THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE
Volume 20, Number 9, 2014, pp. 686–692

DOI: 10.1089/acm.2013.0329

Complementary and Alternative Medicine Use in Infertility: Cultural and Religious Influences in a Multicultural Canadian Setting

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Abstract

Objectives: To explore the use of complementary and alternative medicine (CAM) for infertility in a multicultural healthcare setting and to compare Western and non-Western infertility patients' reasons for using CAM and the meanings they attribute to CAM use.
Design: Qualitative semi-structured interviews using thematic analysis.
Settings/location: Two infertility clinics in Montreal, Quebec, Canada.
Participants: An ethnoculturally varied sample of 32 heterosexual infertile couples.
Results: CAM used included lifestyle changes (e.g., changing diet, exercise), alternative medicine (e.g., acupuncture, herbal medicines), and religious methods (e.g., prayers, religious talismans). Patients expressed three attitudes toward CAM: desperate hope, casual optimism, and amused skepticism. Participants' CAM use was consistent with cultural traditions of health and fertility: Westerners relied primarily on biomedicine and used CAM mainly for relaxation, whereas non-Westerners' CAM use was often influenced by culture-specific knowledge of health, illness and fertility.
Conclusions: Understanding patients' CAM use may help clinicians provide culturally sensitive, patient-centered care.

Introduction

Infertility is one of the most devastating life crises that a couple can face.[1,2] It is now well established that culture and religion strongly influence one's understanding and experience of infertility, treatment options, and potential childlessness.[2,3] Many cultures also have well-established traditional healing methods for infertility that diverge from the Western biomedical model.[4–6]

There remains a dearth of research exploring the experiences of non-Western immigrants who are pursuing fertility treatment in their new countries of residence. This is a serious knowledge gap for two reasons. First, immigrants may have a particularly difficult time dealing with infertility when their ways of understanding and coping with infertility are divergent from the host country's culture.[7–9] Second, immigrants may want to pursue their culture's traditional healing methods for infertility while undergoing biomedical infertility treatment, and clinicians in the host country do not necessarily understand or respect these preferences.[10,11] More research is required to understand the alternative treatment choices of immigrant infertility patients.

In this study, we describe the use of complementary and alternative medicine (CAM) treatments by infertile non-Western immigrant couples and Western couples in Montreal, Quebec, Canada, and explore whether Western and non-Western couples ascribe different meanings to their use of alternative fertility treatments.

Kleinman[12] posited that each culture's healthcare system consists of three sectors: the *popular* sector, the *professional* sector, and the *folk* sector. The popular sector is defined as ''the lay, non-professional, non-specialist, popular culture arena in which illness is first defined and health care activities initiated.'' This includes advice from friends and family,

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media-emphasized or pop culture health trends, and—in recent years—searching for information through the Internet.[13] The professional sector consists of the organized, officially sanctioned healing professions, which in Western societies is ''modern scientific medicine.''[12] Finally, the folk sector consists of traditional, culture-specific methods of healing that may or may not be professionalized. In any given culture, the three components are interconnected, and a patient's treatment-seeking behaviors will cause him or her to move between them in the search for satisfactory treatment.

Kleinman's[12] tripartite theory is relevant to multicultural societies because treatment methods that fall in the professional sector for one culture may be viewed as a folk treatment by another culture. CAM is an important example of this. CAM for enhancing fertility or for alleviating infertility-related distress has become increasingly popular in the Western world, with up to 50% of patients reporting such use.[14] The profile of Western women who use CAM in the context of infertility is that of the older, well-educated, and affluent patient who has been trying to conceive for a relatively long period of time, and for whom assisted reproductive technology has been unsuccessful.[14–17] In general, Western women enjoyed the relaxation/well-being, empowerment, and satisfying patient-practitioner relationship afforded by CAM use.[17] The limited research on CAM use among infertile men indicates that 12%–30% of men may use CAM,[18,19] but their reasons for doing so have not been studied.

The focus on fertility-related CAM use in the Western world is noteworthy because many CAM methods, such as acupuncture and herbal medicines, are borrowed from the healing traditions of non-Western cultures. Thus, methods that are considered to be CAM in the Western world may, in the non-Western world, constitute the well-accepted professional sector of healing as described by Kleinman.[6,12]

Several ethnographies have described various cultures' healing traditions for infertility in their native contexts.[4,5,20] However, little research has focused on the use of the native culture's traditional fertility treatments following migration. In Montreal, Canada, there is a high degree of ethnocultural variability among fertility clinic patients. A demographic survey in 2010 found that 45.7% of patients were born outside of Canada, with large proportions heralding from the Middle East, North Africa, East Asia, and Europe; one third of patients did not speak English or French as a first language.[21] This constitutes the ideal setting in which to study non-Western immigrant patients' use of traditional medicines and healing methods while receiving biomedical infertility treatment, and to understand whether immigrants' reasons for using traditional healing differs from those for CAM use by Westerners. The use of qualitative methods allowed us to construct the meaning of the experience in the participants' own words.[22,23] Our specific research questions are as follows: (1) What types of CAM did infertile couples use while undergoing biomedical fertility treatment? (2) What were the infertile couples' attitudes towards CAM? (3) Did non-Westerners' reasons for using CAM differ from Westerners' reasons for using CAM?

Methods

Participants and recruitment strategies

The participants were 32 heterosexual couples seeking fertility treatment from two infertility clinics in Montreal. Participants were recruited for a larger study exploring couples' experiences of infertility treatment following the implementation of public funding for infertility treatment in August 2010. Purposive sampling was used to ensure that the sample reflected the diversity of the clinics' patient population. The inclusion criteria required that couples were seeking medical treatment for infertility and could speak English or French. The interviews covered a broad range of topics, such as the couples' use of psychosocial support services,[24] the clinic experience, and relationships with the broader social network. CAM use was one of several themes that were raised in the course of the interviews. CAM use was reported by one or both partners in 26 of the 32 couples who participated in the study. Couples were recruited during clinic visits by a recruiter who explained the study and obtained written informed consent. We chose a dyadic approach, which entailed interviewing both partners together instead of individually, because infertility affects both partners in a couple.[25–28] However, results are reported for individual partners because CAM use differed considerably between men and women. The research ethics review board of McGill University approved the study.

Sample characteristics

Table 1 displays the sample's demographic and ethnocultural characteristics. Our sample presented a range of treatment histories. Underlying fertility problems included endometriosis, polycystic ovarian syndrome, cancer in the male partner, age, low sperm motility, and unexplained infertility. Nine women had undergone infertility-related surgeries and two men had had vasectomy reversals. Sixteen couples had been receiving fertility treatment for less than a year, 13 couples had been in treatment for 1–4 years, and 3 couples had been in treatment for 5 years or more.

Data collection

Interviews were conducted at participants' homes between November 2010 and March 2012. Interviews were conducted in French and/or English by a Master's-trained ethnographer and were digitally recorded and transcribed. Couples were asked initial probe questions concerning their CAM use (e.g., ''Have you used any alternative treatments for fertility?'', ''Are you aware of any culture-specific beliefs about infertility and treatment?'', ''Has your cultural background influenced the treatments you used for infertility?'') and then were encouraged to tell their narratives. Additional questions were asked to elicit further details about couples' decisions to use CAM, reasons for using (or not using) CAM, and attitudes toward CAM. Interviews ranged in duration from 18 to 150 minutes.

Data analysis

A broad comparison of Western vs. non-Western participants was used to summarize the patterns in our data. The Western group consisted of participants who were born and raised in North America or Western Europe or who immigrated to North America or Western Europe before 12 years of age and defined their cultural backgrounds as North American or Western European. Canada and France were the only Western countries in our sample. The non-Western

Table 1. Sample Characteristics

Characteristic	*Western*	*Non-Western*
Individual characteristics of partners ($n=64$)		
Age (y)[a]		
Men	39.5 (32–50)	40.3 (29–62)
Women	36.7 (28–42)	34.4 (25–50)
Country of origin (n)[b]		
Canada	21	0
Other	5	38
Age of arrival (y)[a]		25.6 (1.5–39)
Native language(n)[b]		
English	8	0
French	15	6
Arabic	0	12
Other[c]	5	21
Religious affiliation (n)		
None	15	10
Catholic	6	7
Christian/Orthodox Christian	2	7
Muslim	0	8
Jewish	3	1
Hindu	0	4
Protestant	0	1
Education (n)[d]		
University/postgraduate	17	32
College/DEP[e]	6	4
Primary school/high school	3	0
Couple characteristics ($n=32$)[f]		
Duration of relationship (y)[a]	7.2 (1–20)	
Household income[g]		
$<$\$65,000	14 couples	
\$65,000–\$104,000	6 couples	
$\geq$\$105,000	10 couples	

[a]Values are mean (range).
[b]Three participants spoke more than one mother tongue.
[c]Other first languages were Chinese, Czech, Hindi, Persian, Romanian, Tagalog, and Telugu.
[d]Two participants did not report their highest level of education.
[e]Diplôme d'études professionelles (DEP) is a professional program offered in Quebec that provides training for a range of professional fields.
[f]Couple characteristics are not divided by Western vs. non-Western because some couples consisted of a Western and non-Western partner.
[g]Expressed in Canadian dollars. Two couples did not report their household income. The median household income of Canadian families is \$65,900.

group consisted of participants who immigrated to North America or Western Europe after age 12 and who defined their cultural backgrounds as other than North American or Western European. Non-Western countries were Algeria, China, Colombia, India, Iran, Ivory Coast, Jordan, Lebanon, Mexico, Moldavia, Morocco, the Philippines, Romania, Taiwan, Tunisia, Uruguay, and Vietnam. This division of Western vs. non-Western was consistent with the definition of geographic regions given by the United Nations Statistical Division.[29]

We used thematic analysis[30] to analyze our data. Thematic analysis involves identifying the most common and important patterns, or themes, and the connections between themes in the data. Our analytic approach was inductive and descriptive: We did not use predetermined categories to organize our data. Rather, our goal was to extract the categories of CAM, the reasons for CAM use, and the attitudes toward CAM as reported by our participants and to describe these phenomena as faithfully as possible. Categories of CAM use were derived from the participants' open-ended descriptions of alternatives to ART. All coding was carried out by the first two authors. All members of the research team met regularly to discuss theme development.

To ensure reliability of coding, two research assistants who had not participated in the coding and theme development read all transcripts and reviewed the coding to confirm that the final analysis accurately captured and reflected the participants' discussions. NVivo 9 software (QSR International, Victoria, Australia) was used to assist with the analysis.

Results

What types of CAM were used?

The CAM used by our couples fell into three categories: lifestyle changes, alternative medicines, and religious methods (Table 2). Forty-one of our 64 participants used at least one type of CAM, with women being more frequent users of CAM (25 women versus 16 men).

Lifestyle changes. Twenty-eight participants described changing their life habits in order to increase their chances of conceiving. Many participants described changing their dietary habits, and some participants explicitly linked their dietary changes to culture-specific knowledge about fertility. For example, a Chinese female participant incorporated beans into her diet because of a cultural belief that beans benefit the woman's eggs, and her husband ate more seafood because it was believed to benefit the sperm. In addition to dietary changes, many participants described changes in their activity levels (e.g., yoga, relaxation). The lifestyle changes described by our participants are consistent with many classes of CAM as defined by the National Council for Complementary and Alternative Medicine.[31]

Alternative medicine. Seven women sought medical advice and treatment from practitioners of non-Western

Table 2. Types of Complementary and Alternative Medicine Used by Participants

Lifestyle changes	*Alternative medicine*	*Religious methods*
Abstain: alcohol, smoking, caffeine, red meat/fatty meat	Acupuncture	Traditional dance at a temple
Eat more: organic and/or local food, leafy greens, maca root, cashews and honey, chontaduro, green tea, red tea, vitamins, ginger, Chinese red sugar, black beans, dairy, seafood	Homeopathy	Blessed ribbon and oil
	Reflexology	Apple of Saint Irénée
	Herbal medicines	Prayers to Saint Charbel and Saint Rafqa
		Special priest for ''witchcraft removal''
Yoga, relaxation		Special psalms and prayers for fertility

medicine. Interestingly, only women sought treatment from CAM practitioners; men did not seek such treatment. The most commonly used alternative medicines were acupuncture and Chinese or other herbal medications. Most women used more than one type of alternative medicine. Other alternative medicines included reflexology, homeopathy, and massage.

Religious methods. Twenty-three participants turned to religion in the hopes of enhancing their fertility. Most said special prayers to wish for a child or read specific verses of religious texts relevant to fertility. For example, a Christian Orthodox couple had their priest prepare special prayers for them:

> Mrs. I: The priests, they give us a book and we're supposed to read every night…
> Mr. I: It's psalms from the Old Testament.…In Orthodoxy it's like a canon, you see the priest and if you want something or you have problems with your health or whatever, so he gives you things to do. It's like if you do this then it will generally solve the problems.

Some women sought treatments or blessings from religious leaders, or used religious talismans intended to enhance fertility. For example, a Catholic woman wore a blessed ribbon given to her by the mother superior of her church. A woman who described herself as an atheist nonetheless sought the blessings of a priest who ''has authority or power to remove, if you have any…something bad in your life, like the witchcraft…or something like that'' (Mrs. D). While men prayed or read psalms and religious texts, only women sought treatments from religious healers. Our participants' descriptions of religious methods as complementary treatments for infertility are consistent with the National Center for Complementary and Alternative Medicine's inclusion of traditional/ancient healing methods as a type of CAM.[31,32]

Most participants who used lifestyle changes only and no other CAM were those who had been in treatment for less than a year. Most of the participants who had sought treatment from alternative medicine practitioners and religious leaders had been in treatment for longer than a year.

What were the infertile couples' attitudes toward CAM?

Participants professed a range of different attitudes toward CAM use. These attitudes fell into three categories: desperate hope, casual optimism, and amused skepticism.

Desperate hope: "I'll try anything." These participants harbored intense hopes that CAM would affect their fertility. Only women endorsed this attitude, primarily those who had been undergoing biomedical infertility treatment for a longer time and who were willing to attempt any possible method of treatment in order to conceive a child: ''We did everything, like whatever, whoever used to tell me 'maybe this will help,' I'll do it, I'll try'' (Mrs. D). Women displaying desperate hope described experiencing great emotional and/or physical stress due to infertility and treatment, desired greater control over the treatment process, and often used more than one category of CAM.

> I did everything. During the year I did everything. I got massages, I did yoga, I got acupuncture, and then my [Chinese doctors]…I did everything…Everyone was telling me – no matter what it was, I did it. All so I could be better and all to be able to have [a child]. (Mrs. X)

Casual optimism: "Sure, why not?" These participants, who were mostly women, used CAM but were not intensely invested in their outcome. They felt that ''there is no harm in trying'' (Mrs. J) or that ''they can't hurt'' (Mr. U): They were neutral in their beliefs about CAM's effectiveness, but felt that it would not harm them to try nonbiomedical methods and would not be highly disappointed if CAM had no impact. For instance, one woman's attitude toward praying was very relaxed and casual: ''I think I will do that when I go back to Taiwan. We try everything now. Why not? [laughs]'' (Mrs. U). Another woman said, ''It worked for [my cousin], so maybe for me, maybe, just in case.…I am not usually like this, but I thought, she sent [the prayer card] to me, we might as well try it'' (Mrs. J).

Amused skepticism: "They think it's like magic." This profile, mostly endorsed by men, consisted of patients who did not believe CAM would affect fertility. These participants had confidence in biomedical science and doctors' prescriptions, and described themselves as being rational and scientific; for example, one man said that ''it disgusts me to hear everyone say 'children are a gift from God'…I'd love it if [fertility treatment] succeeded just so I could say to them that science succeeded where your God failed'' (Mr. J). Some participants scoffed at their family members or friends who had recommended CAM to them.

> Mrs. Y: [In Colombia, they say that] you have to always eat chontaduro with honey, all the time, because you'll have a kid. They think it's like Viagra or something.…It's magical.
> Mr. Y: It's an aphrodisiac.
> Mrs. Y: Yes it's an aphrodisiac and magical, you're going to have 10 kids.

Culture and CAM use: Were the reasons for using CAM different for Western and non-Western participants?

This study was not designed to statistically assess group differences in CAM use or attitudes toward CAM.

Table 3. Western and Non-Western Participants Who Used Each Category of Methods

	Lifestyle changes		*Alternative medicines*		*Religious methods*	
	Western	*Non-Western*	*Western*	*Non-western*	*Western*	*Non-Western*
Women	6	10	2	5	4	11
Men	5	7	0	0	1	7

Values are the number of participants.

Table 4. Participants Who Endorsed Each Attitude Profile

	Desperate hope		*Casual optimism*		*Amused skepticism*	
	Western	*Non-Western*	*Western*	*Non-Western*	*Western*	*Non-Western*
Women	2	6	3	7	3	3
Men	0	0	3	3	4	8

Values are the number of participants.

Nevertheless, we observed that although Western and non-Western men and women engaged in lifestyle changes to similar degrees, the use of alternative medicines and religious methods was more common among non-Western women (see Table 3). Furthermore, as shown in Table 4, non-Western women also made up the majority of participants endorsing the attitudes of desperate hope and casual optimism: They appeared to have greater hopes that CAM would benefit their conception efforts.

Consistent with the Western tradition of biomedicine, Westerners tended to put their faith primarily in assisted reproductive technology, even if they used CAM as well. Western participants generally felt that CAM would help them relax or that it would not hurt to try CAM, but overall, they did not speak of CAM as though it would directly enhance fertility. For instance, a Canadian woman who tried religious healing methods said, ''I don't know what worked but my money's on the doctor'' (Mrs. G).

In contrast, some non-Westerners' CAM use was more deeply embedded in their native culture's knowledge and understanding of the body. These participants mainly used CAM that derived from their cultural backgrounds. For instance, a Chinese couple adhered to a strict diet founded in traditional Chinese knowledge of hot/cold body energies and the specific health benefits of certain foods.[4,20]

> Mr. Q: They believe if the woman's body is always warm it's good to have a baby….
> Mrs. Q: Don't drink cool water. Don't eat cold things.
> Mr. Q: To keep the uterus warm. It's warming up the whole body.…Our parents, their focus is how to always keep the uterus warm because that's the most important part.
> Mrs. Q: Baby's coming, it has to sleep there [laughs].…The manual, it's not coming from the hospital. The manual, it's coming from nature.…Long time ago everybody ate like that so they had a baby…so you try to do that, you eat beans, you eat red sugar, you eat [ginger].

Another example was an Orthodox Catholic woman whose reliance on religious methods was intrinsically tied to her belief in the power of blessed talismans and her faith in the beneficence of patron saints of fertility.

> Mrs. L: I wear this belt…It's a ribbon that the mother superior gave to me. It's blessed to have a child.
> Mr. L: They put the ribbon under the altar and they say prayers…and when someone has a problem, she wants to have a child, she wears this ribbon.
> Mrs. L: Yes. From the moment she gave it to me, I've worn it.…There's also holy oil, and a piece of Saint-Irénée's apple.…Saint Irénée is known in the Orthodox Church as the saint who gives children. She's the saint of fertility also…so we have a piece of apple, and every morning when I take my shower I put on my belt and my crosses, and I take it off only when I take my shower.

Thus, reasons for using CAM tended to be consistent with cultural traditions of health and healing: Westerners' casual CAM use reflected their greater faith in science and biomedicine, whereas non-Westerners were more likely to use culture-specific methods of CAM recommended by their culture's traditions of health and fertility.

Discussion

This study described the range of CAM used by Western and non-Western couples undergoing biomedical infertility treatment. Our data revealed three categories of CAM: lifestyle changes, alternative medicine, and religious methods. While lifestyle changes were generally used by patients at the beginning of the fertility treatment process, couples who had been in treatment for a longer period of time tended to adopt alternative medicine and religious methods as well. Consistent with Kleinman's[12] theory, many patients used a combination of popular, professional, and folk treatments. This was particularly true of non-Western patients.

CAM gave hope to Western and non-Western participants alike. CAM was another avenue of treatment to increase the couples' hopes of having a child and made patients feel that they were doing everything possible to increase their chances of conceiving. The attitude profiles of desperate hope and casual optimism exemplify these views. Thus, participants' use of CAM may be a method of coping with infertility and treatment, and understanding patients' CAM use may inform clinicians about patients' psychological adjustment during treatment. Patients are often reluctant to discuss CAM use with treating physicians and mention that they would like to receive more information about such alternative treatments.[6,15,33] Fertility clinic staff seldom document CAM use,[34] suggesting a lack of awareness of such use among their patients or a lack of consideration of the role such treatments might play in their physical and emotional well-being.

Culture seemed to play a role in attitudes toward CAM. A larger number of non-Western women believed that CAM would have a direct and tangible effect on their fertility. For some non-Westerners, CAM was another medical method of enhancing fertility, equal in status to Western biomedicine. It is important for clinicians to be aware of the importance and medical treatment status that CAM may have for some patients in order to make these patients feel understood, welcomed, and well-cared for.

It is important to note that this difference applied to women, but not men: Western and non-Western men alike expressed casual optimism and amused skepticism. Women were also the exclusive users of alternative medicine and religious healing. The greater use of CAM among Western women as compared with men has been well documented,[18,19] and this study indicates that this gender difference may hold

for non-Westerners as well. These findings should also be considered in the context of cultural beliefs about causes of infertility. Many cultures have belief systems where women receive the blame for infertility and are consequently at risk of ostracism, violence, and divorce. For example, Lau and colleagues'[35] study of Chinese couples revealed that Chinese women were routinely blamed for infertility and were subject to more humiliation and to greater social pressure to have children, both from their husbands and their families. Other studies found that African and Arab women were not considered ''real'' women unless they had children, and were at a higher risk for domestic abuse.[9,36–38] In Western biomedical models of treatment, the woman's body becomes the primary focus of infertility treatment, regardless of the physiologic cause of infertility,[3,39,40] highlighting the fact that Western culture is not exempt from the female-focused bias in infertility and assisted reproductive technology. Given these findings, it is possible that the greater use of CAM among our non-Western female participants was influenced by culturally based beliefs that they were responsible for infertility. This possibility was not explored in detail in this study but is an important topic of future research in order to elucidate the factors influencing CAM use among non-Western immigrants.

This descriptive qualitative study was designed to explore CAM use, reasons for using CAM, and attitudes toward CAM among an ethnoculturally varied sample representative of the patient population in Montreal, a multicultural North American city. Large-scale quantitative surveys of fertility clinic patients are needed to see whether our findings concerning CAM use are true of the larger population of fertility clinic patients.

A limitation of this study is that the categories of Western and non-Western were each very broad and heterogeneous, with participants representing a variety of religions, ethnicities, and cultural backgrounds. It was not possible to investigate the cultural traditions, childbearing beliefs and norms, acculturation experiences, and traditional infertility treatments of individual cultural groups. Another limitation was that we recruited only patients seeking biomedical fertility treatment and patients who spoke French or English. These sample restrictions did not allow us to explore CAM use and attitudes among infertile individuals who forego biomedical fertility treatment in favor of CAM or traditional healing alone. Furthermore, use of a host country's dominant language(s) reflects degree of acculturation,[41,42] and adherence to one's culture of origin is linked to greater culture-specific CAM use.[43] Future research should focus on particular ethnocultural groups with varying degrees of acculturation.

In conclusion, this appears to be the first study to explore non-Western immigrants' use of alternative, nonbiomedical infertility treatment methods, which may be embedded in their culture-specific knowledge of physiology and health. This study is also the first to compare CAM use patterns and attitudes between Western and non-Western patients. The findings indicate that there may be differences between Western and non-Western patients' types of CAM use and reasons for using CAM.

The need for cultural sensitivity in the treatment of infertility is an important component of patient-centered care.[44–46] Fertility clinic staff should be aware that their patients may be using CAM and should understand patients' reasons for using them.

Acknowledgments

We thank Marie-Eve Boucher for conducting the couple interviews and for her guidance with analysis. We thank Dr. Sophia Ouhilal, Dr. Neal Mahutte, and Dr. Hananel Holzer for their collaboration and assistance with recruitment. We thank Rebecca Guttman and Jacynthe L'heureux for their assistance with data analysis. This research was funded by a Catalyst grant from the Canadian Institutes of Health Research (CIHR), grant # PAH103596.

Author Disclosure Statement

Togas Tulandi is an advisor for Watson Pharma. No other competing financial interests exist.

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