Abstract #1572

An Eastern Body-Mind-Spirit Group Intervention Approach to Infertile Women Undergoing IVF

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Childbearing is commonly assumed to be a natural and inevitable part of being a woman (Rowland, 1992). Most young adults assume that they will have own children and raise a family at some point in their lives (Regan and Rowland, 1985). Women are then expected, no matter by themselves or others, to conceive babies 'in' the family and 'for' the family. Although more people tend to delay marriage and bearing children in light of the increasing number of women entering the workforce, motherhood is still tightly connected with womanhood and believed to provide identity and status for women (Phoenix, Woollett and Lloyd, 1991).

According to the World Health Organization (1992), infertility is defined as the inability to achieve conception or bring a baby to term after a year or more of regular unprotected sexual intercourse. The prevalence rate of infertility varies across countries but approximately 15-17% of couples experience difficulties in conception (van Balen, Verdurmen and Ketting, 1997). That means about one in six couples at childbearing age are facing fertility problems. However, from time to time, young couples are not aware of their own problems and under continuous use of contraception until at same point they want to have children under their family planning.

When having illness or diseases such as renal failure or liver diseases, patient's experience is often associated with to the loss of health or loss of a bodily organ. Failure in reproduction, however, is believed to be a silent and internal loss of self and the family, which triggers off many kinds of psychosocial distresses by directly threatening women's societal and familial status. Such kind of 'inability' or 'unsuccessfulness' in fertilization is seen as tremendous impacts towards their lives and family. Failing to conceive is threatening to their dreams of having a perfect and complete family. Hence, it is also perceived as a personal and marital failure, because of which one cannot freely and steadily move onto next life stage as conception or having babies happens to be so natural to the majority of couples. In Chinese communities, although the expectations of women's societal and familial roles are not as high as before and public tend to accept diversified functions of womanhood, females are still assumed to conceive so as to conform to a gender stereotyped of *xiang fu jiao zi* (supporting husband and rearing sons). A number of researches have drawn attention to the psychosocial impacts of infertility towards women. Menning (1975) described that infertility is 'a complex life crisis, psychologically threatening and emotionally stressful.' Some infertile women feel being isolated and sense of loneliness (Miall, 1986). Some also report feeling depressed, anxious and frustrated (Berg and Wilson, 1991).

In order to resolve the trauma of losses in reproductive function and clarify the fertility problem, many couples seek help and undergo prolonged and sophisticated medical investigations (Edelmann

and Fielding, 1998). Religious faiths, complementary and alternative medicine, Traditional Chinese Medicine are also other ways out, where couples regain their sense of control. After series of setbacks in those alternatives, couples begin to realize the severity of the problem and search for advanced diagnoses and treatments. Once they have confirmed their physiological roots of infertility, another period of sophisticated and invasive medical treatment procedures with advanced assisted reproduction technologies (ART) begins. One of the most welcomed ART is in vitro fertilization (IVF) treatment, which was popular among Chinese infertile couples in recent years, as if helps infertile couples to construct their ideal type of family by assisting them to conceive a child or children. IVF has been regarded as an emotional demanding treatment whereas couples, especially the wives, can be physically and emotionally exhausted during the treatment and a number of researches has been done in examining the psychosocial impacts of IVF towards women or couples (Eugster and Vingerhoets, 1999).

Women, irrespective of whether they were infertile, had significantly higher state and trait anxiety than normative levels of women (Merari, Chetrit & Modan, 2002). Women undergoing IVF treatment usually experience much psychological distress such as increased levels of anxiety (Slade et al., 1997), depression (Visser et al., 1994), and emotional stress (Yong, Martin & Thong, 2000). Among all, anxiety could play an important role in affecting the holistic wellbeing of women throughout the IVF treatment.

A number of factors contribute to their anxiety level. For examples, women usually perceive IVF treatment as their only and last chance among all artificial reproductive technologies (ART) in childbearing. They developed unrealistic expectations on the success rates of IVF, which heighten their anxiety level (Visser et al., 1994). Hence, some women might underestimate the stress the treatment could bring and overestimate their capability to endure the procedure. Interpersonal problems such as marital friction and in-law conflicts are commonly reported by these women, who experienced complex psychological distresses and frustrations throughout the treatment. Because of the cultural shame of infertility, many Chinese women would choose to keep it as a secret and not to disclose their treatment to relatives and friends, especially their in-law parents, so as to avoid criticisms. They become anxious whenever others query their visits to clinics or hospitals. In summary, the anxiety level of women increases throughout the course of treatment, which may affect their physical and psychosocial welling.

Apart from cultural and relational issues, women themselves are very anxious throughout the treatment. They are the one in the couple who will be highly involved during the treatment process. The long and tiring diagnostic and treatment procedures may disturb their day-to-day work schedule and marital sexuality, and involves physical suffering and psychological strains (Kopitzke et al., 1991). Physiologically, they experience growth and maturation of follicles through hormone administration, retrieval of oocytes from the ovaries, artificial fertilization outside the womb and subsequent implantation of the embryos to the uterus. Unfamiliarity towards the medical procedures heightens their stress and anxiety level, which further affects their general health.

Physical well-being and psychosocial well-being are actually inter-related. Body functioning, an

element of physical well-being, is somehow a mean to express emotions. Women always complain and suffer from their physical distresses. In response to stress and tensions, they would somatize their emotional responses and experience physical distress. Somatic complaints such as pain, fatigue, muscle tension, and loss of appetite were commonly found in those women having emotional vicissitudes and manifestations of their emotional conditions (Domar & Dreher, 1996). These bodily symptoms were usually associated with their mind and emotions such as depression and anxiety (Ying & Jiang, 2000). It implies that both mind and body are intertwined. Women might experience emotional distresses in the form of bodily symptoms or physical distress. Therefore, in order to enhance the health of women undergoing IVF, both physical and psychosocial needs and total well-being cannot be overlooked.

In order to provide optimal and comprehensive support to women undergoing IVF, it was necessary to facilitate them to make sufficient and realistic physical and psychosocial preparations, especially before treatment. Having informed anticipation towards the process and learning stress management techniques could somehow alleviate the stress arising from sudden changes of the environment during the course of treatment. Effective group approach to intervention has been developed for infertile women or couples in western countries (Domar, Seibel, & Benson, 1990; McNaughton-Cassill et al., 2000). Cognitive-behavioral group intervention received lots of attention and has been found to contribute to significant psychological improvement to infertile women (Domar et al., 2000; Domar, Seibel, & Benson, 1990; Domar, Zuttermeister, Seibel, & Benson, 1992; Domar, Zuttermeister, & Friedman, 1999). Groups for infertile individuals provide opportunities for peer support, new learning, personal insight, and reduce stress (Shapiro, 1999). Through group experience, psychological distresses such as anxiety and depression could be alleviated while positive resources of belongingness, knowledge, and strength could be enhanced (Lentner & Glazer, 1991). Therefore, the contribution of psychosocial counseling through group intervention was well recognized.

Eastern Body-Mind-Spirit Intervention group approach for women who are under stressful life experiences or situations such as divorce, breast and gynecological cancer, menopause, infertility and so on has been recently developed (Chan, Chan & Lou, 2002; Chan, Leung & Ho, 1999). It was believed that mind and body are intertwined and efforts to heal the mind will lead to a positive effect in the body, specifically on women's reproductive health. There have been no published and prospective randomized-controlled trials to assess the impact of psychosocial group interventions on the holistic wellbeing of the infertile women in Chinese communities. The present study is to determine if the Eastern Body-Mind-Spirit Intervention group approach could alleviate the anxiety of the infertile women waiting for assisted reproduction. It was hypothesized that women who have participated in the intervention group would experience less anxiety during the treatment process than those who receive no psychological intervention.

METHODS

Participants

Women due to undergo their first IVF cycle at the Assisted Reproduction Unit of Queen Mary

Hospital were recruited for the current study. The recruitment took place in an educational talk for couples 3 months prior to their first-time treatment, where nurses provided medical information and advice on the treatment. Couples in the talk were invited through announcement after the activity. All participants were required to sign an informed consent form. The diagnostic procedures for the infertile women had been carried out at the time of subject recruitment.

There were 227 women recruited in the study. They were randomly assigned into two groups: 101 into the intervention group and 126 into the control group. Attrition rates of the two groups were 31% and 8% respectively. Withdrawal reasons include spontaneous pregnancies, postponement of IVF treatment, and cancellation of treatment due to other medical reasons. As a result, a total of 186 women (control: *n* = 116; intervention: *n* = 70) completed their participation throughout the study.

Procedure

The protocol of the study at the Assisted Reproduction Unit was approved by the Ethics Committee of the Faculty of Medicine, The University of Hong Kong.

Baseline measurement. Psychological measures of all participants were taken at three different time points over the course of IVF treatment. The first batch of questionnaire was administered during recruitment in the educational talk, which is 3 months prior to the scheduled treatment (T_1). Women who made their consent to participate in the study were given the questionnaire. After completion, they were informed of the randomization process. For those who were assigned to intervention group, psychosocial interventions were offered during the three-month waiting period, while control group received no intervention over the same interval.

Psychosocial intervention. Participants in the intervention group were first interviewed on an individual basis by the social worker, who would be the group facilitator throughout the intervention. The aim of the pre-group interview was to review their infertility and psychosocial history, to brief them the nature, content, format and schedule of the intervention sessions, and to ask informed consent for video-taping. Participants in the control group received no psychosocial intervention.

The intervention process was comprised of four sessions, each spanning three hours. Participants met once a week on Saturday or Sunday evening. In order to provide culturally relevant intervention for the women, some Chinese philosophies and concepts of Traditional Chinese Medicine were adopted into the course material. The intervention adopted an Eastern Body-Mind-Spirit (BMS) approach originally developed by Chan (2001), which emphasizes a holistic health of human mankind. This model has been applied into different populations such as divorced women, bereaved persons and cancer patients, all of whom have had traumatic experiences throughout their lives (Chan, Chan & Lou, 2002; Chan, Leung & Ho, 1999). Under the BMS framework, physical (bodily function), psychosocial (emotions and interpersonal relationship) and spiritual (meaning of life) well-beings are believed to be interconnected and all play a major role in one's holistic health in response to stressful life events.

Within the context of infertility, it is believed that the connection between mind and body still holds. Efforts in healing the mind should also lead to a positive effect on the body, specifically on women's reproductive health. The notion of this model is in line with Taoist philosophy, in which it is said "whole

person well-being results from the maintenance of a state of harmonious balance between the internal integrated whole of the person and the external environment, nature and the universe" (Chan, 2001, p. 10). Physical, psychosocial and spiritual well-being can then be achieved.

Participants of the intervention group practiced a wide range of techniques, such as breathing exercises, massage, acupressure and emotional expression. They have been also given the chance to reflect upon themselves about the meaning of family, children and life, letting-go, forgiveness.

Follow-up measurements. The second batch was administered on the first day the couples arrived at the IVF clinic for daily injection of ovarian stimulant (T_2). The last batch of data was collected on the day they were admitted to clinic for embryo transfer, which was about two weeks after their first daily injection (T_3).

Apparatus

As the primary aim of intervention is to reduce the stress of women in face of invasive medical treatment, we adopt anxiety level as outcome measurement. The Chinese State-Trait Anxiety Inventory (C-STAI; Tsoi, Ho & Mak, 1986) is a validated translation of self-administered scale developed by Spielberger et al (1983). It consists of two subscales – State Anxiety (SA) and Trait Anxiety (TA), each comprised of 20 Likert-type items. The State Anxiety scale measures the transitory anxiety level, while the Trait Anxiety scale reflects a relatively stable disposition to be anxious. Cronbach's alpha values were satisfactory in the current study (SA: α = .92; TA: α = .86).

Data analysis

To investigate treatment effect, repeated-measure ANOVA was employed to determine whether there is a significant group effect on the changes of anxiety level (State Anxiety) over time.

RESULTS

ANOVA comparison showed that at baseline (T_1) there was no significant difference in State Anxiety scores between control and intervention groups, after controlling the effect of their Trait Anxiety as a covariate. [$F(1,163) = 0.750$, $p = .39$] Repeated-measure ANOVA was then carried out to study changes of State Anxiety level after intervention, again controlling statistically Trait Anxiety level at baseline (T_1). Group effect was significant. [$F(1.91, 297.22) = 3.432$, $p < 0.05$, degree of freedom adjusted for violation of equal variance assumption] The intervention group had a significantly lower State Anxiety mean score than the control group, indicating that the intervention worked to lower the anxiety level of women in preparation of their IVF treatment.

DISCUSSION

This study aimed to evaluate the effectiveness of the Eastern Body-Mind-Spirit Group Intervention Approach on alleviating the State Anxiety level for infertile women who would undergo IVF treatment. Results showed a significant reduction in State Anxiety scores on the treatment group, that was those receiving intervention three months prior to IVF procedures. Meanwhile, no significant change was

found in the control group members. This finding was consistent with previous research, which supported the view that intervention group could help in alleviating women's anxiety as positive resources of belongingness, knowledge, and strength was enhanced (Lentner & Glazer, 1991).

Working with Body. IVF women receiving body-mind-spirit interventions reported lower anxiety when they arrived at the IVF clinic for daily injection of ovarian stimulant (T_2) and embryo transfer (T_3). They acquired sufficient information support from the group, as a nurse would participate in one of the sessions, offering easy-to-understand medical advice for the members. Through questioning and answering, their anxiety arising from lacking of information was discounted as they could predict what they would experience throughout the treatment and reappraise the situation. Practicing stress management techniques could help them accommodate psychological distresses arising from the invasive treatment and intense treatment schedule. They were encouraged to practice tailor-made relaxation exercises such as breathing techniques, muscle relaxation techniques, acupressure, and meditation when they went to clinic for daily injection and embryo transfer. Sense of control was regained and emotional distresses were resolved afterwards.

Working with Mind. Another important therapeutic element was the normalization of the personal experience. Some of the Chinese women perceived infertility as a taboo and would not disclose their problems to their family and friends. Infertility was considered as a personal failure or impotence of the husbands in traditional Chinese beliefs. Some women would keep it as a secret so as to protect their own and husbands' self-esteem. It somehow generate psychological burden when others showed concerns about their family plan or asked about why they did regular medical consultation. The intervention group provided a platform for them to open up and share their secrets with people with similar problems. Much of their repressed negative emotions were resolved in the group. Members got more insights on their situation such as physical and psychological responses, marital relationship and communication and meaning of life. Meanwhile, mutual learning was facilitated and effective anxiety coping strategies were generated from the group. Members reported of acquiring sufficient social support and encouragement in the group and much of their stress was relieved.

Working the Spirit. The success rate for one IVF treatment cycle was about 20-25%. Most of the women would experience cycle failure after treatment. Psychological preparation towards the results by reconstructing meaning of children, family and life was done during the group. Group leader would help them to 'detach' their 'psychological attachments,' which have been heavily loaded in their life. The Chinese philosophies of letting go and living with suffering were adopted in the spiritual reflective exercises. The re-orientation of life goal diffused and distracted the demand of success in IVF treatment; hence, their anxiety level could be lowered further.

In conclusion, the study demonstrated that women's anxiety arising from infertility and IVF treatment could be decreased with the participation into group intervention. Body-mind-spirit group work approach was a semi-structured intervention program, where members could learn pragmatic skills on stress management respecting IVF treatment. However, the intervention was only open for IVF women. Issues of reproduction are couples' matters. Marital communication and support

throughout the course of treatment are crucial to enhance the psychosocial wellbeing of the wives. It is suggested that professionals could work on infertile couples in a group format and believed that the therapeutic effect would be multiplied as couple could learn effective communication skills respectively and practice for the benefits of the marriage and the spouse, thus provide emotional support with each other during the treatment outside the group.

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