

## RESEARCH ARTICLE

# Health-Care Providers' and Parents' Perspectives on Complementary Alternative Medicine in Children with Cancer in Indonesia

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## Abstract

**Background:** Complementary alternative medicine (CAM) use in children with cancer is widespread. Health-care providers (HCP) need to acknowledge and address this need. This study explored and compared perspectives on CAM of HCP and parents of young patients with cancer in Indonesia. **Materials and Methods:** We conducted a cross-sectional study using semi-structured questionnaires in HCP and parents of childhood cancer patients at an Indonesian academic hospital. **Results:** A total of 351 respondents participated: 175 HCP (response rate 80%) and 176 parents (response rate 80%). Parents were more likely than HCP to think that chemotherapy can cure cancer (80% compared to 69%,  $P=0.013$ ). Nearly half of all parents (46%) and HCP (45%) doubted whether CAM can cure cancer. Parents were more likely than HCP to think that CAM can be helpful in childhood cancer treatment (54% compared to 35%,  $P=0.003$ ). The most recommended CAM by HCP was self-prayer (93%). Reasons for recommending CAM were: hope for improvement of the child's condition (48%), patient wants to stop treatment (42%). Most discouraged CAM by HCP was by old-smart people (70%), the reasons being: lack of evidence for usefulness (77%), lack of CAM knowledge (75%). The proportion thinking that patients were unlikely to raise the CAM topic if they perceived that doctors were skeptical was higher in parents than in HCP (52% versus 1%) ( $P<0.001$ ). Most HCP (71%) and parents (77%) acknowledged that their knowledge about safety and efficacy of CAM was inadequate ( $P=ns$ ). The proportion that wanted to learn or read more about CAM was higher among parents than HCP (48% compared to 31%,  $P=0.002$ ). **Conclusions:** HCP and parents have different perspectives on CAM use in children with cancer. HCP should enhance their CAM knowledge and encourage open communication about CAM with parents. If doctors' skepticism is perceived, parents are unlikely to raise CAM as a topic.

**Keywords:** Complementary alternative medicine - cancer - health-care providers - parents - perspectives

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## Introduction

Although conventional treatment of children with cancer is successful in high-income countries with cure rates of 80%, the picture is very different for low-income countries where less than 35% of children diagnosed with cancer survive. The most significant determinant for this poor survival is non-adherence with conventional medicine. (Kellie et al., 2008; Mostert et al., 2011). This non-adherence is partially caused by parental disbelief in curability of childhood cancer with conventional treatment and by preference for complementary alternative medicine (CAM). (Sitaresmi et al., 2010).

Until now, many studies explored parents' perspectives and experiences with CAM. These studies clearly documented that CAM usage among children with cancer is high in both low as well as high-income countries.

(Adler, 2003; McCann et al., 2006; Hamidah et al., 2009; Bishop et al., 2010). A systematic review found that the prevalence rates of CAM in children with cancer range from 6% to 91%, depending on the used definitions of CAM, variations in methodology of studies, diverse socio-cultural backgrounds of participants and small sample sizes of investigated populations. [Bishop et al., 2010] Few studies investigated health-care providers' (HCP) perspectives on CAM. (Adler et al., 2003; Gunawan et al., 2016). The general impression is that the use of CAM in children with cancer is becoming increasingly popular worldwide and is gaining acceptance from both parents and HCP. (Surette et al., 2013; Xue, 2008). Reports suggest that patients or parents may have more positive attitudes and expectations towards CAM, and perceive CAM as safer and more effective than HCP. (Chen et al., 2000; Ben-Arye et al., 2008). However, studies directly comparing

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the views of parents and HCP are scarce.

At the Dr Sardjito Hospital (SH) in Indonesia it was previously observed that in fact 80% of families used CAM in their children with cancer. (Handayani et al., 2016). Yet little more is known about the perspectives of parents and HCP taking care of children with cancer in this setting. The aim of this study was to explore and compare perspectives on CAM in children with cancer of HCP and parents. Health beliefs, components of CAM, recommending or discouraging CAM, communication about CAM, and knowledge of CAM were assessed.

## Materials and Methods

### Setting

The study was conducted at the pediatric department of SH in Yogyakarta, Indonesia. SH is a large tertiary care referral and teaching hospital of the Gadjah Mada University. Each year, about 115 children are diagnosed with cancer at SH. The pediatric oncology care facilities comprise of inpatient care (36 beds in a separate building), outpatient care and a daycare center.

The inpatient care distinguishes two groups: VIP and first class patients have a personal oncologist and private room, whereas second and third class patients have an oncologist as supervisor and share one room with three patients. Recently, all children with cancer visit the same outpatient clinic and are cared for by an oncologist. A schedule determines which oncologist is in charge of the outpatient care per week.

The pediatric oncology department is operated by 4 pediatric oncologists. For pediatric residents clinical rotations are scheduled in various pediatric subspecialties during four years of their training. Pediatric residents stay at hematology-oncology facilities to take care of children with cancer, supervised by oncologists, during one month. In addition, pediatric residents take care of cancer patients during night and weekend shifts, at intensive care and emergency unit and during their senior residency at VIP or first class facilities. Nurses work at the hematology-oncology inpatient, outpatient and daycare facilities. Dieticians and clinical psychologists take care of children with cancer at the inpatient and outpatient clinic on request of oncologists.

### Study design

This cross-sectional study was conducted using semi-structured questionnaires. Questionnaires explored perspectives on CAM in children with cancer of HCP and parents. Health beliefs, components of CAM, recommending or discouraging CAM, communication about CAM, and knowledge of CAM were assessed.

The National Center for Complementary and Integrative Health (NCCIH) defines CAM as “a group of diverse medical and health-care systems, practices, and products that are not generally considered to be part of conventional medicine”. (NCCIH, 2015). Two subgroups are identified: natural products (such as vitamin/ nutritional supplements, herbs) and mind and body practices (such as self-prayer, old-smart people, energy healing, supportive group, relaxation, acupuncture,

massage). Complementary medicine is taken together with conventional treatment, whereas alternative medicine replaces conventional treatment. (Gunawan et al., 2016).

All HCP who work at the pediatric department were contacted individually between December 2013 and October 2014, and requested to complete a questionnaire either at home or inside the hospital. The questionnaire was anonymous and respondents were assured of the confidentiality of the given responses. Respondents self-identified their professional title as pediatric oncologist, pediatrician, resident, nurse, clinical psychologist and dietician. This was the only demographic determinant collected. By definition, two groups of HCP are distinguished. “Doctors” are defined as pediatric

**Table 1. Demographic and Clinical Characteristics of Participants and Patients**

Characteristics	N (%)
<b>HEALTH-CARE PROVIDERS (N=175)</b>	
Profession	
Pediatric Oncologist	3 (75%)
Pediatric Resident	101 (80%)
Pediatric Nurse	67 (60%)
Clinical Psychologist	2 (100%)
Dietician	2 (100%)
<b>CARETAKERS (N=176)</b>	
Type	
Mother	117 (66%)
Father	45 (26%)
Grandmother	5 (3%)
Grandfather	4 (2%)
Uncle	1 (1%)
Aunt	2 (1%)
Cousin	2 (1%)
<b>PATIENTS (N=176)</b>	
Age at diagnosis in years	
Mean ± SD	7 ± 5
Median (range)	6 (0–18)
Gender	
Male	101 (57%)
Female	75 (43%)
Type of malignancy	
Acute lymphoblastic leukemia	123 (70%)
Acute myeloblastic leukemia	16 (9%)
Rhabdomyosarcoma	6 (3%)
Nephroblastoma	6 (3%)
Neuroblastoma	5 (3%)
Retinoblastoma	5 (3%)
Histiocytoma	4 (2%)
Osteosarcoma	3 (2%)
Hodgkin lymphoma	3 (2%)
Teratoma	3 (2%)
Brain tumor	2 (1%)
Type of malignancy	
Acute lymphoblastic leukemia	123 (70%)
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Histiocytoma	4 (2%)
Osteosarcoma	3 (2%)
Hodgkin lymphoma	3 (2%)
Teratoma	3 (2%)
Brain tumor	2 (1%)

oncologists and residents. "Other HCP" are nurses, clinical psychologists and dieticians.

All parents of children with cancer who were hospitalized or visited the inpatient or outpatient clinic from September 2013 to October 2014 were requested to participate in the study. Parents were interviewed by an independent interviewer. Interviews ranged in length from 45 minutes to 1.5 hours.

The questionnaires were developed specifically for this study based on an extensive literature study by a panel of Indonesian and Dutch doctors and a psychologist. The questionnaires were pilot-tested on five HCP and five parents to check for clarity of the items and necessary revisions were made. All potential participants (HCP and parents) were informed about the purpose of the study and signed informed consent after agreeing to participate. The

approval for the study was obtained from the Medical Ethics Committee of the faculty of medicine at the Gadjah Mada University and SH.

#### Data analysis

Data were analyzed using IBM SPSS (Statistical Package for Social Sciences) for Mac version 20. Data was summarized using frequencies and percentages. Internal consistency of the questionnaire items was evaluated by calculating Cronbach's alpha coefficient. The Mann-Whitney test was used to compare differences in health beliefs and perspectives on CAM between HCP and parents measured at an ordinal scale. Chi-square and Fisher's Exact test analyses were used for comparing dichotomous variables. A two-sided p-value less than 0.05 was considered statistically significant.

**Table 2. Health Beliefs about CAM for HCP (n=175) and Parents (n=176)**

		HCP (175)			Parents (176)			p*
		Total	N	%	Total	N	%	
CAM can be provided as helpful in childhood cancer treatment	agree	175	62	35%	176	95	54%	0.002
	uncertain		84	48%		56	32%	
	disagree		29	17%		25	14%	
CAM can cure cancer	agree	175	9	5%	176	47	27%	< 0.001
	uncertain		78	45%		82	46%	
	disagree		88	50%		47	27%	
Chemotherapy can cure cancer	agree	175	121	69%	176	142	80%	0.014
	uncertain		45	26%		29	17%	
	disagree		9	5%		5	3%	
A combination of chemotherapy and CAM is the best way to cure cancer	agree	175	85	49%	176	89	51%	ns
	uncertain		68	39%		53	30%	
	disagree		22	12%		34	19%	
CAM has a very long history. It must be better than conventional treatment	agree	175	11	6%	176	42	24%	< 0.001
	uncertain		73	42%		73	41%	
	disagree		91	52%		61	35%	
Conventional treatment is only good for the acute phase of disease. A chronic disease, such as cancer, can only be cured by CAM	agree	175	3	2%	176	15	9%	0.005
	uncertain		36	20%		45	25%	
	disagree		136	78%		116	66%	
Doctors say that conventional treatment for childhood cancer has low cure rates, CAM-practitioners say that CAM cures	agree	175	33	19%	176	24	14%	ns
	uncertain		56	32%		48	27%	
	disagree		86	49%		104	59%	
		Doctors			Other HCP			p*
		Total	N	%	Total	N	%	
CAM can be provided as helpful in childhood cancer treatment	agree	104	35	34%	71	27	38%	ns
	uncertain		55	53%		28	41%	
	disagree		14	14%		14	21%	
CAM can cure cancer	agree	104	2	2%	71	7	10%	0.034
	uncertain		44	42%		33	48%	
	disagree		58	56%		14	42%	
Chemotherapy can cure cancer	agree	104	77	74%	71	44	62%	ns
	uncertain		22	21%		23	34%	
	disagree		5	5%		3	4%	
A combination of chemotherapy and CAM is the best way to cure cancer	agree	104	50	48%	71	35	49%	ns
	uncertain		44	43%		23	34%	
	disagree		10	10%		11	17%	
CAM has a very long history. It must be better than conventional treatment	agree	104	6	6%	71	5	7%	ns
	uncertain		42	41%		30	44%	
	disagree		56	54%		34	49%	
Conventional treatment is only good for the acute phase of disease. A chronic disease, such as cancer, can only be cured by CAM	agree	104	2	2%	71	1	1%	0.006
	uncertain		14	13%		21	32%	
	disagree		88	85%		47	67%	
Doctors say that conventional treatment for childhood cancer has low cure rates, CAM-practitioners say that CAM cures	agree	104	25	24%	71	8	11%	ns
	uncertain		31	29%		25	35%	
	disagree		48	47%		38	54%	

\*Mann Whitney test

## Results

From December 2013 to October 2014 all 215 HCP involved in the care of children with cancer at SH were invited to join our study. A total of 175 HCP (response rate 80%) participated and returned questionnaires. From September 2013 to October 2014 all 220 parents of children with cancer who were hospitalized or visited the inpatient or outpatient clinic were invited to join the study. In total 176 parents (response rate 80%) participated. Parents refusing to join the study gave several reasons: the child's poor condition, limitation of time, transportation to home, or desire to be with the child all the time. Table 1 shows demographic and clinical characteristics of participants and children. No significant differences were found in patients' age at diagnosis, gender or type of malignancy between participants (n=176) and non-participants (n=44). Cronbach's alpha coefficient in both questionnaires varied between 0.62 and 0.81.

### Health beliefs

Table 2 illustrates that a higher proportion of parents considers CAM to be possibly helpful in children with cancer when compared to HCP (54% compared to 35%, P=0.003). Parents are more likely than HCP to think that CAM can cure cancer (27% compared to 5%, P<0.001). Almost half of the parents (46%) and HCP (45%) were doubtful whether CAM can cure cancer. Parents are more likely than HCP to think that chemotherapy is able to cure cancer (80% versus 69%, P=0.013). No significant differences were found between doctors and other HCP with regard to this health belief. A combination of

chemotherapy and CAM is the best way to cure cancer according to half of all parents and HCP (P=ns). CAM has a long history and therefore must be better than conventional treatment according to significantly more parents (24%) than HCP (6%) (P<0.001). Many parents (41%) and HCP (42%) were uncertain about this health belief. Most health beliefs did not differ significantly between doctors and other HCP.

### Components of CAM

Table 3 shows the effectiveness, safety and harmfulness of various types of CAM according to HCP and parents. The most effective, most safe, and least harmful regarded CAM was unanimously self-prayer. Interestingly, most types of CAM were considered to be effective and safe by significantly more HCP than parents. Significantly more HCP than parents considered old-smart people, home-made herbs and massage to be most harmful. By contrast, parents considered relaxation techniques (yoga, meditation) to be most harmful, whereas these are considered to be safe by 60% of HCP.

### Recommending CAM

Table 4 illustrates the various types of CAM recommended and discouraged by HCP. Most recommended types of CAM by HCP were: self-prayer (93%), supportive group (82%), and vitamin or nutritional supplements (54%). In general, no significant differences were found between the proportion of doctors and proportion of other HCP recommending the different types of CAM. Only energy healing (reiki, tai chi and prana) was recommended by a significantly smaller proportion

**Table 3. Effectiveness, Safety and Harmfulness of CAM According to HCP (n=175) and Parents (n=176)**

	Effective				p	Safe				p
	HCP		Parents			HCP		Parents		
	Total	%	Total	%		Total	%	Total	%	
Self-prayer	166	86%	176	94%	ns*	162	91%	176	94%	ns*
Old-smart people***	125	4%	176	25%	<0.001*	120	6%	176	20%	0.012*
Energy healing: reiki, tai chi, prana	129	33%	176	17%	<0.001*	130	44%	176	17%	<0.001*
Supportive group	162	78%	176	35%	<0.001*	155	67%	175	37%	<0.001*
Vitamin and nutritional supplements	141	66%	176	77%	ns*	137	67%	176	75%	0.015*
Relaxation (yoga, meditation)	141	58%	176	14%	<0.001*	143	60%	176	7%	<0.001*
Acupuncture	136	47%	176	28%	0.001*	136	39%	176	21%	<0.001*
Massage	132	26%	176	52%	0.002*	126	26%	176	51%	0.010*
Herbs: home made	125	14%	176	23%	ns*	122	13%	176	17%	ns*
Herbs: factory made	133	22%	176	10%	<0.001*	127	16%	176	7%	<0.001*

  

	Harmful				p
	HCP		Parents		
	Total	%	Total	%	
Self-prayer	121	4%	176	4%	ns*
Old-smart people***	156	80%	176	45%	<0.001*
Energy healing: reiki, tai chi, prana	120	27%	176	39%	ns*
Supportive group	115	10%	165	3%	<0.001**
Vitamin and nutritional supplements	107	10%	176	23%	ns*
Relaxation (yoga, meditation)	118	20%	176	56%	<0.001*
Acupuncture	127	36%	176	47%	ns*
Massage	145	54%	176	24%	<0.001*
Herbs: home made	152	71%	176	49%	<0.001*
Herbs: factory made	144	31%	176	13%	<0.001*

\*Chi-square test; \*\* Fischer's Exact test; \*\*\*Old-smart people, men with supernatural powers who can communicate with divine or supernatural creatures, and are consulted for advice and healing ceremonies

**Table 4. Types of CAM Recommended and Discouraged by HCP (n=175)**

	Recommending CAM						p
	All HCP		Doctors		Other HCP		
	Total	% (Yes)	Total	% (Yes)	Total	% (Yes)	
Self-prayer	172	93%	103	91%	69	97%	ns*
Old –smart people	166	4%	99	4%	67	4%	ns**
Energy healing : reiki, tai chi, prana	165	19%	98	11%	67	30%	0.001*
Supportive group	174	82%	103	77%	71	87%	ns*
Vitamin and nutritional supplements	167	54%	99	54%	68	53%	ns*
Relaxation (yoga, meditation)	168	25%	100	23%	68	27%	ns*
Acupuncture	166	18%	98	15%	68	21%	ns*
Massage	167	10%	99	8%	67	9%	ns*
Herbs: home made	167	21%	99	17%	68	25%	ns*
Herbs: factory made	164	4%	97	4%	67	4%	ns**

  

	Discouraging CAM						p
	All HCP		Doctors		Other HCP		
	Total	% (Yes)	Total	% (Yes)	Total	% (Yes)	
Self-prayer	168	7%	98	4%	70	10%	ns**
Old –smart people	167	70%	98	80%	69	55%	< 0.001*
Energy healing : reiki, tai chi, prana	160	43%	94	47%	66	37%	ns*
Supportive group	164	30%	97	29%	67	31%	ns*
Vitamin and nutritional supplements	164	33%	96	34%	68	29%	ns*
Relaxation (yoga, meditation)	160	38%	95	40%	65	35%	ns*
Acupuncture	160	54%	95	59%	65	46%	ns*
Massage	161	57%	96	65%	65	45%	0.006*
Herbs: home made	166	62%	99	68%	67	52%	0.029*
Herbs: factory made	161	19%	95	25%	66	11%	0.020*

\*Chi-square test; \*\*Fisher's Exact test

**Table 5. Knowledge about CAM of HCP (n=172) and parents (n=176).**

	All HCP		Parents		p*	Doctors		Other HCP		p*
	Total	% (Yes)	Total	% (Yes)		Total	% (Yes)	Total	% (Yes)	
I have learned or read about CAM	167	25%	174	65%	< 0.001	103	21%	64	30%	ns
I want to learn more about CAM	170	31%	174	48%	0.002	103	32%	67	29%	ns
My knowledge about the safety and efficacy of CAM is inadequate	169	71%	174	77%	ns	102	78%	67	62%	0.032
I need more education about CAM	167	47%	174	68%	< 0.001	100	50%	67	43%	ns
There should be more attention for CAM in the hospital	171	61%	174	72%	0.029	103	60%	68	60%	ns

\*Chi-square test

of doctors compared to other HCP (30% compared to 11%,  $P=0.001$ ). Reasons for recommending CAM to parents were: hope for improvement child's condition (48%), patient who wants to stop treatment (42%), terminal condition child (39%), hope for cure (37%), relief of severe side-effect (30%), cheap (28%), proven to be effective in other patients (24%), and certainty of cure (15%).

#### Discouraging CAM

Table 4 shows that the most discouraged types of CAM by HCP were: old-smart people (70%), home-made herbs (62%) and massage (57%). Doctors were more likely to discourage each of these types of CAM compared to other HCP. Reasons for discouraging CAM to parents were: lack of evidence for usefulness of CAM (77%), lack of knowledge about CAM (75%), harmful (73%), not safe (70%), not effective (66%), waste of money (50%), and hospital policy to discourage CAM (22%).

#### Communication about CAM

Patients may unlikely raise the topic of CAM, if they perceive that the doctor is skeptical about CAM according

to significantly more parents (52%) than HCP (1%) ( $P<0.001$ ). Patients may be concerned about the doctor's response if they tell about their use of CAM according to 62% of HCP and 64% of parents ( $P=ns$ ). Despite caution or skepticism, it is important that doctors facilitate an atmosphere of openness within consultations, so that interested patients feel able to discuss CAM according to 76% of HCP and 54% of parents ( $P=ns$ ). More open doctor-parent communication about CAM may enhance doctors' knowledge of what type of CAM their patients are using according to 67% of HCP and 66% of parents ( $P=ns$ ). More open doctor-parent communication about CAM may enable doctors to address their concerns about CAM according to a significantly higher proportion of HCP than parents (76% compared to 53%,  $P<0.001$ ). No significant differences in perspectives on communication about CAM were found between doctors versus other HCP ( $P=ns$ ).

#### Knowledge of CAM

Table 5 presents the knowledge of CAM of HCP and parents. Parents are more likely than HCP to have learned or read about CAM (65% compared to 25%,  $P<0.001$ ).

Most HCP (71%) and parents (77%) acknowledge that their knowledge about the safety and efficacy of CAM is inadequate ( $P=ns$ ). The proportion of people that wants to learn or read more about CAM is higher in parents than in HCP (48% compared to 31%,  $P=0.002$ ). There should be more attention for CAM inside the hospital according to significantly more parents (72%) than doctors (61%) ( $P=0.029$ ). Almost no significant differences in these perspectives were found between doctors versus other HCP ( $P=ns$ ). The only exception being that the proportion of HCP that thinks their knowledge about the safety and efficacy of CAM is inadequate is significantly larger in doctors compared to other HCP (78% compared to 62%,  $P=0.032$ ).

## Discussion

Overall, we found that Indonesian parents of children with cancer have more positive views about CAM than their HCP. CAM can be helpful in children with cancer treatment according to significantly more parents than HCP. Yet, many parents and HCP were doubtful whether CAM can cure cancer. Surprisingly, chemotherapy can cure cancer according to significantly more parents than HCP. Our study thus seems to reflect that parents' health beliefs about the effectiveness of both conventional and alternative treatments are more positive than that of the medical staff. Although families may be using CAM, their expectations of conventional treatment are high. According to several studies in both low and high-income countries, parents of children with cancer used CAM because they wanted to have a more active role in improving their child's health-care. (Bishop et al., 2010; Laengler et al., 2008; Scencer et al., 2006).

The views of HCP and parents on which components of CAM are regarded as effective, safe or harmful differed significantly for most CAM types. However, self-prayer was unanimously perceived as most effective, most safe and least harmful by both HCP and parents. Indonesia is a deeply religious country where self-prayer is embedded in the predominantly Islamic culture. Respondents in fact commented that they did not regard self-prayer as a CAM component. This perspective is also reflected in previous studies conducted for example in Malaysia and Jordan where self-prayer was not included as a CAM therapy. (McCann et al., 2006; Scencer et al., 2006; Hamidah et al., 2009; Al-Qudimat et al., 2011; Ladas et al., 2014). It is therefore no surprise that HCP most often recommended self-prayer as it reflects the Indonesian culture in which religion and spirituality are integrated into daily life.

Much of the Western conventional medical tradition is based on the idea that the body and soul are two distinct entities. This body-soul dichotomy dates back to primary retrieved sources of ancient Greek philosophers as Socrates and Plato. According to Western conventional medicine a physical ailment therefore requires primarily a physical intervention. (Stanford, 2015). By contrast, in many non-Western societies this strict distinction between body and soul is not rigorously made and medicine is originally based on a more holistic approach taking into account the body and soul. These different

cross-cultural conceptualizations are illustrated in our study as well. (Stanford, 2015). Traditionally old-smart people, usually men with supernatural powers who can communicate with divine or supernatural creatures, have had a high-status in Javanese society and culture (40% of the Indonesian population is Javanese, which is the largest ethnic group in Indonesia). (CIA, 2016). Nowadays old-smart people may still be deeply respected by some Javanese communities, particularly among families with lower educational or socio-economic backgrounds. The status of old-smart people might be higher than that of doctors to them. If these persons have problems in their daily life or suffer from sickness, old-smart people are the first to be counseled for practical advice or healing ceremonies. Families of children receiving conventional cancer treatment may continue to consult old-smart people as well. This may frustrate conventional HCP who notice that their protocols and advices, based on evidence-based Western medicine, are less adhered to than those of old-smart people. Many Indonesian families abandon conventional cancer treatment at SH. [Sitaresmi et al., 2010] It is therefore not surprising that significantly more HCP than parents classified counseling of old-smart people as harmful and that it was the most commonly discouraged type of CAM by HCP at SH. In addition, most HCP considered home-made herbs to be harmful and subsequently warned families for not taking them during the chemotherapeutic regimens. Concerns of HCP about potential herbs-chemotherapy interactions are understandable as these interactions take place and can be dangerous for the patients. (Cheng et al., 2010; Neergheen et al., 2013). The most common reasons for HCP to discourage CAM were lacking evidence for its usefulness and their own limited knowledge about CAM.

Our study illustrates that almost none of the HCP understood that parents will unlikely raise the topic of CAM if their doctor is skeptical about CAM. Several studies examined the effect of CAM use on doctor-parent and doctor-child communication. (Fountain et al., 2007; Ben, 2011; Davis et al., 2012). In general, a better relationship with HCP results in a higher disclosure of CAM use by families. However, most often parents themselves need to initiate this discussion about CAM. When parents perceive that their treating physicians have negative perspectives about CAM, they are less willing or able to discuss CAM with their physicians. (Fountain-Polley et al., 2007; Ben-Arye 2011; Davis et al., 2012; Njuguna et al., 2014). Despite skepticism or uncertainty about the value of CAM among doctors, it is important that doctors create an atmosphere of openness which enables interested parents and patients to discuss CAM therapies. More open doctor-patient communication about CAM may also create the possibility for doctors to address their concerns about CAM and increase doctors' knowledge about the CAM therapies that are used by their patients. (Genc et al., 2009). The American Academy of Pediatrics has provided practical tools for pediatricians to facilitate communication with families about CAM. (Kemper et al., 2008).

We found that most HCP acknowledged that their knowledge about the safety and efficacy of CAM is

inadequate. This can be clarified by the medical education system in Indonesia. For Indonesian medical students the CAM curriculum is optional. As a result, many doctors graduate without any theoretical knowledge about CAM at all. Also an American survey found that 61% of doctors felt they had inadequate knowledge about the safety and efficacy of CAM therapies. (Milden et al., 2004). Another American study confirmed that considerable variations in the perceived effectiveness of different types of CAM exist among doctors. (Astin et al., 1998). Studies from the United Kingdom found that doctors had serious concerns about the safety, lack of proof that CAM therapies work, and their own inadequate knowledge about CAM. (Botting et al., 2000; Maha et al., 2007). Despite this lack of knowledge only a minority of the HCP at SH wants to learn more about CAM. Yet, CAM use is common among children with cancer and families need proper advice, for example with regard to potential interactions between conventional and alternative treatments. HCP also need to acknowledge that their lacking CAM knowledge may immediately adversely affect their communication about CAM with families. Without proper knowledge, HCP are incapable to provide information and guidance on CAM to parents. HCP should therefore gain at least basic knowledge of CAM. A more open mindset to properly address the needs of families is required. In some countries in Europe and the US CAM has already been successfully included in medical training. (O'Keefe et al., 2009; Brinkhaus et al., 2011; Langer et al., 2013).

There were several limitations that should be considered. The first is that our HCP questionnaires were filled using an anonymous self-report measure to receive more honest answers, whereas our parental questionnaires were filled by an interviewer acknowledging the illiteracy of under privileged families attending SH. Another limitation is the heterogeneous nature of cancer diagnoses which may have impacted the responses. Some items addressed all types of CAM resulting in general impressions regarding health beliefs and knowledge. In addition, our study is limited to HCP and parents at SH and therefore may not be representative of other parts in Indonesia or Asia.

In conclusion, this study shows that HCP and parents have different perspectives on CAM use in children with cancer. HCP should enhance their CAM knowledge. Education programs about CAM adjusted to the needs of HCP are important. Moreover, HCP should encourage open communication about CAM with parents.

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