

Mothers' Attitude and Practices Regarding Use of Complementary and Alternative Medicine in Child Illness

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Abstract: The use of Complementary Alternative Medicine (CAM) in pediatrics has grown dramatically in the world over recent years. The study aimed to assess mothers' attitude and practice regarding CAM use in child illness. A descriptive study design was utilized. A convenient sample of 100 mothers was selected from Abou- El Sood family health center. Two tools were used to collect the study data: mothers' attitude toward use of CAM in child illness and mothers self-reported practice questionnaire regarding use of CAM in child care. The result of the study showed that, mothers have a positive attitude toward the use of CAM. The reasons behind using CAM in the child care broadly focused on the contrasting advantages of CAM and disadvantages of conventional medicine. Non-disclosure of CAM use was common. Regarding mothers' use of CAM in child illness, regular types of herbs were the most commonly used type of CAM; followed by home remedies and sixteen percent mentioned using mythic healing practices. Common indications for use were respiratory & gastrointestinal (GIT) problems, fever and dermatological conditions. The current study concluded that, despite the high use of CAM in child care, a gap remains between use of CAM and disclosure with the health care provider, the study recommended that health care providers should routinely inquire about CAM use as part of their history taking. Also, re-inquiry is recommended at each health visit because the safety of CAM use in children remains questionable especially when used in combination with conventional medicine. Further researches are also recommended to assess the public attitude toward use of CAM in different settings and age groups in Egypt.

Key words: Complementary and Alternative Medicine • Attitude • Practice • Child Illness

INTRODUCTION

Complementary Alternative Medicine (CAM) is very popular, with recent population based estimates of yearly child use. It has been shown that approximately 20-40% of healthy children seen in outpatient pediatric clinics and more than 50% of children with chronic, recurrent or incurable conditions use CAM, almost always in conjunction with mainstream of 9% to 37% in the UK. There is evidence that home remedies are also commonly used for medicine [1].

A systematic review of CAM prevalence surveys worldwide found a prevalence of between 23% – 62% and for over the counter CAM 25% – 46%. CAM is also commonly used for children, with prevalence estimates from 12% in the USA, 11% in Canada to 51% in Australia

and 17 children in the UK [2]. Egypt and Saudi Arabia have documented utilization of CAM therapies among children from the Middle East Herbal Medicine has now been incorporated in the National Health Services along-side the conventional medicine especially in countries such as Egypt, Jordan, Kuwait, Saudi Arabia and the UAE. The increased utilization of CAM has created a growing interest among the general population towards CAM [3].

Despite the growing popularity of CAM approaches for pediatric illness, questions remain regarding the efficacy of these interventions. Although CAM is perceived positively, several side-effects of this intervention have been reported, including death, anaphylaxis, renal failure and malignancy. Adverse effects occur directly or from drug interaction [4].

Consequently, Duru, *et al.* [5] recently ranked "first do no harm" as the leading research priority for pediatric CAM research, followed by more research on effectiveness of CAM therapies for conditions not safely and effectively treated with conventional care in the international consensus approach to develop and refine a pediatric CM research agenda. In order to improve pediatric health care, interdisciplinary collaborative approaches are needed between CM and conventional providers and researchers. However, CAM cannot be ignored by health care providers.

There is a notable lack of research into the safety and efficacy of CAM in children. Difficulties in studying pediatric CAM use have been identified and include variation in definitions of both CAM (ie, does CAM include vitamins or prayer) and pediatric as well as lack of reporting of period of assessment, costs, insurance coverage, occurrence of adverse events, source of CAM information and discussion of CAM use with a conventional health care provider. Despite the popularity of CAM, rates of disclosure of CAM use to physicians are often poor, with rates as low as 23% [6].

Since mothers are usually the primary care givers for children especially under five years of age, it is vital to assess mothers' knowledge and practices in managing minor illness to ensure safe and effective ways of managing child illnesses and decrease complications and hospitalization [3]. Mothers represent one of the largest groups of CAM users. Added that, they reported use a potentially harmful herbal remedies with wrong conceptions, also the lack of adequate knowledge about its use with young children [7].

Community health nurse working at Primary Health Care (PHC) settings act as a first point of consultation for all patients within the health care system. As the use of CAM becomes increasingly common and because promoting client health and safety is a nursing priority, the community health nurse have a vital role in providing health education about CAM, its different types, the different uses and side effects of commonly used types in child illnesses. Clients are often unwilling to disclose their use of nontraditional methods to health care providers, so nurses are uniquely positioned to assess client care preferences and client use of CAM and assess the use CAM options in primary health care settings [8].

This study will be significant as it will provide a clearer picture of attitude and practices of mothers about the use of CAM in their children illnesses. Attitudes towards health in general may also contribute to the decision to seek CAM treatment. It will enrich the

curriculum of nursing research; it will increase information about current CAM modalities used in child care in Egypt. Attitude and practices behind CAM usage in child care will be valuable to community health nurses, especially given the rising use of CAM.

The aim of the study is to assess the mothers' attitude and practices regarding CAM use in child illness.

MATERIALS AND METHODS

Research Questions: To fulfill the aim of the study the following questions were formulated:

- What is the attitude of mothers about CAM in the child illness?
- What are the self-reported practices of CAM of mothers in the child illness?

Operational Definition

Alternative Complementary Therapy (CAM): Is the practices that are not part of standard care & any of various systems of healing or treating disease not included in the traditional medical therapy, It includes five main types: Body therapies such as Massage, Herbal approaches such as Herbal remedies, Mind - body therapy such as Meditation, Traditional alternative medicine such as Acupuncture and Aromatherapy such as Natural oils.

Research Design

A Descriptive Research Design Was Utilized.

Ethical Consideration: An official permission to conduct the proposed study was obtained from the ethical committee faculty of nursing, Cairo University and The Human Research Ethics Board Committee of the Central Directorate for Research & Health Development, Training & Research Sector affiliated to the Egyptian Ministry of Health and Population. Participation in the study was voluntary and based on the subjects' acceptance to give informed consent; where informed consent was obtained after explanation of the ethical issues, the purpose and nature of the study, the study subjects informed that they have the right to withdraw at any time and the information wouldn't be accessed by any other party without taking permission from them.

Setting: The current study was conducted at the pediatric clinic at Abo-Al-Sood family health center which is located at Masr El-kadema area, affiliated to the PHC settings at the South sector of Cairo governorate, Egypt.

This family health center consists of 2-3 floors, each floor has different types of clinics such as: family medicine clinics that includes 3 outpatient clinics (the first clinic is pediatric clinic for caring the children under five years, the second clinic is obstetrics & gynecology clinic and the third clinic is adult clinic for treatment of chronic illnesses) also, the center includes vaccination clinic and administrator office.

Sample of the Study: A convenient sample of 100 mothers who attended the selected family health centers during one month (2 day/ week) who met the inclusion criteria was selected.

Inclusion Criteria:

- Have at least one child less than five years.
- Used any type of CAM in child illness the last year

Tools of Data Collection: After reviewing the related literature, data collection tools were developed by the researchers to assess mothers' attitude and self-reported practice regarding the use of CAM in child illnesses which are reviewed by a panel of three expertise in Community Health Nursing department, Cairo university.

Frist Tool: Mothers' Self-reported practice about CAM use in child illness.

It includes socio-demographic characteristics of mothers and their self-reported practice of CAM in the child care that includes indication for CAM use and commonly used CAM in child care.

Second Tool: Mothers attitude toward CAM use in child illness.

A 5-point Likert scale (strongly agree/agree/neutral/disagree/strongly disagree) consists of seven statements was used to assess the participants' attitudes about used to measure the attitude of mothers about CAM as cost effectiveness, safety, uses, side effects and serious complications. The attitude scores were graded as poor (0–12), moderate (13–24) and good (25–35).

Tools Validity and Reliability: The questionnaire items were tested for content validity by a panel of experts in community health nursing. Each of the experts asked to examine the instrument for content clarity, wording, duration, format and overall appearance. Based on experts' comments and recommendations, some items were added, modified and/or cancelled. Internal

consistency and reliability were determined using Cronbach's alpha coefficient of internal consistency reliability of attitude scale was 0.83.

Procedure: To fulfill the aim of the current study, the following steps were followed. Before conducting the study, the researcher did an initial visit to the selected family health center to be acquainted with the filing system applied in the family health center and the flow number of clients. Then, an official permission was obtained from the ethical committee faculty of nursing, Cairo University and approval of The Human Research Ethics Board Committee of the Central Directorate for Research & Health Development, Training & Research Sector affiliated to the Egyptian Ministry of Health and Population. Data was collected for one month, two days per week. The time spent to fill in the study tool was 20 to 30 min and filled by the 2 day / week.

Pilot Study: The pilot study was carried out on 10% of total sample size to test the applicability & clarity of the questions of the study tool, estimate the time needed to complete the questionnaire.

Statistical Analysis: Upon completion of data collection the data were scored, tabulated and analyzed by personal computer using Statistical Package for the Social Sciences (SPSS) program version 20 as Descriptive as well as inferential statistics were utilized to analyze data pertinent to the study. Relative statistical tests of significance and correlations were used to identify the correlations, among the study variables.

RESULTS

Table (1) shows that one hundred mother participated in the study, forty one percent of them aged from 28 to 38 years old with mean age: 32.54 ± 12.44 years. Also, 41% completed the secondary school education while 1% of them can read and write, Seventy two percent were house wives and half of them earn from 1000 to 2000 L.E while 2% of them earn less than 500 L.E. Also current study results revealed that, about 43% mothers had one child, 39% had three or more children while 18% had only one child.

Fig. 1 Distribution of mothers regarding their reasons behind use of CAM in child care. Regarding the reasons for using CAM in child care, Figure (1) reveals that, 45% of mothers reported, its lower cost, 20% its safety and 5% for religion reasons.

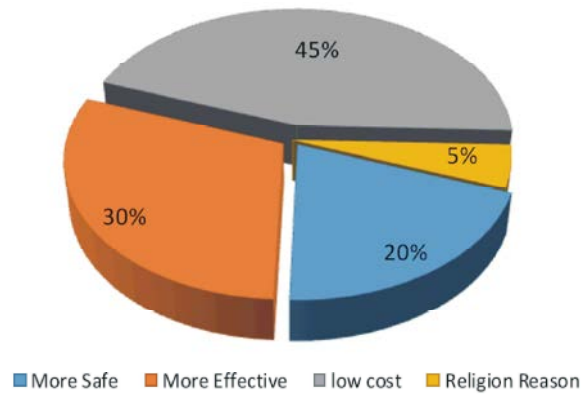


Fig. 1: Distribution of mothers regarding their reasons behind use of CAM in child care

Table 1: Percentage distribution of mothers regarding their demographic characteristics (n=100)

Variables	N	(%)
Age/years:-		
18 < 28	26	26.0
28 < 38	41	41.0
38<34	31	31.0
≥48	2	2.0
Mean age:	32.54 ± 12.44 years	
Education:		
Can't read or write	3	3.0
Can read & write	1	1.0
Primary	13	13.0
Secondary	41	41.0
University	38	38.0
Post graduate studies	4	4.0
Job		
Profession	21	21.0
Craft	2	2.0
house wife	72	72.0
Others	5	5.0
Income		
less than 500	2	2.0
from 500 to 1000	18	18.0
from 1000 to 2000	44	44.0
More than 2000	36	36.0
No of children		
1	18	18.0
2	43	43.0
≥3	39	39

Table 2: Distribution of mothers regarding their disclosure of using CAM in their child care (n=100)

Disclosure of the use of CAM in child care	No. %
Is it important to discuss the use of CAM with physician	
Yes	19
No	81
If no, Reason for non-disclosure	
It is difficult to talk to the doctor.	23
Doctor does not ask	34
Not important to talk about.	14
Afraid of doctor's response	29

As displayed in Table (2), it is clear that, 81% of mothers had not informed pediatrician when they use CAM in their child care. The reasons for this behaviour: 34 % doctors did not ask, 29 % were afraid of doctor's response and 14 % did not consider it important to disclose.

Table (3) shows that, 43% of mothers strongly agreed that CAM can be used safely without prescription while 23% disagree. Fifty five percent agreed that alternative medicine should be integrated with conventional therapy in hospitals. Also current study results reflected that, 45% agreed that, CAM is better for treatment of diseases than conventional medicine. 37% neutral toward the idea that overdose of vitamins and minerals supplements do not cause any side effects, Overdose of vitamins and minerals supplements do not cause any side effects. In addition, 41% of mothers believed that, all kinds of natural herbs always safe in use and home remedies have no adverse effects.

Figure (2) shows that, the most frequent sources of information for mothers are the family & friends and mass media [50% & 35% respectively] while 15% have obtained their knowledge from spiritual healers.

Figure (3) shows that, cough is the most common indication for CAM use in child care (86%) followed by common cold (76%), gastrointestinal disorders (74%) fever (52%) and skin rashes (50%).

Figure (4) shows that, regular types of herbs were the most commonly used type of CAM (78%); followed by home remedies (60%) and 16% mentioned using mythic healing practices.

Table (3) displays that there is highly statistical significant relationship between mother practices of CAM in child care and their age (p=.001**). The same table also shows that, there are no significant statistical relationships between mother attitude and practices with level of education and place of residence.

Table 3: Distribution of mothers regarding their attitude toward use of CAM in their child care (n=100)

Mothers attitude toward CAM use in child care	Strongly- agree No. %	Agree No. %	Neutral No. %	Dis-agree No. %	Strongly disagree No. %
CAM can be used safely without prescription	1	33	0	23	43
CAM should be integrated with conventional therapy in hospitals.	1	55	25	17	2
CAM is better for treatment of diseases than conventional medicine.	0	45	19	22	13
Overdose of vitamins and minerals supplements do not cause any side effects	3	27	37	24	9
All kinds of natural herbs always safe in use	2	41	30	24	3
Home remedies have no adverse Effect on children health	10	41	26	16	7

Table 3: Correlation between mothers' demographic characteristics, attitude and practice regarding use of CAM

Items	Level of education		Job		Residence		Age	
	F	p	f	p	f	p	f	P
Attitude	1.230	0.301	1.03	0.382	0.642	0.446	0.659	0.045
Practice	0.872	0.503	0.759	0.520	0.068	0.184	3.61	0.001**

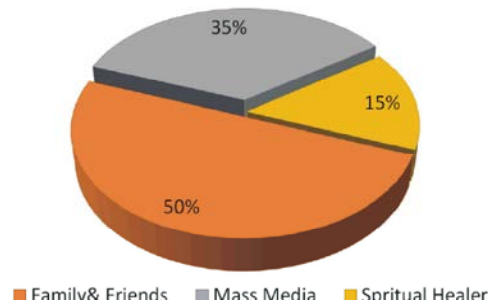


Fig. 2: Distribution of mothers regarding their sources of information about use of CAM in the child care

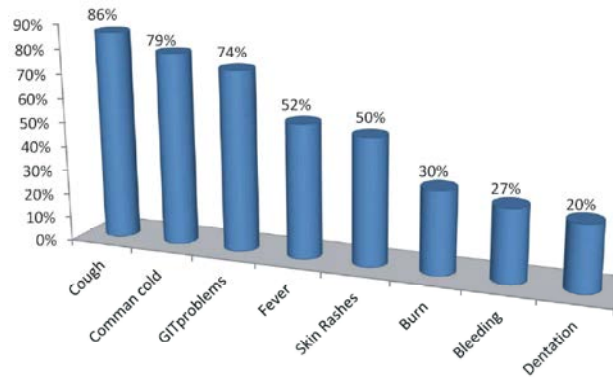


Fig. 3: Mothers distribution regarding indication for CAM use in child illnesses (n=100)

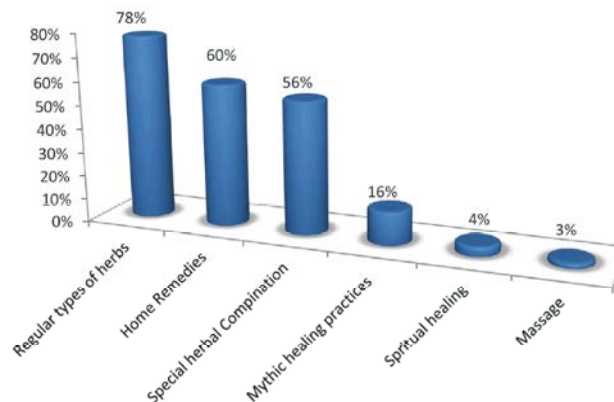


Fig. 4: Distribution of mothers regarding commonly used CAM in child care (n=100)

DISCUSSION

Current study findings show that one hundred mothers participated in the study; the majority of mothers were house wives. Less than half of them aged from 28 to 38 years old (with mean age: 32.54 ± 12.44 years), completed the secondary school education, earn from 1000 to 2000 L.E and had three or more children while 18%. These results are in the same line with the study of CAM use for treatment of acute illnesses in children Living in Yenagoa conducted by Duru, *et al.* [5] who found that, most of the mothers were aged 30 years or higher (57.1%), had at least a secondary level of education (44.8%).

Also, results of current study are in agreement with the study conducted by Hwang, *et al.* [9] in their cross-sectional survey on Iraqi women about CAM use in pregnancy who reported that, 335 women with response rate of 83.96 %, 74.6 % in were aged ≤ 30 years, 89.3 % were housewife, less than half had at least a middle school education and 35.8% had household income $\leq 500,000$ Iraqi Dirhams About 31.2% parents had one child, 30.4% had two children and 38.4% had three or more children.

Regarding the reason for using CAM in child care, results of current study reveals that, less than half of mothers reported, for its lower cost, 20% for its safety and 5% for religion reason. These results are in the same line with study of attitudes and Practices of Complementary and Alternative Medicine Among Adolescents in Saudi Arabia, Abdulrahman, *et al.* [4] declared that, About 43 % of the CAM users considered that it was not dangerous for their children, 28.6 % used for its effectiveness, 17.5 % for cultural reasons and 10.6 % for the safety. Also dissatisfaction with conventional medicine has also been suggested as a reason for seeking CAM treatment. A relatively high percentage of adolescents believed that medicinal herbs are safe to use (34.6% males, 42.6% females). Nearly 30% of males and 21% of females believed that CAM is better than conventional medicine in treating diseases.

Mothers' attitude towards CAM use in child illness Attitude toward health in general may also contribute to the decision to seek CAM treatment. Thirty three percent of mothers strongly agreed that CAM can be used safely without prescription while 23% disagree that. Fifty five percent agreed that Alternative medicine should be integrated with conventional therapy in hospitals. In the same line, Alrowais and Alyousefi [10] showed a very favorable attitude toward the integration of herbal medicine into primary care services among Saudi as and reflect their strong concern about the safety of the marketed herbal remedies. As the use of CAM in general

and herbs, in particular, on the increase, the Saudis enthusiasm to CAM and their views on integrating these practices into medical services were assessed. Forty-seven percent of CAM users did not consult their physician before using CAM, 30% also did not obtain sufficient answers regarding CAM use from their physicians [11].

Also, current study results reflected that, about half of mothers agreed that, CAM is better for treatment of diseases than conventional medicine. 37% neutrally agree that, Overdose of vitamins and minerals supplements do not cause any side effects. In addition, 41% of mothers believed that, all kinds of natural herbs always safe in use and home remedies have no adverse effect. These findings were reflected in other recent studies as reported by 80% of pediatric oncologic patients in Mexico claimed that the use of alternative or complementary treatment (ACT) didn't cause any side effects [12]. Indeed, CAM is often sought as a supplemental treatment rather than as a replacement for conventional methods [1].

Also, Abdulrahman, *et al.* [4] revealed that, a relatively high percentage of adolescents in Saudi Arabia believed that medicinal herbs are safe to use (34.6% males, 42.6% females). Nearly 30% of males and 21% of females believed that CAM is better than conventional medicine in treating diseases. About one-fifth of adolescents agreed with the statement "vitamins and minerals can be used without prescription. Nearly 20–40% of Saudi adolescents had positive attitudes toward CAM.

Also, Warriner, *et al.* [13] found that, A number of the women believed that CAM were not chemical and related this to their belief that CAM are relatively safe. It also refers to beliefs about the negative side effects of prescription drugs and the safer, more effective option provided by natural remedies. And for researchers it brings consistent calls for improvement in awareness and testing.

Regarding Mothers Their Disclosure of Using CAM in Their Child Care: An alarmingly high proportion of mothers (81%) had not informed pediatrician when they use CAM in their child care. The reasons for this lack of communication are manifold: 34 % doctors did not ask, 29 % were afraid of doctor's response and 14 % did not consider it is important to disclose. Mothers fail to initiate CAM discussions because they perceive them as irrelevant and are afraid of physician discouragement or due to prior lack of physician inquiry. Similar results were described by James, *et al.* [14] stated that, Most users (55.8%–100%) in SSA fail to disclose CAM use to their

healthcare providers, with the main reasons for non-disclosure being fear of receiving improper care, healthcare providers' negative attitude and a lack of enquiry about TCAM use from healthcare providers.

Mothers' Sources of Information about Use of CAM in the Child Care: The present study results revealed that, the most frequent sources of information for mothers are the family & friends, mass media [50 and 35%, respectively] and 15% have obtained their knowledge from spiritual healers. Which are also consistent with Alrowais and Alyousefi [6] who reported that, The main single source of CAM information used by Saudi adolescents is Family members and friends were the major single source of CAM information (67.7%), followed by television (10.1%) and Internet (8.0%).

This is considerably different from our results, which indicated that the common source of information about CAM among Jordanian university students was the media such as radio, television, newspapers (59%) followed by CAM practitioners (43%) and books (36%) [15]. This might be explained by the difference in the educational level and place of residence and the fact that CAM is more of a cultural or traditional habit, rather than scientifically or medically-based.

Mothers' Self-reported Practices of CAM in the Child Illnesses: In the present study, cough is the most common indication for CAM use in child care by (86%) followed by common cold (76%), gastrointestinal disorders (74%) fever (52%) and skin rashes (50%) were the frequent clinical conditions in children that necessitates use of CAM by mothers. These findings are at par with several recent studies reported from across the world where in gastrointestinal disorders and respiratory disorders were the most frequent reasons for use of CAM in children such as the study of CAM use for treatment of Acute illnesses in children Living in Nigeria where Duru, *et al.* [5] reported that, the symptoms that made the mothers use CAM on their children included the presence of fever (80.7%), diarrhea (47.8%) and vomiting (37.9%) of cases. Also, Abdulrahman, *et al.* [4] found that common health symptoms treated using CAM among Saudi adolescents were abdominal pains (47%), cold and flu (37.6%) and cough (31.3%) were the main health symptoms treated by CAM.

In contrast, Among university students in Jordan, the most common cause for use of CAM therapies is improving general health (38%), followed by respiratory tract infections (RTIs) (14%), dermatological causes (9.7%), increasing physical strength (9.7%), improving mental health (7.8%) and lastly, urinary tract infections

(UTIs) (2.2%). 9.4% answered 'Other'[14]. In addition, numerous recent studies have highlighted the use of CAM therapies in caring pediatric illness with chronic nature [12, 16].

The Commonly Used CAM in Child Care: In the descending frequency regular types of herbs were the most commonly used type of CAM (78%); followed by home remedies (60%), It can be noted that 16% mentioned using mythic healing practices from traditional Egyptian culture. The most commonly used practice in Saudi Arabia were spiritual practices such as reciting Quran, prayer and reciting Quran on water and Zamzam water but herbs (8–76%), honey (14–73%) and dietary products (6–82%). Cupping (Alhijamah) was less commonly used (4–45%) [6].

The high figure of using herbals and home remedies in Egypt could be explained as CAMs are traditionally used in Egyptian society and are less expensive than pharmaceuticals which may make them preferable for the poorer sectors of society while the practices of CAM in Saudi Arabia are usually related to the religious beliefs of the consumers.

Another study of Use of complementary and alternative medicine among pediatric patients with hepato-gastro-intestinal diseases conducted in Iran reported that, Spiritual therapy was another common type of CAM reported in our study. This is probably due to the religious beliefs which are very common in Iranian culture. Live raw fish swallowing was a traditional remedy in Iranian folklore medicine for treatment of pediatric jaundice [17].

Correlation Between Mothers' Demographic Characteristics, Attitude and Practice Regarding Use of CAM: There is highly significant relationship between mother practices of CAM use in child care and their age with $p = (0.001^{**})$. Similar finding was reported in the Cross Sectional Study of Knowledge, Attitude and Utilization of Traditional Medicine among the Communities of Merawi Town, Northwest Ethiopia, Wassie, *et al.* [18] found that the use of traditional medicine was significantly associated with the age of the population; particularly age groups of 18–28 and 29–38 were highly associated with the level of traditional medicine use with value < 0.02 and 0.004 , respectively. There are no significant relationships neither between mother attitude and practices with level of education place of residence of mothers regarding CAM. These results are inconsistent with findings of Wassie, *et al.* [18] who reported that, educational status and occupation of the participants were found to be highly associated with the use of traditional medicine.

CONCLUSION

Results of this study indicate that CAM use is high among mothers of children less than years the family health centers. Most mothers felt that their CAM use was effective, safe and can be used alongside conventional medicines for their child illnesses. Herbal medicine was the common CAM therapy. There is a gap in the history taking pertaining to sick children seeking health care at family health center, mothers are still not discussing their CAM use with their health care provider and are increasing the likelihood for potential interactions and possible harms. Reasons for lack of disclosure include concerns about a negative response by the physician, belief that the physician does not need to know about the CAM use and that the physician did not ask. It is important for health care providers to inquire about CAM use and to educate mothers about the risk/benefit of these products.

Recommendations: Based on the current study findings; it can be recommended that Community health nurses working in the family health centers should:

- Ask about the different therapies utilized by mothers of children less than five years of age.
- Evaluate and counsel about potential adverse effects and to enhance the probability of correctly attributing improvements or adverse effects to the specific intervention.
- Respect the family's perspectives, values and cultural beliefs in open, ongoing communication centered on the patient's well-being.
- Seek continued and updated knowledge about therapeutic options to ensure that issues of safety, appropriateness and advisability of CAM can be addressed.
- Activate the role of the community health nurse in family health centers through applying frequent educational sessions about alternative medicine for mothers regarding use of CAM in child illnesses.

REFERENCES

1. Soh, N.L. and G. Walter, 2019. Traditional and alternative medicine treatments in child and adolescent mental health. In Rey JM, Martin A (eds), JM Rey's IACAPAP e-Textbook of Child and Adolescent Mental Health. Geneva: International Association for Child and Adolescent Psychiatry and Allied Professions 2019.
2. Noras, M., M. Yousefi and M.A. Kiani, 2013. Complementary and Alternative Medicine (CAM) Use in Pediatric Disease: A Short Review. *International Journal of Pediatrics*, 1: 45-49.
3. Alluqmani, M., A. Aloufi, Abdulwahab, A. Alsharif, A. Al-Shathri, M. Al-Shehri, S. Aharbi, S. Hawsawi, N. Alshmmary and B. Alshammari, 2017. Knowledge, attitude and practice of mothers on acute respiratory infection in children under five years in Saudi Arabia. *The Egyptian Journal of Hospital Medicine*, 69(2): 1959-1963. doi: 10.12816/0040629.
4. Abdulrahman, O., Musaiger and N.A. Abahussain, 2015. Attitudes and practices of complementary and alternative medicine among adolescents in Saudi Arabia. *Global Journal of Health Science*, 7(1): 173-179. <https://doi.org/10.5539/gjhs.v7n1p173>.
5. Duru, C., I. Nduka and O. Obikeze, 2020. Complementary and alternative medicine use for treatment of acute illnesses in children living in Yenagoa Nigeria. *Journal of Complementary and Alternative Medical Research*, 8(4): 1-9. <https://doi.org/10.9734/JOCAMR/2019/v8i430127>.
6. Alrowais, N.A. and N.A. Alyousefi, 2017. The prevalence extent of complementary and alternative medicine use among Saudis. *Saudi Pharmaceutical Journal*, 25(3): 306-318. <https://doi.org/10.1016/j.jsps.2016.09.009>.
7. Al-yahia, O.A., A.M. Al-bedah, D.S. Al-dossari, S.O. Salem and N.A. Qureshi, 2017. Prevalence and public knowledge, attitude and practice of traditional medicine in Al-Aziziah, Riyadh, Saudi Arabia. *British Journal of Medicine & Medical Research*, 20(9): 1-14. <https://doi.org/10.9734/BJMMR/2017/32749>.
8. Cırık V, E. Efe, S. Öncel and S. Gözüm, 2017. Experiences and Attitudes of nurses regarding complementary health approaches used by themselves and their patients. *J. Transcult Nurse*, 28(4): 381-390. doi:10.1177/1043659616651672.
9. Hwang, J.H., Y. Kim, M. Ahmed, S. Choi, N.Q. Al-Hammadi, N.M. Widad and D. Han, 2016. Use of complementary and alternative medicine in pregnancy: a cross-sectional survey on Iraqi women. *BMC Complementary and Alternative Medicine*, 16(19): 3-9. doi:10.1186/s12906-016-1167-0.
10. Alrowais, N.A. and N.A. Alyousefi, 2017. The prevalence extent of Complementary and Alternative Medicine (CAM) use among Saudis. *Saudi pharmaceutical journal: SPJ*, 25(3): 306-318. <https://doi.org/10.1016/j.jsps.2016.09.009>.

11. Al-Ghamdi, E.A., N.A. Qureshi, L. Krekman, A.M.A. Al-Ghamdi and A.M. Al-Bedah, 2015. Traditional medicine and modern medicine: knowledge, attitude and practice of medical students and their mothers in Tabuk City, Saudi Arabia BJMMR, 16(8): 1-12. Article no.BJMMR.26915.
12. Isaac-Otero, G., D. Molina-Alonso, L. Asencio-López and C. Leal-Leal, 2016. The use of alternative or complementary treatment in pediatric oncologic patients: Survey of 100 cases in a level III attention institute. *Gac. Med. Mex.*, 152: 7-12.
13. Warriner, S., K. Bryan and A.M. Brown, 2014. Women's attitude towards the use of complementary and alternative medicines (CAM) in pregnancy. *Midwifery*, 30(1): 138-143. doi:10.1016/j.midw.2013.03.004. PMID: 23631887.
14. James, P.B., J. Wardle, A. Steel and J. Adams, 2018. Traditional, complementary and alternative medicine use in Sub-Saharan Africa?: a systematic review. *BMJ Global Health* 2018. <https://doi.org/10.1136/bmjgh-2018-000895>.
15. Al-Omari, L., R. Radi, U. Isleem, O. Alimoglu, H. Ankaralı, V. Berggren and H. Taha, 2018. Knowledge about complementary and alternative medicine among university students in Jordan. *Journal of Behavioral Health*, 7(2): 61-68: 7. 61. 10.5455/jbh.20180113083311.
16. Pengpid, S. and K. Peltzer, 2019. Use of traditional medicines and traditional practitioners by children in Indonesia: findings from a national population survey in 2014-2015. *Journal of multidisciplinary healthcare*, 12: 291-298. <https://doi.org/10.2147/JMDH.S203343>.
17. Mosavat, S.H., M. Heydari, M.H. Hashempur and S.M. Dehghani, 2018. Use of complementary and alternative medicine among paediatric patients with hepatogastro-intestinal diseases. *Eastern Mediterranean Health Journal*, 24(10): 1018-1025.
18. Wassie, S.M., L.L. Aragie, Leul , B.W. Taye and L. B. Mekonnen, 2015. Knowledge, attitude and utilization of traditional medicine among the communities of Merawi Town, Northwest Ethiopia: A Cross-Sectional Study. *Evidence-based Complementary and Alternative Medicine*. 2015. 1-7.: 10.1155/2015/138073.