamines, immunosuppressant creams/tablets, emollients, moisturizers
<b>SECTION</b>	<b>C</b>	<b>CAM use and the Patient</b>
		Current or Previous use of CAM, Patients familiarity and usage of the following CAMs: Herbal creams, Herbal tablets/capsules/powders/pellets, Chinese herbal medicines, Traditional Indian medicines (Ayuverdic) Traditional African medicines (Inyanga/Isangoma), Homeopathy Vitamin supplements, Acupuncture, Natural Health Supplements, Aromatherapy (massage oils), Reflexology, Reiki, Chiropractic, Other
		Duration of CAM use
		Disclosure/Non-disclosure of CAM use to dermatologist with reasons
		CAM use with/without conventional medicines
		Reasons for using CAM
		Patients Satisfaction of CAM use on eczema symptoms
		Reasons for not exploring CAM (where applicable)

### Statistical Analysis

Data were analysed using Stata 13.0 SE (StataCorp. 2013.Stata Statistical Software: Release 13. College Station, TX: StataCorp LP). Relationships between continuous predictors and CAM use were assessed using a standard t-test. One-way analysis of variance (ANOVA) was employed to compare means of continuous predictors across 3 or more groups. Differences in frequencies of categorical explanatory variables by CAM and AE were assessed using Pearson chi-square ( $\chi^2$ ) test or Fishers exact test if an expected cell count contained fewer than 5 observations. A p-value of <0.05 was deemed statistically significant.

**Ethics:** The study was approved by the Biomedical Research Ethics Committee, University of KwaZulu-Natal (BE219/14).

### Results

#### Demographics

All 206 patients approached agreed to participate, yielding a 100% response-rate. There were 143 children and 63 adults. Age categories ranged from <3 months to >50 years. Females comprised 79%(163) and males 21%(43). Race was predominantly Black, 116(56%), then 68(33%) Indian, 12(6%) Coloured, 9(4%) White and <1% Chinese. Amongst religious groups there were 141(68%) Christian, 33(16%) Muslim and 26(12%) Hindu. The remainder 6(3%) were atheist, agnostic or did not respond. Most had secondary schooling as their highest educational level 95(46%), 61(30%) had college education, 20(10%) postgraduate qualifications, 21(10%) up to primary school and 9(4%) no schooling. Average gross monthly household incomes were: 49(24%) <R2000, 45(22%) R2000-R5000, 21(10%) R5000-R10000, 40(19%) R10000-R20000 and 44(21%) >R20000. Seven students and pensioners (3%) did not know their household-income. As anticipated, private patients were more educated with higher household incomes compared

to public patients ( $p < 0.001$ ). 196(95%) reported currently using topical steroids, 68(33%) systemic immunosuppressants and 27(13%) systemic steroids.

### CAM-users

The investigators considered a CAM-user to be any patient who has explored diverse medical and healthcare practices and products that are generally not considered part of conventional medicines or prescribed by conventional doctors for the treatment of AE. A large number of patients (135/206-66%) reported using CAM for AE. Of these, 45(22%) were currently using CAM and 90(44%) had tried them previously. Of the 135 patients, 92 used CAM for their children and 43 for themselves. However, there was no significant difference in frequency of children CAM-users (92/143-64%) compared to adults (43/63-68%) ( $p = 0.586$ ). No significant difference was noted between male (30/43-70%) or female (105/163-64%) CAM-users ( $p = 0.511$ ) and with respect to ages that explored CAM for themselves or their children ( $p = 0.905$ ). The age categories were notably wide-ranging and were: <30 years (51/75-68%), >50 years (15/22-68%), 41-50 years (29/45-64%) and 31-40 years (40/64-63%).

Race and religion were both statistically significant predictors of CAM-use. More Indian patients used CAM, 53/68(78%) compared to 8/12(67%) Coloured, 68/116(59%) Black and 5/9(56%) White patients ( $p = 0.001$ ). The 1 Chinese patient was currently using CAM. More Muslims explored CAM, 28/33(85%) than 18/26(69%) Hindu and 85/141(60%) Christian ( $p = 0.044$ ).

Although more patients who attended college, 46/61(75%) or had postgraduate qualifications, 14/20(70%) used CAM, this was not statistically significant ( $p = 0.302$ ) compared to CAM-users with no schooling (6/9-67%), primary-school education (13/21-62%) or up to secondary-school (56/95-59%).

Whilst there was no significant difference among monthly household-income levels with respect to CAM-use ( $p = 0.23$ ), more patients with incomes of R5000-R10000 (16/21-76%) and R10000-R20000 (30/40-75%) used CAM. Among those with income >R20 000, 30/44(68%) were CAM-users. Fewer in the lower income bracket tried CAM (27/47-57% earning <R2000; 25/45-56% earning R2000-R5000).

Of the 100 private-users, 69% used CAM and among 106 public-users, 62% (66/106) were CAM-users, however, no significant difference was noted between these ( $p = 0.309$ ).

Results showed that long-time sufferers were more likely to use CAM ( $p < 0.001$ ). Amongst CAM-users, the mean duration of AE was 8.4yrs (SD=9.8) compared to non-users with mean duration of 4.1yrs (SD=4.9).

The number that reported no CAM use was 71/206 (35%). Reasons provided were “belief that CAM does not work” (30/71-42%), “faith in conventional-medicines only” (23/71-32%), “fear of combining treatment types” (7/71-10%) and 9/71(13%) felt “no reason to as their prescribed conventional medicines worked well”. The comment that “CAM was expensive” was reported by 6%(4/71) and 4%(3/71) had “no knowledge of them”. This equates to >100% as some provided several reasons.

Demographics and characteristics of CAM-users are presented in Table 2. The various CAMs used and patients’ familiarity with them is reflected in Table 3.

**Table 2: Demographics and Characteristics of CAM users’ vs Total study population**

	<b>Total Study Population n=206 (100%)</b>	<b>CAM Users n=135/206 (66%)</b>
<b>Gender</b>		
Male	43 (21%)	30/135 (22%)
Female	163 (79%)	105/135 (78%)
<b>Age Category</b>		
Adult with AE	63 (31%)	43/135 (32%)
Children with AE	143 (69%)	92/135 (68%)
Highest frequency age range of adults with AE	<30 [n=30(15%)]	<30 [n=22(73%)]
Highest frequency age range of children with AE	2-5 years [n=39(27%)]	Parents/care-givers are the decision-makers
<b>Race*</b>		
Black African	116 (56%)	68/135 (50%)
Indian	68 (33%)	53/135 (39%)
Coloured	12 (6%)	8/135 (6%)
White	9 (4%)	5/135 (4%)
Asian	1 (0.5%)	1/135 (0.74%)

<b>Religion*</b>		
Christian	141 (68%)	85/135 (63%)
Islam	33 (16%)	28/135 (21%)
Hinduism	26 (13%)	18/135 (13%)
No religious domination	6 (3%)	4/135 (3%)
<b>Education</b>		
Postgraduate qualification	20 (10%)	14/135 (10%)
College education	61 (30%)	46/135 (34%)
Secondary School	95 (46%)	56/135 (41%)
Primary School	21 (10%)	13/135 (10%)
No school	9 (4%)	6/135 (4%)
<b>Monthly Household Income</b>		
< R2000	49 (24%)	29/49 (59%)
R2000-R5000	45 (22%)	25/45 (56%)
R5000-R10 000	21 (10%)	16/21 (76%)
R10000-R20 000	40 (19%)	30/40 (75%)
>R20 000	44 (21%)	30/44 (68%)
Unknown (student, pensioner)	7 (3%)	0
<b>Type of Facility attended</b>		
Public	106	66/106 (49%)
Private	100	69/100 (69%)
<b>Duration of AE*</b>	4 years (SD=4,87)	8 years (SD=9,75)

**Table 3:** Complementary Therapies Used for Atopic Eczema and Patients' familiarity with them (of a sample of 206 patients)

<b>Complementary Therapy</b>	<b>Total Number Used</b>	<b>Familiar but have not used</b>	<b>Unfamiliar</b>
<b>Vitamin supplements</b>	73 (35%)	60 (29%)	73 (35%)
<b>Aromatherapy oils</b>	55 (27%)	67 (33%)	84 (41%)
<b>Herbal creams</b>	53 (26%)	61 (30%)	92 (45%)
<b>Traditional African Medicines</b>	47 (23%)	41 (20%)	118 (57%)
<b>Homeopathy</b>	39 (19%)	42 (20%)	118 (57%)
<b>Natural Health Supplements</b>	21 (10%)	55 (27%)	130 (63%)
<b>Traditional Indian Medicines</b>	18 (9%)	35 (17%)	153 (74%)
<b>Oral Herbal Medicines</b>	13 (6%)	32 (16%)	161 (78%)
<b>Acupuncture</b>	8 (4%)	79 (38%)	118 (57%)
<b>Chinese Herbal Medicines</b>	6 (3%)	36 (17%)	164 (80%)
<b>Reflexology</b>	7 (3%)	67 (33%)	132 (64%)
<b>Reiki</b>	2 (1%)	44 (21%)	160 (78%)

#### **Familiarity and CAM choices**

Although vitamins were most frequently used, 38(52%) said they were not necessarily for eczema but for overall well-being in the hope that it would also help their skin. Vitamins specifically for AE were used by 35(48%),

mostly products also containing omega-3 and zinc. Aromatherapy, herbal creams, traditional African-medicines and homeopathy were amongst the most frequently used. Percentages are reflected in Table 3.

Regarding efficacy, 59(45%) CAM-users reported “no improvement”, 32(24%) reported “some improvement” and 32(24%) felt “a definite improvement”. Nine (7%) were “uncertain of benefit”. Three did not respond.

CAM was used together with conventionally-prescribed medicines in 63 patients (52%) and 29(24%) reported predominantly using CAM over conventionally-prescribed medicines. A few patients (6%) were rarely able to use either regularly. Fourteen did not respond.

### Familiarity with CAM

Despite extensive CAM-use in this study, a considerable number of people were unfamiliar with CAM. Unfamiliarity was reported with Chinese herbal medicines (CHM) (80%), oral herbal medicines (78%), Reiki (78%) and traditional Indian-medicines (74%). More than half had no knowledge of traditional African-medicines (57%),

homeopathy (57%), acupuncture (57%), natural health supplements (63%) and reflexology (64%). Although comparatively smaller, 45% and 41% were unfamiliar with herbal creams and aromatherapy oils respectively. The proportion of patients unfamiliar with vitamins (35%) was equal to those who used vitamins for AE (35%).

### Reasons for CAM-use

Patients were questioned as to their reasons for using CAM when prescribed conventional-medicines. Table 4 provides a summary of reasons and attitudes towards CAM.

**Table 4:** The general recommendations and reasons for CAM use amongst 135 patients who have reported using/previously using CAM

Patient CAM USE INDEX	Number/Proportion of Patients (n= 135)
<b>RECOMMENDATIONS FOR CAM USE</b>	
It was recommended to me by family/friends	54 (42%)
I read about it in the media	30 (23%)
My GP recommended it to me	15 (12%)
The pharmacist recommended it to me	6 (5%)
The paediatrician recommended it to me	2 (2%)
<b>REASONS FOR CAM USE</b>	
They are more natural	46 (35%)
I find that they are safer than conventional medicines	36 (28%)
They have less side effects	36 (28%)
The effect is better when I combine it with the dermatologist’s medicines	15 (12%)
It is a more holistic healthcare	14 (11%)

### Disclosure of CAM-use

On investigating disclosure of CAM-use, 53(41%) said their dermatologist “was aware”, 75(59%) said their dermatologist “was unaware” and 7(5%) did not respond. The common reasons for non-disclosure were “the dermatologist did not ask about other medicine usage” (48%); 33% said “it was not necessary for their dermatologist to know”.

### Discussion

Several studies have demonstrated that among dermatological diseases where patients explore CAM, AE is the most prevalent (Hughes et al., 2007; Jensen, 1990; Johnston et al., 2003; Kim et al., 2013; Simpson et al., 2003). Only a few studies address the prevalence of AE in SA (Todd, 2014). Prevalence was reported amongst 13-14-year-old school children in Cape Town in a Phase One and Phase Three Follow-up International Study of Asthma and Allergies in Childhood (ISAAC) which demonstrated an increased one-year prevalence of AE from 8.3%-13.3% (Todd, 2014). Despite this, no data on CAM-use in AE was found in Africa. Our study determined the prevalence/extent of CAM-use and the determinants of use among AE-patients in central Durban.

The 100% response rate is strength of this study and a reflection of keen interest in CAM amongst AE-sufferers. We found a 66% current/previous use of CAMs which was similar to a Korean study (69%) (Kim et al., 2013) and moderately higher than studies in Norway (51%) (Jensen, 1990), UK (46%) (Johnston et al., 2003), Ireland

(43%) (Hughes et al., 2007) and US (50%) (Simpson et al., 2003). The sample size in this study (n=206) was comparable to the Korean study (n=254) and larger than studies in UK (n=100), US (n=70) and Ireland (n=80).

## Demographics

The racial distribution in this study represents the demographics of Durban where Blacks form the largest ethnic group (87%). Although an ethnic minority in SA, the largest Indian population resides in Durban (7.4%), followed by Whites (4.2%), Coloured (1.4%) and 0.3% other races. Indians explored CAM the most (78%), similar to a Leicester-study where Indians, also an ethnic minority, used CAM more frequently, also mostly through recommendations from family/friends (Johnston et al., 2003). A local study among an Indian community also reflected substantial CAM-use (Singh et al., 2004). Indian communities, traditionally close-knit with extended family and strong cultural influences, could be the reason for this. Other studies also reported recommendation by family/friends as the most common reason for trying CAM (Hughes et al., 2007; Johnston et al., 2003; Kim et al., 2013). Other influences were the media (23%) which were similar to the Korean study (38%) (Kim et al., 2013). Mass media was also a main information source for CAM in a Norway study (Jensen, 1990). Less media influence was reported in Leicester (6%) and Ireland (3%) (Hughes et al., 2007; Johnston et al., 2003).

Religion was a significant predictor of CAM-use and Muslims were more frequent users than other religions. The types of CAMs explored by many Muslims were based on medicine prescribed in Islamic religious texts or stemming from cultural practices e.g. cupping, Unani-Tibb, Ayurveda, Hakim-medicines (traditional remedies from India and Islamic countries) (WHO, 2005).

A higher percentage (17%) of conventional healthcare practitioners (12% GPs, 5% pharmacists) recommended CAM to patients compared to Leicester (6%) and Korea (10%) (Johnston et al., 2003; Kim et al., 2013). None reported recommendations by dermatologists. We found that some GPs also practice complementary therapies e.g. Unani-Tibb and Ayurveda and may hold dual registrations with SA Professional Councils. In 2000, the Health Product Association (HPA) of manufacturers, importers and distributors of complementary medicines and health products, estimated that 50% turnover in CAM occurred in pharmacies and 2500 pharmacies stocked complementary medicines (Gqaleni et al., 2007), making it imperative for pharmacists, often the first treatment source, to know the evidence regarding CAMs' efficacy.

## Reasons for CAM-use

Many believed CAMs are “more natural” (35%), “safer than conventional-medicines” (28%), “have less side-effects” (28%) and “part of a holistic healthcare approach” (11%). 12% reported better effect when combined with conventionally-prescribed medicines and 52% said they used CAM this way. None reported exclusive CAM-use which is apparent since patients were recruited while seeking conventional treatment. CAM's role is seen to be mainly complementary and not as an alternative to conventional medicines for majority of patients who use them. This combined use poses potential for confusion in attribution of therapeutic benefits, side-effects, drug-interactions and non-compliance with prescribed-conventional therapy.

The perception of CAM being natural, safe and without side-effects is important to address amongst the general population. There are thousands of CAM products on sale that have never been tested for safety, quality or efficacy. This has been recognised and SA legislation was amended in November 2013 providing for the stepwise registration of all complementary medicines based on safety, quality and efficacy. New labelling restrictions and their manufacture in a registered facility to progressively meet good manufacturing practice (GMP) requirements, have been applied to all unregistered complementary medicines (Medicines Control Council, 2013). As full application for all products will take much time, thousands of products are still sold without any proof of validity. Although not directly questioned about steroid-phobia, responses from open-ended questions in the questionnaire with regards to reasons for CAM use, showed that it is a dominant driver towards CAM-use. Many demonstrated reservations and reluctance on steroid-use, expressing their need for “something mild”, “not wanting to become dependent on steroids” and “concerned about the side-effects of steroids”.

It was unexpected to find no significant difference between household incomes and CAM use. However, despite this, it is interesting to note that it was patients with higher monthly-household incomes (R5000-R20000) that were more frequent CAM-users. This is possibly due to high costs making CAM unaffordable to the poorer population who are able to receive free conventional treatment. This is consistent with trends in several countries showing positive association between socio-economic advantage and AE and that children with higher socio-economic backgrounds are more affected with AE than those from poorer families (Medicines Control Council, 2013; Werner et al., 2002). Indians in central Durban, the largest concentration of Indians living outside the Indian subcontinent, were the more frequent CAM-users in this study and fall within the higher income category compared to Blacks and Coloureds (Medicines Control Council, 2013).

Demographics of age, gender and education level were not significant predictors of CAM-use and were not reported as significant in other studies either (Hughes et al., 2007; Jensen, 1990; Johnston et al., 2003; Kim et al., 2013; Simpson et al., 2003).

## CAM Types

Frequently explored CAMs were vitamins (35%), aromatherapy oils (27%), herbal creams (26%), traditional African-Medicines (23%) and homeopathy (19%). Vitamins were mostly used for children for general well-being and less specifically for AE. Vitamins and herbal creams were also most commonly used in a US-study (Simpson et al., 2003). Herbal medicines were frequently used in Norway (19%), UK (26%) and Ireland (41%). These were uncategorised and assumed to incorporate topical and oral treatment (Hughes et al., 2007; Jensen, 1990; Johnston et al., 2003). In this study and the US-study, topical herbal preparations were more frequently used than oral preparations. Homeopathy demonstrated popularity in our study (19%) and in Norway (34%), UK (22%) and Ireland (24%). Health food preparations/health supplements were used amongst 10% of population in this study compared to 18% in the Norway study and 17% in the Korean study. The Health Products Association of South Africa (HPA) estimated that only 20% of turnover in complementary medicine occurred in health food stores in SA (Gqaleni et al., 2007).

Herbal Medicines (CHM) (27%) and oriental-medicines (26%) proved popular in UK and Korea (Johnston et al., 2003). In contrast, this study found only 3% CHM use and 80% reported unfamiliarity with CHM; evidently due to

the small Chinese population in central Durban (as reflected in our study sample). Although SA has a large Chinese population compared to other African countries, the majority reside in other cities (Park, 2009).

In this study, 27% used aromatherapy oils. Other studies have not reported aromatherapy use. The Korean study mentioned bath therapy use by 21% but with no details. Although many CAM-users were Indian, traditional Indian-medicines were not frequently used in this study (9%) or the Leicester-study (12%). This is unexpected considering the large number of Indians in the study sample. It has been reported that there are various barriers that hinder the progression of ayurveda in SA which include the difficulty of practitioners acquiring practice numbers which will allow them to be on board with medical aid schemes and the pending wait for proper regulation of ayurveda in SA (Lalbahadar, 2013)

Traditional African-medicines were used by 23%. We found no studies on traditional African-medicine use in dermatological diseases. A SA-national household survey revealed low traditional healer use (1,2%), predominantly by the poor, unemployed rural community (Nxumalo et al., 2011). Another SA study which investigated the prevalence of TM and CAM-use in the general population, showed TM decline but increased CAM-use (Peltzer, 2009).

We found that CAM-users were long-time AE-sufferers compared to non-users. This relationship of disease duration and CAM-use is consistent with a European-study (Jensen, 1990), re-affirming the lack of satisfaction patients experience from conventional medicine driving them to seek alternative treatment.

To date, no CAMs have shown unequivocal evidence of efficacy for AE as confirmed in an overview of SRs of controlled trials including CAMs frequently used in our study e.g. vitamins and homeopathy (Thandar et al., 2016). The conclusion from 11 RCTs on vitamins found no benefit. Studies were small and of poor quality. A positive effect in two fish-oil studies suggested that better designed studies might be justified (Bath-Hextall, Jenkinson, Humphreys, & Williams, 2012). The SR reported that although not possible to conclude that all vitamins studied are ineffective, absence of evidence prevents them from being recommended clinically (Bath-Hextall et al., 2012). Considering extensive vitamin use in our study, it is important to remember that some pose serious risks at high doses (Bath-Hextall et al., 2012). Homeopathy was a popular CAM choice in this study and several others (Ernst, 2000). A recent SR failed to show any treatment effect and concluded that homeopathy is not supported by sound evidence (Ernst, 2012).

Unfamiliarity with most CAMs was evident. A Durban study amongst healthcare workers in HIV/AIDS clinics also reflected poor CAM knowledge including traditional African-medicines, therapeutic aromatherapy, homeopathy, CHM, acupuncture and ayurvedic treatment amongst others (Mbutho et al., 2012); thus, not surprising that patients, predominantly the less educated, have limited CAM knowledge. This is likely due to poor information dissemination, lack of education and possible low literacy amongst lower socio-economic patients. Although not investigated, CAMs are considered expensive and most are not covered by SA medical schemes. In this study, the poor with less access to doctors/specialists are not more reliant on CAM and higher income and education are important determinants for CAM-use. CAMs are preferred and more accessible to those with resources to access them.

The majority (59%) did not disclose CAM-use to their dermatologist. Almost half (48%) said they were not asked and 33% thought it was not necessary. Patients are more willing to discuss CAM-use if prompted as seen from this study's overwhelming response with patients eager and comfortable discussing all aspects of CAM-use. In a Taiwan study with high non-disclosure rates (77%) among hospital dermatological patients, 58% felt no need to disclose use and 25% said they were not asked (Chen & Chang, 2003). Similarly, a study assessing patient-provider dialogue about CAM use highlighted barriers in communication between patient and physician including reluctance to disclose CAM-use, physicians not asking about CAM-use and patients perceiving that physicians are unwilling to discuss CAM (Zhang et al., 2012). These issues could be addressed by educating dermatologists and other healthcare professionals regarding the current lack of evidence-based safety and efficacy of frequently used CAMs, enabling them to confidently discuss and advise patients.

## Limitations

Patients were recruited consecutively, thus a possible selection bias due to non-randomisation exists. However, considering that all patients were amenable to participating, response and volunteer-bias could be refuted. The majority were open to discussing all aspects of their CAM experience. Patients were ensured of confidentiality,

that responses would not be disclosed to their practitioner, documented in their files nor have any impact on their clinical care. Results cannot be generalised to another city or SA considering differing demographics per city or province.

There was a small representation of White patients as fewer attend KEH which predominantly services patients of poor socio-economic backgrounds. Although recruitment also occurred in five private dermatological practices within central Durban, it was found that fewer White patients attend these practices. The dermatologists in these practices were Indian (4) and Black (1). It is likely that White patients frequently consult White dermatologists, practicing outside central Durban. A random selection of private practices may provide a better representation of patients across central Durban rather than the purposive sampling method used. We could not ascertain any association between severity and CAM-use as a disease severity assessment was not done. For patients attending KEH, a referral hospital, it was assumed that severity was moderate to severe.

### **Implications in terms of Treatment for AE within the South African context**

The value of this study in terms of implications especially with respect to therapy of patients with AE in Durban, SA cannot be underestimated. For healthcare professionals treating AE, the cornerstone of therapy in terms of evidence is still topical steroids. Topical steroids are first line, maintenance and use as adjuncts to second line therapies in recalcitrant cases. The fact that the majority of CAM users in this study do so as they are searching for something “more natural” or “less toxic” or are steroid phobic is of concern as they are likely to compromise their outcome by either mixing therapies or abandoning topical steroids for CAM. The study also underscores how poor the conversation is surrounding CAM between patients and caregivers; hence educating patients on the utility of conventional medications versus that of CAM is one of the major lessons of this work. In the absence of education, the outcome for such a chronic condition will always be poor, patients will continue to search for alternatives which may not be efficacious and perpetuate a vicious cycle.

### **Recommendations**

The results from this study reflect practices of patients in central Durban, Kwa-Zulu Natal. It would be necessary for similar studies to be conducted in other regions of Kwa-Zulu Natal and in other provinces to determine regional differences and ascertain if there is a similar trend amongst all patients in South Africa.

### **Conclusion**

We found that 66% of our sample had used CAMs and that race, religion and duration of AE were predictors of use. Vitamins, aromatherapy oils, herbal creams, traditional African-medicines and homeopathy were the most frequently explored CAMs. The majority of patients had not disclosed their CAM-use to their dermatologist. We believe ours is the first African study to provide this information within the context of AE. Dermatologists, paediatricians, general practitioners (GPs), pharmacists and CAM practitioners that treat patients for AE need to be conversant with the various CAMs explored as this may influence the patient’s overall clinical outcome.

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