

## Research Article

# How Integrative Intervention Alleviates Insomnia-Related Stresses: A Qualitative Study

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Received: September 06, 2015; Accepted: October 24, 2015; Published: October 26, 2015

## Abstract

Insomnia is a common sleep problem. Persistent insomnia impacts patients' daytime functioning and quality of life. Yet, individuals with insomnia remain largely untreated because of barriers to assessment and management. Needs of patients remain unmet. Integrative Body-Mind-Spirit (I-BMS) model has been applied to assist individuals with insomnia in alleviating their distressed mood. This study attempted to identify the mechanism of I-BMS intervention and understand participants' subjective evaluation of the program. Semi-structured interviews were conducted with 18 informants who were selected from the I-BMS intervention group. Content was transcribed and analyzed using grounded theory. Three main themes and eight subthemes emerged including "Experiences of insomnia-related stresses"; "Ways of living with insomnia: Mind-body practices and attitude changes"; "Beyond sleep improvement: The integration of body, mind, and spirit contributing to quality of life". To summarize, participants experienced insomnia as a disturbance, which was probably triggered by, and at the same time, reinforcing other life stressors. Insomnia posed a negative impact on participants' physical well-being and emotional state which were key to their quality of life. After attending the I-BMS classes, informants slept faster, deeper, and found themselves filled with energy and strengths during the next day. They learnt to "accept" insomnia, and their sleep-related anxiety was reduced. Through body-mind education and simple Qigong movement, informants became more aware of integration of mind, body, and soul, and thus regained control over their sleep quality and quality of life. Consequently, they were more able to strike a balance in their sleep-wake cycle by applying experiential learning from I-BMS to their daily lives. Given the complex nature of insomnia and its frequent concurrence alongside other life stressors, comprehensive assessment and management of insomnia should be developed. I-BMS provides an integrative alternative approach in tackling insomnia and related stresses.

**Keywords:** Insomnia; Stress; Integrative intervention; Qigong practice; Acceptance and Non-attachment; Energy enhancement; Holistic care

## Abbreviations

I-BMS: Integrative Body-Mind-Spirit; RCT: Randomized Control Trial; PSQI: Pittsburgh Sleep Quality Index; CES-D: Center for Epidemiologic Studies Depression; CBT-I: Cognitive Behavioral Therapy for Insomnia; TCM: Traditional Chinese Medicine; NP: Not Complete Post-treatment on-line Survey; HRQoL: Health-related Quality of Life; QoL: Quality of Life; HKU: The University of Hong Kong; HKU/HA HKW IRB: Institutional Review Board of the University of Hong Kong /Hospital Authority Hong Kong West Cluster

## Introduction

Insomnia is a global public health issue that is estimated to affect one-third of the adult population [1]. A population-based study showed that prevalence of insomnia of Hong Kong adults was 39.4% [2]. According to DSM-5 [1], the criteria of insomnia disorder included, primarily, "predominant complaint of dissatisfaction with sleep quantity or quality" alongside symptoms of difficulty in falling into sleep or maintaining sleep during nighttime or early morning. As

a common sleep disturbance, insomnia not only bothers individuals at night, it also causes significant "distress or impairment" in their daytime functioning. It is thus acknowledged that insomnia exerts a 24-hour pressure on patients. Compared to the nighttime symptoms, daytime impairment is likely to be more pervasive. By discussing insomnia experiences with patients, Kleinman and associates summarized 9 endpoints as daytime outcomes from insomnia, namely fatigue/malaise, attention/concentration/memory impairment, mood disturbance/irritability, concerns/worry about sleep, and motivation/energy/initiative reduction [3]. A "poor-quality" sleep throughout the night might contribute to difficulty in waking and/or poor physical and psychological performance the following day. Recent literature has indicated that insomnia has overall impact on quality of life (QoL) of individuals across nations and ethnic groups [4,5]. After controlling for depression and anxiety, poor sleep can independently limit health-related quality of life (HRQoL) [6]. The impact of insomnia on HRQoL for persons with chronic illness was also significant [7]. In fact, persistent insomnia increased risk of physical and mental health conditions such as depression, chronic pain, and cardiovascular diseases [8-10]. Systematic and meta-

**Table 1:** Supplementary information of interviewees.

Participant	Gender	Age	Occupation	Self-reported Insomnia (M: month; Y: year)	Improvement of sleep quality (improvement of overall PSQI score)	Improvement of mood distress (Improvement of CES-D score)
Client A	Female	66	housewife	1-3y	7	21
Client B	Male	56	Full-time job	1-3y	2	2
Client C	Female	56	Part-time Job	3-5y	5	17
Client D	Female	53	Full-time job	1-3y	9	2
Client E	Male	58	Retirement	3-12m	1	10
Client F	Female	68	Retirement	Less than 3 m	4	8
Client G	Male	48	Full-time job	1-3y	5	5
Client H	Male	58	Self-employed	1-3y	6	-1
Client I	Female	56	Full-time job	Above 5y	1	1
Client J	Female	54	Full-time job	Above 5y	6	4
Client K	Female	62	Retirement	Above5y	-1	9
Client L	female	61	housewife	Above5y	11	24
Client M	Male	55	Retirement	Above 5y	-1	6
Client N	Male	47	Unemployed	3-5y	3	12
Client O	Female	45	housewife	Above 5y	3	13
Client P	Female	65	Part-time job	Above 5y	NP	NP
Client Q	Male	57	Full-time job	1-3y	NP	NP
Client R	Female	37	From job waiting to Full-time job	Above 5y	6	11

**Note:** NP: Not Complete Post Treatment Online Survey

analysis have reported consistent findings that insomnia predicts the onset of depression and may perpetuate the residual depression symptoms [11,12].

Although insomnia is a common public health concern, individuals with insomnia remain largely untreated because of numerous factors related to patients and physicians, such as low reporting rate by patients and physicians' insufficient training in assessment and management of insomnia [13,14]. A survey on Hong Kong Chinese individuals with insomnia found 46.6% of them did not seek treatment [15]. In addition, patients expressed feelings of "isolation" because others including health professionals tended to misunderstand and minimize their hardship from persistent insomnia [16-18]. Although studies have suggested that non-pharmacologic therapies for chronic insomnia are efficacious in their long-term effect on insomnia with minimal side effects [13], standardized services are not easily accessible. Studies have also identified that "lack of awareness on treatment options" is a major barrier to treatment of insomnia [17,19]. Therefore, needs of patients remain unmet.

Among alternative approaches to treating insomnia, CBT-I is its well-established protocol with growing evidence for its efficacy [20,21]. Yet, Riemann et al. [22] noted that currently not more than 1% of patients with chronic insomnia received CBT-I. Despite efforts made to optimize the treatment for 160 adults with persistent insomnia in Canada, 40% of participants did not respond to the CBT-I only and zolpidem only intervention; while 32% did not recover despite combined therapy and 6-month follow-up of CBT-I [23]. Furthermore, only limited evidence is available for the effect of CBT-I on daytime symptoms of insomnia and quality of life [24,25] which may be the main concern of patients. Professionals proposed that emphasis on treatment mechanism and process would be helpful

to disseminate CBT-I, since multiple components are involved in the treatment [26].

Integrative Body-Mind-Spirit model is underpinned by eastern philosophy mainly including yin-yang theory, Buddhism, and Daoism. It is context-oriented, emphasizing a relatedness of body, mind, and spirit. Furthermore, I-BMS provides a unique view of change and health that emphasizes mutuality, complementarity, and balance. If a system is out of balance, it tends to polarize forces and become disconnected and stagnant, leading to the manifestation of various bodily and mental symptoms [27]. A number of studies have proven the effectiveness of I-BMS practice on different groups of patients [28-30]. Chan and her associates developed an intervention manual based on I-BMS model to help individuals with insomnia and emotional distress in 2012. A randomized control trial has been completed to evaluate its effectiveness (2012-2014). From the I-BMS perspective, insomnia is regarded as a manifestation of an unbalanced body-mind-spirit system. The intervention aimed at improving the quality of life of participants by enhancing their daytime energy levels, alleviating their distressed experiences triggered by insomnia symptoms, and balancing their sleep-wake cycle. Specifically, each session of intervention included acupressure, easy Qigong exercise, mind-body education and practice as well as group discussions on topics of self-growth that were facilitated by trained social workers in I-BMS. Eight group sessions were delivered on a weekly basis in a group modality within a research institution of the University of Hong Kong. Each session lasted around three hours.

As I-BMS intervention is a multi-component protocol as CBT-I, the present study attempted to gain more insights into the mechanism and process of I-BMS program from the participants' perspective. Given the client-centered feature of I-BMS, participants' perceptions

**Table 2:** Themes, subthemes and verbatim from participants.

<p><b>Experiences of insomnia-related stresses no “day and night”</b></p> <p><b>a. Life stressors leading to insomnia</b></p> <p>1. “So many things (lead to insomnia), it’s like mixed vegetable salad...I had sound sleep three years ago...all of a sudden...I knew a big event would happen...my grandma got severely ill...after that, my sleep had a rapid deterioration” (CLIENT D).</p> <p>2. “It may be attributed to loads of work...so many deadlines...I need to get things done...these have been stressors stored in me...even when I have completed one case, I still feel that something is yet to be done...similar tasks would be assigned another day, generating stress again and again. I did not know how to relieve it.” (CLIENT E).</p> <p><b>b. Physical vulnerability</b></p> <p>3. “(The trouble of insomnia) is that I am afraid of my body going wrong and it may be the onset of disease. If you cannot sleep well, your internal organs will be affected. You will have a greater chance to get heart diseases and hypertension... if I cannot sleep for a whole week...I would become terribly weary and susceptible to disease. When I am sick, I can sleep for a certain period of time... so that if one has quality of sleep, the biggest thing is that he is definitely healthy anyways. I have nothing to worry about but my health condition.” (CLIENT I).</p> <p>4. “The distress is that my body is unwell in all respects. I would feel pain in my finger joints when I did not get enough sleep... if sleep quality improved, joint pain would be alleviated. You can rightly tell from differences of these fingers. (Showing swelling finger to the interviewer) if I did not sleep well for a whole week, it would be like this... I told my doctor but (he/she) did not believe me.” (CLIENT K).</p> <p><b>c. Poor emotional state</b></p> <p>5. “It has impaired my interpersonal relationships. Because I did not have adequate energy, I cannot even handle my own state. I do not want to talk with others” (CLIENT R).</p> <p>6. “I cannot confirm schedule of the next day. This disturbs me a lot... I do not like it. I want to have my plan... I even did not dare to meet others in the mornings because I worried I could not get up on time... no regular arrangement... when you are exhausted, you do not have enough courage to make any promises... I did not believe that I had the capability of finishing it (I-BMS courses) before.” (CLIENT O).</p>
<p><b>Ways of living with insomnia: Mind-body practices and attitude changes</b></p> <p><b>a. Improvement in sleep quality through mind-body practices</b></p> <p>7. “Abdominal breathing teaches us to concentrate (on our own action of breathing) so that I would not ruminate on other issues... less distracting thoughts... Counting sheep, one, two, and three... other thoughts would come out anyways and disturb my sleep.” (CLIENT B).</p> <p>8. “After doing the gentle movement, I can feel the circulation of blood and Qi inside my body. I began to feel warm and have energy... for people who are in poor physical condition and in lack of vitality, like me, these exercise really helps... I also taught them to my friends and relatives.” (CLIENT O).</p> <p><b>b. Reduction in sleep-related anxiety due to attitudes of acceptance and non-attachment</b></p> <p>9. “To which degree, do you think your insomnia problem was resolved?” (Interviewee).</p> <p>“Not resolved, but improved... I did not expect resolution. It was already rewarding as my sleep improved a lot after attending the class. It is impossible to change immediately...only within a couple of months...your life habit will not change in such a short time...let it be if I cannot sleep. Not to obsess about it (resolution). If not, things will get worse, right?” (CLIENT B).</p> <p>10. “I learnt how to relieve stress from the course... even I only had sound sleep for three or four hours per night, I felt refreshed the next morning... it was enough for me... if one is not too nervous about things, he/she may live more lightly and happily” (CLIENT R).</p> <p>11. “When I cannot sleep at times, I recalled the sentence. It was helpful. (Before attending classes) I worried a lot about consequences of a lack of sleep. But, not now, by lying down and closing my eyes, I also had a rest. I enjoy equanimity instead of tossing and turning restlessly on bed. It was not troublesome anymore.” (CLIENT C).</p>
<p><b>Beyond sleep improvement: The integration of body, mind, and spirit contributing to quality of life</b></p> <p><b>a. Shift from insomnia to body-mind connection- a holistic perspective</b></p> <p>12. “It is the mind that matters. It was hard to accept changes and that was why in the past I got stuck and failed to move on... professionals (in I-BMS) have opened the door for me. I think it is a right way.” (CLIENT A).</p> <p>13. “(Previously) I only focused on exhausted feelings when waking up. Yet, I did not go back to the origin step by step. My view was narrowed down to the negative results (exhausted feeling)... we forgot some basic things. They are the origins. When taking I-BMS courses, I noticed that I needed to unlock my heart... sometimes, I was too harsh to myself. I have been changing it gradually... it is a reflection on myself.” (CLIENT R).</p> <p><b>b. Centering of the self</b></p> <p>14. “This course emphasized self-exploration...in short, regarding self as an acting point... to explore inside... most of the time, I focused on others outside... more introspection is needed... for instance, to love myself and let go of the unpleasant in the past are what you (I-BMS) have taught us so that I would really (think about it)... why did not I let it go for my own good... I would not keep things in mind which do not work.” (CLIENT C).</p> <p><b>c. Different perspectives towards hardships through group support</b></p> <p>15. “I have learnt things from different levels. I have gained more knowledge and practiced several good things (exercises and energy flow)... not only on the theoretical level, but it was quite experiential here (I-BMS group)... when I listened to others, I reflected on their words and absorbed new ideas... I had no idea how others thought about certain issues before... now, when I face some situations, what other group members have said would come back to me.” (CLIENT N).</p> <p>16. “It (small group discussion in I-BMS class) was nice. I saw people different from me. I felt that things happened to me were not special and minor when I compared myself to others who went through more difficulties and hardships... It broadened my view and gave me a chance to look at things happening around me. We shared similar predicaments... many people tried to go through... I felt supported (by group members) and motivated to change.” (CLIENT A).</p>

of the impact of insomnia were collected to evaluate whether the intervention addressed participants’ concerns.

## Methods

### Participants

Participants were selected from group members of I-BMS intervention who were enrolled via open recruitment. As the target group were individuals reporting insomnia and mood distress, with a total score of Pittsburgh Sleep Quality Index (PSQI) equal to or greater than 7 and that of Center for Epidemiologic Studies Depression Scale (CES-D) greater than 10 and less than 35 were enrolled into the interview [32,33]. Informants were selected based

on the principle of maximum variation variation in the PSQI and CES-D scores as well as demographic variables. 18 clients agreed to participate (7 men and 11 women ranged in age from 37 to 68, with a mean age of 55.56 years, all Chinese). Among them, 6 informants had a previous or current diagnosed MDD episode and they had taken or were taking anti-depressant to tackle their mood disturbances that co-exist with insomnia. The remaining 12 participants only had insomnia symptoms. The average attendance was 7.5 out of the total 8 sessions. Their occupation and duration of insomnia were listed in Table 1. Changes of PSQI and CES-d scores from pre to post treatment were calculated ( $T_{Pre} - T_{post}$ ) and presented in Table 1. Data at  $T_{Pre}$  and  $T_{post}$  were collected via on-line survey. According to data calculated,

no one had a severe deterioration but a few of them had a relatively unchanged condition on sleep quality or depression symptoms (range from -1 to 2, Table 1). The RCT and in-depth interviews were approved by HKU/HA HKW IRB and HKU respectively. Written consent forms were collected from all interviewees.

## Design

Clients who attended at least 5 I-BMS sessions were invited to interviews after their completion of RCT study. Informants were contacted at least one month before their interview to schedule for interview time and venue. They were interviewed individually between May and August in 2014. Each interview was operated in quiet places convenient to the participants. All interviews were audio taped and anonymously transcribed. Each interview lasted around one hour. The interviewer followed an outline of open-ended questions designed to allow room for participants to share their experiences of insomnia and those of attending I-BMS classes. Each interview usually began with enquiry into reasons for registering for the RCT study. All aspects of information regarding insomnia experiences and change or learning from I-BMS were then explored. Primary questions included: 1. Which aspect of insomnia has disturbed you most? 2. What are your perceived causes for your insomnia? 3. Please share your changes after attending I-BMS classes and how (changes in insomnia symptoms, mood, and other aspects of life) if any? 4. What are the most helpful information or techniques that you have learnt from I-BMS classes? 5. How did you experience various activities and teachings in I-BMS classes, such as Qigong exercise, acupressure, group discussion, non-attachment teaching, drinking/walking meditation etc.? 6. What are the components that you have found most helpful to your sleep, and are you still practising them? Supplementary questions were further asked given new concerns emerged from previous interviews.

## Data analysis

Based on Grounded theory [34], qualitative content analysis and an inductive procedure were utilized. The whole process was conducted using Nvivo 10. All transcriptions were carefully read line-by-line and emerging themes relevant to study objectives were marked down by two investigators at first reading. Then, content of interviews was reviewed repeatedly to add new themes and reorganize themes that had emerged. Lastly, two researchers together grouped all themes into clusters and identified major themes and subthemes.

## Findings

Three major themes were identified from the data. They are “experiences of insomnia-related stresses”; “Ways of living with insomnia: Mind-body practices and attitude changes”; “Beyond sleep improvement: The integration of body, mind, and spirit contributing to quality of life”. Each theme is comprised of two to three sub themes. Selected quotations explaining each subtheme are presented in Table 2.

### Experiences of insomnia-related stresses

From our informants’ perspective, persistent insomnia has never been a minor or trivial issue. Insomnia posed impact on their overall quality of life that was conceived as a behavioral pointer mirroring distress embedded in their life. Three sub themes emerged under this category: a. Life stressors leading to insomnia; b. physical vulnerability; and c. poor emotional state.

#### a. Life stressors leading to insomnia

Many of our informants identified critical life events as stimuli to insomnia. These events included relationship distress such as that from parenting, divorce, in-law conflicts or other familial and interpersonal conflicts, injury and sickness, decease of significant others, work stress, financial difficulties, or/and other life problems and affliction. Informants were aware of possible reasons for their insomnia that was not limited to medical problems. Thus some of them were unwilling to take hypnotics, but at the same time, they failed to find alternative ways to help themselves deal with stresses and struggles with insomnia. For instance, client D told that reasons of her insomnia were a mix of life stressors as well as her grandma’s illness since three years ago. For those who could not tell a specific critical event triggering their insomnia, chronic stressors were identified as potential causes for insomnia. Client E, an employee, attributed his insomnia to heavy work load. He suffered from severe stress due to endless work assignments and thus experienced insomnia.

#### b. Physical vulnerability

Worries about their own physical conditions, coupled with life stressors, were salient disturbance to participants’ everyday activities and interactions. Almost all participants worried about the negative impact of insomnia on their health conditions, including pain, fatigue, low levels of energy, and general weaknesses, which had been experienced within their bodies in different ways. Some informants reported that they were susceptible to illness after a couple of sleepless nights. Client I would easily get sick after certain period of insomnia and she regularly experienced this vicious cycle. This client also stated that she had nothing to worry about her insomnia but its adverse influence on her physical health. When being asked about whether her emotional state was influenced by insomnia, she repeated that “I really, really cannot feel it (emotional stress).” Yet, she knew that if she failed to sleep for several days, her physical conditions would severely deteriorate. Participants also mentioned that insomnia would make them extremely weary and uneasy about their body.

#### c. Poor emotional state

Some interviewees regarded poor emotional state as another major experience along with insomnia. Due to low level of energy after a “poor-sleep” night, they usually found themselves “not capable” of getting involved in various daytime activities and accomplishing things they wanted or needed to do. Lack of sleep resulted in an overwhelming sense of powerlessness for our informants particularly when it came to their interpersonal relationships, daily scheduling, and work performance. Poor concentration, memory loss, high levels of irritability, tendency to hide from others (self-isolation), negative thoughts, as well as reduction in problem-solving capacity were experiences shared by our informants with insomnia. Client R considered himself deficient in energy after insomnia. As a result, he felt incapable of communicating with others and building long-lasting relationships. No matter if they were employed, retired, or housewives, they felt trapped in the poor emotional state in daytime triggered by insomnia. For those who were employed, work performance was their major concern. Three of our participants claimed that they never let sleeplessness influence their work. Meanwhile, by highly concentrating on their jobs, they experienced extreme fatigue after hours.



In short, the disturbing experiences triggered by insomnia were present together with various life stressors. Most clients did not regard insomnia as a purely medical issue. Not only did they identify their physical/bodily symptoms as major disturbing aspects of insomnia, but they also expressed that daytime consequences of insomnia, namely their poor emotional state and high irritability, were some of their major concerns. Thus, all these insomnia-related distresses undermined their overall quality of life, which called for an integrative approach to address their problems.

### **Ways of living with insomnia: mind-body practices and attitude changes**

With respect to their current sleep quality, most informants reported a better quality of sleep at night and improved energy levels during the day after attending the I-BMS classes. Furthermore, they learnt to adopt attitudes of acceptance and non-attachment toward their sleep problems. The two sub themes are: a. improvement in sleep quality through mind-body practices and b. reduction in sleep-related anxiety due to attitudes of acceptance and non-attachment.

#### **a. Improvement in sleep quality through mind-body practices**

One of the most frequently mentioned mind-body practices was abdominal breathing. Client B shared her experience of abdominal breathing that made her fall asleep more easily. Abdominal breathing probably relaxed autonomic nervous system related to pre-sleep bodily hyper-arousal, such as quickened heartbeat, cold/sweaty hand or shortness of breath. Common layman technique of counting sheep as a method for falling asleep will activate frontal cortex that may further sharpen cognitive hyper-arousal before sleep that is known as mind-racing. Thus, abdominal breathing helped participants to stay mindful and peaceful, and stopped them from ruminating over problems in the daytime.

Apart from breathing methods, informants also found acupressure and easy Qigong practices, such as *Shoai-Shoou-Gong* (hand swinging exercise) and clapping qigong, helpful. Participants practiced these easy exercises throughout the day and gradually developed it into a habit in their daily lives. According to our participants, these practices not only improved their sleep quality, but they also helped cultivate energy or Qi flow during daytime. For instance, these techniques made Client G feel warmth and energy flow due to blood and Qi circulation. In short, these mind-body techniques, including abdominal breathing, acupressure, and easy Qigong practices, filled our participants with vitality and hope that reinforce continuous practices of these self-help techniques.

#### **b. Reduction in sleep-related anxiety due to attitudes of acceptance and non-attachment**

Apart from actual improvement in sleep quality and daytime functioning, participants also developed an attitude of acceptance toward insomnia. They let go of “perfect sleep” expectations and learnt to embrace a more flexible attitude toward fluctuation of their sleep conditions. This perspective reduced their sleep-related anxiety and prevented things from going worse. For instance, Client B realized that worries about insomnia and obsession with perfect sleep could not help but worsen the situation.

In addition, participants also adopted an attitude of non-

attachment toward interpersonal conflicts or other stressful events that might trigger their insomnia symptoms. Client R acknowledged that an easy and carefree attitude toward life worked well to alleviate sleep-related stresses. Most of our participants found one sentence learnt from I-BMS classes particularly useful which connoted meanings of acceptance and non-attachment. It was “lying in bed peacefully is also a kind of rest for my body. Falling asleep is not the only way to be tranquil.” Client C considered this sentence helpful because it changed her perception of insomnia and encouraged her to enjoy resting with equanimity. Our informants made good use of the meanings of rest and equanimity taught during the group sessions, coupled with sleep hygiene education and mind-body exercises, to alleviate their anxiety toward sleeplessness and let go of their unrealistic expectations for a “perfect sleep.” Consequently, a better quality of sleep and an overall better physical and emotional state in the next morning were achieved.

### **Beyond sleep improvement: the integration of body, mind, and spirit contributing to quality of life**

In line with the goal of I-BMS model to improve clients’ overall quality of life, our informants further noted that they achieved improvement not only in their sleep quality but also in various aspects of their lives. Sub themes included: a. “shift from insomnia to body-mind connection- a holistic perspective”; b. “centering of the self”; and c. “different perspectives towards hardships through group support”.

#### **a. Shift from insomnia to body-mind connection- a holistic perspective**

Informants acquired different and broader views regarding their sleep issues. They achieved a better understanding of mind-body connection and its impact on sleep. Client A realized that the craving for desires and denial of uncontrollable changes would adversely influence sleep quality. Instead of getting preoccupied with their sleep problem per se, participants learnt to “go back to basics, to the root source” which might lead to their insomnia. For instance, client R reflected on her narrow-minded attitude towards her experience of insomnia through which she could only sense the exhausted feelings resulting from insomnia. Many respondents acknowledged the important need and potential benefits to move beyond their sleep issue and reconnect their bodies with a positive mind. Moreover, they became more aware of interrelatedness between body, mind, and spirit. Informants were more likely to take initiatives to let go of their previous obsessions. Some of them realized that if no medicine could cure sleeplessness and it was every individual’s choice whether to let go of the past, to relieve stresses and strains.

#### **b. Centering of the self**

This term, “centering of the self,” was borrowed from Lee and associates (27. p204-207). It referred to the state in which participants went back to their inner world by nurturing their body, mind, and spirit when facing constant changes in the external world. They became aware of how unbalanced body-mind-spirit system impaired sleep, and at the same time, regained balance and inner strength. It is not unusual that individuals with insomnia tend to impute their sleeplessness to outside disturbances that cannot be easily changed. Yet, after the intervention, most of the participants learnt to resort to

themselves to secure resources for dealing with insomnia. They also learnt to love and accept themselves. For instance, client C shared the benefits of self-exploration in classes and her reflection on self as an acting point. Client C noted that she embraced a renewed self and planned to make good use of her inner strengths re-discovered in the courses (Quote 14). After realizing the importance of centering of the self and reflecting on the self, Who?? cultivated not only self-acceptance but also a better connection with others in everyday life.

### c. Different perspectives towards hardships through group support

Informants shared their experiences of mutual learning among group members in the I-BMS classes that allowed them to view issues and problems from different perspectives. Client N reported that he recalled his group mates' words when he fell into difficult situations again (Quote 15). Through group sharing and discussion, participants realized that they were not alone. Instead of focusing on their own unpleasant experiences, participants expanded their perceptions of suffering and coping by learning the ways in which others dealt with hardships and overcame them through painstaking efforts. They learnt more, cared more about others, and provided support for each other. Client O used "a grain of sand" as a metaphor for her position among others of different age. This position offered her a new point of view to perceive issues and problems that had troubled her before.

## Discussion

The current study revealed insomnia experiences among Hong Kong Chinese adults and their concerns regarding poor sleep quality. Major concerns were restless experiences at night and the lack of energy/spirit/vitality during daytime that can be deemed a manifestation of sleep-wake cycle disorder. Furthermore, insomnia also impeded their subjective health status. Informants reported that they were susceptible to diseases due to certain period of poor sleep and worries about deterioration of bodily functions. All of these experiences contributed to physical vulnerability and poor emotional state, which had far-reaching effect on critical aspects of their everyday lives. In accord with previous studies, individuals with insomnia presented lower levels of quality of life. It also found that energy/vitality and "role-physical" dimension among other domains of SF-12 were most useful predictors for severity of insomnia [35]. Given this pervasive impact of insomnia on patients' life, management of insomnia should not solely focus on improvement of nighttime sleep. Alleviation of insomnia-related stresses during daytime should also become major treatment endpoints. Yet, it is not the whole story. Apart from insomnia symptoms and their daytime consequences, our informants also struggled with pressure from their own lives such as chronic pain, conflicts with family members, or persistent distress from work. Studies identified several precipitant factors of insomnia, among which, the most common ones were family, work, and health events [36]. Lundh and Broman included interpersonal conflicts and emotional involvement in the integrative model of sleep interfering and sleep-interpreting process [37]. It was suggested that a multidimensional view should be adopted to understand insomnia complaints, especially specific contexts within which sleeplessness was experienced [38]. Hence, the needs of patients with insomnia went beyond longer sleep and thus treatment should be extended to aspects of quality of life.

This study made the first attempt to explore how the I-BMS model benefits participants with self-reported insomnia and boosters their overall well-being. From a holistic view of care, I-BMS group work on insomnia and mood distress adopts an integrative approach. As informed by practices of Daoist and TCM, one of the critical therapeutic components of I-BMS is "nurturing body for balance and harmony" [27] that addresses the body as an agency in connecting mind and spiritual wellbeing. Our informants also noted that one of the benefits of rebuilding autonomic homeostatic from easy Qigong practices, acupressure, and abdominal breathing was to help them regain a sense of balance. Participants reported more tranquil state at sleep time and more energy and strengths in the morning. Emerging evidence has showed the benefits of acupressure and Qigong on insomnia, fatigue, and quality of life in different groups [39-43]. In addition, participants also learnt to cultivate acceptance towards sleeplessness as well as non-attachment to "unrealistic sleep expectation." Thus, their worries were significantly reduced and their sleep quality was improved. Such findings are in consistent with our quantitative data that indicate I-BMS especially improve participants' subjective sleep quality and sleep latency (unpublished). Ong and associates [44] argue that bias, rigidity, attachment and absorption to insomnia are second arousal or a meta-cognitive process involved in insomnia and they suggest "commitment to valued life" may help alleviating individuals' preoccupation with insomnia. Studies have also found that reduced "sleep effort" can predict improvement on sleep conditions in treatment groups [45]. Sleep effort and safety behavior can also predict sleep disturbances among patients with mood disorder [46]. I-BMS classes also highlight the importance of acceptance of the undesirable and that of letting go of rigid attachment to the undesired things that may not be restricted to insomnia.

Instead of focusing on symptoms, the I-BMS model underlined strengths of participants by using "easy to grasp" practices and experiential activities. Through mind-body education and small group discussions, informants got more insights into the relations between stress, mind, and bodily signals of illness. "Puzzlement about cause" was found to be able to differentiate individuals with primary insomnia from good sleeper [18]. Thus, after experiential body-mind movement and education, clients were more likely to be aware of possible reasons for insomnia, the connections between stress, emotion and sleep and strike a balance in their sleep-wake cycle. Furthermore, they found more resources and wisdom inside themselves instead of resorting to the outside. In addition, the group modality provided them an opportunity to have a view from different perspectives as well as to be more humble and gratified. In fact, eudaimonic well-being (purposeful engagement with life) was inversely related to sleep problems after controlling the confounders, Hedonic and eudaimonic well-being can also buffer the adverse effect of psychosocial risk factors on sleep [47]. Wood found that traits of gratitude predicted better results of several sleep parameters [48]. In line with these studies, the I-BMS model adopted a strength-based approach by taking experiential activities, such as Qigong exercises and gratitude journal, as bottom-up pathways in cooperation with certain top-down methods, such as sleep hygiene education and mind-body education.

## Limitation

Some limitations in this study deserve mention. Firstly, informants

were selected from participants of an RCT intervention who were self-referred with certain insomnia and mood symptoms and recruited from the community. Thus, no systematic diagnosis procedures were conducted. Instead, we used the score of symptom scale as inclusion criteria. More specific comorbidities need to be considered among particular clinic samples. Secondly, we failed to trace participants who dropped out but might help us better understand the advantages and disadvantages of the current intervention manual applied to different kinds of clients. Lastly, future studies should investigate interactions of various components involved in I-BMS program that results in a synergistic effect as well as further identify characteristics of patients who may respond to different components or respond through different pathways.

## Conclusion

Given the complex nature of insomnia and its frequent co-occurrence alongside other life stressors, assessment and management of insomnia should be more comprehensive. Not only does I-BMS group intervention incorporate basic sleep hygiene education, but it also further targets the holistic well-being of participants. After attending the group, most informants reported a better sleep and enhanced energy during daytime. In addition, they became more aware of their own life as well as of the surroundings. They were more able to lead a life of equanimity by applying experiential learning from I-BMS to their daily lives.

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