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Abstract

Background Complementary and alternative medicine (CAM) is often used by cancer patients, but not many studies had been published on the prevalence of CAM use in patients with hematological cancers. This study aims to determine the prevalence of CAM and type of CAM used in this group of patients in a multiracial and multicultural country.

Patients and methods This is a cross-sectional survey carried out in two hospitals in Malaysia. Patients with underlying hematological cancers were asked to complete the questionnaires on CAM and the Hospital Anxiety and Depression Scale.

Results A total of 245 patients participated. The prevalence of CAM use was 70.2 %. The most common types of CAM used are biological-based therapies (90.2 %) and mind-body interventions (42 %). Vitamin and diet supplements (68.6 %) and folk/herb remedies (58 %) are the most common biological-based therapies used. There is no significant association of CAM use with age, gender, education level, and household income. Female patients are more likely to use more than one CAM therapies. The most common reason reported for CAM use was to boost immunity (57 %) and cure (24 %). Majority of patients (65 %) felt CAM was effective, and 60 % did not inform their physicians regarding CAM usage.

Conclusion In view of the high prevalence of CAM use in patients with hematological cancers, it is important that the physicians play an active role in seeking information from patients and to monitor possible drug-vitamin-herbal interactions.

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Introduction

Complementary and alternative medicine (CAM) is a comprehensive term used to refer to a group of diverse medical and health systems, therapies, and products not considered to be part of conventional medicine [1]. This may include traditional medical systems such as traditional Chinese medicine (TCM) and Indian Ayurveda to various forms of indigenous medicine and dietary supplements. There is a growing interest in CAM among the general population with reported use of CAM ranging from 8 to 76 % [2, 3]. In Europe, complementary therapies are the second biggest growth industry, and according to a population-based survey done in the USA, the estimated out-of-pocket expenditure on CAM was $33.9 billion [4, 5]. In Malaysia, the government has even set up a division of CAM within the health ministry and incorporated CAM practices within some of the major hospitals providing acupuncture services and herbal therapy as an adjunct therapy for cancer patients.

There have been many studies which showed that patients with cancer are more likely to use CAM compared to the normal healthy population [6, 7]. This is probably due to the devastating effect on one's physical and emotional well-being when diagnosed with cancer. A systematic review reported an average prevalence of 40 % of adult cancer patients using CAM, ranging from 22 to 50 % [8]. Majority of the studies are from the European countries, USA, and Australia. In Japan and Korea, the prevalence of CAM use among the cancer patients was 44.6 and 25.5 %, respectively [6, 9]. The most likely patient demographics that would use CAM are females, high earners, and higher education background [6, 10, 11]. Some of other predictors of CAM use also include those with

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less trust in hospital, lower overall satisfaction, and higher degree of informational needs [9]. The main reasons reported for CAM use are mainly to relieve symptoms, to cure the underlying cancer, and boost immunity [6, 11–13].

Limited surveys had been done in the South East Asia countries where CAM may also include specific cultural spiritual practices, herbs, and traditional therapy. The prevalence of CAM use among the cancer patients in Malaysia and Singapore was reported to be 72.7 and 55 %, respectively [11, 14]. Main types of CAM reported in Malaysia were sea cucumber, homeopathy, and dietary supplements; whereas in Singapore, TCM and vitamin supplements were more common [11, 12, 14, 15]. Chinese ethnicity was showed to be one of the significant factors associated with the higher use of CAM in Singapore patients with cancer, although this was not demonstrated in Malaysia [11, 14].

Most of these studies recruited patients with solid tumors, mainly breast and colorectal cancers. There are very limited surveys on patients with hematological cancers. These patients usually have more intensive chemotherapy and prognosis is generally poorer compared to patients with solid tumors. This study aims to determine the prevalence of CAM use in patients with hematological cancers and to evaluate factors associated with CAM use.

Methodology

Patient's selection

This is a cross-sectional survey carried out at adult hematology daycare unit and hematology outpatient clinic at University Malaya Medical Centre (UMMC) and Subang Jaya Medical Centre (SJMC) from 1st August 2013 to 30th July 2014. UMMC is a university teaching hospital while SJMC is a private hospital. This study was approved by the local institutions ethic committee. Patients were approached and identified by the interviewers. Patients were included if they are above 18 years of age, confirmed diagnosis of any hematological cancers, and conversant in Bahasa Malaysia, Mandarin, or English. All patients provided written consent. The survey was interviewed in English, Bahasa Malaysia, or Mandarin by two trained interviewers depending on the preferred language of the patients.

Questionnaires

The questionnaire used was adapted and modified from the previous survey published and validated in Ireland and Japan [6, 10]. The questionnaire was divided into two sections. The first section was on patients' demographic data which included age, gender, education level, marital status, ethnic group, and type of religion. The second section incorporated the use of CAM, the types of CAM, expectations and reasons of use, related medical treatment, and disclosure to treating physicians. The CAM therapy is further classified into five categories: (a) mind-body therapies, (b) biological-based therapies, (c) manipulative and body-based therapy, and (e) alternative medical systems [1].

Another questionnaire, Hospital Anxiety and Depression scale (HADS), was also utilized to assess the emotional state of patients [16]. This was delivered during the interview. HADS is a validated questionnaire which has 14 items in two question groups, one each on anxiety and depression. The validated questionnaire is delivered to patients in their preferred language: Bahasa Malaysia, English, or Mandarin [17, 18]. A score of more than 10 points were considered as clinical significant.

Statistical analysis

Differences of CAM use within selected patient's demographic and clinical information were assessed using chi-square or t test. One-way ANOVA was used to examine association between patients' age and types of CAM used. The factors which may predict the use of CAM use were analyzed by univariate analysis and those which are significant were further analyzed using multivariate logistic regression. P value of >0.05 was considered as clinically significant. The data was analyzed using the Statistical Package for Social Sciences program (version 21.0).

Results

Out of 250 patients who were approached for the interview, 245 patients agreed to participate. The response rate was 98 %. Majority of patients (83 %) were recruited in UMMC and the remaining patients were recruited from SJMC. The mean age of the patients was 53 years, ranging from 18 to 86 years. Majority of patients were Chinese (62 %), married (78.8 %), had at least secondary school education (77 %), and had household income of less than RM5000 (US$1470) per month (60 %). Majority of patients had an underlying diagnosis of lymphoma (48.6 %). More than half (68.6 %) of the total patients used more than one CAM therapies (Table 1). Only 166 patients completed the HADS questionnaire. From these 166 patients, only 16.7 and 12 % of patients had clinically significant anxiety and depression, respectively. Patients treated at SJMC had significantly higher household income compared to those who were treated at UMMC ($p<0.0005$) and were not undergoing chemotherapy at the time of interview ($p<0.002$). There are also more Chinese patients at SJMC compared to UMMC, $p=0.04$. There were no other significant differences in the patient demographics.

Table 1 Demographic characteristics of 245 hematological cancer patients

Demographic characteristics	Number	Percentage (%)
UMMC vs SJMC		
UMMC	203	82.9
SJMC	42	17.1
Age		
Mean	53.1	–
Median	57.0	–
Range	68 (18–86)	–
Gender		
Male	125	50.8
Female	120	49.0
Ethnicity		
Malay	61	24.9
Chinese	152	62.0
Indian	28	11.4
Other[a]	4	1.6
Underlying diagnosis		
Acute leukemia	53	21.6
Multiple myeloma	30	12.2
Chronic leukemia	43	17.6
Lymphoma	119	48.6
Education background		
Primary school	56	22.9
Secondary school and above	189	77.1
Household monthly income (RM)		
≤5000	146	59.6
>5000	72	29.4
Not disclosed	27	11.0
Marital status		
Single	39	15.9
Married	193	78.8
Divorced	0	0
Widowed	13	5.3
Religion		
Muslim	60	24.5
Buddhist	120	49.0
Hindu	22	9.0
Christian	34	13.9
Others[b]	9	3.7
Current treatment		
Currently receiving chemotherapy	72	29.4
Used CAM before diagnosis		
Yes	87	35.5
No	158	64.6
Currently using CAM		
Yes	172	70.2
No	73	29.8

Table 1 (continued)

Demographic characteristics	Number	Percentage (%)
Type of CAM		
Alternative medical system	61	35.3
Biologically based therapies	156	90.2
Manipulative and body based methods	9	5.2
Mind and body intervention	73	42.2
Number of type of CAM used		
One	118	68.6
Less than one	54	31.4

[a] Other races: Sikh, Bumiputra

[b] Other religion: free thinkers

The prevalence of CAM use was 70.2 %, and majority started using CAM after diagnosis (64.6 %). The most common type of CAM therapies used were biological-based therapies (90.2 %) including dietary/vitamin supplements (68.6 %) followed by herbs and folk remedies (58 %). Sabah snake grass (*Clinacanthus nutans*) is one of the most common herbs used (40 %). Other common remedy used is birds' nest (28 %). Mind-body interventions were used in 42 % of patients, while the majority of them (79 %) used prayer and 34 % of patients used Tai Chi/Qi Gong. Alternative medical systems was used in 35 % of patients, out of which 83 % used TCM, followed by Malay traditional medicine (16 %), and only 10 and 3 % used acupuncture and Ayurveda therapy, respectively. Only nine patients (5 %) reported to use manipulative and body-based methods where all were massage therapy (Table 2).

There were no significant differences between those CAM users and non-CAM users in terms of gender, race, religion, education background, household income, HADS score, as well as underlying diagnosis. However, patients treated at UMMC were likely to use CAM compared to those treated at SJMC, $p<0.05$. Patients who had previously used CAM are also more likely to use CAM, $p<0.005$ (Table 3). Females appeared to use more than one CAM therapies and tend to use dietary supplements compared to the male patients, $p<0.05$. Of those who used TCM, 88 % are Chinese followed with Malays and Indians, 8 and 2 %, respectively ($p<0.001$).

From the univariate analysis, Chinese patients, patients with higher household income, and patients with higher anxiety score are more likely to use alternative medical system. Indian and Malay patients and those undergoing chemotherapy are more likely to use mind-body intervention as one of their CAM therapies. Patients treated at the private center and had a higher household income tend to used more manipulative and body-based methods. Ethnicity appeared to play a significant role in patients who used biological-based therapies. (Table 4) However, after multivariate analysis, Chinese patients, and patients with high anxiety score and higher

Table 2 Classification of CAM use

Types of CAM	Number of patients	Percentage, %
Alternative medical system	61	35.3
Traditional Chinese medicine	50	29.1
Ayurveda	2	1.2
Acupuncture	6	3.5
Malay traditional medicine	8	4.7
Homeopathies	0	0
Biologically based therapies	156	90.7
Dietary supplement	118	68.6
Herbs/ folk remedies	100	58.1
Manipulative and body-based methods	9	5.2
Chiropractic	0	0
Massage therapy	9	5.2
Mind and body intervention	73	42.4
Spiritual practice	58	33.7
Tai chi/chi gong	25	14.5
Meditation	2	1.2
Music/art therapy	1	0.6
Psychotherapy	1	0.6
Yoga	1	0.6
Others	1	0.6

Table 3 Patients demographic influencing CAM use

Demographic characteristics	Nonuser	User	P
UMMC vs SJMC			
UMMC	55 (27.1)	148 (72.9)	0.042*
SJMC	18 (42.9)	24 (57.1)	
Age			
Mean±SD	51.36±16.188	53.6±16.632	0.33
Gender			
Male	41 (32.8)	84 (67.2)	0.29
Female	32 (26.7)	88 (73.3)	
Ethnicity			
Malay	18 (29.5)	43 (70.5)	0.70
Chinese	43 (28.3)	109 (71.7)	
Indian	11 (39.3)	17 (60.7)	
Other	1 (25.0)	3 (75.0)	
Underlying diagnosis			
Acute leukemia	15 (28.3)	38 (71.7)	0.07
Multiple myeloma	8 (26.7)	22 (73.3)	
Chronic leukemia	20 (46.5)	23 (53.5)	
Lymphoma	30 (25.2)	89 (74.8)	
Education background			
Primary school	15 (26.8)	41 (73.2)	0.575
Secondary and above	58 (30.7)	131 (69.3)	
Household monthly income (RM)			
≤5000	45 (30.8)	101 (69.2)	0.802
>5000	21 (29.2)	51 (70.8)	
Marital status			
Single	12 (30.8)	27 (69.2)	0.98
Married	57 (29.5)	136 (70.5)	
Divorced	0	0	
Widowed	4 (30.8)	9 (69.2)	
Religion			
Muslim	19 (31.7)	41 (68.3)	0.49
Buddhist	33 (27.5)	87 (72.5)	
Hindu	10 (45.5)	12 (54.6)	
Christian	9 (26.5)	25 (73.5)	
Others	2 (22.2)	7 (77.8)	
Currently receiving chemotherapy			
Yes	16 (22.2)	56 (77.8)	0.09
No	57 (32.9)	116 (67.1)	
Used CAM before diagnosis			
Yes	16 (18.4)	71 (81.6)	0.004
No	57 (36.1)	101 (63.9)	
HAD-anxiety			
<11	62 (31.3)	136 (68.7)	0.63
≥11	11 (27.5)	29 (72.5)	
HAD-Depression			
<11	62 (29.7)	147 (70.3)	0.37
≥11	11 (37.9)	18 (62.1)	

*$p \leq 0.05$

household income are significantly more likely to use alternative medical systems. Chinese patients and those who are not undergoing chemotherapy are less likely to use mind-body intervention as one of their CAM (Table 5).

The most common reason for CAM use was to improve immune system (57 %), followed by curing the underlying cancer (24 %), reducing the treatment-related side effects (14.0 %), and prolonging survival (10 %). Majority of patients (65 %) felt that they received adequate information regarding their CAM therapies, and 94 % felt there are no adverse effects from CAM use. Majority of patients (83 %) obtained information about CAM therapies from their family and friends and 11 % from media including internet. Most of the patients (65 %) agreed that CAM was effective. Only 2.3 % of total patients who used CAM felt that it is ineffective.

Sixty percent of patients did not inform their physicians about CAM use. The most common reasons for not informing their physicians were that the physician never enquired (83 %) followed by fear of disapproval from the physicians (13.5 %). Only 25 % of patients reported that their physicians enquired about CAM use, and only 16 % reported that the physicians discouraged the use of CAM while 19 % encouraged the continued use of CAM, and majority (58.8 %) did not offer any opinion.

Only 142 (82.1 %) patients disclosed the total amount they spent on CAM. The mean amount spent by patients on CAM was RM618.45±1854 (US$180±545) a month, ranges from

RM0–RM20,000 (US$5880). There was no significant difference on the amount of money spent on CAM between the two

Table 4 Predictors of CAM preference

Demographic characteristics	AMS		BBT		MBBM		MBI	
	N (%)	P	N (%)	P	N (%)	P	N (%)	P
UMMC vs SJMC								
UMMC	46 (30.9)	0.80	136 (91.3)	0.55	5 (3.4)	0.006*	65 (43.6)	0.34
SJMC	8 (33.3)		21 (87.5)		4 (16.7)		8 (33.3)	
Age								
Mean±SD	54.45±16.26	0.71	53.96±16.56	0.72	55.56±19.26	0.74	51.37±15.98	0.09
Gender								
Male	27 (32.1)	0.46	77 (91.7)	0.66	4 (4.8)	0.78	30 (35.7)	0.08
Female	33 (37.5)		79 (89.8)		5 (5.7)		43 (48.9)	
Ethnicity								
Malay	11 (25.6)	0.04*	40 (93.0)	0.003*	1 (2.3)	0.42	26 (60.5)	0.001 *
Chinese	46 (42.2)		101 (92.7)		8 (7.3)		32 (29.4)	
Indian	2 (11.8)		14 (82.4)		0 (0)		13 (76.5)	
Other	1 (33.3)		1 (33.3)		0 (0)		2 (66.7)	
Underlying diagnosis								
Acute leukemia	15 (39.5)	0.79	34 (89.5)	0.86	1 (2.6)	0.32	22 (57.9)	0.17
Multiple myeloma	8 (36.4)		21 (95.5)		1 (4.5)		9 (40.9)	
Chronic leukemia	9 (39.1)		21 (91.3)		3 (13.0)		8 (34.8)	
Lymphoma	28 (31.5)		80 (89.9)		4 (4.5)		34 (38.2)	
Education background								
Primary school	15 (36.6)	0.79	37 (90.2)	0.91	1 (2.4)	0.36	13 (31.7)	0.11
Secondary school and above	45 (34.4)		119 (90.8)		8 (6.1)		60 (45.8)	
Household income								
≤5000	27 (26.7)	0.02*	92 (91.1)	0.58	1 (1.0)	0.003*	47 (46.5)	0.391
>5000	23 (45.1)		45 (88.2)		6 (11.8)		20 (39.2)	
Marital status								
Single	5 (18.5)	0.13	24 (88.9)	0.34	0 (0)	0.32	13 (48.1)	0.54
Married	51 (37.5)		125 (91.9)		8 (5.9)		55 (40.4)	
Divorced	0 (0)		0 (0)		0 (0)		0 (0)	
Widowed	4 (44.4)		7 (77.8)		1 (11.1)		5 (55.6)	
Undergoing chemotherapy								
Yes	16 (28.6)	0.22	52 (92.9)	0.49	1 (1.8)	0.158	33 (58.9)	0.002 *
No	45 (37.9)		104 (89.7)		8 (6.9)		40 (34.5)	
HADA (166 patients)								
<11	41 (30.1)	0.010*	124 (91.2)	0.79	8 (5.9)	0.600	57 (41.9)	0.33
≥11	16 (55.2)		26 (89.7)		1 (3.4)		15 (51.7)	
HADD (166 patients)								
<11	39 (33.3)	0.34	135 (91.8)	0.23	9 (6.1)	0.28	65 (44.2)	0.66
≥11	8 (44.4)		15 (83.3)		0 (0)		7 (38.9)	

centers, gender, race, household income, and underlying diagnosis.

Discussion

In this study, the prevalence of CAM use among the patients with underlying hematological cancers is high at 70.2 %.

There have not been any surveys which specifically study the use of CAM in patients with hematological cancers. The systematic review from Horneber et al. [8] found the overall prevalence rate of CAM use in cancer patients to be 40 % among the western countries with the highest in the USA. However, a recent study by Perlman et al. [19] reported an even higher prevalence of CAM use (75.2 %) in patients who had been diagnosed of cancer in the USA. A total of 142

Table 5 Multivariate logistic regression analysis for associations between patients demographics and CAM preference

Covariates	AMS			MBBM			MBI		
	OR	CI	P	OR	CI	P	OR	CI	P
UMMC vs SJMC									
UMMC				1.14	0.2–6.8	0.888			
SJMC*				–	–	–			
Race									
Malays*	–	–	–				–	–	–
Chinese	2.68	1.1–6.8	0.038**				0.29	0.1–0.6	0.001**
Indians	0.34	0.1–2.1	0.243				2.16	0.6–7.9	0.246
Others	0.00	0.0	0.999				1.03	0.1–13.0	0.984
Income									
≤5000	0.34	0.2–0.8	0.01**	0.07	0.0–0.7	0.02**			
>5000*	–	–	–	–	–	–			
Currently receiving chemotherapy									
Yes*							–	–	–
No							0.40	0.2–0.8	0.011**
HADA									
<11	0.14	0.1–0.4	0.000**						
≥11*									

*Reference

OR odd ratio, *CI* confidence interval (95 %), *P* p value, *CAM* complementary and alternative medicine, *AMS* alternative medical system, *MBBM* manipulative body based methods, *MBI* mind-body intervention

patients with hematological cancers were included in the study, and the reported prevalence of CAM use was 77.4 and 79.6 % in patients with lymphoma and leukemia, respectively. It is therefore consistent with what we have found in this study. To our knowledge, this study has the largest patients' cohort with underlying hematological cancers. The high prevalence is consistent with the findings from the meta-analysis by Horneber et al. [8] where there had been an increased in the incidence of CAM use among patients with cancer in the past decades. Other possible reason for the high prevalence of CAM use in our patients could be related to the culture and racial background of our patients. It was reported that the prevalence of ever-used CAM was 69.4 % and current users as 55.6 % in a survey done in the general population of Malaysia [20]. This is much higher compared to what had been reported in other countries [6, 19, 21].

Factors which had been reported to predict the use of CAM in patients with cancer were of female gender, higher education backgrounds, and high earners [6, 9, 10, 12, 19]. However, we did not find any significant association of the above factors with the use of CAM. There was also no significant association of ethnicity, underlying diagnosis, and HADS score with CAM use. This may be due to the relative small number of patients recruited. Patients who had previously used CAM are more likely to use CAM, and this is consistent as what has been reported by Shih et al. [12].

The most common type of CAM used by our patients is biological-based therapies, majority of them are vitamin supplements. This is consistent with many other studies [10, 13, 19]. It is also not surprising as Malaysians generally would use biological-based therapies which included herbs, vitamin supplements, and diet-based therapies for any health issues [20]. Some of the herbal remedies that are used by our patients in this study are relatively unique to the Southeast Asian countries, e.g., Sabah snake grass (*C. nutans*). It was first reported in Thailand of its anti-inflammatory effect and its anti-herpes simplex activities [22, 23]. It is commonly used in patients with diabetes in Malaysia [24]. The effects of this herb have not been proven scientifically in patients with cancer, although there has been a study which reported its anti-oxidant and antiproliferative properties in cultured cancer cell lines [25]. This may merit further investigation. Birds' nest is also used in 28 % of our patients, slightly less than those reported in Singapore [12].

Mind-body intervention especially prayers are one of the common CAM practices that our patients use, and this is likely due to the fact that 96 % of our patients have religious belief. It is interesting to note that Chinese patients are less likely to use mind-body intervention, in this case prayers compared to the other two races. Other significant factors associated with the use of mind-body intervention are patients who are undergoing chemotherapy. It is possible that patients undergoing

chemotherapy may have more symptoms and need an avenue such as prayers, Tai Chi, etc., which can offer "comfort" and "support." Several reviews on spirituality provided evidence that patients who attach greater value to spirituality experience higher level of well-being and lower level of stress [26]. A recent paper by Garssen et al. [27] demonstrated that there is a role of spirituality in emotion regulation and its role in helping patients with cancer adjusting to the underlying disease. As this type of CAM does not interfere with treatment, it should be encouraged.

TCM is the commonest CAM used in patients who used alternative medical systems. Most of the patients who used TCM are Chinese, and this has also been demonstrated in other studies [11, 12]. Patients who had high anxiety score are showed here to be more likely to use alternative medical systems. It is possible that patients who are more anxious may be more willing to explore alternative medical systems which are usually practiced by licensed practitioners.

Boosting immune system is one of the common reasons for CAM use, and this is demonstrated in many other studies [12, 28, 29]. Majority of our patients had positive perception toward the type of CAM use and denied any significant adverse effects, and this is again consistent with many studies [6, 10–12, 14]. Eighty-three percent of the patients obtained information of the CAM they used from friends and relatives, and this is worrisome as these are usually not adequate. It is also interesting to note that patients in our study are willing to spend a significant amount of money on CAM, and the mean amount is more than what has been reported in patients with other diseases in Malaysia [25].

More than half of the patients who used CAM did not inform their physicians, and this is similar to what had been reported in other studies [10–12]. The main reason reported by the patients was that the physicians did not enquire about the use of CAM. The lack of information volunteered to the physicians may pose serious implications in patient's safety. There are possible drug-drug interaction with the oral CAM and chemotherapy. A few studies had also reported the adverse effect of some of the CAM [30–33]. It is important that the physicians be made aware of the high prevalence use of CAM in patients with hematological cancers and should therefore play an active role in ensuring better communication with patients. Only 16 % of patients interviewed reported that their physicians discouraged the use of CAM, and this is similar to those reported by Chang et al. [10]. Half of the patients reported that the physicians did not offer any opinion on their CAM use, and this is also similar to what had been reported by Chang et al. [10]. Most physicians have limited knowledge in the CAM used by patients and may have difficulties in advising patients. However, this should not stop the physicians to enquire the use of CAM in this group of patients and to monitor patients for possible drug-herb-vitamin interactions.

There are several limitations to this study. This study is a cross-sectional study where patients are only interviewed once and may not truly represent their pattern of use of CAM. This study is only conducted in two centers with an unequal number of patients recruited, and this may not truly represent the patient population in Malaysia. A proportion of patients did not complete the HADS questionnaire, and hence we are not able confirm if anxiety or depressive symptoms had any role in determining the use of CAM or type of CAM used, although our finding is similar to those reported in Ireland [10]. Nonetheless, this study is the first study which specifically focused on patients with hematological cancers and provides useful information for the physicians.

Conclusion

This study demonstrates a high prevalence use of CAM in patients with hematological cancers and their belief on its effectiveness. The most common type of CAM is biological-based therapies which includes vitamin supplements and other herbal remedies. It is therefore important that the treating physicians spend time enquiring the use of CAM and to monitor any possible drug-CAM therapy interaction. There should also be ongoing education and research on various CAM therapies so to provide better understanding in its supportive role in the management of patients with cancer.

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