PRINT: ISSN 0973-5070 ONLINE: 2456-6772
Ethno Med, 10(4): 383-392 (2016)
DOI: 10.31901/24566322.2016/10.04.01

Community-Based Interventions to Integrate Traditional Health Practices in South African Medical Care

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KEYWORDS Attitude. Belief. Educational Interventions. Traditional Healers. Traditional Medicines

ABSTRACT This paper assessed the effect of community-based interventions on a sample of South African first year medical students' attitudes towards Traditional Medicines (TMs) and their beliefs in traditional healers (THs), and gathered their views on THs' roles. A mixed method approach using concurrent triangulation design was adopted. All (n=324) students in three consecutive years (2010: n=98; 2011: n=108; 2012: n=118) constituted the sample. Before interventions, only fifty percent had positive attitudes towards TMs and there was no significant difference between their attitudes toward TMs and beliefs in THs. There was no significant correlation between Age/gender/population/religion/province with their attitudes or beliefs. After interventions, the change in attitudes was +78 ($p < 0.0001$), +107 ($p < 0.0001$), +51 ($p < 0.001$) in 2010, 2011 and 2012, respectively. The roles of THs identified were: community health maintenance, alternative treatment givers, cultural role players and disease curers. Short educational interventions positively influenced student's attitudes and practices towards TMs and THs.

INTRODUCTION

Traditional Medicines (TMs) and Traditional Healers (THs) are part of African culture. WHO reported that approximately eighty percent of Africans use African Traditional medicines to manage various health care needs (WHO 2000). In addition, eighty percent of people in rural areas of the developing world rely on traditional healing for their primary health care needs (WHO 2002). Complementary and Alternative Medicines (CAMs) are interventions that may be used in place of or alongside conventional medication. TMs are often termed "complementary", "alternative" or "non-conventional" medicine" (WHO 2000). Using traditional medicinal plants for treatment is considered to be one of the many types of CAM (Golbeck-Wood 1996; Eisenberg 2001; Lamarine et al. 2003; Thandar et al. 2014; van Schoor 2014; Dippenaar 2015; Marais 2015). Studies show that the use of CAM worldwide is very high, with eighty percent using TMs in Africa (WHO 2000), forty-four percent per year in Australia (Xue et al. 2007), twenty-seven percent in Ireland (Shaikh 2009) and about 0.3 to eighty-six percent of the European population (Eardley et al. 2012). In addition, a study by Pokladnikova (2008) showed that sixty-eight percent of Czechs had used at least one of the five CAMs therapies.

Literature has also indicated that consulting a traditional healer and a medical doctor for the same illness is common in many cultures (de Villiers and Ledwaba 2003). A study carried out by WHO (2002) reported that over sixty percent of the population sought health advice and treatment from traditional healers before visiting a medical doctor. Peltzer (2009a:1) reported that "Patients see no conflict in seeking both allopathic and traditional African healing for their ailments" because doctors treat the pathology and traditional healers explore the problem with their body and mind. However, there is no research and regulation around the dosage and efficacy of traditional treatments. Although South Africa has taken steps towards inclusion of traditional care into the national health-care system, the traditional medicine and allopathy remain fairly separate and parallel in South Africa (Peltzer 2009a). This highlights the need for collaborative efforts to facilitate the integration of traditional healers into the formal health system in order to improve healthcare in South Africa. Their potential as a resource and point-of-contact for both rural and urban communities cannot be ignored (African Medical and Research Foundation 2010). An unstructured interview conducted by van Rooyen et al. (2015) reported negative attitude towards each other between Allopathic Health Practitioners (AHPs) and Traditional Health Practitioners (THPs).

Nemutandani et al. (2016) in their analysis on the perceptions of AHPs reported that collaboration with THPs would compromise patients' health care until AHPs are convinced about the major role played by THPs among patients and communities in South Africa.

In order to develop sufficient understanding of traditional and complementary medicine in medical ciurricula, one needs to comprehend the views of various stakeholders. A number of studies have reported on the inclusion of CAM in the curriculum. In the Czech medical education curricula much of the focus is on the teaching of integrative medicine, which makes use of both conventional and complementary/alternative approaches. With the inclusion of CAM into the curriculum, the importance of understanding student's attitudes to CAM is pertinent. Several studies found positive association between the inclusion of CAM and positive attitudes (Derr et al. 1998; Greiner et al. 2000; Chez et al. 2001; Furnham and McGill 2003). Derr et al. (1998) compared the attitudes of medical students at two schools in the USA and Canada. Greiner et al. (2000) and Chez et al. (2001) looked at the attitudes of medical students in the USA. Furnham and McGill (2003) compared the attitudes of two British medical schools. Literature highlights evidence of various studies that explored the attitudes of students on CAM (Chaterji et al. 2007; Pokladnikova 2008; Reed et al. 2013). In a study conducted among Czech pharmacy students, ninety-one percent of first year students and seventy-eight percent of third year Czech pharmacy students supported CAM education (Pokladnikova 2008). In the United States, the need to implement CAM education in health professional education has been well recognized (White House Commission on CAM policy 2007). Reed et al. (2013) conducted a study at Magdeburg University with medical students in Germany and in the Oxford Deanery for trainee GPs to gauge whether studying CAM in any capacity can influence attitudes to patients. The findings reported significant changes in both groups ($p=0.02$; $p=0.03$ respectively). Chaterji et al. (2007) reported that during an assessment by Georgetown University, medical students agreed that CAM includes ideas and methods from which Western medicine could benefit. Also about eighty-five percent among them agreed that knowledge about CAM was important for them as future practising health professionals.

Worldwide, many studies have been undertaken to research the attitudes, beliefs and use of CAMs by medical students (Hopper and Cochen 1998; Baugniet et al. 2000; Kreitzer et al. 2002; Furnham and McGil 2003; Lie and Boker 2004; Yeo et al. 2005; Lie and Boker 2006, Tiralongo and Wallis 2008). Studies showed that not only the attitudes of medical students towards CAM was positive, but also that they felt CAM should become part of the medical curriculum (Yeo et al. 2005; Majeed et al. 2007). A questionnaire-based cross-sectional survey of 198 medical students in a Pakistani medical college highlighted that in order to adequately prepare medical students of the present time, consideration should be given to incorporating CAM in the medical curriculum (Majeed et al. 2007). They observed a positive association between awareness of CAM and advancing years of medical education. Yeo et al. (2005) explored the perceptions of CAM amongst medical students in Singapore. In general, ninety-two percent of students believed that the various CAM therapies were effective. Although sixty-two percent believed in herbal medicines, many students believed that herbal medicines had harmful effects. About eighty-six percent welcomed the inclusion of CAM in the medical curriculum.

Studies in South Africa reported the importance of traditional health practitioners in the treatment of conditions such as, diabetes (Ziqubu-Page et al. 1999; Peltzer et al. 2001b); cancer (Steyn and Muller 2000); hypertension and stroke (Peltzer et al. 2001a); hearing impairment (Andrade and Ross 2005); childhood health problems (Friend-du Preez et al. 2008); and mental disorders (Havennar et al. 2008). Thornton (2009) reported that THs understood healing as a profession where transmission of knowledge happens and is not a religion or even a spiritual exercise. In addition, population-based and health facility-based surveys conducted by Peltzer (2009b) reported that the use of TM still plays an important role in health care delivery in South Africa, covering a wide range of chronic conditions, complex supernatural or psychosocial problems, acute conditions, generalized pain, HIV and other sexually transmitted infections. This report highlights the importance of including CAM in the traditional curriculum.

Rationale

In South Africa, Allopathic Health Practitioners (AHPs) and Traditional Health Practitioners (THPs) work in two different environments.

The two groups have their own philosophical, spiritual, social and psychological underpinnings. It is important to address this issue at the grassroots level rather than putting pressure on AHPs and THPs. With experience as academics in medical education at two South African universities, the authors can state that, so far, majority of the medical schools do not have a common system in place to integrate modules on THs and TMs in the medical curriculum of first year medical students. However, at the University where this study was carried out, CAM was included in the curriculum as part of community-based education in 2010. In a study conducted among medical students, it was found that only fifty percent of the students believed in and had positive attitudes towards THs and TMs (Mammen et al. 2013). In this context, passing on information to the medical students on THs practices and the use of locally available medicinal plants was thought to be important in order for them to understand the role of THs in the primary health care and to enhance collaboration with Medical Practioners (MPs).

People in rural areas of the developing world rely on traditional healing (WHO 2000), and since South Africa has a large population in rural communities, it is important to understand the kind of patients who consult Medical Practitioners (MPs) and the contexts and circumstances in which they live. To date, the knowledge about the integration of CAM is limited to one study in South Africa to assess the perceptions of medical students towards CAM, focusing on the use of medicinal plants for treating illnesses (Mammen et al. 2013). That study only assessed the impact of medical students' attitudes on referral intention to THs/TMs before interventions. While no study reporting on the attitudinal change of medical students in SA after a few community-based intervention sessions could be located, hence a gap became evident. However, the attitudinal change was studied on nursing students (Peltzer and Khoza 2002) and pharmacists (Brijlal et al. 2011).

Objectives

The first objective was to assess the effect of a community-based interventions on the attitudes of a sample of South African first year medical students towards TMs and their beliefs in THs. The second objective was to gather the samples' views on the roles of THs.

METHODOLOGY

Research Design

A mixed method approach using concurrent triangulation design was adopted.

Population and Sampling

The study targeted 324 first year medical students at one South African university in three consecutive academic years, 2010 (n=98), 2011 (n=108) and 2012 (n=118). Fortunately, the population voluntarily participated in the study and hence, there was no sample selection.

Instruments

The instrument was a structured and standardized four-point Likert scale questionnaire with thirty items. The questionnaire consisted of ninety percent quantitative and ten perecnt qualitative open-ended questions. A pre – post-test approach was applied to the quantitative part of the study and the qualitative part was with open-ended questions. Socio-demographic factors such as age, gender, ethnicity, religion, province and district were collected. Questions sought information on the number of THs and MPs near each student's home, distance from home to the two types of practitioners, number of times each had visited traditional healers, student beliefs, satisfaction and attitudes. The quantitative components of the questionnaire were standardized and trustworthiness of the qualitative component was established.

Ethical Considerations

Informed consent was obtained from each participant and his/her parent/grandparent who provided them with indigenous knowledge on traditional medicine. The study was granted ethical clearance from the Health Research Ethics and Bio-Safety of the university where the study was carried out (project number 030/012).

Data Collection

At the beginning of each academic year of the study, the first year medical students [2010 (n=98), 2011 (n=108), 2012 (n=118)], were asked

to complete the pre-test questionnaire. The students were then exposed to an intervention which included four stages namely (1) gathering indigenous knowledge information from their family elders (parents, grandparents, uncles, aunties etc.) on medicinal plants that are used to treat different illnesses; (2) collecting one medicinal plant and information about its use from their locality; (3) presentations and interactive discussions with traditional healers about the role of traditional health care in the community; and (4) visiting a traditional healer's practice to see how they operate. The duration of the intervention in each year was for three months. Students were given clear written instructions regarding the format of data collection. The indigenous information and the medicinal plant collection were done when students were on vacation. Each student collected information on three medicinal plants used in his/her home locality for treatment and also collected one live medicinal plant. Having brought the plant to the medical school, an interactive session was organized within two weeks with a TH in one of the afternoons when there were no scheduled academic contact sessions. This session gave opportunities for students to clarify and discuss more on information gathered on THs and TMs during vacation. Students were then taken to visit a THs practice. Students took this opportunity to clarify issues related to the use of medicinal plants for treatment and the common types of illnesses that THs treat.

A post-test to check on their attitudes and beliefs was then conducted within a week after the interventions.

Data Analysis

The qualitative answers to open-ended questions in the questionnaire before and after interventions were thematically analysed descriptively to illustrate the difference in responses. The quantitative data were analysed using the Statistical Packages for Social Sciences (SPSS) software for Windows, version 18.0 (SPSS Inc, Chicago, IL, USA). The data were expressed as proportions (%) and frequency (n). Proportions were compared in univariate analysis using Chi-square test. p values of < 0.05 level were considered significant.

RESULTS

Socio-demographic Data

The demography of the cohorts for the three consecutive years, 2010, 2011 and 2012, are presented in Table 1. Over the period, there were more females (51-59 %) in the survey than males. The sample was mostly from the age group of 16 to 19 years (63-69%), indicating that majority were young students. There were more Africans (83-89%) than other population groups in all three years, which conform to the demography of the country and the province. Most of them (85-90%) were Christians and were from the province where the institution was located (66-81%).

Table 1: Socio-demographic data of the sample (2010-2012)

Variables	*Year 2010 N=98 (100%)*	*Year 2011 N=108 (100%)*	*Year 2012 N=118 (100%)*
Gender			
Male	40 (40.8)	53 (49)	49 (41.5)
Female	58 (59.2)	55 (51)	69 (58.5)
Age			
16-19 years	67 (68.4)	69 (63.8)	81 (68.6)
20-23 years	22 (22.4)	24 (22.2)	19 (16.1)
> 23 years	09 (9.2)	15 (14)	18 (15.3)
Population			
African	82 (83.8)	95 (88)	105 (88.9)
Indian	14 (13.2)	12 (11.1)	09 (7.7)
White	02 (3)	01 (.9)	04 (3.4)
Religion			
Christian	84 (85.7)	97 (89.8)	100 (84.7)
Non-christian	14 (14.3)	11 (10.2)	18 (15.3)
Province			
Eastern Cape	65 (66.3)	87 (80.5)	90 (76.3)
Other	33 (33.7)	21 (19.5)	28 (23.7)

Approximately thirty-eight - forty percent of the sample had 1-5 traditional healers as well as medical practitioners near their home. In addition, about seventy percent had practices of both THs and MPs within 10km of their homes. The majority (70%) reported that they heard about THs from relatives. About forty-one percent had been to a TH at least once before beginning university studies.

Attitude of Students, Friends, Parents and Villagers towards Traditional Healers

In the sample's view, the majority of parents (67%) and villagers (81%) had significantly high-

Table 2: Perception of medical students on attitudes of self, friends, parents and villagers towards traditional healers

Perceptions	*Medical students N=324 (100%)*	*Friends (percentage) N=324 (100%)*	*Parents (percentage) N=324 (100%)*	*Villagers (percentage) N=324(100%)*
Very positive	26 (8.0)	26 (8.0)	52 (16.1)*	85 (26.2)**
Positive	139 (42.9)	123 (38)	165 (50.9)*	177 (54.6)**
Negative	87 (26.9)	123 (38)	55 (17)	49 (15.1)
Very negative	72 (22.2)	52 (16.0)	52 (16.0)	13 (04.1)

*; ** p value <0.05 was considered significant

er ($p<0.05$) positive attitudes ('very positive' and 'positive' collapsed) towards traditional healers than medical students (51%) and their friends (46%) (see Table 2).

Attitudes and Beliefs Prior to Intervention

Table 3 is a comparison of medical students' attitudes and beliefs prior to interventions. It is interesting to note that only fifty percent of the sample had positive attitudes towards traditional healers before interventions and there was no significant difference ($p>0.05$) between their attitudes and beliefs. It can be assumed that the samples' attitudes towards THs/TMs had a great influence on their beliefs.

Table 3: Attitudes and beliefs prior to intervention

Perception	*Attitudes N=324 (100%)*	*Beliefs N=324 (100%)*
Very positive	26 (8.0)	23 (7.1)
Positive	139 (42.9)	123 (38)
Negative	87 (26.9)	52 (16)
Very negative	72 (22.2)	126 (38.9)

p-value less than <0.05 was considered significant. For statistical calculations, percentages of very positive and positive were added together and the p-value was found >0.05. Similarly, percentages of very negative and negative were added together.

Attitudes and Beliefs on Prior to and Post Intervention

Although prior to intervention, the sample's attitudes towards TH/TM had an influence on their beliefs, after the intervention the attitudes had positively changed whereas the beliefs remained the same. Table 4 reflects the analysis of change in belief and attitudes before and after the intervention in all three years. The changes in attitudes after intervention was +78 ($p<0.0001$), +107 ($p<0.0001$) and +51 ($p<0.001$) in 2010, 2011 and 2012, respectively.

Table 4: Attitudinal change

Year	*Belief n (%)*	*Attitude change*	*p-value*	*n (%)*
2010	45(46)	51 (91)	+78	<0.0001
2011	57(52)	42 (87)	+107	<0.0001
2012	57(53)	53 (79)	+51	<0.001

Table 4 shows the analysis of change in belief and attitude before and after the intervention in all three years. In 2010 the change in attitude after intervention was +78 ($p<0.0001$), in 2011 was +107 ($p<0.0001$) and in 2012 was +51 ($p<0.001$).

Pre-Test: Correlation between Socio-Demographic Variables towards Attitudes and in Beliefs

During the pre-test analysis, no significant correlation as shown in Table 5 was found between socio-demographic variables towards attitudes except for gender and attitudes in 2012 cohort ($p=.021$), where gender influenced attitudes. No significant correlation was found in pre-test between Age/Gender/ population/ Religion/province and in belief in 2010, 2011 and 2012 where gender had no influence on beliefs ($p=.138$)

Post-Test: Correlation between Age/Gender/ Population/ Religion/Province towards Attitudes and in Beliefs

No significant correlation was found in post-test between age/gender/population/religion/

Table 5: Correlation for 2010, 2011 and 2012 cohorts

Correlation with attitude	*2010 pre-test*	*2011 pre-test*	*2012 pre-test*
Age vs attitude	r= .065 P=.523	r=.020 p=.839	r=.035 p=.706
Gender vs attitude	r= .136 P=.181	r=.650 p=.070*	r=.225 p=.021*
Population vs attitude	r=-.145 P=.154	r=.089 p=.363	r=.074 p=.428
Religion vs attitude	r= .045 P=.654	r=.080 p=.461	r=.053 p=.576
Province vs attitude	r= .065 P=.523	r=.042 p=.669	r=.005 p=.953
Correlation with belief	*2010 pre-test*	*2011 pre-test*	*2012 pre-test*
Age vs belief	r= .197 P=.053	r=.099 p=.316	r=.118 p=.217
Gender vs belief	r= .075 P=.464	r=.003 p=.978	r=.143 p=.138
Population vs belief	r= .073 P=.475	r=.136 p=.166	r=.144 p=.133
Religion vs belief	r= .031 P=.760	r=.019 p=.849	r=.022 p=.810
Province vs belief	r= .086 P=.401	r=.016 p=.870	r=.089 p=.353

Table 6: Post-test correlation with attitude and belief

Post-test correlation with attitude	*2011*	*2012*
Age vs attitude	r= .025 P=.800	r=.151 p=.106
Gender vs attitude	r= .071 P=.471	r=.162 p=.084
Population vs attitude	r= .039 P=.690	r=.009 p=.921
Religion vs attitude	r= .113 P= .250	r=.091 p=.329
Post-test correlation with belief	*2011*	*2012*
Age vs belief	r= .138 P=.160	r=.100 p=.284
Gender vs belief	r= .003 P=.978	r=.135 p=.150
Population vs belief	r= .059 P=.547	r=.105 p=.263
Religion vs belief	r= .171 P=.079	r=.019 p=.834
Province vs belief	r= .139 P=.156	r=.096 p=.305

province towards attitudes after interventions in 2011 and 2012 (Table 6). In addition, no significant correlation was found in post-test between age/gender/population/ religion/province and in beliefs after interventions in 2011 and 2012.

The Responses to the Open-ended Questions

Table 7 shows the responses to the questions asked before and after the interventions. The data from the post-test indicate that the participants had an enhanced understanding of traditional healers. The reasons cited for believing in TMs after interventions were (1) high opinion and trust about TMs/THs, (2) full trust in forefathers' belief, and (3) TMs are considered to be good to drive away evil spirits. However, some of them indicated that their cultural belief was the major reason for not believing in TMs/THs. They also identified several roles of THs in the community. They admitted that the impact of the interventions had improved their knowledge about and respect for THs/TMs, learned how certain medicinal plants can be used for healing and accepted that their understanding on the roles of TMs/THs in Primary Health Care had improved.

DISCUSSION

The pre-test was conducted to gauge the attitudes and beliefs of the sample before intervention. The primary reason for exposing medical students to TMs and THs was not to influence them about any type of traditional healing but to make them aware of the different healthcare system. In addition, it was also intended to make them realize that patients may have used alternative medicines for their illnesses before visiting MPs. The post-test was administered to gauge the impact of the interventions and to recommend the way forward. The comparison of responses for open-ended questions before and after interventions supported evidence for positive impact after intervention. As per Table 7, their knowledge of THs as well as thir respect towards THs have improved.

In each of the years, the intake had females in the majority (51-59%). The sample was mostly (63-69 %) from the young age group of 16 to 19 years. With regard to age and gender they were similar to the pharmacy students investigated for the CAM use in an Australian study (Wilkinson and Simpson 2001) as well as the study to

Table 7: Response to open-ended questions

Questions	*Before*	*After*
What are the reasons for believing in TM?	1) TMs are good for treating certain problems such as wounds, driving away evil spirits, HIV/AIDS etc. 2) They had trust in using TM and TH	1) High opinion and trust about TM/TH, 2) They believe in what forefathers used, and 3) TMs are good to drive away evil spirits.
What are the reasons for not believing in TM/TH?	1) Religion, 2) Lack of knowledge, and 3) Lack of trust.	1) Visiting TH was against their cultural belief
What is the role of TM in the community?	1) Cultural role, 2) Community uplifting, 3) Medicinal role, and 4) To manage animals.	1) the use of TM as alternative medicine and 2) it is convenient to approach TH than a medical practitioner, 3) to treat psychomatic illness
What impact has this exposure brought into your life?		1) It has improved knowledge and respect about TM/TH, 2) it taught them how plants can be prepared/used for healing, and 3) improved understanding of the role of TM/TH in Primary Health Care.
What type of illnesses are best treated by TH?	Diarrhea, vomiting, healing wounds, psychiatric problems, to drive away evil spirit, and headache.	STIs, ulcers, fever, migranes, skin rashes, measles, Flu, fever, healing wounds, Diabetes, Shingles, secondary infections due to HIV/AIDS, bad luck charms, infertility, Black magic illness ovarian cancer, hallucinations, when you are bewitched they do not know anatomy they depend on ancestors, elephant foot, , persistent headaches due to evil transmitted e.g. deaths, Umeqo due to witchcraft (feet problem), pains in joints back and neck , acne, abdominal pains etc.

investigate the attitudes and perceptions of Australian pharmacy students where the majority was female participants (Tiralongo and Wallis 2008). However, in general, the correlation study as indicated in Table 5 did not show any statistically significant correlation of attitudes vs age, gender, population, religion and province before interventions ($p>0.05$) and after interventions ($p>0.05$). Age, gender, religion, population and province did not influence attitudinal change (Table 6) in any of the three cohorts as evidenced by the correlation study (Tables 5 and 6) The result of this study concur with the study by Lamarine et al. (2003) who also did not find any gender differences in their study.

The themes that emerged from the open-ended questions after interventions showed (Table 7) a good impact in terms of reasons for believing in TMs/THs, and reasons for not believing in TMs/THs. According to post-test, they also had an improved better understanding on the roles of traditional healers after interventions. The three cohorts manifested the impact of interventions in terms of transmission of knowledge, respect towards THs and more understanding of the preparation of plant materials as medicine. The result in this study concur with those reported by Thornton (2009) who emphasized the transmission of knowledge in South African THs.

Traditional medicinal plants for treatment is considered as one of the many CAMs (Golbeck-Wood 1996; Eisenberg 2001; Lamarine et al. 2003). Although CAM includes different types of alternative medicines, TM as one of the CAMs is mostly practised in South Africa where this study was carried out. Medical students have a high level of interest in and positive attitudes towards CAM as reported by surveys from Australia (Hopper and Cohen 1998), Europe (Kolkman et al. 2011), North America (Chez and Crawford 2001) and the Middle East (Sahar and Sallon 2001). For example, as reported by Kolkman et al. (2011), a total of 10,532 Royal Dutch Medical Association (RDMA) students participated in the study and about two-thirds (62%) emphasized the importance of CAM education in the medical curriculum. In addition, about seventy-seven percent indicated that doctors should have knowledge about CAM. As reported by Tiralongo and Wallis (2008), about eighty-nine percent perceive education about CAM as

a core and integral part of their professional degree. In this study, only slightly less than fifty percent of students had a positive attitude before interventions. However, after interventions, and despite the lack of change in belief in TM, there was a significant increase of positive attitude in 2010, 2011 and 2012, that is +78 change, $p<0.0001$; +107 change, $p<0.0001$; and +51 change, $p<0.001$, respectively (Table 4). The reasons why the students' beliefs remained more or less the same needs to be explored.

Similar to the findings of Baugniet et al. (2000), Hon et al. (2003) and Tiralongo and Wallis (2008), this study concurs that educational exposure to CAM can alter attitudes towards CAM. It is very important to overcome the attitudinal barriers of medical students toward the use of TM. Instructional strategies should be formulated and implemented to transfer the rich indigenous knowledge on the use of TM.

Results from a previous study (Mammen et al. 2013) and the present study concur with the WHO approach (WHO 2000) and Traditional Health Practitioner's Act (2004) in encouraging the integration of TMs into National Health Systems and in using TMs as part of primary health care. Majeed et al. (2007) also encouraged the incorporation of CAM in the medical curriculum in order to prepare the medical students of the present time to fulfill their duties as tomorrow's physicians. As shown in this study, Pakistani students also exhibited positive attitudes about the value of CAM and felt that CAM should be included in the Pharmacy curriculum (Hussain et al. 2012). It was important for the faculty of Irish medical schools to consider the possibility of integrating CAM education into the conventional medical curriculum in a systematic manner to better prepare students in their future career (Loh et al. 2013). The call for the incorporation of CAM in medical curriculum that emerges from this study concur with a recent study by Nemutandani et al. (2016). They suggested a few recommendations regarding the integration of TMs: (1) exposure to traditional practices and the science at undergraduate level, (2) open dialogue between AHPs and THPs, and (3) develop policy guidelines at national level by Department of Health on the integration and implementation of traditional health practices. In addition, in order to complement health care delivery, this study also supports the study by van Rooyen et al. (2015) who recommended strategies for facilitating Professional Collaboration between AHPs and THPs.

CONCLUSION

Short educational interventions can positively influence students' attitudes towards THs/TMs. Some participants gave their personal trust and trust in their forefathers' beliefs as reasons for believing in TMs/THs. Some others gave their own religion and cultural beliefs for not believing in TMs/THs. The sample identified different roles of THs as community health maintenance, alternative treatment method givers, cultural role players and disease curers. They opined that the impact of the interventions improved their knowledge on TMs/THs, enhanced their respect for THs and an improved understanding of the role of THs in Primary Health Care. The incorporation of knowledge of TMs as one of the CAMs into the National Health System may add value in the Primary Health Care.

RECOMMENDATIONS

Integration of traditional healing practices/alternative medicines in the medical curriculum and exposure to THs and TMs to develop a more positive attitudes and perceptions towards complementary health care services is the way forward. Collaboration between AHPs and THPs would be an added advantage.

LIMITATIONS

The sample used may not be representative of all medical students in South Africa as it was limited to one medical school in the country.

ACKNOWLEDGEMENTS

The researchers sincerely acknowledge the co-operation and participation of MBChB 1 students of 2010, 2011 and 2012.

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Paper received for publication on December 2015
Paper accepted for publication on September 2016