COGNITIVE BEHAVIOR THERAPY FOR ANXIETY AND DEPRESSION SECONDARY TO COPD AMONG KOREAN-AMERICANS IN HONOLULU: A FEASIBILITY STUDY

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DEDICATION

This manuscript is dedicated to my patients who have helped me better understanding the human being.
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ABSTRACT

**Purpose:** 1) To test the feasibility of a culturally tailored cognitive behavior therapy (CTCBT) for Korean Americans (KAs) who suffer anxiety or depression secondary to chronic obstructive pulmonary disease (COPD); 2) To determine recruitment and retention feasibility for the CTCBT.

**Method:** A descriptive study without a control group was designed to test the feasibility of CTCBT for KAs. A literature review of interventional studies for KAs was performed to find necessary cultural consideration in developing CTCBT for KAs. The Mind Well-Being Program as a CTCBT was developed and tested with eight patients with COPD residing in Honolulu, Hawaii. The program consisted of six one-hour-long weekly group sessions. Outcomes were measured with the Beck Anxiety Inventory (BAI), the Beck Depression Inventory (BDI), the Saint George Respiratory Questionnaire (SGRQ), and a patient satisfaction questionnaire before and after the program and at six weeks after the program's completion.

**Findings:** Eight out of twenty-nine potential patients volunteered to participate in the study. The attendance rate for the sessions was one hundred percent. Cultural considerations recommended for studies with KAs were: providing intervention in the Korean language, assessing Korean health beliefs and social norms for targeted conditions, using collectivism and navigation services, and protecting participants from the stigma of mental illness. In this descriptive study, average scores for the BAI and BDI decreased from 17.13 to 9 and from 19 to 10.75 respectively by the end of the therapy, and the results were sustained for 6 weeks. SGRQ scores also showed a decrease in all three areas of the measurement: symptoms, impact, and activity. Participant satisfaction with the program was 3.75 out of 4.
Conclusion: The CTCBT-KAs achieved a meaningful decrease in anxiety and depression and an improvement in respiratory-related quality of life. Although there were limitations, the present study demonstrated the feasibility of using CTCBT for KAs.
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CHAPTER 1. INTRODUCTION

Background

Chronic obstructive pulmonary disease (COPD) is reported as the third leading cause of death in the United States and a major cause of disability by the Centers for Disease Control (Miniño, Xu, & Kochanek, 2010). It is also the only disease for which mortality has increased over the last three decades (Mannino, Homa, Akinbami, Ford, & Redd, 2002). Nearly thirteen million adults aged 18 and older were diagnosed with COPD in 2011 (Adams, Kirzinger, & Martinez, 2012) and the total estimated cost of this disease in 2010 was $49.9 billion – $29.5 billion in direct costs and $20.4 billion in indirect costs (Guarascio, Ray, Finch, & Self, 2013). The cost of hospitalization from acute exacerbation of COPD and subsequent hospitalization accounted for 70% of direct cost through 2006 and 2009 (Dalal, Liu, & Riedel, 2011). Among users of emergency services due to these exacerbations, 53% of the patients had an accompanying anxiety or depression, or that relapsed within one month, compared to 19% without anxiety or depression (Dahlen & Janson, 2002). Forty percent of all COPD costs could be avoided by preventing its complications and hospitalization (Perera, Armstrong, Sherrill, & Skrepnek, 2012).

The prevalence of COPD is 4.2% in the population of Hawai‘i, affecting nearly 60,000 individuals in 2011 (Centers for Disease Control and Prevention [CDC], 2013). Hospital costs from COPD admissions were about $30 million in 2008 (Bradbury, et al., 2010). Statistics for COPD in Korean-Americans (KAs) have not been collected separately. However, the prevalence of smoking among the KA population in the State of California was reported as 29.9 %, higher than the smoking rate among other Asian-American men (17.7%) and the average of all men in California (12.7 %) (California Health Interview Survey, 2012). This may suggest a higher
prevalence of COPD among KAs, considering that smoking is the highest risk factor for COPD. Korean-Americans have a higher rate of respiratory disease than Koreans in Korea (Yang, Chung, Kim, Bianchi, & Song, 2007). The prevalence of COPD in Korea was reported as 18.0% among people older than 45, while the prevalence of smoking was 19.7% among the population age above 15 (Jung & Lee, 2011).

Chronic obstructive pulmonary disease is characterized by an irreversible airflow limitation. Management regimens include pharmacotherapy for symptom relief and pulmonary rehabilitation that includes exercise and education to improve exercise tolerance and decrease dyspnea (Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2015; National Heart Lung and Blood Institute [NHLBI], 2006). The progressive nature of COPD and the major symptom of dyspnea lead to anxiety, depression, and poor compliance with treatment regimens (George, Kong, Thoman, & Stewart, 2005; Pumar et al., 2014; Restrepo et al., 2008). Prevalence of depression or anxiety among COPD patients is significantly higher than for other chronic diseases such as diabetes, chronic heart disease, advanced cancer, HIV, or renal disease (Solano, Gomes, & Higginson, 2006). Roughly, 26% to 30% of COPD patients suffer from depression and anxiety, which is three to four times higher than people without COPD (Bradbury, Pobutsky, Reyes-Salvail, Kromer, & Tottori, 2010; Løkke, Lange, Scharling, Fabricius, & Vestbo, 2006). Depression and anxiety have been associated with increased mortality, morbidity, health service use and cost (Burgess, Kunik, & Staley, 2005; De Voogd, Wempe, Koe`ter, et al., 2009; Katon, Lin, & Kroenke, 2007; Maurer et al., 2008). Patient-centered integrative care emphasizes the biopsychological impact, rather than just the disease itself on patients with COPD. (GOLD, 2015; World Health Organization [WHO], 2002).
Problem Statement

While antidepressants and anxiolytics are frequently used pharmacological treatment options for COPD, cognitive behavioral therapy (CBT) has shown effectiveness in treating anxiety and depression among patients with chronic illnesses, including COPD, and is considered the first-line non-pharmacological option (Kim, Braun, & Kunik, 2001; Yawn, Giardino, & Criner, 2007). Low adherence rates to medical treatment regimens in COPD patients are significantly higher than in other chronic illnesses (Restrepo et al., 2008). Complex treatment regimens such as multiple medications, long-term oxygen therapy, and pulmonary rehabilitation, as well as the advanced age of patient populations having co-morbid conditions and cognitive impairment are often reported as causes of poor adherence (Bouebeau & Bartlett, 2008).

However, depression and anxiety greatly interfere with adherence to medical treatment and accelerate mortality (Maurer et al., 2008). Mortality rates in COPD patients with depression or anxiety are much higher than patients with COPD only (Abrams, Vaughan-Sarrazin, & Van der Weg, 2011; De Voogd, Wempe, Postema, et al., 2009; Han et al., 2007). Adherence rates are always low when major behavioral change is required, such as smoking cessation or promoting exercise. Intervention with CBT has resulted in both high rates of smoking cessation and improving exercise behavior (Herning, Cook, & Schneider, 2005; Willemese et al., 2005).

The long-term effectiveness of CBT is the most promising factor in utilizing CBT, especially for patients experiencing or fearing the adverse effects of pharmacological treatment (Sirey, Raue, & Alexopoulos, 2007). Long-term effectiveness of CBT treatment over 36 months was demonstrated in insomnia patients (Backhaus, Hohagen, Voderhilzer, & Riemann, 2001). In a comparison study, CBT with an educational intervention for COPD patients showed decreased
depression and anxiety compared with a group receiving education only (Kunik et al., 2001). Pulmonary rehabilitation requires the multidimensional services of education and exercise for patients with chronic pulmonary disease who remain symptomatic or continue to have decreased function despite standard medical treatment. Pulmonary rehabilitation led to increased walking distances with less dyspnea and improvement of anxiety, depression, independence, and quality of life (QoL) (Lacasse, Martin, Lasserson, & Goldstein, 2007; Peytremann-Bridevaux, et al., 2008). However, improvement was not sustained after the treatment (Alexopoulos et al., 2008; Egan, Clavarino, Burridge, Teuwen, & White, 2002). There are some studies of pulmonary rehabilitation that included CBT and showed better results in managing depression and anxiety in COPD patients (Coventry & Hind, 2007). CBT was recommended as the first-line of psychological treatment for anxiety and depression among various psychological interventions by the National Institute for Health and Clinical Excellence (NICE) in the United Kingdom (NICE, 2004a; NICE, 2004b) and research studies in the US ((Kim, Braun, & Kunik, 2001; Yawn, Giardino, & Criner, 2007).

The management of psychiatric co-morbidity has demonstrated a decrease in COPD-related health care costs (Wilson, Devine, & So, 2000). However, concept analysis of the effectiveness of CBT for depression and anxiety among COPD patients suggests the need for comprehensive understanding of COPD patients rather than focusing on just the physical or psychological aspects (Jang, 2011). Kunik, who is one of the major researchers in the field, noted the importance of the quality of patients’ lives, and measured the quality of life as a primary outcome of CBT when applied to anxiety and depression among COPD patients (Kunik et al., 2008; Kunik, Roundy, & Veazey, 2005). Thus the use of CBT may be considered as an option for Korean-Americans with COPD.
However, CBT is primarily a North American construct. Beck (1995), who created CBT, was unsure if it could be applied to culturally diverse populations because human cognitive structures reflect evolution through interactions with one’s culture (Baumeister, 1986). Cognitive processes and cultural practices are intertwined. Research has shown that CBT would be an acceptable treatment for people from various ethnicities if culturally adapted (Rathod, Kingdon, Phiri, & Gibbi, 2010). Numerous researchers have used CBT modified to fit the values and belief systems of different cultures in recent years and some have reported positive outcomes (Hays, 2008; Interian & Diaz-Martinez, 2007; Jackson, Schmutzer, Wenzel, & Tyler, 2006; Shen, Alden, Sochting, & Tsang, 2006). CBT adapted to a particular culture is termed “culturally competent cognitive behavioral therapy” (CCCBT), “culturally tailored cognitive behavior therapy” (CTCBT), “culturally adapted cognitive behavior therapy,” or “culturally responsive cognitive behavior therapy”. Therefore, the prospective research will attempt to apply CBT to KAs: finding factors to be considered for application and testing of CTCBT with KAs.

**Conceptual Framework**

CBT is a combination of two psychotherapies – cognitive theory (CT) and behavioral theory (BT). BT developed by Skinner explains that human behavior is a response to stimulus and its pattern is learned through conditioning. Classical conditioning is learning process acquired from a fear of the negative consequences while operant conditioning is one from positive rewards. During the course of life one often goes through maladaptive learning that manifests undesirable behavior. However, this maladaptive learning can be unlearned and new learning can occur through conditioning. BT aims to change unhealthy behavior patterns by weakening the connection between triggering situations and one’s habitual reactions. Systemic
desensitization and relaxation techniques are well known methods of behavioral therapy (Lefton & Brannon, 2006).

CT is developed by Arron Beck in 1960s. CT focuses on thoughts and beliefs; how thinking patterns affect patients’ moods and actions. The basic assumption of the CT is that thoughts create psychological response (emotion). Distorted thought results in mood disturbance such as anxiety and/or depression. CT provides ideas to change one’s cognitive scheme that produces distorted thought (See Appendix A). Contrasting to behavior theory that focuses on an individual behavior, cognitive theory affects the whole person in changing the cognitive schema. What CT shares with BT is that distorted thought or maladaptive learning can be corrected by unlearning and learning process. Both theories focus on current problems, not the causes of them (Beck, 1995).

As these two theories are combined, conceptual framework of thought – feeling – behavior cycle from a certain event/environment/trigger was drawn, and it is called CBT. The basic philosophy and assumption of CBT is that thoughts create feelings and behaviors. CBT helps patients to identify distorted thinking or misperceptions, acknowledge them, and then change their behaviors to more positive ways. When one faces a triggering event, one’s pre-existing beliefs and behavior patterns influence thought at that time. That thought creates feelings of either emotional or physical symptoms and causes the patient to take action accordingly. Distorted thoughts in certain circumstances and the following feelings and actions affect each other and create an ever-worsening cycle or loop. Preventing entry into the cycle, or breaking it, can lead to healthier thought and behavior (Appendix B).

Aims of CBT is changing moods and behavior by correcting distorted thoughts. With decades of CBT’s success for mood and behavior problems in the US, its application to different
Cultural considerations to implement CBT for KAs were extracted from the literature review (Chapter 3) and applied to CBT model. Most of considerations were applied to identifying distorted thought, and a few to expression and identifying emotions (Appendix C). With influence of Confucianism and collectivism, maintaining harmony and respect to authority are regarded highly in the Korean culture. People have learned self-control at a young age, and an individual thoughts and emotions were not valued highly. They were disciplined to hide or not to pay attention to their emotion which leads them to become insensitive to correctly identifying their feelings. Often they search for thoughts that they should follow rather than focusing on their own thoughts. Fatalistic view towards serious health conditions is also prevalent, and it delays seeking help. When such thought is coupled with manifestation of saving face rooted in family-oriented culture, self-exposure becomes more difficult. However, forming rapport with a therapist who understands Koreans’ emotion, Jeong, will open their mind, and Korean-Americans would learn about identifying their distorted thoughts and restructuring their cognition toward their happiness and healthy behavior. Their respect to experts favors didactic format of therapy. Due to busy life as an immigrant, KAs prefer short-term therapy.

Application of CBT for Patients with COPD

It is often difficult to determine if the physical symptoms of COPD are the causes of anxiety or depression, or vice versa. One of the most frequent physical complaints in COPD patients is fatigue. Fatigue leads to less independence in the activities in daily living, a decreased
activity level, and less pleasure in activities (Lyness, Niculescu, Tu, Reynolds, & Caine, 2006; Yohannes, 2005 in Yawn, Giardino, & Criner, 2007). A depressive mood lowers energy levels, causes patients to be even less active, and makes symptoms less tolerable. Difficulty in breathing often leads to anxiety, which also leads to shortness of breath, palpitations, or sweating. Patients’ misperceptions of physical symptoms can become fuel for a loop of ‘physical symptoms – misperception (cognition) – feelings – anxiety – worsening of physical symptoms’ (Appendix C). Catastrophic thought about respiratory distress is observed as a high risk for panic attack (Blackler, Jones, & Mooney, 2007). Patients may interpret breathing difficulty from COPD as life threatening suffocation, or harmless chest pain as a heart attack. A strong association of psychological symptoms with patients’ quality of life is mentioned in numerous research studies (Burgess, Kunik, & Stanley, 2005; Yawn, Giardino, & Criner, 2007). Consequently, breaking the cycle of psychological distress triggered by COPD symptoms will help stop progression of both medical and psychological symptoms and improve the patients’ quality of life (Appendix C).

COPD is a progressive, degenerative respiratory disease. It explains how worsening of COPD symptoms lead the patient to enter to the cycle of distorted thoughts – feelings - even worsening of COPD symptoms (Appendix F). Further, these unhealthy thoughts negatively affect patients’ emotions and feelings as well as actions (behaviors). These depressive and anxious responses breed more distorted thoughts. The three components affect each other and form a positive feedback loop of ‘thought – depression – anxiety,’ allowing the depressive and anxious moods to progress to clinically significant depression and anxiety. The social isolation resulting from depression also negatively affects COPD and hastens its degenerative progression. There is a higher mortality and morbidity among COPD patients with depression and anxiety.
than those COPD patients without depression and/or anxiety (De Voogd, Wempe, Postema, et al., 2009; Lou et al., 2014).

The right side of the conceptual map shows the healthy responses that CBT aims for (Appendix F). Although pre-existing thinking or behavioral patterns may cause misperception or unhealthy thoughts initially, patients who can recognize it and the irrationality of their thoughts through cognitive behavioral interventions (curved lines between the center and right side pathway in Appendix F) are able to remain calm and direct themselves toward healthy behaviors. This pathway results in improvements in their quality of life, self-confidence, and their physical and mental functioning.

CBT intervention helps patients to change their unhealthy and irrational thoughts to healthy and realistic ones, or if patients are already in a negative feedback loop, helps them to break the links among those components in the loop. CBT intervention includes cognitive therapy, relaxation training, and problem solving. These all help patients to conceptualize psychosocial symptoms as interrelated with physical symptoms, feelings, behaviors and thoughts (Appendices D, E, & F).

**Significance of the Study for Nursing**

The use of CBT has been successfully introduced and implemented in mental health nursing (Currid, Nikcevic, & Spada, 2011). Links between physical and mental health often pose significant challenges for healthcare use and costs. Expanding the use of CBT in other specialties in nursing is promising in the management of illnesses as well as in the reduction of health care costs (Heslop et al., 2009; Lamers, et al., 2010).

CBT’s humanistic and pragmatic approaches share the same values as nursing, which focuses on empowering patients, working collaboratively, and helping to move from dependence
to independence. Nurses and advanced practice registered nurses (APRNs) may learn and provide CBT for better management of medical conditions as well as patient’s well-being associated with health problems.

**Summary**

COPD is the third leading cause of death in the United States and the only disease for which mortality is increasing (Miniño, Xu, & Kochanek, 2010). The financial burden of COPD in 2010 was reported as $49.9 billion by the National Heart, Lung, and Blood Institute (Guarascio, Ray, Finch, & Self, 2013). The prevalence of anxiety and depression among COPD patients is as high as 40% and is recognized as one of the major factors contributing to frequent hospital admissions (Mauer et al., 2008; Yohannes, Baldwin, & Connolly, 2000). Pharmacological treatment of such conditions is hampered by problems of compliance and long-term effectiveness. The effectiveness of CBT for anxiety and depression has been recognized for decades. Research over the past two decades has shown that CBT is effective for the treatment of secondary anxiety and depression. The use of CBT has promise for both the management of illnesses and the reduction of health care costs (Heslop et al., 2009; Lamers et al., 2010).
CHAPTER 2. LITERATURE REVIEW

Introduction

The purpose of this review is to examine the effectiveness of CBT in the management of depression and anxiety among COPD patients in general, and also among Korean-Americans. Efficacy data for the specific content of CBT treatments, such as the number and length of CBT sessions, the duration of treatments, content of CBT sessions, factors relating to providers, the degree of depression and/or anxiety in relationship to the severity of COPD, sample (population) characteristics, and other factors are examined.

Literature Review

Search Strategies

The following databases were searched for relevant articles from inception to October 2014: Pubmed, PsychINFO, CINAHL, and Ovid Medline. The limiting criteria used were English language articles with full text relating to COPD and CBT researches. Initially the combination of the key words COPD and CBT was searched for each database, but none of the databases produced any results except for three articles from Pubmed. Therefore, combinations of the key words COPD, CBT, cognitive, behavioral, depression, anxiety, intervention, and therapy were searched for each database. Articles from Pubmed were closely reviewed because other databases provided significantly fewer articles. After reviewing the titles of all tagged articles, 259 articles were searched with the combination of the words ‘COPD and cognitive,’ and ‘COPD, cognitive, and behavioral.’ Manual searching of the reference lists of retrieved articles was performed. The time frame for the search was set from database inception to 2014 because the nature of the disease and the associated psychological issues are relatively non-time sensitive. When the key term of ‘Korean American(s)’ was added, only three articles about
smoking cessation were retrieved.

**Selection of Studies for Review**

Inclusion criteria are: primary disease with COPD, association with either depression or anxiety or both symptoms; and performance of cognitive behavioral intervention/therapy. Exclusion criteria are: cognitive behavioral therapy/intervention embedded in multiple interventions, patients with end stage of COPD, interventions without psychological therapeutic actions, such as education on management of depression and anxiety, non-nicotine substance use, malignancy, and outcome measures focused on physical symptoms only. Sixteen articles were selected after reviewing the abstracts along with a few articles that performed meta-analyses. Next, a full text review was attempted. Seven articles were excluded for: unavailability of their full text (Adams et al, 2006; Lisansky, & Clough, 1996); CBT not being a targeted therapy (De Godoy et al., 2009; De Godoy et al., 2003; Emery, Schein, Hauck, & MacIntyre, 1998); a case report with a sample size less than 5 (Cully, Paukert, Falco, & Stanley, 2009); patients having comorbidities other than depression and anxiety (Cully et al., 2010); and a report that the study had not been completed (Heslop et al., 2013). Finally, eight articles published from 1997 to 2010 that met the inclusion criteria were selected (see review matrix in Appendixes G and H).

**Synthesis**

Although CBT is recommended as the first line therapy for mild to moderate depression and anxiety, the number of selected articles for the literature review was too small to evaluate CBT for anxiety and depression in COPD patients (NICE, 2004a, 2004b; Stewart & Chambless, 2009). Five studies were randomized control trials (RCT), two were clinical trials, and one was a case report. Seven out of the eight studies showed significant effectiveness in decreasing
anxiety and depression levels, the exception being the clinical trial. The studies showed small to significant improvement of anxiety and depression and some improvement in quality of life related to COPD conditions including physical function that lasted for 3 to 18 months.

The small sample sizes have been pointed out in other review articles. Since three studies were not randomized clinical trials or case reports, the focus is on the RCT studies. Four of the five RCT studies performed power calculations, but only two studies had adequate sample sizes of 238 (Kunik et al., 2008) and 187 (Lamers et al., 2010).

The studies used different measurements to assess the severity of COPD, anxiety, and depression levels, so direct comparison were not always possible between them. The overall severity of COPD in the studies ranged from moderate to severe according to the GOLD classification, and anxiety and depression levels ranged from mild to severe. Severity of COPD and levels of anxiety or depression were different in each study. It was shown that the severity of COPD does not have a direct relationship with the level of anxiety or depression among the reviewed eight studies. Since the studies used different inclusion and exclusion criteria for their sample selection, an association of these two variables was not detectable. However, the effectiveness of CBT was greater among patients with high levels of anxiety and depression. Studies of patients with mild depression or anxiety achieved 2 to 3 point improvement in the Beck anxiety inventory (BAI), geriatric anxiety scale (GDS), and Hospital anxiety and depression scale (HADS), while those with moderate to severe levels achieved a 6 to 9 point improvement.

One exception was the Heslop et al. (2009) study that had patients having severe COPD level (80% of patients are stage 3 in GOLD severity category) but mild anxiety and depression levels. The study achieved 6.8 and 5.7 point improvements in HADS anxiety and HADS
depression scales respectively, among 10 patients with borderline anxiety and depression. In this study, nurses with CBT training delivered the therapy, and the number of sessions varied per each patient’s need or the single therapist’s assessment, ranging from 2 to 13 sessions with an average of four sessions. Interestingly, there was another study (Lamers et al., 2010) that implemented the same protocol using nurse therapists and a varied number of sessions, 2-10 with an average of four sessions. Although anxiety and depression levels were about borderline in both study samples, the clinical trial with 10 patients (Heslop et al., 2009) achieved significantly greater improvement than the RCT with a sample size 187 (Lamers et al., 2010). This might reflect the difference in sample sizes; the smaller sample size might limit the detection of various patients’ responses. The possible effect of the therapists also cannot be overlooked. The one therapist in Heslop et al.’s study was a respiratory nurse consultant who had postgraduate diploma-level CBT training and significant experience in COPD management. In the Lamers et al.’s study, the therapists were trained by a general physician (GP), a psychologist, and a psychiatrist, and had regular booster sessions with the psychiatrist, but did not have specific psychiatric backgrounds. Thus, nurses’ performance with CBT and patient management might have affected to the results of studies.

Hynninen et al.’s (2010) study that had 51 relatively younger patients (41-78 years old, average age of 61) and close-to-even gender distribution, examined gender and age effects. Women had higher levels of anxiety and depression relative to men, while age did not have an effect on responsiveness to CBT. It suggests that CBT may be a suitable alternative treatment for both genders and a wide age range of COPD patients. In fact, gender distributions were severely skewed toward men in two RCT studies and one care report performed with Veterans affairs (VA) service users (Kunik et al., 2008, 2001). However, no gender distribution effects
were identified from comparisons of the eight reviewed studies.

There are some variations in the CBT content. One study focused on anxiety (Eiser, et al 1997) and another study performed one session of CBT (Kunik et al., 2001) with only a cognitive behavioral approach. Eiser et al., who did not achieve effectiveness, heavily focused on awareness, exploration, deep breathing, and muscle relaxation. One session of CBT that did achieve effectiveness in COPD education included awareness, relaxation, and thought stopping. The rest of the six studies incorporated both a cognitive behavioral approach and behavior activation, and all four studies achieved positive results. Three studies included sleep management skills (Hynninen et al., 2010; Kunik et al., 2008; Stanley et al., 2005). Among these three studies, two RCTs achieved the most significant improvement on anxiety and depression. Sleep management skills might also affect positive results in anxiety and depression. Although patients did not feel improvement in their sleep, sleep efficiency data showed significant improvement (Hynninen et al., 2010).

Four studies utilized group CBT while the other four were individual CBT. Group CBT is attractive for cost effectiveness and providing social support. All studies with group CBT, three RCTs and one case report, achieved notable results (Hynninen et al., 2010; Kunik et al., 2001, 2008; Stanley et al., 2005). Three of the four studies used individualized CBT (two RCTs and one clinical trial) also achieved significant results. However, it suggests that utilizing group CBT is a promising option for managing anxiety and depression in a more cost effective way.

The number of treatment sessions ranged 1 to 13 sessions. Two studies with nurse therapists performed different numbers of sessions according to patients’ needs; 2-10 and 2-13 sessions, with an average of 4 sessions in both. Hynninen et al. (2010) performed the largest number of hours for the therapy, weekly 2-hour sessions for seven weeks, and achieved large
improvements in anxiety and depression scores, -6.5 and -7.3 respectively. Kunik et al. (2008) performed weekly 1-hour sessions for 8 weeks and achieved the largest decrease in anxiety and depression scores. One RCT (Livermore, Sharpe, & McKenzie, 2010) performed weekly 1-hour sessions for four weeks and achieved zero incidences of panic attacks at 18 months for 6-month periods, but small decreases in anxiety and depression scores. A single 2-hour session of CBT also achieved small but significant improvement of anxiety and depression that lasted for 6 months. This suggests that CBT can achieve positive results regardless of the number of CBT sessions. However, seven weekly sessions may be needed to achieve at least moderate improvement of anxiety or depression.

Two studies performed a varied number of sessions for each patient until the goals were reached. The improvements were small to moderate, but significant. It is difficult to draw any conclusion from these two studies, but it may suggest that CBT can achieve at least a moderate improvement in anxiety and depression, and the adequate number of sessions can be from 1 to 13.

Two RCT studies compared COPD education with CBT. One of the two had only one session, so the CBT content was a lot less than the other study with eight weekly sessions. The one session of CBT demonstrated small, but statistically significant improvement while the control group did not change in their anxiety and depression levels. The eight sessions of CBT achieved moderate and statistically significant improvement, but failed to demonstrate group differences between the CBT group and the COPD education group. Eight sessions of COPD education improved the patients’ psychological states less than the CBT group, but still significantly. Kunik et al. (2008) provided the explanation that being around other patients with similar situations and problems might have provided interaction and support among patients that
increased the COPD education group’s benefit of improvement of anxiety and depression.

Follow-up periods were from 3 months to 18 months: one study for 3 months, two for 6 months, one for 9 months, two for 12 months, and one for 18 months. The one-session CBT study performed only one post-test after 6 weeks. All studies showed continued or maintained improvement during the follow-up periods, although some were not statistically significant (Eiser et al., 1997; Stanley et al., 2005). Long-term effectiveness of treatments is one of the major issues in anxiety and depression management along with cost effectiveness.

There is no study performed on psychological issues in female COPD patients. Only one article with small sample (18) had more women subjects than men (Eiser et al., 1997). In the study with largest sample (238) among 8 reviewed, 96% was male and 81% was white (Kunik et al., 2008). The prevalence of smoking in women is now close to men’s and the deaths from COPD have been higher in women than in men since 2000 (CDC, 2011; CDC, 2013). Han et al. reported that women with COPD complained more severe dyspnea, more anxiety and depression, and lower quality of life than men with COPD (2007).

The effectiveness of CBT seemed to have a positive relationship with the level of anxiety or depression, but not with the severity of COPD; the effectiveness was higher when the baseline levels of anxiety or depression were high (Hynninen, 2010; Kunik, 2008), but smaller when they were low (Kunik et al., 2001; Lamers et al., 2010; Livermore et al., 2010).

**Strengths and Weaknesses**

Eiser et al. (1997) was the only study that did not demonstrate the effectiveness of CBT. It focused on education about the role of anxiety in breathlessness and coping skills (e.g., relaxation training) aimed at anxiety reduction. Although it was a clinical trial with a small sample size (n=18) the patients’ baseline characteristics for COPD severity and anxiety levels
were not matched between an experimental and a control group. Mean FEV1% signified severe COPD, but the mean for each group showed significant differences, 46.1 for the experimental group and 33.4 for the control group. A HADS score above 8 was one of inclusion criteria for the experimental group, but it was not applied to the control group, and differences of the levels of anxiety in each group were large enough to threaten the validity of the outcome. The experimental group had less severe COPD and significantly higher anxiety compared to the control group. The CBT group showed a small decrease in anxiety level, HADAS score -1 point at the posttest and -2 points at the 3-month follow-up, and it was not statistically significant. The CBT consisted of 90 minutes of weekly sessions for six weeks and included a self-administered 10-minute breathing and relaxation exercise three times per day. The study demonstrated significant improvement in six minute walking distance (6MWD) in the CBT group, but it was not clear if it was from the CBT or the additional 10-minute breathing and relaxation exercise.

Another clinical trial was performed by Heslop et al. (2009) with 10 patients, and demonstrated significantly decreased anxiety and depression (p < 0.001) as well as increased activity and better breathing control in the subjects. The therapy had several noteworthy points, including nurse-delivered (CBT trained respiratory nurses), goal setting with realistic activities, and a flexible number of treatment sessions according to individual progress. Delivering CBT during routine respiratory homecare might serve as a model of integration of care, and allow avoiding the stigma that is associated with visiting psychiatrists. The elements of the CBT were explained well and included distraction, breathing control, and relaxation. The goal setting examples included activities with easily measured outcomes. Follow-up continued until both the patient and therapist agreed goals were achieved, which is considered ideal for psychological treatment in individually tailored CBT. Although a significant decrease in hospital admissions
was noted, a cost-effectiveness analysis was not performed, which could nullify the value of the outcome from a financial perspective.

Kunik et al.’s RCT study was unique in that it demonstrated effectiveness of CBT with a one-session treatment compared to COPD education (2001). The sample size was small (53 patients), 83% male and 90% Caucasian. Patients were selected regardless of presence or absence of anxiety or depressive symptoms, therefore treatment of anxiety and depression was difficult to measure or justify. Although the samples were randomized, the CBT group had significantly higher anxiety and depression levels. Subjects were offered only one session, which limited the CBT to the more common interventions (education, relaxation, cognitive strategies, and fear-based exposure), while other frequently used interventions for depression or anxiety were not included (problem-solving, sleep hygiene, and behavioral activation). A post-test was performed at 6 weeks, however, without further follow-ups, that did not contribute to knowledge about timing for a booster session or sessions.

In another study (Lamers et al., 2010) the CBT was delivered by nurses with varied numbers of treatment sessions and evidenced significant improvement on depression (BDI, p < 0.04) and anxiety (Symptoms Check List [SCL], p < 0.003) as well as COPD specific health status (SGRQ, p < 0.004) similar to Heslop et al.’s clinical trial. It was an RCT compared to standard care, with a large sample (187) and a decent gender distribution (60% male, 40% female). The intervention was MPI (Minimal Psychological Intervention) that included self-management components in CBT. Decreases in depression and anxiety were smaller than Heslop et al.’s. The follow-ups continued for 9 months and the effectiveness was maintained. However, the attrition rate was substantial at 36%, a significant threat to external validity. Furthermore, a cost-effectiveness analysis was not performed. The authors mentioned that
another of their studies using the same intervention, but with diabetes and COPD patients, demonstrated a 63% probability that the MPI is less costly and more effective than standard care (Jonkers et al., 2009), and that may deserve consideration and investigation.

Hynninen et al.’s RCT had a relatively young patient group (41-78 years old, average age of 61) with moderate COPD and balanced gender distribution. Homogeneity of the sample between groups was good for the severity of COPD and the levels of depression and anxiety, but the small sample size (51, estimated from power analysis was 66). Significant and large decreases in anxiety and depression were achieved with seven weekly 2-hour group sessions (-6.5 in BAI, -7.3 point in BDI-II). This was the only study that measured and demonstrated sleep efficacy and quality, which is an essential component in quality of life for COPD patients. COPD related health status (SGRQ) improvement was also detected. However, the effect sizes were small other than for BAI and BDI-II. Continued improvement was demonstrated at the 6-months follow-up, but no additional follow-up was made.

Kunik et al.’s RCT study had the largest sample (n = 238) among all reviewed studies, but only about 50% completed the therapy (n = 123). Although the number of completions exceeded the required sample size estimated through power analysis, such a high attrition rate might have altered the results. The patients were VA medical center service users with severe COPD, and 96% were male. As a group clients of a VA medical center may have many confounding variables in common that are very different from the general population. This lower representativeness of COPD sufferers in the general population, the external validity is questionable. The effectiveness of using group CBT was measured relative to COPD education. The CBT group received eight weekly 1-hour group CBT sessions while the education group received 1-hour COPD education, including 15 minutes of discussion, for 8 weeks. The largest
and most significant decreases in BAI and BDI-II were demonstrated (-6.78 point in BAI, -9.26 point in BDI-II) in the CBT group, but comparable decreases in both measures were also achieved in the education group (-5.59 point in BAI, -6.58 point in BDI-II). A one year follow-up showed maintenance of the improvements in both groups.

Livermore et al.’s RCT study (2010) compared individual CBT with routine care, and focused on prevention of panic attack in COPD. The Livermore study was successful in prevention of the number of panic attacks to a significant degree, an effect maintained for 18 months. The CBT group had no panic attacks at all, while the routine care group reported increasing numbers of panic attacks in the 18 months post intervention assessment. The level of depression and anxiety after the therapy reflected significant differences between the two groups; the CBT group achieved decreased anxiety and depression levels from “moderate” to “mild” range while the routine care group showed increased anxiety and depression levels. It is noteworthy that the baseline average HADS sub scores for both anxiety and depression were within normal range, but achieved significant positive outcomes in managing panic attack and significant group differences in anxiety and depression level. It may suggest the importance of early intervention. The sample size (n = 41) was smaller than the estimated required number (n = 52). All patients also attended a comprehensive pulmonary rehabilitation program during the study period. Incorporation of CBT into the pulmonary rehabilitation program could yield improvements of anxiety and depression.

Stanley et al.’s care report enlisted five patients and tested CBT-RADAR, a new multicomponent CBT for reducing anxiety and depression in patients with respiratory disease (2005). It combined a cognitive behavioral approach for treating anxiety in older medical patients and a behavioral activation, which is a key component of CBT for depression. Three
other articles included in this review reported significant positive results when including behavioral activation as an intervention for anxiety and depressive symptoms in patients with COPD (Heslop et al., 2009; Hynninen et al., 2010; Kunik et al., 2008). Individual CBT in the Stanley et al. study consisted of eight weekly 1-hour sessions. That five participant study presented both quantitative and qualitative data at post treatment and 12 months follow-up. Four out of the five patients showed decreased anxiety and improvement in depression at the posttest. Four out of the five patients participated in the twelve month follow up; two patients in anxiety scores and all four in depression scores showed maintenance or further improvement. In the qualitative data from observation during the therapy and client satisfaction survey, all patients reported meaningful improvement. Qualitative description of the treatment process clearly revealed a close contact and engagement between providers and patients; patients’ accounts of treatment effect and response, including the effect that changing thoughts and had on real life situations, provided a vivid picture of the lives of COPD patients and CBT treatment. It is difficult to generalize the outcomes from such a small sample to the general population, but there are treatment options, interventions and models of interaction revealed that are potentially very meaningful for future studies.

None of eight studies documented the medication changes during the therapy and follow-up periods. Adding medication, discontinuing medication, changing doses, interactions between medications and changes in the patient’s own metabolism and response to medication, all affect the patient’s physical and mental health. For example, if a patient increases an antidepressant dose during the study, a positive outcome of an intervention could not be assessed accurately for either specificity or sensitivity in the intervention method or the intervention itself - the medication is a confounding variable. Changing COPD medication could also affect physical
functioning, moods, depression and anxiety. An increased dose of corticosteroid can increase physical activity, but it can also increase the heart rate, which can cause misperception of the health and anxiety. Thus, medication effects could override the effects of CBT.

**Gaps in the Literature**

The small number of research and small sample sizes limit our ability to draw a true picture of CBT for COPD patients. However, the overall effectiveness demonstrated in the research seems to indicate the usefulness of CBT. No studies attempted to find the adequate number of sessions to achieve meaningful results, the need for booster sessions and the timing of them, or possible gender differences. The effectiveness of CBT related to targeted conditions, adequate number of sessions, timing for booster sessions, and components of CBT to achieve greater or long term effectiveness, all need further research, along with cost effectiveness analysis. No studies were found that applied CBT to Korean-Americans with COPD.

**Summary**

All studies demonstrated improvement of depression and anxiety with CBT intervention, but Eiser et al (1997) could not achieve statistical significance and Stanley et al. (2005) could not test statistical significance because of small sample size (n = 5). It is difficult to identify what specific components contribute to the efficacy of CBT for anxiety and depression among COPD patients because the number of research studies in the area is small (only five RCTs could be reviewed) and most of the studies had smaller samples than required for the desired statistical power.

CBT studies with more comprehensive contents have achieved large and significant improvement in anxiety and depression (Heslop et al., 2009; Hynninen et al., 2010; Kunik et al., 2008; Stanley et al., 2005), and three out of the four studies included sleep management skills.
The number of sessions ranged from one to eight. Two studies provided sessions until the goals were achieved, and in those studies the average number of sessions was 4 (Heslop et al., 2009; Lamers, et al., 2010).

There was only one study that delivered a single session of CBT and achieved significant improvement (Kunik et al., 2001). However, no follow-up data collection or further study was done. Differences between individual CBT and group CBT, and the effect of different kinds of therapists (psychiatric specialists, psychology interns or students, and nurses), were not found in this review. All of the studies mentioned cost effectiveness, but none of them performed a cost effectiveness analysis. Two studies showed a decreased number of hospital admissions or emergency service use, which indirectly demonstrated some cost saving (Heslop et al., 2009; Livemore et al., 2010). Two studies from the same research group compared CBT with COPD education and could not demonstrate the superiority of CBT, although the CBT groups achieved greater improvement in anxiety and depression symptoms (Kunik et al., 2001; Kunik et al., 2008). Five RCT studies revealed that the effectiveness of CBT was greater for patients who had higher levels of anxiety and/or depression, but no differences were associated with the severity of COPD.
CHAPTER 3. METHOD

Overview of the Study

This study examined the feasibility of culturally tailored cognitive behavior therapy for Korean Americans (CTCBT-KAs) by describing the factors to be considered for its use in reducing anxiety and depression secondary to COPD. In addition, the study determined the recruitment and retention feasibility of the CTCBT-KA. The CTCBT-KAs includes multicomponent cognitive behavioral interventions used in other studies and incorporates cultural and cognitive schema for Korean-Americans. The therapy was administered over six weeks (six sessions), the average number of sessions reported in the literature. A group format was selected to reduce costs and take advantage of the collectivism trait among Korean-Americans. Eight participants were recruited through local outpatient clinics and three large Korean churches in Honolulu, Hawaii, using inclusion and exclusion criteria. Baseline data were collected before the program started, and outcome data were collected twice—once after the last session and once more six weeks after the treatment. These main outcome measure included BDI, BAI, SGRQ, patients’ satisfaction, and individual interviews.

Research Question

1) Is the culturally tailored CBT feasible for reducing depression and anxiety secondary to COPD among KAs?

2) Are the recruitment and retention methods for the CTCBT-KA feasible?

Objectives

In order to examine the feasibility of culturally tailored cognitive behavior therapy for depression and anxiety secondary to COPD among KAs in Honolulu, the following two objectives are stated:
1) To test the feasibility of CTCBT-KAs through measuring the levels of anxiety and depression, health-related quality of life, and the participants’ satisfaction with CTCBT.

2) To determine the feasibility of the recruitment and retention methods.

Considerations for the CTCBT for KAs

To answer the first research question, the feasibility of applying the CTCBT to KAs, the KA culture and Korean psychological constructs, research studies applying CBT to KAs, and studies including interventions for KAs, were reviewed. Considerations that yielded positive results were extracted from the literature review and recommended for future studies.

Korean-American Culture and CBT

CBT has rarely been used with Korean Americans. The cultural context in which a person is raised affects how the world is perceived. The worldview of North Americans is not congruent with the beliefs held by KAs and it would be erroneous to assume there is no difference. Therefore, an exploration of the Korean culture and cognitive patterns of the lives of KAs were necessary before developing CTCBT for KAs.

Approaching mental health problems among Koreans presents several challenges. The stigma associated with mental illness is a primary obstacle. The sense of shame from an individual’s mental problem is often shared among members of the family due to the Koreans’ family-oriented culture. This creates pressure to hide the family member’s mental problems and results in a delay seeking help, often until there is a crisis (Donelly, 2001; Shin & Lukens, 2002).

This may reflect the low rate of mental health care use as well as the lack of evidence of effective psychotherapy among Koreans. The latest research conducted in New York revealed a big difference between the rate of Koreans aged 18 years or older (average age = 46) experiencing depressive symptoms (23%) and the rate of those receiving mental health services
(8.5%) (Park, Cho, Park, Bernstein, & Shin, 2013). Similar findings were reported among older KA adults (average age = 70.9) in Maryland (Lee, Han, Huh, Kim, & Kim, 2014).

Language barriers is also an obstacle in seeking health care for KAs, especially the elderly. The highest prevalence of COPD was found in the group of elderly age 65 years and older living in Los Angeles, where 25% of total KAs reside. Over 90% of KAs older than 65 who live in LA stated that they had poor English skills or never spoke English (Bradbury, Pobutsky, Reyes-Salvail, Kromer, & Tottori, 2010; Sohn, 2004). Nationally 71% of Korean American households speak Korean at home (The Asian & Pacific Islander American Health Forum [APIAHF], 2011). An association between English-language proficiency and the use of mental health care services was also found (Kang et al. 2010; Lee et al. 2008).

In addition to culture and language barriers, further consideration may be necessary for immigrant populations. Approximately 65% of KAs were foreign-born as of 2010 (APIAHF, 2011). Acculturation is a challenge similar to language barriers. The level of acculturation was negatively related to depressive symptoms. Further, the length of residence in the US also influenced the general mental health of Korean immigrants (Choi, Miller, & Wilbur, 2009; Jang, Kim, & Chiriboga, 2005; Jang, Kim, Hansen, & Chiriboga, 2007). In one study on respiratory diseases among KAs, the levels of acculturation and education were recognized as two of five factors affecting the functional performance of Korean immigrants with asthma or COPD (Park, Stotts, Douglas, Donesky-Cuenco, & Carrieri-Kohlman, 2011). Acculturation has influenced the patterns of diseases among KAs, with respiratory diseases increasing significantly as the years lived in the US increase (Yang, Chung, Kim, Bianchi, & Song, 2007).

There are also aspects of Korean culture that can promote CBT. Koreans believe body, mind, and spirits are closely related, and that illnesses represent a disharmony among those
elements (Shin & Lukens, 2002). There is an emphasis on the need for a healthy mind to maintain a healthy body. There are numerous proverbs delivering a message that the source of all illnesses is in one’s mind. Therefore, a cognitive approach would be acceptable and yield positive results if the researcher could reframe mental “problems” as mental “challenges.”

A family-oriented culture also has a positive influence on Korean Americans who respond well to family and group psychoeducational interventions. This group approach significantly decreased stigma and symptoms while increasing coping skills (Shin & Lukens, 2002). Besides the family-oriented culture, collectivism in Korean culture is manifest in many different ways. Among KAs, social connections create a sense of belonging, which encourages feelings of physical well-being and mental health (Kim, Kreps, & Shin, 2015). This social connection was also a significant predictor of smoking cessation patterns (Ji et al., 2005).

Koreans have a great respect for learning that many recognize as an influence of Confucianism. Their enthusiasm for learning is quite phenomenal, even in recent times (Lee, 2005; Shon, 2014; Yi, 2011). Among KAs, such attitudes create a good foundation for with the use of CBT as it is a process of unlearning and learning. Kim (2002), for example, made a strong recommendation for the use of cognitive behavioral approaches in managing stressful situations among KAs.

**Korean Psychological Constructs and CBT**

Korean scholars have attempted to understand the cultural identity of the Korean from a psychological perspective since the Korean Psychology Association (KPA) organized the International Conference on Individualism and Collectivism in 1990. However, psychology in Korea was adapted from Western cultures, and Korean scholars still struggle to find an appropriate framework. Some have researched its core concepts that might be the constructs of it
(Choi, 1993, 1998; Choi & Han, 2008) and compared them with Western psychology, enabling communication with scholars outside of the Korean culture. Notably, *Hwa-byung* is listed as one of the culture-bound syndromes in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994) as well as under culture syndromes in the DSM V (APA, 2013). The literal meaning of *Hwa-byung* is “fire disease” or “anger disorder” and signifies an illness from suppressed anger. Symptoms are both physical and psychological and include insomnia, fatigue, indigestion, anorexia, dyspnea, palpitations, generalized aches and pains, and a feeling of a mass in the epigastrium as well as depression, anxiety, panic, or a dysphoric affect (Min, Suh, & Song, 2009).

Some of the concepts frequently discussed as constructs of Korean cultural psychology were *Jeong, Haan, Noonchi, Maum, Shimjeong and Uri*, and the National Alliance on Mental Illness (NAMI) summarized three concepts to be considered for mental health care among Korean Americans, *Haan, Jeong, and Noonchi* (NAMI, 2007):

**Haan** (한) - Suppressed anger, unexpressed grievance, resentment.

**Jeong** (정) - Strong feeling of kinship/interpersonal trust, emotional bonding.

**Noonchi** (눈치) - A capacity to quickly evaluate another person or social situation.

*Haan* is different from anger; anger is hatred toward the person who caused damage or hurt while *Haan* is an emotion of sadness and disappointment directed toward the self who got hurt and unfairly treated. It is not in a dynamic state but rather in a deep static state. *Haan* is easily resolved when the person who caused *Haan* or if another person acknowledges the pain of *Haan* (Choi & Han, 2008).
When *Haan* is not resolved for a long period, it turns into HB. In other words, *Haan* is a basic concept needed in order to understand *Hwa-byung*. Someone described HB as “an inactive volcano, under which there is hot flame and boiling lava ready for eruption” as it gains dynamic characteristics (Min, 2009). However, it is still directed toward oneself and expressed indirectly. HB is widely accepted as a cause of panic or other physical illnesses due to the high state of stress, but it is not manifested as a socially problematic behavior, but rather a self-destructive illness.

*Jeong* is another necessary emotion that needs to be understood in order to better comprehend *Haan*. *Jeong* is an emotion opposite that of *Haan*. *Haan* is deep sadness; *Jeong* is happiness and warmth. One Korean-English dictionary defines it as “feeling, love, sentiment, passion, human nature, sympathy, and heart.” It may be easier to understand by comparing it to “love” in Western culture (Kim, 1996). It is a more direct and overt expression, as opposed to indirect and subtle, action-oriented and not silent and passive, separated self (“I”-oriented) versus feeling of community, and so on.

However, *Jeong* is a collective emotion that is formed not only inside a person, but on the outside. It is helpful in understanding how collectivism in Korea is different from other Asian countries such as China or Japan. In Korea, collectivism is not a shared idea. It starts from the definition of “self.” Unlike the Western definition of self, self in Korean culture is changeable and shared with other individuals (Choi, 1993). The use of “I” or “my” is limited in Korean language and many words are connected with “we” or “our,” such as our mother, our brother, our school, our neighbor, our country, etc. Identifying one’s mother as “my mother” does not exist in the Korean language.
Jeong is one of the favored topics of art in Korea and many artistic works are titled Jeong. It was often interpreted as “missing the traditional Korean’s mind” as opposed to human relations in modernized Korea influenced by Western culture. What people miss are Jeong’s characteristic as a “centrifugal” tendency and altruism (Chung & Cho, 2006). When Koreans have an encounter with someone for the first time or outside of their “Jeong relations,” they are not happy or comfortable until they “find Jeong” or form a “Jeong relationship.”

On the contrary, when a Korean believes they are in a Jeong relationship with another person and that person behaves like they are outside of the shared Jeong, the person becomes disappointed because they are not just losing one person, they are losing the self that was connected to the other person. When it is perceived as a tragic event, Koreans experience the emotion of Haan. Another negative characteristic of Jeong relationships is that they often invade privacy and allow too much involvement in another person’s life (Choi, 1997).

Noonchi as well as Haan may be the result of influence from the Confucian culture that values not expressing yourself for the sake of harmony of the group (Yan, 2008). Since Koreans tend not to express their feelings or opinions, one naturally develops an ability to sense other people’s unexpressed feelings or thoughts. Such ability is called Noonchi.

Noon means eye and chi means subtle energy or atmosphere. One’s eyes are expected to catch the other’s subtle energy (emotions or thoughts) and respond to the other person’s comfort. However, unexpressed needs are not easy to capture with Noon-chi, thus creating disappointment, or in severe cases, unexpressed anger with a negative effect on harmonious relationships.
Some research studies made recommendations for mental health practitioners to form a good rapport with KA patients, try and understand their Korean-specific emotions and then treat them within the context of the Korean culture. Kim (2003) recommended,

Cultivating *Jeong* in the client–therapist relationship, practicing *Noon-chi*, and appropriately acknowledging the presence of *Haan* are three ways in which clinicians may increase their cultural competence with Korean immigrant clients (Kim, 2003; cited in Kim & Kelly, 2006).

In this present study, positive aspects of *Haan*, *Jeong*, and *Noon-Chi* were searched as keywords in developing materials for CBT with KAs.

Not overtly expressing “self” from a young age provides discipline to keep an individual’s integrity intact. Koreans work hard to maintain their integrity, even to a point of having *Hwa-byung*. Their self-control is remarkable. The Koreans’ tendency of favor *Jeong* relationships is a representation of their altruistic tendency. Understanding these aspects of the Korean culture is essential to meaningful interventions in CTCBT for KAs.

Clinicians need to start from their own assessments, however, rather than relying on a general knowledge of the Korean culture, especially with KAs who reside in the US and some degree of acculturation. It is well understood that the acculturation levels of immigrants are different and change over the span of an individual’s life. Therefore, thoughtful assessment of each individual case needs to be emphasized in order not to stereotype Koreans or other ethnic groups.

**Applications of CBT for KAs**

The application of CBT for KAs was reported in five research articles on smoking cessation. All included cultural considerations. Kim et al. (2011) examined the effectiveness of a
culturally tailored CBT intervention and compared it to medication management. The findings demonstrated statistically significant positive correlation. The intervention group (n = 14) received of a weekly therapy of 40 minutes for 8 weeks while the control group (n = 16) had a 10 minute individualized counseling session of medication management; both groups received a nicotine patch during the 8 weeks. At the 6-month follow up, 57.1% of participants in the intervention group and 18.8% of participants in the control group achieved seven days of abstinence (p= 0.04). One of the strengths of the study was the biochemical verification of the self-reported data. The self-reported abstinence was verified with exhaled carbon monoxide (CO) and salivary cotinine levels. CO is a major product of tobacco combustion and cotinine is the major proximate metabolite of nicotine. Thus, measuring the cotinine level has been used widely to assess current smoking status (Benowitz, 1996; Chatrchaiwiwatana & Ratanasiri, 2008).

The therapy was tailored with to include three elements for KAs: 1) explanation of the effects of carbon monoxide (CO) using an analogy of briquette gas poisoning in Korea, 2) a character in a popular drama who died of gas poisoning at the time of the research, and 3) information on smoking-related death rates in Korea, including recent smoking-related deaths among celebrities in Korea. The study also used family support. Cognitive changes used included attitudes, self-efficacy, and perceived social norms. Only negative attitudes and self-efficacy showed significant improvement compared to the baseline and the post treatment, but no changes in positive attitudes were perceived regarding social norms, and no group differences for all measures were detected.

Another study was conducted a few years later by the same group of researchers using the same design. The sample size was larger (n = 109), however, and the follow-up longer (12
months). Three more entities were added to the cultural tailoring of the CBT of the previous research: high prevalence exposure to second-hand smoke in Korea, use of Korean news media for education, and skills to prepare for the relapse prone situation. The 12-month rates for prolonged abstinence were significantly higher, - 38.2% in the experimental group and 11.1% in the control group (S. Kim, et al., 2015).

Another study used an internet delivery of the CBT program but failed to demonstrate significant changes among the participants (McDonnell, Kazinets, Lee, & Moskowitz, 2011). The study used an existing program, “Stop Smoking Center,” and was translated into Korean through collaboration with the local Korean community. The study had a large sample (n = 1,112) and long assessment period (50 weeks), but the difference between the experimental group and the control group was only 2% after 30-days abstinence (13% vs 11%).

The first two studies used a nicotine patch along with the CBT intervention, but the internet-based self-help program only used CBT (Kim et al., 2011; McDonnell et al., 2011; S. Kim, et al., 2015). The Korean version of “Stop Smoking Center” used little cultural modification other than simply translating the original English version (McDonnell et al., 2011). It was also unclear whether the use of family support or any individualized approaches were added in the internet-based program, such as regular phone calls or email reminders, or counseling opportunities. The feasibility of using culturally tailored CBT for KAs could not be evaluated with only these three studies, but the two studies that used the face-to-face CBT method achieved large positive outcomes. Therefore, culturally tailored CBT appeared to be a useful intervention for KAs.
Literature Review: Culturally Tailored Interventions for KAs

Methods. We reviewed the literature to find what modifications would be necessary for KAs when implementing CBT. Literature that included any type of interventions culturally tailored for KAs and published between January 2000 and June 2015 was searched using PubMed. A few exclusion criteria were used in the selection: studies without interventions; interventions using only a biological modality such as medication administration, diagnostic tests with technological instruments or laboratory tests; interventions applied for multi-ethnic groups without separate data collection for KAs; not having culturally tailored interventions for KAs; and review articles. The goal was to find effective, evidence-based methods and strategies rather than recommendations from assessments or analyses. About 600 studies were extracted using the key terms: “Korean Americans,” “Korean American immigrants,” and “intervention,” and sixteen articles were ultimately selected for their use of interventions culturally tailored for Korean Americans.

However, additional articles were found in references cited in the selected articles. Therefore, literature was again searched with the broader key terms ‘Korean Americans’ and ‘Korean Immigrants’ for the same time period, and about 9,000 articles were extracted. A hand search of the titles and abstracts with the same inclusion and exclusion criteria produced 35 articles, of which 29 were finally used.

Results. Topics of studies were limited to cancer screening (13), smoking cessation (4), hypertension (4), type 2 diabetes (4), mental illness (2), parenting (1) and exercise (1). Eleven out of the 13 cancer screening studies were about breast and/or cervical cancer, the remaining about colorectal cancer screening. Some studies were conducted by the same researchers including all four studies about hypertension (Appendix I). The geographical areas of studies
were mostly limited to Los Angeles, Maryland, Chicago, New York and New Jersey where KA populations were concentrated.

About two thirds of the twenty nine studies utilized culturally tailored CBPR or community collaborative research. Although the degree of involvement with community varied, community members were actively involved in developing educational materials and served as lay health counselors or navigators. Places where Korean language and culture were supported, such as KA churches or Korean Resource Centers, were used as research venues in 18 studies (the venue was not mentioned in 7 studies). Among 29, 24 studies (83%) achieved positive outcomes.

Education was the major method of intervention (27 studies), and most of the education sessions or workshops were delivered in group format. Although all educational interventions were intended to result in cognitive changes, the degree of cognitive interventions varied widely. Structured Cognitive Behavior Therapy (CBT) was used for all studies on smoking cessation including one internet-based study, and these studies used individual format. Sessions for education ranged from short (15-30 min) single session to weekly 2- to 3-hour sessions over 12 weeks: 10 of the cancer screening studies conducted one session group education, all of the hypertension and diabetes educational interventions were over 6 weeks except one that ran for 9 weeks, mental illness received 10 weeks of the intervention, and parenting and exercise sessions were scheduled to run over 12 weeks. More sessions and longer period of interventions were used for chronic diseases (hypertension, type 2 diabetes) and chronic behavioral problems (parenting, exercise). However, studies about hypertension had few cognitive components and heavily relied on behavioral management.
One of the noticeable characteristics was the use of lay health workers and/or student volunteers for education or individual counseling (Fang, Ma, Tan, & Chi, 2007; Han, Lee, Kim, & Kim, 2009; Islam et al., 2013; Kim & Sarna, 2004; M. Kim, et al., 2015; Ma et al., 2009; Maxwell, Jo, Crespi, Sudan, & Bastani, 2010; Moskowitz, Kazinets, Wong, & Tager, 2007; Sabado, Jo, Kagawa-Singer, & Juhn, 2015; Wismer et al., 2001).

However, more intensive education programs, especially those with cognitive behavioral interventions, were delivered by professional counselors, social workers, or a nurse practitioner. In many studies, lack of explanations about educators/therapists’ credentials or lay health workers’ training was identified as one of the problems that may reduce the credibility of studies. Only a few studies provided training hours (Han et al., 2009; Islam et al., 2013; Kim & Sarna, 2004; Maxwell et al., 2010) or evaluated adequacy of lay health worker/counselor training (Han et al., 2009). One of studies about smoking cessation intervention (S. Kim et al., 2015) used CBT, which requires more professional knowledge and skills to run sessions than general health or disease management education, yet the authors only mentioned that the therapists “received tobacco treatment specialist training.”

The follow-up periods also ranged from right after the intervention to 18 months post-intervention, but 6-month and 12-month follow-ups were the most common. The 6-month follow up period used by 7 out of 13 cancer studies, was not long enough to measure outcomes. Mammogram screening rate should be at least one year since annual screening is recommended. It may also be more appropriate to extend the follow up period to determine the effectiveness of intervention for chronic disease such as hypertension, diabetes, or chronic mental illnesses (Appendix J).
Some studies performed intense follow up interventions from reminder phone calls for cancer screening (Moskowitz et al., 2007; Wismer et al., 2001) and navigation assistance (Fang et al., 2007; Juon et al., 2006; Ma et al., 2009; Maxwell, 2010; Sabado et al., 2015) to 6 to 12 months of follow-up phone calls/home visits, counseling, and/or support group meeting (Han et al., 2009; Han et al., 2010; Islam et al., 2013; Kim et al, 2006; Kim et al., 2008; Kim et al., 2009; Kim et al., 2011; M. Kim et al., 2015). All those studies that had added interventions beside education sessions yielded positive results, and navigation assistance seemed most effective. Navigation services are often very extensive that include screening reminder, arranging appointments with clinics, registration and other paperwork, language translation, medical results facilitation, transportation, providing information and emotional support. However, it was difficult to pinpoint if positive outcomes were achieved from the main interventions or the follow-up interventions.

The most frequently identified and incorporated issues in developing or conducting culturally tailored interventions were social isolation due to the language barrier (not knowing information about healthcare system and access), psychological barriers from Korean social norm and cultural/cultural beliefs, and economic hardships that lead to lack of time for health care service use or participating in education programs (Appendix K). All studies used the Korean language for interventions including education sessions, workshops, individual counseling, and printed materials. Islam et al. (2013) identified the importance of utilizing bicultural as well as bilingual educators/counselors in order to work with the community members who are limited in English proficiency.

All studies that included long-term telephone counseling (> 6 min) or navigation services achieved outstanding outcomes. A photo novel developed through CBPR engendered great
attention and an educational intervention with a Korean dubbed educational video (Lee et al., 2014) was also successful. Education with mailing education material for cervical cancer screening and an internet-based program for smoking cessation yielded negative results (Maxwell et al., 2008; McDonnell, Kazinets, Lee, & Moskowitz, 2011). However, the study for hypertension management that compared in-class education and mail education achieved positive outcomes in both groups when 12 months of monthly telephone counseling was added (Kim et al., 2008). These may suggest that in-person education is more effective than mail-in education or internet programs, and long-term telephone counseling has more power in achieving effectiveness for KAs. In cancer screening studies, eight studies conducted only one education session: four studies conducted education session only intervention, three studies with added navigation services, one with 6 month follow up phone calls or home visits. All cancer studies achieved positive outcomes except two studies with education-only interventions (Kim et al., 2010; Kim & Menon, 2009). Navigation services and long-term telephone counseling may be more crucial than an education session in achieving effective outcomes. However, when the education session conducted 6 weeks or longer the positive outcomes were achieved without any further interventions (Kim et al., 2009; Shin, 2004; Shin & Lucken, 2002; Sin, Belza, LoGerfo, & Cunningham, 2005; Song et al., 2010). Longer in-class education programs (> 6 weeks), close contact and guidance through navigation services, or long-term telephone counseling could be recommended for interventions for KAs.

**Recommendations from Literature Review for Culturally Tailored Interventions for KAs**

Common considerations for interventions for KAs identified from the literature review were KAs’ low language proficiency, Korean health beliefs, social norm/collectivism, and mental
illness stigma. The following considerations emerged as priorities in health research involving KAs:

1. Provide Korean language and use parallel English medical terms

2. Assess Koreans’ health beliefs related to targeted conditions such as breast cancer screening, smoking cessation, or mental illness

3. Assess social norms across the life span, being alert to differences in KAs at each developmental stage, and assess behaviors of KAs related to the targeted conditions identified as more prevalent in or of more concern to KAs.

4. Protect participants from stigma of mental illness (even when stigma is not the targeted topic).

5. Understand the hardships of immigrant life coupled with fatalism, self-pity, and different experiences within the family-including USA born children of KAs.

6. Use collectivism for research design and intervention strategies including group format interventions, family involvement, and peer support dyads or groups.

7. Utilize navigation services or long-term phone counseling to add cognitive behavioral interventions that reach to the deep structural level, and reinforce practice and learned behavior.

Language difficulty is a major cause of social isolation, lack of knowledge and information, and health care access barrier for KAs (Lee et al., 2014). Cancer screening rates especially were not correlated to demographic data (e.g., having health insurance and usual source of health care) for KAs (Lee et al., 2014; Ma et al., 2009). Many studies depicted ‘lack of time’ as a reason for not getting healthcare or attending health education programs (Fang et al., 2007; Kim et al., 2008; Maxwell, et al., 2008). The barriers to medical service access and
delivery of care might need to be understood in the context of immigrant life challenges and burdens. Social norms are specific to KAs in certain time and places, and cannot be extrapolated from studies about other immigrants, even other Asians, or KAs from another era. Social norms change and KAs change as society is evolving. For example, smoking has been so prevalent among Korean males because previously smoking behavior functioned as conformity and a sign of adulthood (Khang et al., 2009). However, it is no longer valid among young or health-conscious people. Currently the collective social norm of smoking is aversive, associating smoking with bad-odor, not-clean, or not-healthy (Pfizer Consumer Healthcare, 2006). It is not difficult to find the slogan, ‘All people have a fundamental right to breathe clean air,’ in public areas. The prevalence of smoking in Korea has gradually decreased to 42.1% in men and 6.2% in women in 2013 (Ministry of Health and Welfare, Republic of Korea, 2013).

Lack of simple language support or navigation services limits access for the population at large and hinders skill development that can empower people as they navigate the health care system. Helping people to learn Basic English and essential medical terminology would build self-efficacy and go beyond accommodating the immediate need (Han et al., 2009). Strategies to consider could include presenting frequently used medical terms in Korean in an education booklet, using group education sessions, phone counseling, or navigation services. People who can experience the stigma associated with mental illness, female smoking, HIV, or certain jobs need to be protected from damage to ego integrity, and the risk for depression or social isolation. Preventing exposure to public identification and unwanted scrutiny and by ensuring careful arrangement of venue and time are necessary.

For this study, the following cultural considerations from literature review were implemented to the CTCBT for KAs:
1. The Korean language was used for verbal communication and written materials, a Korean-American nurse practitioner delivered the therapy sessions.

2. In order to weaken stigma attached to mental illness among KAs, the program was named ‘Mind Well-Being Program’ instead of ‘Cognitive Behavior Treatment,’ and ‘depressive mood’ and ‘anxious mind’ were used instead of depression and anxiety.

3. To normalize and contextualize the experience of fatalism or self-pity, the prevalence of depression and anxiety and the complexities of modern life were highlighted with statistics and an analogy of depression and cold.

4. One of distinctive social norms of Keeping face/Shame was interpreted as noble behavior to maintain integrity of family and self, so one may have the psychological experience of ‘openness’ rather than ‘closure’ or ‘hiding’ inside the family or self.

5. Koreans’ unique emotion, Haan, has been perceived as ‘resentment’ or ‘suppressed anger,’ but in this study it is interpreted as ability to keep things inside, the ability to examine thoughts, and the virtue of patience and perseverance.

6. Group format was chosen not only based on known benefits (benefits of sharing, costs) but also based on Koreans’ another major emotion, Jeong, that is basis of collectivism among Koreans. Collectivism among Korean is not an ideology or given frame of life, but is naturally acquired habits originated from Jeong. It makes Koreans to become more flexible and accepting of others’ points of views or needs in many interpersonal issues.

7. Uses of media such as Korean soap opera and other TV programs were used to select examples of distorted or automatic thoughts: successful young businessman’s quote, “There is no middle for me. There is only yes or no,” and a quote from a mother-in-
law who was not so favorable to her daughter-in-law, “These are all wrong, because you set them up”, and a daughter-in-law tells herself, “I never do anything right”

8. Use of Korean proverbs that revealed fatalistic views by turning them around to reflect positive mind sets in writing response cards (a sort of self-reminder to examine current situation/emotion correctly). For example, modify “if you don’t have teeth, live with gum” to “If you don’t have teeth, get dentures!” and modify “I cannot see things in an inch distance” to “I can see clearly only in an inch distance.” These may lead more positive and presence-focused attitude.

9. Brief reminder and counseling phone calls between sessions were used as well. The goal of CBT is for the patients to become their own therapist, and homework enables this process. Homework/practice exercise are a necessary tasks to practice skills learned during a session. These are usually asked to be done between each session. Reminder phone calls would enforce and increase completion of homework and practicing skills as well as increase patients’ engagement in the therapy.

10. The self-reminder letters were written during the last session as an added intervention. The participants wrote letters to themselves about the skills they would continue to use, and those were to be mailed in 3 weeks after the last session as reminders.

11. Sharing knowledge and skills learned during the sessions with family members were encouraged. Family support increases the effectiveness of interventions and participants’ engagement in the program.

12. Addressing clients respectfully such as Aw-r-shin (respect form of elder), Mr, or Mrs.
Testing the Feasibility of CTCBT for KAs

Method

Study design. After the literature review, a one-group pre- and post-test design with a follow up assessment after six weeks was used to test the feasibility of the program.

Participants. The sample consisted of eight Korean-American COPD patients residing in Honolulu, Hawaiʻi. They are self-identified Korean-Americans who were able to speak and read Korean, and lived in Honolulu for 8 to 30 years. They were recruited through a snowball method via contacting the staff in three large Korean-American churches, three Korean-American physicians, and two local pulmonologists who run private outpatient clinics. The primary investigator directly contacted each potential participant and determined his or her eligibility for the study.

Inclusion criteria were: Korean-Americans, residency of 5 years or longer in the U.S., age above 45, having a diagnosis of COPD or history of smoking longer than 15 years, and experiencing anxiety or depression. Patients having very severe COPD, comorbidities of diabetes, end-stage kidney disease, neurological disorders, primary depression or anxiety, cognitive impairment as determined by the Mini Mental Status Exam (MMSE), residents in nursing homes, and the homeless, were excluded.

COPD prevalence is significantly related to education level, socioeconomic status, and marital status. An increasing prevalence among women and young people has been noticed in Hawaiʻi as well as the rest of the nation (Bradbury, Pobutsky, Reyes-Salvail, Kromer, & Tottori, 2010). Therefore, age of inclusion criterion was lowered to 45, rather than the conventionally used 50 years or above.

The level of acculturation was indicated as an important variable determining health care
use among immigrants. Although the sample is homogeneous in ethnicity, heterogeneity may be noted in the culture of Korean-Americans according to their level of acculturation. The level of acculturation was assessed by the Short Acculturation Scale for Koreans (SAS-K).

**Setting.** The study setting was a language institution in Honolulu, International Mid-Pacific College. The institution was a 10- to 15-minute walking distance from Korean markets and restaurants and with easy access to bus transportation and convenient parking stalls. The room was spacious, air-conditioned, and well equipped with a projector for presentations, audio system, whiteboard, and comfortable chairs and desks. All participants had enough space to have the program binder and water bottles comfortably in front of them and could sit in a circle that allowed all participants to see each other. There were KA staff and Korean students in the institution, but the sessions were held in the afternoon when there were no classes or students were around.

**Timeline.** The patients were recruited from March to June in 2015 and the therapy was delivered from July through August of 2015.

**Operational definitions of terms and variables.**

**COPD.** This study adapts the definition from the Global Initiative for Chronic Obstructive Lung Disease (GOLD): “Chronic obstructive pulmonary disease (COPD), a common preventable and treatable disease, is characterized by airflow limitation that is usually progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases. Exacerbations and comorbidities contribute to the overall severity in individual patients” (GOLD, 2015). An operational definition of COPD patients and the severity of their disease was made using the correlation chart between forced expiratory volume in one second (FEV1) and total SGRQ scores provided in the SGRQ manual, and the
severity criteria defined with FEV1 in GOLD guidelines. COPD patients are those with total SGRQ score less than 30. The total SGRQ score 30 to 43 was defined as stage 1, 44 to 55 as stage 2, 56-65 as stage 3, and greater than 65 as stage 4.

**Anxiety.** Anxiety is “a state of intense apprehension, uncertainty, and fear resulting from the anticipation of a threatening event or situation, often to a degree that normal physical and psychological functioning is disrupted” (The American Heritage Medical Dictionary, 2008, p. 38). It may include symptoms such as sweating, trembling, dizziness, or a rapid heartbeat (APA, 2013). The operational definition of anxiety was made with the Beck Anxiety Inventory (BAI) that includes 21 self-reported items about common symptoms such as numbness and tingling, sweating not due to heat, and fear of the worst happening. For the BAI, a score of 0-7 was defined as minimal anxiety, 8-15 as mild anxiety, 16-25 as moderate anxiety, and 26-63 as severe anxiety (Beck & Steer, 1993).

**Depression.** Depression is a mental disorder that presents with five or more of the following symptoms: depressed or sad mood; diminished interest in activities which used to be pleasurable; insomnia or hypersomnia; weight gain or loss; psychomotor agitation or retardation; fatigue; inappropriate guilt; difficulties concentrating; as well as recurrent thoughts of death (APA, 2013). The operational definition of depression was made with the Beck Depression Inventory (BDI) that includes 21 self-reported items about the above nine symptoms. For the BDI, 0-9 was defined as normal, 10-19 as mild depression, 20-30 as moderate depression, and >30 as severe depression (Beck, Steer, & Garbin, 1988).

**SGRQ.** Health-related quality of life is defined by a Saint George Respiratory Questionnaire (SGRQ) score that includes three components: COPD-related symptoms, activity level, and impact of COPD on social functioning and psychological disturbances. The score
range is from 0 to 100, and a higher SGRQ score indicates a lower quality of life (Jones, Quirk, Baveystock, & Littlejohns, 1992).

**Acculturation level.** Acculturation level is defined by an average score of the Short Acculturation Scale for Koreans (SAS-K): an average score equal or above 2.99 is more acculturated, below 2.99 is less acculturated. The average score ranges from 1 to 5.

**Korean-American.** For the purpose of this study, a Korean-American is defined as an individual born in Korea that has resided in the United States for longer than five years, or an individual born of either a Korean mother or a Korean father and claims oneself as a Korean-American.

**Instruments.**

**BAI and BDI.** Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) were major instruments used to measure the effectiveness of the therapy along with St George’s Respiratory Questionnaire (SGRQ) and a patient satisfaction survey. BDI and BAI measure the degree of depression and anxiety respectively, with 21 multiple-choice, self-reported inventory questions (see Appendix L; Appendix M). Both BAI and BDI are a few of the most frequently used tools in research and clinical settings, and their reliability and validity have been well established for both psychiatric and medical patients (Beck, Epstein, Brown, & Steer, 1988; Beck, Steer, & Garbin, 1988; Osman, Kopper, Barrios, Osman, & Wade, 1997; Steer, Cavalieri, Leonard, & Beck, 1999; Steer, Rissmiller, & Beck, 2000; Wetherell & Arean, 1997).

BAI had very good internal consistency (α = .92) and high test-retest reliability (r = .75; Beck & Steer, 1990). It also has shown to have good concurrent and discriminant validity (Beck et al., 1988). A cut-off score of 5.5 on the BAI for any anxiety diagnosis was found to have a sensitivity of .76 and a specificity of .77, suggesting that a score greater than 5 on the BAI will
identify 76% of those with an anxiety disorder and exclude 77% of those without an anxiety disorder (Leyfer, Ruberg, & Woodruff-Borden, 2006). The BDI showed high concurrent validity when it is compared with the Minnesota Multiphasic Personality Inventory and the Hamilton Depression Scale (r = .77) and high construct validity (α = .93) was shown for outpatients (Beck & Steer, 1984; Beck, Steer, & Garbin, 1988).

**SGRQ.** SGRQ is a 50-item, self-administered questionnaire that assesses respiratory symptoms, level of physical activity, psychosocial function and mood disturbance (depression and anxiety) related to breathing problems (Appendix N). The items require simple responses using a Likert scale or yes/no. The scores range from 0 to 100 with higher score representing a poorer condition. The report of SGRQ scores include Symptom, activity, impact, and total score. Its validity and reliability have been well established (Jones, Quirk, & Baveystock, 1991; Jones, Quirk, Baveystock, & Littlejohns, 1992). A study in a clinical trial setting revealed an internal consistency of .76 (.7 or higher is acceptable as in the Cronbach’s alpha-internal consistency-table) and its concurrent validity with the Chronic Respiratory questionnaire (r = .72), another frequently used quality of life measure for COPD patients (Mölken, Roos, & Van Noord, 1999). The test-retest reliability was excellent (Cronbach α > .9) in measurements made one month apart and those made one year apart (Barr et al., 2000). Corresponding charts between scores in SGRQ and physical lung function measurement (6-minute walking distance, FEV) are also available (Barr, et al., 2000; Jones, et al., 1992).

Korean translations are available and their validity and reliability have been validated with Koreans residing in Korea (Jo, Park, Jo, Ryu, & Han, 2007; Kim, et al., 2006; Yook & Kim, 1997). In Jo et al.’ study (2007), Cronbach's alpha reliability coefficient was .92 for the total score and .63, .87, and .89 for the symptom, activity, and impact scores, respectively. A validity
test performed with the Borg scale score, oxygen saturation, and forced expiratory volume in one second (FEV1) also revealed correlation with other measurements (Kim, et al, 2006). No studies with Korean-Americans are available. The translated versions of the SGRQ incorporate well with the health beliefs, values, and practices of the Koreans into Korean language and culture. For example, the translation of ‘walk the dog’ as ‘daily walk’ accommodates the fact that Koreans usually do not have a dog in their home.

**SAS-K.** Basic demographic data and the Short Acculturation Scale for Koreans (SAS-K) were collected as baseline data (Appendix P; Appendix R). The Short Acculturation Scale for Koreans (SAS-K) is a translated version of the Short Acculturations Scale for Hispanics (SASH) that was originally developed and has been widely used for Hispanic populations. Its psychometric properties are well validated (Marín, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987; Appendix M). The Korean version was validated with diabetic Korean immigrants; the reliability coefficient was .93 and the validity was measured by correlation with the length of residence, English proficiency, and age of arrival. The correlation coefficients were .51, .74, and .06 respectively with p < .001 (Choi & Reed, 2011). The SAS-K consists of three factors: language (items 1–5), media (items 6–8), and ethnic social relations (items 9–12). The measurement uses a 5-point Likert scale ranging from 1 to 5. The cut-off point between less acculturated and more acculturated is an average score of 2.99 (Marín et al., 1987).

**MMSE.** The Mini Mental Status Exam (MMSE) was conducted to assess one of exclusion criteria, cognitive impairment. This exam is often used to assess cognitive impairment. It consists of 30 items assessing orientation to time and place, short-term memory, simple calculation, comprehending and following instructions, and coordination of cognition and motor function. Each item is graded as zero or one and the total maximum score is 30 (Appendix
Q). A total score of less than 24 indicates cognitive impairment and an individual who scores less than 24 was excluded from this study. Reliability and validity of the MMSE were well established for the original version (reliability .80-.95) (Fabrigoule et al., 2003; Tombaugh & McIntyre, 1992) and acceptability of the Korean version was confirmed among Korean elders (Han, et al., 2008; Kim et al., 2005). Cronbach alpha was .84 and validity was supported by a high correlation with the Clinical Dementia Rating of \( r = .7 \) (Jeong, Cho, & Kim, 2004).

**Patient Satisfaction Survey Questionnaire.** The patient satisfaction survey questionnaire was created and administered by the author following completion of the therapy. The satisfaction survey included 10 items: 5 items about satisfaction with the therapy, the therapists and the environment; 2 items about the use of heath care services (frequency of emergency visits and hospitalization); one item about changes in perceived quality of life; one item about changes in activity level, and one item about overall satisfaction (Jang, 2011; Appendix O).

**Therapist.** The therapy was developed and delivered by the author, a family nurse practitioner with CBT training. The program manual and the transcripts of tape-recorded sessions were reviewed by a CBT expert, with a PhD in clinical psychology and a history of research in cognitive-behavioral interventions. The cultural aspect of interventions was reviewed by an expert on Korean culture. This person was a KA with a PhD in Asian studies and had conducted numerous research studies on Korean literature.

**Therapy.** The therapy consisted of a one-hour session each week for six weeks. The session content and delivery followed the conventional guidelines for CBT practice. COPD specific issues that could be related to mental health were added as examples. COPD education pieces were also added as a separate, 10-minute lecture in the later part of four sessions for inclusion of COPD education in CBT content was recommended in research studies (Brenes,
2003; Kunik et al., 2001). The third and the last session did not include COPD education separately. The therapy manual is included in the Appendices and includes details of the content materials and brief explanations (Appendix T).

As a cultural consideration for KAs, some aspects of the CBT method were not emphasized, such as the participants’ involvement in agenda setting and active discussion. Agendas were made by the therapist and presented at the beginning of the sessions along with their rationales, followed by a request for confirmation from the participants. How actively participants involve in the discussion was totally voluntary as acknowledging KAs’ hesitancy of self-disclosure. Participants’ involvement was encouraged with practicing skills with scenarios instead of open discussion about their stories, and it was very effective in increasing participants’ engagement. Later in the program some participants brought up their own real-cases and discussed about what could have been done differently under the light of CBT. However, in order to facilitate the collaborative relationships with the therapist, the participants were told to call the therapist as ‘a coach’ and the importance of collaboration as well as the participants’ own efforts was explained. Frequently used slogan was “every single good athlete has a coach, but the coach does not play the games.” The rationale of the slogan was in regards to Koreans’ respect to experts or teachers. Such attitude makes education very efficient, but a pitfall is that they are slow to be independent learners. The therapist often used the word ‘members’ instead of participants or patients to form a feeling of ‘we-ness’ that is very important for Koreans to work together for the same goals.

In terms of techniques as working with KAs, those found in the literature review were applied. In selecting the name of the therapy program, words that would not provoke stigma of mental disorders were searched and “Mind Welling-Being” was selected. Oxford dictionary
defines the mind as “the element of a person that enables them to be aware of the world and their experiences, to think, and to feel; the faculty of consciousness and thought.” For Koreans there are some added meanings; the element of human relationship that is shared by two or more people involved in the relationship (Choi, 1998). It is one representation of collectivism shared among Koreans. Therefore, the word “mind” delivers very favorable images and impressions. The use of the word “well-being” has been increasing lately in Korea. It is understood that having more resources with better economical situations allows people to seek a better quality of life, and such idea was labeled as ‘well-being’ and has become popular. One can find the word well-being used very liberally in all kinds of field: well-being foods, well-being exercise, well-being restaurant, well-being house, well-being diary, well-being club, well-being shop, and so on.

Acknowledging stigma attached to mental disorders among Koreans, the word ‘anxious mind’ and ‘depressive mood’ were used instead of anxiety and depression. Because of the denial of their COPD severity, preparedness for increased symptoms as well as prevention of progress was emphasized. In line with such stigma and denial, sharing symptoms of anxiety, depression, and COPD were excluded unlike a usual therapy for Americans. Instead positive aspects of smoking under old Korean social norm were discussed briefly to lighten the participants’ feeling of regret or guilt as social norms are changing these days.

Media news was also used for explaining some important concepts of CBT and demonstrating the power of the guided imagery training. News about one of the multi-level-marketing company’s strategies was very useful in explaining automatic thought. The company manipulated Korean people’s strong filial piety to increase sales. Elders’ firm belief about their children’s piety was acted as automatic thought and made them buy the goods without proper
evaluation of them. Another story about a girl who survived for 14 days under a demolished building and her testimony of use of imagery were very convincing to understand the usefulness of the skill as well.

Popular Korean dramas provided very useful examples to identify distorted thought patterns. Distorted thought examples found in a character who was regarded as a hero seemed to resonate to the participants, and it was also a good example to convey not to stick on perfectionism that was found among almost all participants. Presenting studies that were conducted for KAs also received great attention, such as how KAs deal with their respiratory symptoms and cognitive control in mediating stressful circumstances (Kim, 2002; Park et al., 2014). These researches were used to increase the belief on CBT. Sharing commonly experienced hardships as immigrants increased group cohesiveness.

COPD education topics were breathing and relaxation technique in the session 1, basic knowledge about COPD and effective coughing technique in the session 2, proper use of COPD medication and COPD diet in the session 4, and exercise and energy saving strategies in the session 5 (See manual in the Appendix T). All sessions held with PowerPoint slides. All participants attended all therapy sessions.

**Session I. Orientation, CBT concepts, and relaxation skills.** The session started with welcoming message and a brief explanation about the program. Participants received binders to organize session materials that included a session-by-session schedule, the ground rules for the group therapy, and the materials and worksheets for homework for the first session. The ground rule included ethical issues associated with group therapy. After a brief self-introduction of each member, the first part of the lecture began with how CBT can help to improve moods and rationale for group therapy. Collaborative aspect of CBT and rationale to call the therapist as a
‘coach’ were explained, and participants’ active involvement was encouraged. Automatic thoughts and the basic assumptions of CBT were explained with examples that were collected from real situations among KAs and Korean drama. Cycle of events, thoughts, feelings, and behaviors were explained with dyspneic situations experienced as a COPD patient. This example also served well emphasizing symptoms of COPD, anxiety and depression, and thoughts and behaviors related to COPD conditions, which would have been done in discussion if participants were not KAs. For the cycle of “events - automatic thought - feeling/behavior”, Korean acronym was used as picking the first word, Shang-Gham-Jha (Shang means high or good, Ghamjha means a potato).

Breathing exercise and relaxation skills were taught and practiced with a CD that was specially made for psychiatric patients having respiratory problems by a Korean psychiatrist (used with permission). Practice included pursed-lip breathing, slow/normal breathing, abdominal breathing and progressive muscle relaxation. Everyone appreciated the exercises. CDs were distributed to participants as part of their homework. The homework was explained and participants’ understanding was confirmed individually.

**Session 2: Depression & activity activation.** Teaching cognitive skills for depression and increasing activity was the focus of the Session 2. After review of the homework and basic concepts of CBT learned in the last session, identifying various presentations of depressive moods were reviewed with participants, and they responded as yes or no when the therapist presented mood descriptions such as emptiness, don’t feel like doing anything, lack of energy, hesitance, headache, etc. Spending time for differentiating sadness from depressive moods was very useful to naturally lead participants to the idea that depression is never normal and depressive moods are always accompanied by distorted thoughts. Distorted thoughts frequently
found in depressive COPD patients were reviewed along with Beck’s cognitive triad of depression. Reviewing events-thought-feeling/behavior cycles and identifying automatic thoughts were practiced with examples, and the concept of ‘core belief’ was introduced and practiced with the same examples.

In the second part of the session, participants created hierarchy of activities to increase pleasure. Participants’ activity changes were discussed; most of them had one or more activities they quit, but not exactly differentiated if they had to quit because of physical limitation or their depressive moods or for some other reasons. Wide range of activities was reviewed with participants and a list of pleasant activity was provided. Focusing on what activity could increase pleasure and was most probable, participants selected three activities for the upcoming week. Self-monitoring record sheets with the degree of satisfaction (%) were also given. Challenges to their physical limit, anxiety, or depression as they would carry out activities were expected as were found in other studies, but such aspect was not shared with the participants. As a first step, simple behavioral activation was set as a reasonable goal. Possible thoughts that could hinder the activity were reviewed and positive responses were discussed. The importance of effective coughing skill for COPD patients were explained and practiced at the end of the session. Continuing breathing exercise and progressive muscle relaxation was also encouraged.

Activity activation was very well accepted to participants. They talked about what they did in the past week in Session 3. Some expressed physical symptoms with exercise and associated feelings; at least half of the participants mentioned in their initial SGRQ questionnaires, “I haven’t walked up the stairs, I don’t know how many stairs I can walk up without experiencing short of breath.” Therefore, walking up the stairs was presented as one of the activity choices. Some selected activities that had been on their ‘to do’ list for a long period
rather than aiming to increase pleasure. They were using this homework activity as a weapon to fight their procrastination. Increasing activity homework was assigned again for another week as each participant chose a different set of 3 pleasant activities. Focusing on pleasure was emphasized.

**Session 3: Anxiety & increasing activity.** More intense exercise for cognitive restructuring (changing thoughts) with anxiety symptoms was the focus of the Session 3. Differences between worrying and anxiety were discussed, so participants could move toward overcoming anxious mind instead of rationalizing their anxiety. Next symptoms of anxiety were introduced as categorizing physical and emotional/cognitive and behavioral responses. All agreed that clear understanding of anxiety symptoms could be the first step of recovering from it. Thoughts that create anxiety were more closely reviewed, and then moved toward cognitive strategies. Worry time, worry exposure, and mindful observation were practiced.

The later part of the session was devoted to finding alternative thoughts. Thorough review of major type of distorted thoughts was studied with examples, and then participants shared personal experience related to distorted thoughts. As methods to find alternative thoughts, examining evidence, quantifying evidence (using statistics), cost and benefit analysis, and vertical arrow method were taught. Unlike other clients, this group favored examining evidence and quantifying evidence methods. One participant raised a philosophical issue with cost and benefit analysis. Two examples were presented in the session; one was about anxiety while waiting for the result of physical examination, and another was anxiety with thoughts of having to please his wife. Counting cost or benefit toward his wife seemed unethical and meaningless to him as he believed a good man should make his wife happy unconditionally. What he had to do to reduce his anxiety was not a healthy existential stance for him. By
redirecting the participant to identify thoughts and behaviors that disturbed his moods, he was eventually led to see that his expectations of himself should not be regarded as the ultimate truth. In fact the participant’s response reflected the basic idea of collectivism among Koreans. An individual is not a clear entity that is separate from other individuals for Koreans. An individual has several co-centric layers of self; self and self from “we-ness.” Self from such community overlaps to another individual (who forms ‘we’’s such layer of self (Choi, 1993). In fact Koreans often call their spouses as ‘Jha-gee’(myself). When patients raise cultural or philosophical issues, it is very important to lead them to focus ‘presence’ and thought that disturb their feelings. Cultural or philosophical discussion is not an interest of CBT. Guided imagery technique was introduced and encouraged for daily use. CDs were provided.

Session 4: Problem-solving and increasing activity. Homework and previous materials were reviewed, and CBT concepts were emphasized again. The focus of Session 4 was teaching problem solving skills and practicing them for at least half of the session. The goal was for participants to gain confidence about problem solving as finding solutions for their immediate needs.

Challenges in daily life were discussed in the beginning. As everyone acknowledged problems in their lives, differentiating worries and problems was presented and encouraged. After learning the steps to solve problems, one example was presented in detail to follow those steps. Unexpectedly participants expressed the sheer simplicity of problem solving. Each picked one problem that needed to be solved immediately, and then practiced the steps as filling out the blank on the given practice form. Two participants briefly presented their solutions, but no discussions were invited. All participants received homework to carry out their plans within a week.
In the end, COPD diet was presented; the basic requirements and foods that are good or harmful. Participants were very attentive and asked many questions. As an effort to increase activity for the next week, participants were asked to make an activity plan for a week. It was for participants to monitor their activities in one glance and also provide the feeling of accomplishment. One retired man initially said he had no problems at all. However, after learning about COPD diet he expressed the need of not being lazy to cook as well as need to increase the amount and number of meals per day.

**Session 5: Sleep, exercise, and energy saving strategies.** Review of homework and problem solving skills were done at the beginning and continuous use of those skills were encouraged. Although only two out of eight participants complained of insomnia, importance of sleep management caught everyone’s attention. Things that interfere with sleep were discussed. Everyone had different knowledge about sleep. Half of the participants thought alcohol was a sleep promoting agent, and nobody knew bronchodilators could interfere with sleep. Sleep hygiene was explained in detail and many asked questions about it.

Misunderstanding and distorted thoughts about sleep were discussed, and then sleep restriction, stimulus control, and paradoxical intention were explained and discussed. One participant shared his experience that he had used paradoxical intention without knowing it: “Nothing could solve my insomnia, but it did!” It seemed to also resonate with other participants. Relaxation skills learned in Session 1 were reinforced as strategies to improve sleeping as well.

The later part of the session was devoted to good exercise for COPD patients and energy saving strategies. None of the participants were aware of the need of upper body exercise or energy saving techniques. It may reflect their activity score, and impact scores were good.
compared to their physical symptoms. Two severe and very severe COPD patients expressed
great appreciation of the topic. Several posture and activities were practiced; breathing in at rest
and breathe out with exertion or movement such as bending, carrying objects, vacuuming,
showering, etc. A sleep hygiene checklist and a sleep record sheet were given as homework.

**Session 6. Review of skills, planning for maintenance of gains, and preparing for ‘My
Well-Being Plan’.** All the concepts and skills were reviewed as questions and answers format.
As participants got used to the reviewing format, they became more actively involved in
discussions. Sharing ‘my distorted thought’ took quite a good time and all enjoyed with
laughter. When participants shared three most helpful skills for each individual, all skills taught
in the sessions were presented. Lastly, participants were asked to write a letter to themselves
about what skills and how they would use them from that time on. The letter was to send back to
them 3 weeks after the last session as a reminder.

The latter part of the session was focused on creating a well-being plan, which would be
their reference in managing their anxiety and depression after the session. Emergency helpline
phone numbers and contact persons phone numbers were included in the well-being plan
(Appendix T).

**Data Collection.** There were three data collection points; before the therapy, at the end
of the therapy, and 6 weeks after the therapy. Pre-treatment and follow-up assessments were
conducted individually within 3 days before the treatment and over one week period after 6
weeks from the therapy completion respectively. Post-treatment assessment was conducted after
the final session at the IMPAC. Participants separated into several rooms to preserve privacy.
BAI, BDI, and SGRQ were measured at all collection points, but the demographic data, the Short
Acculturation Scale for Koreans (SAS-K), Mini Mental Status Exam (MMSI) were included in
the pre-treatment assessment and individual interviews were added at the 6 week follow-up assessment. Interviews were scheduled according to participant’s availability and convenience and held at restaurants, coffee shops, or the activity room of the participant’s apartment. The first interview were 3 days before 6 week mark and completed in 10 days. All data collection were performed by the author.

**Data Management.** All the data collected were kept in a locked file cabinet at the researcher’s office. Data were entered into Excel spread sheet right after the collection and saved in two different external storage. The data were accessed only by the investigator and the supervising faculty, but the data from the tape recorded therapy sessions were reviewed by a CBT expert. Participants’ identities in formative data were remained confidential throughout the research processes. Semi-structured interviews were performed with eight questions. Interview data included overall participant’s satisfaction, willingness to recommend the therapy, a possible barrier for future participation in the therapy, perceived severity of COPD, perceived levels of anxiety and depression, social and familial support, and any other influence of the therapy in their lives. Field notes were made during interviews and analyzed to gain insight that quantitative data could not capture. Field notes were summarized and presented to participants for clarification right after the interviews.

**Data Analysis.** Data analysis for the quantitative data were performed with the Excel. Mean scores for the three assessment points were analyzed along with their standard deviations. Qualitative data from the interviews were summarized.

**Human Subjects Considerations**

Informed consents were obtained from the participants after providing them with information about the study, such as the purpose, tasks asked of participants, possible risks and
benefits, confidentiality, voluntary participation and freedom of withdrawal, protection of human and legal rights, and contact information for any issues they might have during the research. A copy of the consent form was given to each participant. The informed consent form is shown in Appendix S.

There were no physical risks involved in the research. The only possible risk was minor psychological pain that could be caused from not wanting to be personally exposed to other Koreans in the community, or recalling unpleasant past experiences such as dyspnea from COPD exacerbation, lack of familial support, or loss of some physical function(s) that they used to have. To protect against psychological risks, participants were told the following: 1) arrangements for their psychological comfort will be attempted with the best possible effort and their ongoing comfort will be verified by each participant; 2) their participation in the study is entirely voluntary; 3) they are free to refuse to participate and free to withdraw from the study or any portion of the study at any time; and, 4) they have the right to not answer any question they feel uncomfortable. It was emphasized that the informed consent forms and all collected data would be kept in a locked file that was accessible only by the researcher.

Codes were assigned for each individual participating in the interviews and recorded in field notes, and those codes were kept separately from the informed consent forms. While the research may be published, the participants are not be identifiable in any way. Since it is impossible to blind the participants from the therapist and the other participants, the consent form emphasized this fact to ensure all participants’ willingness to receive the group therapy. Participants were not provided any tangible incentives or rewards. An experienced registered nurse or a physician was physically present during the sessions for any of participants’ psychological or medical needs. The study was approved from the Institutional Review Board of
University of Hawaii.

**Summary**

The eight participants were recruited via Korean-American churches and local outpatient clinics run by Korean-American MDs and APRNs. Informed consent were obtained after thorough explanation was provided about the study, and opportunity for questions was offered. Baseline data, demographics, COPD severity, levels of anxiety and depression (BAI & BDI), and health related quality of life (SGRQ), were obtained before the therapy. Weekly one-hour group therapy were provided for six weeks as utilizing the manual developed for KAs by the author. Outcome data were collected at two points, at the end of the therapy and six weeks after the completion of the treatment. At the 6-week follow-up measure, individual interviews were performed to assess participants’ satisfaction, perceived severity of COPD, perceived levels of anxiety and depression, familial support, and any other influence of the therapy in their lives. The effectiveness of the therapy was measured with BAI, BDI, and SGRQ, as well as the interviews, to examine the feasibility of CTCBT for Korean-Americans with anxiety and depression among COPD sufferers. To determine the second research question regarding recruitment and retention feasibility, the research kept records of recruitment strategies and attendance of therapy sections.
CHAPTER 4. RESULTS

Demographics

Participants included seven males and one female. All were first-generation immigrants from Korea and lived in the United States longer than 15 years on average. One was retired, but the rest were actively working more than 40 hours a week. Seven participants were married and lived with spouses and/or children, one was divorced and lived alone. Education level was high; all had college education except one high school graduate, and one person did not answer the question. Although years lived in US is longer than 20 years for most participants except for two participants who lived for 8 and 18 years, average acculturation score assessed with SAS-K was far below the cut off score of 2.99 (Table 1).

Table 1. Demographic Data

<table>
<thead>
<tr>
<th>Age</th>
<th>Marital Status</th>
<th>Living situation</th>
<th>Education</th>
<th>Years in US</th>
<th>SAS-K Score</th>
<th>Smoking Status</th>
<th>Years of smoking</th>
<th>Perceived Health</th>
<th>Comorbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>Married</td>
<td>Spouse</td>
<td>Not answered</td>
<td>&gt;20</td>
<td>1.17</td>
<td>Quit, 1mo</td>
<td>50</td>
<td>Worst</td>
<td>CAD, Arrhythmia with a pacer, Paresis, HTN</td>
</tr>
<tr>
<td>63</td>
<td>Divorced</td>
<td>Alone</td>
<td>College</td>
<td>&gt;20</td>
<td>1.25</td>
<td>Smoking</td>
<td>48</td>
<td>Worried</td>
<td>HTN, HLP, DMII</td>
</tr>
<tr>
<td>55</td>
<td>Married</td>
<td>Spouse</td>
<td>College</td>
<td>10-5</td>
<td>1.42</td>
<td>Smoking</td>
<td>40</td>
<td>Ok</td>
<td>None</td>
</tr>
<tr>
<td>60</td>
<td>Married</td>
<td>Spouse, Children</td>
<td>College</td>
<td>&gt;20</td>
<td>1.58</td>
<td>Smoking</td>
<td>45</td>
<td>Worried</td>
<td>HLP, BPH</td>
</tr>
<tr>
<td>57</td>
<td>Married</td>
<td>Spouse</td>
<td>College</td>
<td>20-10</td>
<td>1</td>
<td>Smoking</td>
<td>40</td>
<td>Worried</td>
<td>HTN</td>
</tr>
<tr>
<td>52</td>
<td>Married</td>
<td>Spouse, Children</td>
<td>College</td>
<td>20-10</td>
<td>2</td>
<td>Smoking</td>
<td>30</td>
<td>Ok</td>
<td>HTN, insomnia, glaucoma</td>
</tr>
<tr>
<td>60</td>
<td>Married</td>
<td>Spouse</td>
<td>College</td>
<td>&gt;20</td>
<td>1.67</td>
<td>Smoking</td>
<td>30</td>
<td>worried</td>
<td>None</td>
</tr>
<tr>
<td>52</td>
<td>Married</td>
<td>Children</td>
<td>High School</td>
<td>&gt;20</td>
<td>2.17</td>
<td>Quit, 1yr</td>
<td>20</td>
<td>Ok</td>
<td>Back pain, insomnia</td>
</tr>
</tbody>
</table>

All participants were ‘less acculturated’. Years of smoking were 20-50 years and six participants were current smoker. Half of the participants started smoking during their teens.
Two participants did not have any other diagnosed illness, and the rest had one to 4 other chronic diseases including hypertension, coronary artery disease, Arrhythmia, paresis, hyperlipidemia, benign prostate hyperplasia, insomnia, glaucoma, or back pain. The participants’ occupation data were also collected with the demographic forms, but not presented in this report for confidentiality. Korean American populations in Honolulu are dense in a small area, so the social interaction among them is very frequent especially among Korean church attendees.

**Severity of COPD and Quality of Life**

The Saint George Respiratory Questionnaire (SGRQ) was used to assess the severity of COPD and changes after the treatment. There were multiple studies about correlation between SGRQ score and COPD severity classification by GOLD (Global Initiative for Chronic Obstructive Lung Disease) (Agrawal, Joshi, & Jain, 2011; Antonelli-Incalzi, et al., 2003; Jones, et al., 2011). Results from those studies coincided, but the standard deviations were wide. The differentiation became distinct when the Gold stage had jumped to stage 3 (severe COPD). It may be reasonable to do staging the severity as three levels, mild or moderate, severe, and very severe, when SGRQ scores are used to assess the severity of COPD.

The participants’ severities of COPD were identified as moderate to very severe (GOLD stage 2 to 4) according to SGRQ symptoms scores, but stages were mild to moderate (GOLD stage 1 to 2) according to SGRQ activity and impact scores except one patient who was in stage 4. Symptom scores were higher than activity or impact scores, which were the same as the recent research (Jones, et al., 2011). The result reflects that the age of sample is relatively younger than other studies; the range was 52 to 63 except one patient with 75. In fact, two participants who enjoyed golfing showed normal level of activity score although their symptoms scores were stage 2 in GOLD criteria. It signifies that the SGRQ were invented and intended to
use to assess COPD patient’s quality of life. The wide ranges of COPD stages in the activity and the impact scores compared to the stages in symptom scores were noticeable (Figure 1).

Figure 1. COPD Stages at the Baseline

![COPD Stages](image)

This study sample showed high level of physical symptoms, but their quality of life was reasonably good; one very poor, one poor, and six mild or moderate according to total SGRQ scores (Jones, et al., 2011). Participants’ SGRQ Scores at Baseline, Post-treatment, and 6-week assessment and interpreted GOLD stages at Baseline were presented in Table 2, 3, and 4. Overall SGRQ scores were decreased at post-treatment and 6-week assessment.

**Clinical Meaningfulness.**

SGRQ score greater than 4 was regarded clinically meaning improvement in general, but it was hard to make such judgement because changes were within the standard deviations of the reference data (Jones, 2005; Johns et al., 2011; Jones & Forde, 2009). Clinically meaningful improvement in SGRQ scores were found in 6, 4, 5, 5 patients in symptom, activity, impact, and total scores respectively at the 6 week follow-up assessment. Symptoms score improvement for each individual item and the average were greater than activity or impact score improvement.
The average scores of all 4 categories also showed clinically significant improvement at the 6 week follow-up assessment (Jones & Forde, 2009). These results show overall improvement of disease specific quality of life (Table 2, 3).

### Table 2. SGRQ Symptom & Activity Scores at Baseline, Post-treatment, and 6-weeks

<table>
<thead>
<tr>
<th>Participants</th>
<th>SGRQ Symptom Scores</th>
<th>SGRQ Activity Scores</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Post-</td>
<td>6 weeks</td>
</tr>
<tr>
<td>A</td>
<td>82.02</td>
<td>82.02</td>
<td>72.20*</td>
</tr>
<tr>
<td>B</td>
<td>78.72</td>
<td>81.24</td>
<td>70.97*</td>
</tr>
<tr>
<td>C</td>
<td>72.63</td>
<td>40.98*</td>
<td>57.01*</td>
</tr>
<tr>
<td>D</td>
<td>59.34</td>
<td>59.34</td>
<td>54.90*</td>
</tr>
<tr>
<td>E</td>
<td>64.39</td>
<td>64.39</td>
<td>61.24</td>
</tr>
<tr>
<td>F</td>
<td>69.58</td>
<td>72.11</td>
<td>50.73*</td>
</tr>
<tr>
<td>G</td>
<td>67.09</td>
<td>56.09*</td>
<td>62.57*</td>
</tr>
<tr>
<td>H</td>
<td>69.52</td>
<td>69.52</td>
<td>67.31</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>70.41</strong></td>
<td><strong>65.71</strong></td>
<td><strong>62.12</strong></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td><strong>6.89</strong></td>
<td><strong>13.68</strong></td>
<td><strong>7.71</strong></td>
</tr>
</tbody>
</table>

*Reduction of 4 or more

### Table 3. SGRQ Impact & Total Scores at Baseline, Post-treatment, and 6-weeks

<table>
<thead>
<tr>
<th>Participants</th>
<th>SGRQ Impact Scores</th>
<th>SGRQ Total Scores</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Post-</td>
<td>6 weeks</td>
</tr>
<tr>
<td>A</td>
<td>39.07</td>
<td>50.40</td>
<td>30.94*</td>
</tr>
<tr>
<td>B</td>
<td>35.77</td>
<td>24.78</td>
<td>18.81*</td>
</tr>
<tr>
<td>C</td>
<td>28.73</td>
<td>18.22</td>
<td>21.12*</td>
</tr>
<tr>
<td>D</td>
<td>11.76</td>
<td>5.91*</td>
<td>12.09</td>
</tr>
<tr>
<td>E</td>
<td>32.54</td>
<td>28.78</td>
<td>18.22*</td>
</tr>
<tr>
<td>F</td>
<td>25.27</td>
<td>25.37</td>
<td>22.71</td>
</tr>
<tr>
<td>G</td>
<td>28.84</td>
<td>25.11</td>
<td>28.53</td>
</tr>
<tr>
<td>H</td>
<td>32.82</td>
<td>28.68</td>
<td>28.56*</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>29.35</strong></td>
<td><strong>25.91</strong></td>
<td><strong>22.62</strong></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td><strong>7.78</strong></td>
<td><strong>12.40</strong></td>
<td><strong>6.40</strong></td>
</tr>
</tbody>
</table>

*Reduction of 4 or more
Table 4. GOLD stages at Baseline according to SGRQ Scores

<table>
<thead>
<tr>
<th>Participants</th>
<th>Symptom</th>
<th>Activity</th>
<th>Impact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>G</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>H</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Average</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Anxiety and Depression

Beck anxiety inventory scores and Beck depression scores are presented in the Table 5.

Table 5. BAI and BDI Scores at Baseline, Post-treatment, and 6-weeks

<table>
<thead>
<tr>
<th>Participants</th>
<th>BAI Baseline</th>
<th>BAI Post-treatment</th>
<th>BAI 6 weeks</th>
<th>BDI Baseline</th>
<th>BDI Post-treatment</th>
<th>BDI 6 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20</td>
<td>17</td>
<td>10</td>
<td>22</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>5</td>
<td>10</td>
<td>14</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>C</td>
<td>33</td>
<td>26</td>
<td>31</td>
<td>26</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>D</td>
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<td>9.13</td>
<td>19</td>
<td>10.75</td>
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| SD           | 9.55         | 8.35               | 9.60        | 7.65         | 6.98               | 6.88        |

BAI scores interpreted as 0-7 = Minimal level of anxiety, 8-15 = Mild anxiety, 16-25 = Moderate anxiety, and 26-63 = Severe anxiety (Beck & Steer, 1993). Baseline BAI scores showed wide range, 9 to 30, displaying mild to severe level of anxiety. Average score was 17.13,
which meant moderate level of anxiety. Post-treatment BAI scores were decreased to average of 9 and maintained after 6 weeks. Figure 2 shows overall decrease of BAI scores.

BDI scores interpreted as 0-9 = normal, 10-19 = Mild depression, 20-30 = Moderate depression, and > 30 = Severe depression (Beck, Steer, & Garbin, 1988). Baseline BDI scores revealed mild to severe depression with average score 19. BDI after treatment decreased to 10.75, which was very low mild depression. There were no significant difference between posttreatment and 6 weeks. Overall decrease of BDI is seen in Figure 3.

Figure 2. Anxiety Scores

![Figure 2. Anxiety Scores](image)

Figure 3. Depression Scores

![Figure 3. Depression Scores](image)

Patients who had high anxiety also had high level of depression and vice versa (Figure 4).
Clinical Meaningfulness.

Many researchers have recently tried to identify the magnitude of clinically significant changes on BDI and BAI scores. Either 5-point changes or depression level changes were understood as clinical significance (Dworkin et al., 2008; Hiroe et al., 2005). A change of one standard deviation (6.8) in BAI was understood as a meaningful improvement among elderly medical sample (Steer et al., 1994). Five participants achieved greater than 7-point decrease in BAI scores and greater than 5-point decrease in BDI scores (Table 6).

Table 6. Clinical Meaningfulness in BAI and BDI

<table>
<thead>
<tr>
<th>Participants</th>
<th>BAI</th>
<th>6 week</th>
<th>Changes</th>
<th>BDI</th>
<th>6 week</th>
<th>Changes</th>
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<tbody>
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<td><strong>Average</strong></td>
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<td><strong>SD</strong></td>
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<td><strong>7.65</strong></td>
<td><strong>6.88</strong></td>
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</table>

* Greater than 7 decrease in BAI or greater than 5 point decrease in BDI
The Participant F’s both BAI and BDI scores decreased from severe to normal or mild level. It might have been because he secured a job after months of unemployment and job-seeking. The Participant C had severe anxiety and moderate depression that were highest and the second highest in the group respectively. Although both conditions were improved by the post-treatment, they went back up after 6 week. The group BAI and BDI would have shown more positive overall shift to lower range if participant C’s data were excluded. Both anxiety and depression scores of the Participant E were down to 1 at Post-treatment, and were similar at 6 week follow-up. No explanations for such an extreme changes were found. He mentioned that he participated in the treatment program to enjoy being around people during the sessions. Such a personality type might influence the role of “a being nice person” or fulfill the “feeling of obligation” and result in showing this improvement.

Severity of COPD and BAI or BDI

Because of the high prevalence of anxiety and depression among COPD patients, finding the possible related variables has been interests. In this small sample no relationships were found between the severity of COPD and depression, anxiety, years in US, acculturation, living situation, or years of smoking (Figure 5, Table 7).

Figure 5. COPD Stages vs BAI and BDI
Table 7. The Severity of COPD, Anxiety, and Depression

<table>
<thead>
<tr>
<th>Participants</th>
<th>Severity per SGRQ Total</th>
<th>BAI Baseline</th>
<th>6 week</th>
<th>Changes</th>
<th>BDI Baseline</th>
<th>6 week</th>
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<td><strong>19</strong></td>
<td><strong>9.25</strong></td>
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</table>

No association between severity of COPD and the level of depression and anxiety were found. However, a higher prevalence of depression among severe COPD was reported (van Manen et al., 2002). The level of anxiety or depression did not appear to have any association with any other demographic data (Figure 6, 7). Only perceived health status and age had linear relationships with the COPD severity among stage 3 and 4 patients (Figure 8, 9). Those patients stated their health condition is ‘the worst’ or ‘worried’ while patients at stage 1 and 2 stated ‘worried’, ‘all right’, or ‘good’.

Figure 6. COPD Stage vs Years of Smoking
Figure 7. COPD Stage vs Acculturation Score

Figure 8. COPD Stage vs Perceived Health Status

Figure 9. COPD Stage vs Age
The relationships between the level of anxiety and depression and other variables were also reviewed. BAI and BDI scores did not have any relationship with the severity of COPD, years in the US, acculturation scores, years of smoking, age, and perceived health status (Figure 10 through 14).

Figure 10. BAI and BDI vs Years of Smoking

![Figure 10. BAI and BDI vs Years of Smoking](image)

Figure 11. BAI and BDI vs Years in US

![Figure 11. BAI and BDI vs Years in US](image)
Figure 12. BAI and BDI vs Acculturation Score

Figure 13. BAI and BDI vs Age

Figure 14. BAI and BDI vs Perceived Health Status
Participants’ Satisfaction

Participants’ satisfaction was measured at the end of the program with 10 items in 4-point Likert scale; 4 about the therapy, one about the therapist, 4 about changes with COPD, Anxiety, depression after the therapy, and one item for overall satisfaction (Appendix J). None of the participants used emergency services within one year before the therapy or during the therapy, and this is shown in the items 6 and 7. The average ratings for perceived benefits to anxiety and depression, the program and the environment for the therapy were 3.75 out of 4 max score, 3.875 for the satisfaction to the therapist and estimated future benefit of the program, and 3.5 for changes in quality of life and activity level. Overall satisfaction was averaged at 3.875 (Table 8).

Table 8. Participants’ Satisfaction

<table>
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Summary of Interview

Overall responses to the interview questions were satisfaction, whether participants wanted to recommend the program to others, barriers for the future participation for the similar program, any perceived effects on COPD, anxiety and depression, whether they get familial support in management of their conditions, and effects of the program in any other areas of their life. All participants gave positive feedback about the program, and they would recommend it to
their friends and families. Four participants stated they would strongly recommend the therapist to have another program for their spouses. All smokers expressed the need for a CBT smoking cessation program. Two participants wished to increase the session hour, so they may have more practice and discussion time. When their wishes shared with other participants, they all agreed that the sessions were somewhat tight, but a longer session could be a barrier for participation. No one said the program affected their respiratory conditions, but overall moods have been improved.

Most frequently mentioned benefits of the program were improved moods (more relaxed) and being aware of importance of activities. Increasing fun activities was one of the two methods for handling depression introduced in the program, but many perceived activities as an exercises and helped them stay actively engaged to the program and share their changes or improvement. This may reflect their interests in exercises or cognitive changes that made them more health conscious in general. Concerning the benefits to other areas of their lives, all of them mentioned increased ease in personal relationships with those who they encounter everyday such as spouses, children, friends, and co-workers. The major possible barrier for the future participation was “busy life and lack of time” for six participants. One retired man answered, “Feel lazy, but I will go if it helps me. I like this type of program. We rely on medications too much. I pick up a bucket of medication, but it doesn’t teach me how to manage my condition.” One person said, “No barriers, everything is about commitment. It is matter of what you put as a priority”. Any changes in family support after families were aware of participants’ attendance to the program were also assessed. Two participants who shared the session materials with their spouses answered “yes”, while one participants said, “not supportive, just telling me repeatedly ‘quit smoking, it will solve all the problems.” Another participant said, “No, my spouse is so
stubborn and does not believe anything can change the current situation or condition,” and one participant lived alone.

Some of participants’ words are, “My temper got better as I get old, but this program helped me to see things or happenings from a distance. I look at the scene before I jump into it. It makes me feel good and more relaxed.” Another said, “It was very nice to know that there is a way I can get help with my anxiety and depression. I knew that medication and seeing psychiatrists were options, but those were not my options and never will be in the future. I would look for this kind of program when I’m feeling down later,” “I feel better because I got an idea that I will live longer than I had anticipated, I feel some vitality in me.” Other pertinent quotes include: “I could not get everything learned in the sessions, but I’d like to get some advice time to time. So at least I can share some of it with my spouse,” “Is there this type of program for diet or weight management? I’d like to participate,” “I have shared the PowerPoint handouts with my wife, and she need this kind of program,” “This program is more like personality education program. It was an unique opportunity I never got since I graduate from high school. I really appreciate the opportunity,” and “The handouts are very useful. I flip them time to time. I will keep them for the rest of my life.”

**Recruitment and Retention**

Challenges in recruitment of all ethnic minority research participants are major issues in the health care research. The literature review revealed multiple factors that affect both recruitment and retention in research studies as similar to the common variables that affect healthcare service use of KAs. These are multitudinous and include language barriers, low health literacy, lower socio-economic status, lack of health insurance and care, the hardships of immigrant life, lack of time, unstable employment status, various acculturation levels-with
varying effects, years of residence in the US, and specific cultural factors that vary across the lifespan and with gender and role in family. Korean cultural factors include the stigma associated with mental illness and female smoking, the sense of obligation attached to the traditional role of the woman in the family, modesty (Fang et al, 2008; Han et al., 2009; Han, et al., 2010; Kim et al., 2008; Kim & Sarna, 2004; Islam et al., 2013; Shin & Lukens, 2002). It is also necessary to have native-language speaking research staff as well as materials written in the participants’ own language and this was emphasized in all 29 reviewed studies. More than 70% of Korean-Americans speak only Korean at home and over 90% of KAs older than 65 described their English proficiency as poor (Bradbury, et al., 2010). Since COPD manifests in the elderly population, all the concerns for research with older and more traditional KAs apply to research involving KAs and COPD.

In the early phase of this research, challenges were anticipated in recruiting KA COPD patients experiencing anxiety and depression. The stigma associated with mental illness was well known, the difficulty overcoming the tendency to inactivity due to moods or physical conditions understood, the lack of convenient transportation for this population on this island was predicted, and time constraints due to economic pressures were all probable obstacles the researcher planned to help subjects overcome and navigate. This study with KA COPD patients was provided in Korean language throughout all phases of the research, including both written and spoken, because the researcher is a fluent Korean language speaker, therefore there was no language barrier. The most difficult challenge was overcoming the stigma of mental illness and the negative associations, secretiveness, and shame associated with female smoking.

Many verbally consented candidates withdrew before the program started, and this resulted in an inadequate number of participants for group therapy. Five to ten patients in one
group is considered ideal for CBT (Kunik et al., 2001, Hynninen et al., 2010), and this study was originally intended to have 7-10 participants. Consequently, the program launch was postponed 3 weeks in order to recruit more participants. A total of 29 possible participants were contacted, and finally 8 participants formed the group for the therapy and study. Revocation of the initial decision to participate reflected reasons similar to those for not participating but were more explicit; family events, unplanned travels, unwillingness to leave the house, avoidance of social interaction, lack of time, fear of being a target of stigma, or no specific reasons shared.

Three participants were recruited from physicians’ offices, 3 from KA churches, and 2 through the connection with the participants from churches. Physicians and KA churches were a good source for recruitment, and the snowball method was also effective. One of the studies reviewed proposed that long-term and personal relationships would facilitate the recruitment of and participation by Asian-American participants (Lim & Paek, 2015).

Gender imbalance was one of the weaknesses of this study; only one female participated in the study. Female candidates refused with one reason, the stigma of female smoking among KAs. Smoking prevalence in Korea indirectly explains such widespread stigma; average smoking prevalence is 24.1%, 42.1% for male, and only 6.2% for females among the population aged 15 years or over women in 2013 (Ministry of Health and Welfare, Republic of Korea, 2013). It may be difficult to expect the stigma to be lessened in a short period, therefore, having a separate program with a group of “females only” may enable researchers to recruit participants and study with women who may feel less shame and less need for secrecy in a same sex group of fellow female smokers.

Mid-session phone calls were made as a part of the intervention to encourage the participants to practice skills learned in the previous session. These skills were based on the
literature review of interventional studies for KAs, but they were also implemented to prevent participants’ withdrawal from the program. No one missed any sessions.

In reference to the difficulty with self-disclosure in KAs, values of utilizing time before and after the sessions were noted. Participants were more relaxed and observed actively talking with each other and willingly reviewed homework with a therapist outside the therapy sessions. Once three of the participants planned to go for golfing during the weekend, and they formed “we-ness” in the upcoming three weeks as they became more open, talking about their experiences with skills practice between the sessions. Creating an event outside the classroom to build stronger relationships among the group members may help with retention of the participants.

In terms of retention, the venue also had a positive effect. All participants favored canceling the venue at the Korean Center and switching to a KA-owned language institution. There are many KAs around the Korean Center, and this would have made keeping privacy and confidentiality of the participants more difficult. One participant needed help with transportation to and from the sessions, and fortunately another participant volunteered to carpool with him. Arranging transportation could positively influence participation in and completion of the program. Future venue selection should consider convenience, and cultural aspects, but also confidentiality and the stigma associated with mental illness and female smoking.

Finally, all participants expressed their willingness to help the author by participating in the research: “You are doing good things for Korean patients, I should/am willing to help you.” Therefore, educating community about the research benefits to their minority communities demonstrated facilitates participation.
Summary

The CBT treatment sessions named as ‘Mind Well-Being Program’ was provided over 6 weeks for eight Korean-American COPD patients who were self-identified anxiety and depression sufferers. Each session was one hour long and held once a week in a culturally supportive environment. The sessions included two short lectures and practice time after each lecture. The session content were designed by the author as following a widely accepted CBT and adding cultural considerations for Korean-Americans that were identified from literature review. No participants missed any session.

The effectiveness of the Mind Well-Being Program was assessed through three-point data collection, baseline, posttreatment, and 6 weeks after the program. Measurements of the COPD severity, the level of anxiety and the level of depression were performed with SGRQ, BAI, and BDI at all three collection points. Demographics, the level of acculturation, and cognitive function were assessed with the demographic form that was created by author, the Short Acculturation Scale for Koreans (SAS-K), and the Mini Mental Status Exam before the program. Patients’ satisfaction was also assessed with the participant satisfaction survey questionnaire created by the author after the last session, and a semi-structured interview was performed at 6 week after the program.

The age of the participants ranged from 52 to 63 except one patient who was 75 years old. Years lived in the US was 15-20 years in average, and SAS-K scores revealed low level of acculturation of the group. All participants were former or current smokers with 20 to 40 years smoking history, and two participants had quit smoking for 1 month and 1 year at the beginning of the therapy. The severity of COPD ranged from moderate to very severe in SGRQ symptom scores, but average SGRQ activity and impacts scores showed mild to moderate level. Three
participants were at mild level, three patients were moderate, one patient was severe, and one patient was very severe level of COPD according to the SGRQ total scores. The average baseline BAI and BDI scores revealed moderate level of anxiety and the upper end of mild depression.

After the treatment significant improvements were found in means of both anxiety and depression scores assessed with BAI and BDI. The effects were maintained 6 weeks after the treatment. Statistical significance could not be examined due to the small sample size, but clinical meaningfulness was shown in 5 patients with both anxiety and depression. The SGRQ scores also showed some improvements, but not significant. The changes were within standard deviation of the referenced data.

Participants’ satisfaction of the sessions was high for the program, the therapist, and environment. Overall satisfaction score was 3.875 out of 4 point scale. High level of participant satisfaction was also confirmed in the 6-week follow-up interview. All participants were willing to recommend the program, and mentioned improvement in moods as the major benefits of the program. Improvement in personal relationships were mentioned as the benefit for the other area of life.
CHAPTER 5. DISCUSSION

Discussion of Findings

The Mind Well-Being Program, a group CBT, was developed to reduce anxiety and depression for Korean-American (KA) COPD patients. This descriptive study with eight patients strongly suggested the feasibility of the program. Marked decrease of BAI and BDI scores were measured after the therapy among the patients with moderate anxiety and mild depression. Five out of eight patients achieved clinically significant improvement in BAI and BDI scores, but it may be more meaningful to pay attention to the participants’ subjective appraisal of improvement of moods. All participants picked general mood improvement as the major benefits of the Mind-Welling Program.

None of the demographic data and the severity of COPD were related to the participants’ levels of anxiety or depression. This may be due to the limitations of a small sample size that did not reveal the relationships among these variables. Six participants worried about their smoking related health problems, but did not connect their mood disturbances to COPD except one patient who had very severe COPD symptoms. This may be related to their relatively low COPD severity; six patients were either mild or moderate COPD according to SGRQ total scores. Many research studies about COPD stages found that mild and moderate COPD cannot be distinctively differentiated in many cases, but there are clear differences between moderate and severe stage. Although it was not the main interest of this study, finding the associated factors with mental problems among COPD patients will help to better serve the population.

The SGRQ scores were also improved after the treatment, and showed further improvement at the 6-week assessment. The magnitude of the changes were clinically meaningful; the scores for all three areas (symptoms, activity, and impact) and the total scores
decreased after the program. This can be interpreted as an improvement in the quality of life. One of the interesting findings of the sample was lower activity and impact scores than symptom scores; the stages of COPD were lower in those areas. It may be the influence of relatively young ages of participants. The ages ranged from 52 to 63 except one patient at 75 years, although all participants had 20 to 45 years of smoking history and six patients were current smokers. Finally, the patient satisfaction was consistently high at the posttreatment and the 6-week follow-up. Although these findings need to be examined with a large sample, the potential utility of the Mind Well-Being Program, culturally tailored CBT for KAs, was well demonstrated.

**Study Strengths and Limitations**

The major strength of this study was providing culturally tailored CBT for KAs in Korean language. Although years lived in US was longer than 20 years in average, the acculturation scores were low and English proficiency was limited. All participants speak in Korean at home and for about 80-90% of their daily lives. All the participants watched Korean TV; they enjoyed Korean programs and dramas, and watched Korean news daily. Participants stated, “A program like this is like finding an oasis,” and that they felt “feel very comfortable,” and “Although I am sitting in the therapy program, I don’t feel anxious.” One also stated that wherever he went for any medical service, he worried that he may not understand or may make mistakes. After participating in the program, the same participant felt confident that he really could do something good for him since the program was offered in Korean. The group therapy format also received positive responses. No participants missed the sessions and all expressed their preference to the group therapy. The group therapy that divided attention among the
individuals seemed to provide relief from the worries about possible stigma or revealing personal weakness such as illness or limited physical activity.

Another strength of the program was that it provided for patients who had not previously sought mental health services. Most of them might not fit to DSM V diagnosis criteria, which means they could not have received appropriate services from mental specialists. There were reports that less than one-third of COPD patients with depression or anxiety were received appropriate treatment for such comorbid conditions (Kunik et al., 2005; Mauer et al., 2008). The main focus of the Mind well-Being program is to improve symptoms of anxiety and depression secondary to COPD by restructuring cognition and changing behaviors, regardless of having a diagnosis of anxiety or depression. All participants were aware of their mood problems, but no one had sought mental services or had discussion with their medical providers including those who had severe anxiety or depression. In addition, three of the eight patients strongly objected to an idea of seeing psychiatrists. The rest of the participants said, “Maybe, but not likely.”

Considering these characteristics of participants their high satisfaction of the program is significant in valuing the culturally tailored CBT program.

This study has several limitations. One of them was about the sample. The sample size was small (n = 8) and recruited in the very limited geographical area. The snow ball method of recruitment also may limit the diversity of participants, especially because of the small sample size. Heterogeneity of gender, only one female participant, also limited responses from the female population. The study was a feasibility study, but the design without a control group may weaken the positive result of the study.

Another limitation was the group therapy format. Although there are many benefits of a group therapy, especially with Koreans’ collectivism, it could not meet every individual needs.
Insomnia was a major problem for two participants and they needed to learn more detailed skills, but it was not very important topic for other participants. In the same line, techniques to save energy and management of emotions with difficulty of those skills were very appreciated by two severe and very severe COPD patients, but nor for the others. The content of CBT was prepared for all range of COPD level and varied level of anxiety and depression. All the content may be beneficial to everyone in long run, but their attentiveness was varied according to their immediate needs. The level of acquiring skills was also varied per patients - some needed more time or guidance.

Not following medication adherence also puts a limitation to the study. Although the COPD related quality of life assessed with SGRQ was improved after the therapy and at the 6-week follow-up. It would have been clearer if the improvement was from the therapy or better adherence to medication. One patient did not know when to use the short acting bronchodilator at the beginning of the therapy, and the patient probably would have used it more appropriately after an explanation. The Mind Well-being program included education about COPD medications.

Finally, response-bias of the participant would influence the self-reported data, especially in the program satisfaction questionnaire as the investigator was also the therapist.

**Understanding KAs: Lessons Learned**

English proficiency of the participants was poor in contrast to years lived in the US and high education level (six among 8 participants had college education). It was the same with studies reviewed in chapter 3 to extract cultural considerations for KAs. KAs’ hardship in their immigrant life was their immediate reality. The most frequently encountered answers for inability to participate in researches was lack of time because they need more than 40 hours work
a week or they cannot hire employees due to financial burden. Many met during the recruitment process did not have insurance. However, all participants in this study had insurance even though they mentioned their economic situations were still not so good. This group might have slightly better financial situation, and it allowed them to participate in the study.

Stigma of mental illness and female smokers identified during the recruitment were overwhelming. It exceeded findings from literatures (Cho, Khang, Jun, & Kawachi, 2008; Khang, Yun, Cho, & Jung-Choi, 2009). Another unexpected fact was denial of physical conditions. Most people answered ‘no COPD’ or ‘No problems in the lungs’ during the recruitment and excluded themselves from being a sample. The similar attitude were found among participants at the beginning of the program.

The recruiting process took longer than initially planned. Many patients who agreed to participate in the study revoked their decision before the therapy, and this resulted in longer period of recruitment and postponing the therapy program several times. The reasons of withdrawal were family events, unplanned travels, or no specific reasons. A few explicitly expressed, ‘not comfortable to expose the illness,’ ‘fear of stigma associated to smoking,’ or ‘do not want to have possible trouble with social interaction.’ For the future study, planning longer time for recruitment may be needed. Although many research studies found that family involvement increased effectiveness of interventions with KAs, recruiting family members of the participants was not possible. Many participants ran small businesses, and the demands of their businesses impeded participation of family members. Sharing knowledge and skills with family members outside the sessions still seemed to increase participants’ engagement in the program and increased positive outcomes.
Collectivism of Korean people is often revealed in the literature as somewhat negative such as triggering feeling of guilt or shame; if you smoke, then you are damaging your children’s health (Fang, 2007; Kim, 2012), women have to make a choice that is good for their families rather than good for themselves (Fang, 2007), hiding facts that are subjective to stigma such as mental illness (Shin & Lukens, 2002). However, its more positive aspects were identified in this study. The foundation of collectivism seemed closely related to their tendency to get together and seeking for feeling of connectedness. KAs enjoyed getting together or just being a member of the program. Everyone preferred the group format therapy. One answered, “Oh! It will be awful!” for the question if he would prefer individual sessions. Other members repeatedly said, “Just happy about getting together, it makes everything easier” as a feedback of the sessions. Another characteristics of people of culture of collectivism was their sensitivity to how others perceive their behavior (Fang, 2006). It was shown as respecting others and being polite in the sessions. The group rule was to be reviewed at the beginning of each session, but it did not take as much time as initially planned.

KAs were eager to learn new information and knowledge. Learning is almost a phenomenal syndrome in Korea because of the influence of Confucianism. They were very attentive to the therapist and always brought some questions and stories related to the topics of the previous session. Some researchers confirmed that education program was viewed positively within KA communities (Jeon, 2006; Sadler, Ryujin, & Ko, 2001; Sarna, Tae, Kim, Brecht, & Maxwell, 2001).

Previous researchers found that KAs are more comfortable with a didactic format than with an interactive situation because of self-disclosure requirement of the latter (Shin & Lukens, 2002). It seems to take time to expose themselves to others; they became more active over time.
Another interesting finding was that the participants were very modest during the discussion time offered in the sessions, but very actively engaged in discussion outside the sessions, before and after the sessions. This may be related to respect for experts and authority, which helped to facilitate the therapy sessions (Shin & Lukens, 2002). In order to emphasize collaborative aspect of the CBT, the participants were asked to call the therapist as a coach and the therapist called herself as a coach repeatedly during the sessions, but all of participants used the word “Sunsaengnim (respective form of teacher).”

**Implications for Future Research**

The positive outcomes of this study may suggest the worth of replications of the study for the same targeted patients in other areas of the US. The clinical study can be designed with understanding the strength and the limitations of this study. The larger sample with a control group and long-term follow-up would be necessary to incorporate into future studies.

Stigma associated with mental illnesses or female smokers and denial of medical illnesses noted in this study process can be utilized as an opportunity to provide preventative interventions. Participating in preventative program may be perceived as socially favorable attitudes among Koreans as being health conscious and responsible for one’s own health. Planning longer time for recruitment seemed necessary regarding the stigma of mental illness, denial of physical illness, and their busy immigrant lives among the KA population.

The didactic format group sessions were very effective with KAs’ attitude of respecting experts. Adding informal time before or after the session can be utilized for discussion and skills practice. It seemed to have loosened Koreans’ uneasiness with self-exposure and offer an opportunity to form a rapport between the therapist and participants as well as among
participants. Adding a short individual counseling time along with the regular group sessions may provide better response to individual needs.

Most studies of KAs examined in the literature review selected aspects of cultural characteristics of KAs, but none of the studies investigated Koreans’ psychology which is necessary to intervene cognition and behavior. By investigating cultural psychology of KAs, the study can be refined and be more useful for providers, especially mental health specialists treating KAs. The ultimate aim of this feasibility study is for improving anxiety and depressive symptoms but, in order to improve symptoms, the unspoken focuses were on restructuring cognition and modifying behaviors. In addition to knowledge and skills, cognition and behavior changes in outcome measures may provide a better pictures about the effectiveness of the therapy.

In order to avoid possible response-bias of the participant with the self-reported data, investigators would not be involved in the therapy, and data collection would be made by a third party. All these future efforts eventually will lead to use of culturally tailored CBT in the clinical settings, and naturally KA patients will receive more client-centered care and have better quality of life.

**Implications for Clinical Practice**

Treating anxiety or depression for KAs with CBT can be approached with group therapy. Collectivism of KAs needs to be viewed as a characteristic of enjoying getting together and not only as an obligation or responsibility to a group (family, neighbors, and nation). They seemed to naturally enjoy sitting in a group and being group members. Using examples that KAs are familiar with or highlighting Korean-specific traits got a laugh and were well received. Allowing participants a chance to bring up examples and scenarios to demonstrate and practice
certain skills was very useful for achieving the goal as well as for understanding the individual participants.

A short hour session will make the therapy possible at the primary clinical level. The sessions can be done in a reverse order of this study manual; covering disease specific information or management skills first, and then move toward cognitive behavioral intervention in order to provide time for familiarization among participants.

In reference to the denial of physical illness or severity of physical illness, clinicians may need to assess the patients’ perception of their physical illness before treating patients’ illnesses based on the physical or biological data. Establishing a firm belief in CBT’s effectiveness seemed very important to the participants in order to be engaged and attended every session. Repeating the basic concepts may be done in each session to reinforce this principle, the efficacy of CBT in practical application, as well as mastering concepts.

**Implications for Education, Administration, and Policy**

Future studies with a large sample and a control group will further evaluate the statistical significance of the CBT-KAs. A longitudinal study would examine culturally tailored CBT’s long-term effectiveness. The “Mind Well-Being Program” model may also be applied to other chronic illnesses as well as preventive interventions for weight management, smoking cessation, or stress management.

As further research studies confirm the effectiveness of CBT for anxiety or depression among KA COPD patients, educating nurses in the hospital and primary care providers including Advanced Practice Registered Nurses (APRNs), Physician Assistants (PAs), and physicians may create a big impact to the targeted population. Administrators in the hospital and other healthcare organizations may support CBT by arranging in-services or other forms of education opportunities. More data collection to support the benefit of using CBT and formulating
guidelines for practitioners are to be carried by stakeholders, such as American Lung Association, COPD foundation, US COPD Coalition, or American Academy of Nurse Practitioners

As identified in many studies, providing service for anxiety and depression secondary to COPD or other chronic illnesses in the primary care is imperative. Less than 30% of COPD patients experiencing depression or anxiety received services, especially in Honolulu, Hawaii, there are also no mental health specialists who offer services in Korean. Stakeholder’s effort to add CBT practice to the scope of practice for APRNs, PAs, and physicians in the primary care system may convince insurance companies and Centers for Medicare & Medicaid Services (CMS) to add CBT practice as a treatment modality. Such efforts and changes will facilitate the use of CBT for the targeted population and improve health of patients. This would eventually lead to the cost savings for COPD management.

**Conclusion**

The culturally tailored CBT program for Korean-Americans’ anxiety and depression secondary to COPD is feasible. In respecting the cultural collectivism and to mitigate the stigma associated with possible mental illness, calling the program “Mind Well-Being Program” and suggesting a preventative tone as opposed to treating serious health conditions facilitated acceptance. Although there were some limitations, the program demonstrated its potential usefulness for treating anxiety and depression as well as improving disease related quality of life among KA COPD patients. After the six-week intervention, symptoms of anxiety, depression, and quality of life improved as demonstrated by patients’ scores of BAI, BDI, and SGRQ. All participants attended all the sessions, and the participants appreciated its practical and meaningful impact. A group format CBT refined with cultural considerations was well accepted by KA COPD
Future studies with a large sample and a control group will further evaluate its usability more clearly, demonstrating statistical significance. A longitudinal study would examine culturally tailored CBT’s long-term effectiveness. The “Mind Well-Being Program” model may also be applied to other chronic illnesses as well as preventive interventions for weight management, smoking cessation, or stress management.
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202.

Appendix A
Conceptual Framework of CT, BT, and How They are Combined

Conceptual Framework of Cognitive Theory

Conceptual Framework of Behavior Theory

Combining CT and BT (CBT)
Appendix B
CBT model: How can CBT work?

Appendix C.
How Korean-American Culture Applied to CBT Model

Event, Trigger, Environment

Thought

KA Culture
- Social norms – “It is what my thought should be”
- Difficulty focusing on private thoughts – “It is not under my control”
- Preference for immediate solutions – “Thinking too much won’t help”
- Fatalistic view of illness – “my effort won’t change the condition”
- Family orientation – importance of “Saving face”, avoidance to reveal weakness of self and family
- Collectivism – peace and harmony is more important than individual’s happiness, Haan
- Collectivism – importance of “Jeong”, “we-ness”, “rapport”, use of Korean media/proverbs, respect elders
- Stigma of mental illness – normalization, careful word choices
- Respect experts – adapt didactic format
- Busy life – expect brief therapy (short session, 5-6 sessions), follow-up phone calls, letter to the self

Environment: Immigrant Life

Behavior

Feeling

Outcome: Healthy Behavior (Problem Solving and Seeking help)

Outcome: Improved Moods (Decreased Anxiety and Depression)
Appendix D
Cognitive Behavioral Therapy Model in Management of Anxiety in Chronic Obstructive Pulmonary Disease (COPD)

Appendix E
Cognitive Behavioral Therapy Model in management of Depression in Chronic Obstructive Pulmonary Disease (COPD), Example

Appendix F
Conceptual Map of Depression and Anxiety in COPD

COPD symptoms
(Physiologic breathing discomfort)

Stress
Fight-Flight Response
Disease threat, Anxious

Decrease
Quality of Life
Functioning
Increase
Service use

Distorted thought
Fear of symptoms & sensation.
Misperception

Recognizing
distorted
thought / misconception / irrational fear

Anxiety

Depression

Worsening of COPD

Social isolation

Created by Mary I. Jang
<table>
<thead>
<tr>
<th>Authors, Title, Journal, Year</th>
<th>Design</th>
<th>Sample size</th>
<th>Severity of COPD</th>
<th>Severity of Depression/Anxiety</th>
<th>Intervention</th>
<th>Impact on Physical condition</th>
<th>Results</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Eiser, 1997</td>
<td>Clinical trial with control group (not-randomized)</td>
<td>N=18; E=10, C=8</td>
<td>Moderately severe and stable COPD FEV1% E=46.1 (24-78) C=33.4 (16-44)</td>
<td>HADS&gt;8 (bother line or anxiety) out of 10 of the treatment group had scores of &lt;12, 6/8 control patients had anxiety scores within the normal range</td>
<td>CBT individual vs. weekly lab visit for data collection (90 min weekly CBT x 6w with 10 min breathing and relaxation exercise x 3 per day)</td>
<td>Significant improvement in Ex tolerance, and 60-70% sustained effect post 3 months of tx</td>
<td>No significant improvement in anxiety (HADS -1 at posttest, -2 at 3month f/u)</td>
<td>3 month f/u Sample not matched for the level of anxiety (HADS anxiety); experimental group (12±4 (±SD)), controls (7±3; p&lt;0.01) Small pilot study for a short period of time.</td>
</tr>
<tr>
<td>Heslop, 2009</td>
<td>Clinical trial (not-randomized)</td>
<td>N=10; Avg age=68</td>
<td>Severe COPD (stage 3 by GOLD classification)</td>
<td>Wide variations (normal to clinically significant) HADS Anxiety 6-15, avg 10.6</td>
<td>CBT individual average for 4 sessions (range 2–13) until Follow-up continued until improved breathing control and increased activity</td>
<td>Significant improvement in Anxiety (10.6⇒3.8), depression (10.9⇒5.2), and hospital re-admission rate (1.1⇒0.2)</td>
<td>6 month f/u CBT protocol explained in detail, but time spent for the sessions and the intervals were not presented.</td>
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<td>Authors, Title, Journal, Year Pub</td>
<td>Design</td>
<td>Sample size</td>
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<td>Hynninen, 2010</td>
<td>RCT</td>
<td>N=51 E=25 C=26 Women/men =29/25</td>
<td>Moderate COPD</td>
<td>BAI&gt;15 (moderate to severe anxiety) BDI-II &gt;13 (mild to severe depression)</td>
<td>CBT group vs. telephone call q2weeks for symptom assessment 7 weekly 2 hour group sessions, Group size 4-6 Therapist-Masters-level psychology students</td>
<td>COPD related health status, sleep efficiency and quality improvement</td>
<td>Significant improvement in depression (-7.3) and Anxiety (-6.5). No changes in control group No differential interaction effects by sex or by age on the BAI scores, but significant interactions on BDI-II.</td>
<td>6 month F/U more equal gender distribution Sample size smaller than estimated by power analysis, 33 Homogeneity of each group was good.</td>
</tr>
<tr>
<td>Kunik, 2008</td>
<td>RCT</td>
<td>N=238 (Start of the study: Education=120 CBT=118) N= 123</td>
<td>severe COPD per GOLD</td>
<td>Moderate to severe anxiety or depression DSM-IV Dx: Anxiety 38.1% Depression 53.2%</td>
<td>CBT group Vs. education group CBT - 1 hour weekly sessions for 8 weeks (group size=10)</td>
<td>Significant improvement Of 6MWD in both groups</td>
<td>Significant improvement in BDI-II, BAI scores (-9.26, -6.78 vs -6.58, -5.59)</td>
<td>1 year follow up High attrition rate (sample size decreased from 238 to 123 at the end of the experiment) Skewed gender distribution</td>
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<td>Authors, Title, Journal, Year Pub</td>
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<td>(Completers in 8 weeks: education=6 3 CBT=60)</td>
<td>(Completers in 8 weeks: education=6 3 CBT=60)</td>
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<td>Anxity/depression 62.2%</td>
<td>COPD education –1 hour weekly classes for 8 weeks (45 min lecture and 15 min discussion) Therapist-psychology interns and postdoctoral</td>
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<td>Same effectiveness for both groups</td>
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<td>VA Medical Center service users.</td>
<td>VA Medical Center service users.</td>
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<td>Meds change not documented (Psychotropic/ COPD)</td>
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<tr>
<td>Kunik, 2001</td>
<td>RCT</td>
<td>N=48 E=21, C=27</td>
<td>Severe COPDers</td>
<td>Mild depression or anxiety level Some without Anxiety and depression</td>
<td>CBT One 2h CBT and weekly call for 6 weeks post treatment Compared to One 2h COPD education Therapist- board certified geropsychiatrist</td>
<td>CBT no effect reducing COPD severity and physical functioning</td>
<td>Significant improvement on A &amp;D (-2.7 on BAI, -2.1 on GDS), but modest effect</td>
<td>CBT superior to education for lowering</td>
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<tr>
<td>Avg Age = 71.3 83% Male, 90% Caucasian</td>
<td>Avg Age = 71.3 83% Male, 90% Caucasian</td>
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<td>Post-test in 6 weeks</td>
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<td>VA hospital service users.</td>
<td>VA hospital service users.</td>
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<td>No follow up</td>
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<td>Houston, Texas</td>
<td>Houston, Texas</td>
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<tr>
<td>Lamers, 2010</td>
<td>RCT</td>
<td>N=187 E=96 C=91</td>
<td>Moderate to severe COPD</td>
<td>Minor depression, mild major depression, moderate major depression or dysthymia</td>
<td>CBT vs. usual care (CBT and self-management) average 4 x one hour sessions (2-10 sessions over 3 months per the progress) Therapist-Nurses Delivered at patient’s home</td>
<td>Significant improvement on COPD specific health status (SGRQ score)</td>
<td>Significant improvement in depression and anxiety; mean BDI difference 2.92, p = 0.04, mean SCL difference 3.69, p = 0.003</td>
<td>Attrition rate 36% (higher age and higher baseline BDI and SGRQ scores (activity and impact subscales and total score) 9 months f/u One who is not fluent in Dutch excluded</td>
</tr>
<tr>
<td>Livermore, 2010</td>
<td>RCT</td>
<td>N=41 E=21 C=20</td>
<td>moderate to severe COPD (II, III per GOLD)</td>
<td>borderline abnormal anxiety and depression (“moderate” to the “mild” range)</td>
<td>CBT vs. routine care One hour weekly session for 4 weeks Therapist-experienced clinical psychologist</td>
<td>Not measured</td>
<td>Significant improvement in number of panic attack post intervention and maintained for 18months. Decreased Anxiety and depression during the follow ups,</td>
<td>18months f/u Small sample size Ones with lack of English literacy were excluded (due to the requirement for completion of standardised questionnaires unavailable in other languages)</td>
</tr>
<tr>
<td>Authors, Title, Journal, Year Pub</td>
<td>Design</td>
<td>Sample size</td>
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<tr>
<td>Stanley, 2005</td>
<td>Case report</td>
<td>N=5 (VA) Hospital, All white and males Age 54-80 Houston, Texas</td>
<td>Moderately severe to severe</td>
<td>Severe A&amp;D; (BAI -&gt; 16) and/or depressive symptoms (BDMI -&gt; 14)</td>
<td>CBT: 1h/w x 8w</td>
<td>1/5 improvement in respiratory function, 4 no changes or worsening</td>
<td>Improvement in A&amp;D (4/5, statistical significant could not measured due to small sample)</td>
<td>Follow up at 12 months Small sample case report Lack of heterogeneity</td>
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## Appendix H
### CBT Content Comparison of Reviewed Articles

<table>
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<tr>
<th>Eiser 1997: Not significant improvement (A)</th>
<th>Heslop 2009: Significant improvement (A &amp; D) at the end of treatment</th>
<th>Hynninen 2010: Significant improvement, last 6mo</th>
<th>Kunik 2008: Significant improvement, but no difference from the control, did not last for 52w</th>
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<tbody>
<tr>
<td>Individual CBT (control= weekly lab visit for data collection) 90min x 6w F/u 3mo HADS anxiety =-2, not significant (baseline=12, abnormal level of anxiety) Improvement on exercise tolerance Psychiatrist</td>
<td>Individual CBT (no control) Avg 4 weekly sessions (2-13) No f/u HADS Anxiety=-6.8 (baseline 10.6) HADS Depression =-5.7 (baseline 10.9) Hosp admission rate 1.1→0.2 Nurse with postgraduate diploma level CBT training</td>
<td></td>
<td>Group CBT (Control= symptom assessment via telephone q2w) 2h x 7w Group size 4-6 F/u 6mo BAI= - 6.5 (baseline=17.5) BDI-II = - 7.3 (baseline=20.7) SGRQ &amp; sleep efficiency improvement Masters level psychology students</td>
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<tr>
<td>1) Discuss their physical symptoms as well as the psychological and physiological effects of their disease on the quality of their lives. 2) Explore the concepts of anxiety, its links with breathlessness and ways of controlling anxiety. 3) Learn simple deep breathing exercise and deep muscle relaxation, distraction techniques. 4) Homework: breathing and relaxation exercises for 10 min three times daily with the aid of tapes.</td>
<td>1) Assessment of problem – 2) Addressing and changing unhelpful misconceptions 3) Information about the counterproductive anxiety cycle 4) Addressing somatic attention 5) Addressing hyperventilation 6) Identifying and addressing maladaptive beliefs and catastrophic predictions 7) Re-engagement with everyday activity using goal-setting and activity scheduling 8)Planning and pacing activities 9)Activity scheduling 10)Providing information where required</td>
<td></td>
<td>Group CBT (Control=COPD education) 1h x8w Group size 10 F/u 4 and 8 weeks, and 4, 8, and 12mo BAI=6.78 (baseline=22.67) BDI-II=9.26 (baseline=23.44) QoL improved. Control achieved similar improvement, no significant differences. Significantly better outcome with 6MWD</td>
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<td>Psychology interns and postdoctoral fellows</td>
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<td>1) education and awareness training focused on anxiety, depression and associated physiological, cognitive and behavioral symptoms (session 1) ; 2) relaxation training (session 2) ; 3) increasing pleasurable activity and decreasing anxiety-related avoidance (sessions 2–3) ; 4) cognitive therapy (alternative thoughts, encouraging self-statements, and thought-stopping) (sessions 4 and 5) ; 5) problem-solving techniques (session 6) ; 6) sleep management skills (session 7) ; and 7) Skills review and planning for maintenance of gains (session 8).</td>
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<td>Kunik 2001: Significant improvement, no f/u</td>
<td>Lamers 2010: Modest significant improvement at 9mo, significant improvement on SGRQ</td>
<td>Livermore 2010: significant decrease in anxiety attack at 18 mo for 6mo period, small but significant improvement on A&amp;D that last 18mo</td>
<td>Stanley 2005: not conclusive due to the small sample</td>
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<td>Group CBT (control=COPD education)</td>
<td>Individual CBT (Control=usual care) [Minimal Psychological Intervention (MPI)= CBT + self management] 1h x avg 4 sessions (2-10 sessions) F/u 9mo BDI=-2.92 (baseline=17.1) SCL=-3.69 (baseline=20.6) Improvement on SGRQ(7.94, p = 0.004) Nurses Phase Description 1) The nurse explores the patient’s feelings, cognitions and behaviours 2) The patient keeps a diary, where he or she records symptoms, complaints, thoughts, worries, related feelings and behaviour 3) The patient is challenged to link his or her mood to the consequent behaviour, using information from the diary 4) The self-management approach is introduced. The patient explores possibilities to alter his or her behaviour and draws up an action plan 5) Evaluation of progress in achieving the goals of the action plan</td>
<td>Individual CBT (control=routine care) 1h x 4w F/u 18mo Panic attack 20% → 0% for 6months HADS anxiety and depression =-1, -1 (Baseline HADS =4-6) Experienced psychologists 1) Psychoeducation about CBT, 2) the effects of the stress response on breathing and the cycle of panic anxiety in COPD; 3) training in cognitive challenging of unhelpful cognitions; 4) training in “pursed lip breathing”; 5) reinforcement of activity planning and “pacing”; 6) the development of a personalised “good coping plan”; and 7) problem-solving to address any barriers to good coping.</td>
<td>Group CBT (no control) 1h x 8w F/u 12mo BAI: 2/4 clinically meaningful improvement (baseline&gt;16) BDI: all improved, 3/4 clinically meaningful improvement (Baseline&gt;14) Experienced psychologists 1) Session I. Orientation, motivational exercises, education, and awareness; 2) Session 2. Relaxation skills; Creating the activity hierarchy 3) Session 3: Creating the activity hierarchy 4) Sessions 4 to 5: Changing thoughts and increasing activity 5) Session 6: Problem-solving and increasing activity 6) Session 7: Sleep management skills and increasing activity</td>
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<td>2h x 1 Posttest in 6weeks BAI=-2.7 (baseline=15.3) GDS=-2.1 (baseline=11.5) CBT superior to education; modest improvement but statistically significant</td>
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<td>Geropsychiatrist</td>
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<td>Learn</td>
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<td>1) Role of A&amp;D in chronic illness</td>
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<td>2) Three components of anxiety (physiological sensation, thoughts, behaviors)</td>
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<td>a. Practice Coping skills</td>
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<td>3) Relaxation including diaphragmatic breathing</td>
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<td>4) Thought stopping</td>
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<td>5) An explanation of exposure to anxiety producing situations</td>
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## Appendix I
### Review Matrix: Interventions for KAs

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<tr>
<th>Author (Year)</th>
<th>Topic/Title</th>
<th>Methods</th>
<th>Sample Size</th>
<th>Intervention</th>
<th>Cultural Consideration</th>
<th>Results</th>
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<td><strong>Cancer Screening</strong></td>
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<td>1</td>
<td>Lee, et al. (2014)</td>
<td>Breast cancer screening/ The Effect of Couples Intervention to Increase Breast Cancer Screening Among Korean Americans</td>
<td>RCT (Couples education about BCA screening Vs Education about improving Diets) Chicago</td>
<td>428 (211 vs 217)</td>
<td>1. 30 min Korean-language DVD featuring the Korean Immigrants and Mammography (developed by authors) 2. Group Discussion (10min) guided by PowerPoint presentation to reinforce info in the DVD 3. Mailing homework in 24h: 2 things learned in the DVD, and two things the husband can do 4. Different slogans per group: Healthy Family, Healthy Wife,” vs “Healthy Family, Healthy Diet,”</td>
<td>1. Korean language used for intervention 2. Husband Participation in the session 3. The DVD ends with the slogan, “As most Koreans have a habit of eating kimchi every day, Korean women should have a habit of getting a mammogram every year.”: The program named ‘Korean Immigrants and Mammography—Culture-Specific Health Intervention (KIM-CHI) program.’ 4. Male physician appears in the DVD to reduce KA women’s feelings of embarrassment regarding talking to male physicians about breast cancer.</td>
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<td>2</td>
<td>Kim, Menon, Wang, &amp; Szalacha (2010)</td>
<td>BCA Screening/ Assess the effects of culturally relevant intervention on breast cancer knowledge, beliefs, and mammography use among Korean American women</td>
<td>quasi-experimental with pre- and post-test (2 groups—education vs no education)</td>
<td>180 (90 vs 90)</td>
<td>One 45 min interactive educational program, semi-structured session offered to groups of 10–12 women</td>
<td>1. Korean language support education session focused on breast cancer, early screening guidelines, and beliefs (breast cancer-related and Korean cultural beliefs 2. Education and data collection at churches</td>
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<td>Maxwell, Jo, Crespi, Sudan, &amp; Bastani (2010)</td>
<td>Breast cancer screening/Peer navigation improves diagnostic follow-up after breast cancer screening among Korean American women: Results of a randomized trial.</td>
<td>RCT Pre &amp; Post test 2 groups- A peer navigator intervention vs an usual care control</td>
<td>176 (92 vs 84)</td>
<td>1. Peer navigation: reminding women before an appointment, explaining the need for the nature of the diagnostic follow-up exam, meeting women at the referral clinic, helping them to complete forms, and providing information and emotional support. identified during the initial phase of the study 2. Usual care: Two reminder phone calls</td>
<td>1. A KA bilingual peer navigator 2. Support with language and navigation for f/u test</td>
<td>Positive: self-reported completion of follow up for diagnostic test was 61% in the intervention arm and 46% in the usual care control arm (p&lt;0.069)</td>
</tr>
<tr>
<td>Han, Lee, Kim, &amp; Kim (2009)</td>
<td>Breast cancer screening / Tailored lay health worker intervention improves breast cancer screening outcomes in non-adherent Korean-American women.</td>
<td>Quasi experiment, Pre and posttest, Intervention group only MD</td>
<td>100 Who had no mammogram for 2 years</td>
<td>1. 2 hour in-class group education session at community centers/participants’ homes, 2. Counseling via telephone or home visits for 6 months 3. And then f/u assessment 4. All interventions by trained (16hours) lay health workers (16 hours)</td>
<td>1. Bilingual KA lay health workers’ intervention 2. Prevention and KA specific barriers were focused during in-class education and counseling 3. Interventions at the Korean Resource Center</td>
<td>Positive: Significant increase of 31.9% for mammography, 23% for clinical breast examination and 36.2% for breast self-examination.</td>
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<td>Kim &amp; Menon (2009)</td>
<td>Breast Cancer screening/Pre- and post-intervention differences in acculturation, knowledge.</td>
<td>Quasi experiment, Pre and posttest, 3 groups (Contemplators, Relapsers, precontemplator s)</td>
<td>300 (38, 241, 21)</td>
<td>a 45-minute, stage-based, semi-structured, interactive session on breast cancer and early screening knowledge and beliefs</td>
<td>1. Education session delivered by a bilingual KA woman 2. Materials in Korean language 3. PowerPoint® slides with culturally appropriate graphics, a video testimonial from a Korean American breast cancer survivor.</td>
<td>Negative: No statistically significant intervention effect was noted on upward shift in stage of</td>
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<td>beliefs, and stages of readiness for mammograms among Korean American women.</td>
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<td>5. Site: Korean American Senior Center (KASC)</td>
<td>mailed readiness for mammography use</td>
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<td>Maxwell Jo, Chin, Lee, &amp; Bastani (2008)</td>
<td>Breast cancer screening/Impact of a print intervention to increase annual mammography screening among Korean American women enrolled in the National Breast and Cervical Cancer Early Detection Program.</td>
<td>Quasi-experimental, (Intervention vs Historical control)</td>
<td>656 (360 vs 296) mailed the print intervention together with the routine reminder postcard to women who were due to return for their annual mammogram</td>
<td>1. Materials in Korean language</td>
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<td>LA</td>
<td>2. The print intervention developed via a series of KA focus group sessions; developing or reviewing quotes and slogans, drafts of graphs, pictures, and messages.</td>
<td>3. KAs’ health beliefs and barriers also reflected</td>
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<td>186 (92 vs 94)</td>
<td>2. A photo novel developed through focus groups with BCA survivors and families, and refined by a work group</td>
<td>2. A photo novel developed through focus groups with BCA survivors and families, and refined by a work group</td>
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<td>MD</td>
<td>3. KA perception of low risk of BCA, confidence in their health, lack of knowledge of cancer screening guidelines, misconception of family history were reviewed.</td>
<td>4. Intervention was conducted at churches, doctors’ offices,</td>
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<td>Positive: Statistically significant greater intentions to have mammogram in the intervention group: 2.96 times greater than control group</td>
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<td>8 Kim, &amp; Sarna (2004)</td>
<td>Breast cancer screening/ An intervention to increase mammography use by Korean American women.</td>
<td>Quasi-experimental, Pre &amp; posttest, 3 groups (intervention1, control) Community based</td>
<td>141 (47 vs 48 vs 46) Southern California</td>
<td>Intervention1: 1 hour peer group education + mobile mammogram Intervention2: mobile mammography only Control: cholesterol education, blood chemistry, osteoporosis screening test *mobile mammogram-free or low cost</td>
<td>Peer group education program: 1. shaped by women’s advisory committee, 2. reflected KAs’ values, belief and myths (‘let’s talk between women’, women’s role in the family, fatalistic view of cancer) 3. peers involvement (KA BCA survivors, one KA NP), 4. Supportive environment (churches, pastor’s encouragement) Mobile mammography: 1. provided at churches 2. with free or low cost</td>
<td>positive: statistically significant improvement of mammogram use in intervention groups compared to the control group at 3 months f/u (87%, 72%, 47% respectively) No group significant differences between intervention groups</td>
</tr>
<tr>
<td>10 Wismer et al., (2001)</td>
<td>Breast and cervical cancer screening/</td>
<td>Quasi-experimental,</td>
<td>818 in 1994 (pre-</td>
<td>A 45 min workshop (used PRECEDE and PROCEED model and other published</td>
<td>1. Collaborated with Korean Community Advisory Board</td>
<td>Negative:</td>
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<td>Fang, Ma, Tan, &amp; Chi (2007)</td>
<td>Cervical cancer screening / A multifaceted intervention to increase cervical cancer screening among underserved Korean women</td>
<td>Pre-interim, posttest, cross sectional survey (4yr f/u) Interim report of the 10yr project</td>
<td>724 in 1997 (intervention from March 1996-September 1997) Experiment al vs control county Alameda County and Santa Clara, CA</td>
<td>intervention programs, then health counselor (lay health advisor), 2. Ensured cultural appropriateness of the material with KCAB 3. Workshops and printed materials in Korean language 4. Identified correlates for CA screening for KAs was used in improving programs 5. Telephone survey done by trained KAs 6. Workshop at churches</td>
<td>1. Bilingual health educator 2. Group specific health belief and psychosocial barriers incorporated into intervention: embarrassment, low perceived risk, uncertainty about the benefits of screening, seeking health care based on symptoms 3. Navigation service: to reduce access barriers with costs and language</td>
<td>No measurable changes in screening rates and exposure to the community program</td>
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<tr>
<td>Sabado, Jo, Kagawa-Singer, &amp; Juhn (2015)</td>
<td>Colorectal Cancer screening / Community collaborative for colorectal cancer screening in Los Angeles Koreatown</td>
<td>Community Based Education, Education &gt;2500 FIT test: 1001 LA</td>
<td>102 (52 vs 50) PA area?</td>
<td>One 2 hour small group education session focused on cervical cancer and navigation services for medical service (including cervical cancer screening) use Control: One 2 hour small group general health education including cancer screening 1. Korean language support 2. Community partnerships with Korean Resource Center (KRC, a social services and advocacy agency) and Koryo Health Foundation (KHF, a community health center) 3. Culturally favorable venue: KRC, KHF, local Korean churches</td>
<td>1. Bilingual health educator 2. Group specific health belief and psychosocial barriers incorporated into intervention: embarrassment, low perceived risk, uncertainty about the benefits of screening, seeking health care based on symptoms 3. Navigation service: to reduce access barriers with costs and language</td>
<td>Positive: Significant increase of screening rate with intervention, from 11.5% to 82.7% No changes in the control group.</td>
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<td><strong>Colorectal cancer screening</strong></td>
<td>Ma et al., (2009)</td>
<td>Quasi experiment, Pre and posttest (intervention vs control) CBPR (253 Korean churches)</td>
<td>167 (84 vs 83) PA area</td>
<td>Six weekly group CRC education sessions vs general health education including primary prevention</td>
<td>Education by bilingual health educators patient navigation assistance by bilingual Emphasis on high prevalence of the disease among Koreans Culturally relevant risk factors having an impact on CRC (e.g., beliefs, lifestyle, and diet) were also addressed. Barriers to screening identified by focus groups (psychosocial, cultural, and healthcare system-related barriers) were incorporated into the intervention program.</td>
<td>Positive: Screening rate: 77.4% vs 10.8% at 12 months f/u</td>
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<td><strong>Smoking Cessation</strong></td>
<td>Kim, Kim, Fang, Kwon, Shelley, &amp; Ziedonis (2015b)</td>
<td>RCT</td>
<td>109 80% Male, Gender stratified</td>
<td>1. Eight weekly individual counseling (culturally adapted vs. no cultural consideration) (40 min vs 10min) by Korean Natives who took the tobacco treatment specialist training 2. NTP for 8weeks for both groups</td>
<td>1. Sessions delivered in Korean language 2. Family support (not to smoke or expose cigarettes) 3. Used news media from Korean news paper (celebrity news and articles) 4. Used statistics in Korean 5. Korean values of collectivism and conformity lead to use Theory of Planned Behavior</td>
<td>Positive: 12-month prolonged abstinence: 38.2 % vs 11.1 %; 7-day point prevalence abstinence at 12 months: 41.8 % vs 18.5 %</td>
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<td>Kim, Kim, &amp; Ziedonis (2011)</td>
<td>Smoking cessation/ Tobacco Dependence Treatment for Korean Americans: Preliminary Findings</td>
<td>RCT (CCBT vs medication management education)</td>
<td>30 (14 vs 16) NY</td>
<td>3. self-report abstinence was verified with biochemical data</td>
<td>targeting attitudes, perceived social norms, and self-efficacy</td>
<td>*Self-reported abstinence was biochemically verified with expired-air CO (6 parts ppm) and saliva Cotinine (B30 ng/ml) tests.</td>
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<td>McDonnell, Kazinets, Lee, &amp; Moskowitz, (2011)</td>
<td>Smoking cessation/ An internet-based smoking cessation program for Korean Americans: results from a randomized controlled trial.</td>
<td>RCT (internet program vs education Booklet) CBPR: Korean American Community Advisory Board (KCAB) involved</td>
<td>1112 (562 vs 550)</td>
<td>1. Internet based cognitive-behavioral program vs. booklet of the same program 2. Pre-existing program is adapted for KAs</td>
<td>1. Korean language used for sessions and materials 2. “All materials were adapted for KAs and translated into Korean by a professional translator. Bilingual staff and KCAB members reviewed the translations.” No further explanations</td>
<td>Negative: No significant difference in 30-day smoking cessation between the Internets (11%) and booklet (13%) groups</td>
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<td>Fang, Ma, Miller, Tan, Su, &amp; Shive (2006)</td>
<td>Smoking cessation/ A Brief Smoking Cessation Intervention for Chinese and Korean American Smokers</td>
<td>RCT pre &amp; posttest, Intervention vs control</td>
<td>66 (43 vs 23) Southeaster n PA</td>
<td>One individual session targeted cognitive-affective reactions to smoking and cessation lasting 90-120 min + NRT</td>
<td>1. Sessions provided in participants’ native language 2. Cultural values and culturally appropriate quitting strategies suggested; social norms supporting smoking, familial support, concerns relating to children’s health, healthy Asian diet 3. Issues related to immigration life incorporated (acculturation, employment)</td>
<td>Positive: Higher quitting rate in intervention group (60% vs 26.7%) at 3 months f/u (quitting: 7 day abstinence via self-report)</td>
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<td>Kim, Han, Hedlin, Kim, Song, Kim, &amp; Hill (2011)</td>
<td>Hypertension/ Teletransmitted Monitoring of Blood Pressure and Bilingual Nurse Counseling–Sustained Improvements in Blood Pressure Control During 12 Months in Hypertensive Korean Americans</td>
<td>Quasi experimental (2x2 factor) (in-class education vs mailed booklet) (more intensive or less intensive telephone counseling) No control group</td>
<td>359 (177 vs 182) Baltimore area</td>
<td>1. 6-week psycho-behavioral in-class group education program vs mailing education, 2. Self BP monitoring and transmitting data practice for 6 weeks, and then 3. 12 months of BP self-monitoring and telephone counseling either biweekly or monthly for 12 months</td>
<td>1. All interventions by bilingual RNs 2. No details about cultural consideration in the content of education or counseling (see Kim et al., 2008) 3. Counseling includes problem solving in regards to BP measurement, medical treatment, and maintaining a healthy lifestyle (eg, diet, exercise, weight control, smoking cessation, and limited alcohol consumption)</td>
<td>Positive: BP control in intervention group increased from 30% to 83.2%, (P&lt;.001) in 12 months Positive results in Behavioral factors, self-efficacy, depression, and medication adherence</td>
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<tr>
<td>Han et al., (2010).</td>
<td>Hypertension/ Implementation and success of nurse telephone counseling in linguistically</td>
<td>Quasi experimental (second phase of 2x2 factorial design)</td>
<td>397 (203 vs 194) (more intensive vs less intensive telephone counseling by a bilingual nurse: biweekly or monthly for those who participated in phase 1 (in class education or self-education with mailed materials over 6 weeks)</td>
<td>1. Bilingual nurse telephone counseling (no further details reported) 2. Counseling topics: medication-taking, a low-salt diet, exercise, smoking cessation,</td>
<td>Positive: The overall success rate for the intervention was 80.3% at 12 months</td>
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<td>isolated Korean American patients with high blood pressure.</td>
<td>(more intensive or less intensive telephone counseling)</td>
<td>telephone counseling</td>
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<td>along with home BP monitoring with a tele-transmission system</td>
<td>home BP monitoring, or stress management. 3. Counseling intended to offer social support and reinforce HBP related knowledge learned in phase 1. 4.</td>
<td>(general KA population BP control rate is about 25%, general US population about 50%)</td>
</tr>
<tr>
<td>20 Kim et al., (2008)</td>
<td>Hypertension/ Mail education is as effective as In-class education in hypertensive Korean patients.</td>
<td>RCT, Pre &amp; Posttest (Intervention1 vs intervention2) CBPR</td>
<td>380 (168 vs 212) (in-class education vs mailing education)</td>
<td>(1) weekly 2-hour psycho-behavioral education over 6 weeks vs receiving the same education material weekly over 6 weeks, Both groups after (1) and 6 weeks test period (2) home BP monitoring with a telephone transmission system (3) telephone counseling by a bilingual nurse who facilitates problem solving in managing BP for 12 months</td>
<td>1. All interventions by bilingual RNs 2. No details about cultural consideration in the content of education or counseling 3. Education content included behavioral and cognitive components 4. “Throughout the process, cultural knowledge of and insights into the target ethnic community provided by the community members were incorporated.” 5. Myth about HTN medication was one example given: toxic or addictive</td>
<td>Positive in both groups: Improvement BP control rate: 35.7% to 78.0% in in-class group, 25.9% to 80.2% at 3 months f/u</td>
</tr>
<tr>
<td>21 Kim, Han, Park, Lee, &amp; Kim (2006)</td>
<td>Hypertension/ Constructing and testing a self-help intervention program for high blood pressure control in Korean American seniors- a pilot study</td>
<td>Quasi-experimental, Pre &amp; posttest, Intervention group only CBPR</td>
<td>31 Baltimore Washington</td>
<td>1. Two hour weekly education sessions over 6 weeks 2. Home BP monitoring 3. Monthly support group meeting (1h) with bilingual nurse</td>
<td>1. Bilingual nurses delivered sessions and support groups 2. Intervention materials approved by community curriculum advisory committee (KA physicians, nurses and seniors), and refined through 3 focus group meetings (17 KA seniors) 3. Problem solving skills to manage immigrants life included in intervention 4. Site: 3 community sites, including an elderly housing complex, a senior center, and a local library.</td>
<td>Positive: BP control rate increased from 29% (baseline) to 68.8% at 6 months Higher control rate among those who participated in support groups (81.8% vs 605)</td>
</tr>
<tr>
<td>Author (Year)</td>
<td>Topic/Title</td>
<td>Methods</td>
<td>Sample Size</td>
<td>Intervention</td>
<td>Cultural Consideration</td>
<td>Results</td>
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<tr>
<td><strong>Type 2 Diabetes</strong></td>
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<tr>
<td>22 Kim, Kim, Huh, Nguyen, Han, Bone, &amp; Levine (2015a)</td>
<td>Type 2 Diabetes/ The Effect of a Community-Based Self-Help Intervention: Korean Americans With Type 2 Diabetes</td>
<td>RCT Pre &amp; Post test Community-Based</td>
<td>150 (120 vs 130) Baltimore, MD</td>
<td>1. weekly 2-hour group educational and behavioral sessions by RNs over 6 weeks 2. Self-monitoring of glucose BID over 12 months 3. Monthly telephone counseling by bilingual RNs/community health workers over a year Control: a brief educational brochure about self-management, community resources for DM care</td>
<td>1. Bilingual staff and materials 2. Korean Community involvement in recruitment, developing program, and data collection 3. Site at Korean Resource Center 4. The psychological education component was designed to assist KAs in reframing life adversity within a more positive perspective (i.e., challenge rather than threat) 5. Most research activities took place at a community site, the Korean Resource Center (KRC),</td>
<td>Positive: A1C improvement 1.0%–1.3% vs 0.5%–0.7%. Statistically significant improvement in diabetes-related self-efficacy and quality of life when compared with the control group.</td>
</tr>
<tr>
<td>23 Islam, Zanowiak, Wyatt, Chun, Lee, Kwon, &amp; Trinh-Shevin (2013)</td>
<td>Type 2 Diabetes / A Randomized-Controlled, Pilot Intervention on Diabetes Prevention and Healthy Lifestyles in the New York City Korean Community</td>
<td>RCT (Diabetic education vs no intervention)</td>
<td>48 (25 vs 23)</td>
<td>1. Six 2-hour group education sessions every 3 weeks 2. Sessions delivered by trained Community health workers (60 hours for core-competency, 30 hours for mental health and motivational interview skills) 3. Post intervention f/u phone calls (10 over 6 months) 4. 60% of intervention group completed 4 or more sessions</td>
<td>1. bilingual Korean American CHW facilitated the group session and phone calls 2. Used previously developed curriculum (national guide, for Bangladeshi, KA at Baltimore-Washington area, see list 15 Kim et al, 2009) 3. Use of statistics for Asians, photos with Korean foods, culturally appropriate images and language, examples with Korean foods, 4. Providing health care access information including one for non-documented immigrants</td>
<td>Positive: Improvement on Clinical measurements (weight, BMI, waist circumference, blood pressure, glucose, and cholesterol), Diabetic knowledge, life-style change (exercise, diet), &amp; GAD. High satisfaction with the program and CHW</td>
</tr>
<tr>
<td>24 Song, Han, Lee, Kim,</td>
<td>Type 2 Diabetes / Pilot test Pre and post test</td>
<td>RCT Pilot test Pre and post test</td>
<td>79 (40 vs 39)</td>
<td>1. two 2-hour weekly culturally relevant nutritional education</td>
<td>1. Recommendation from Korean diabetes association adopted besides ADA guidelines use</td>
<td>Significant increase of DM-specific nutrition</td>
</tr>
<tr>
<td>Author (Year)</td>
<td>Topic/Title</td>
<td>Methods</td>
<td>Sample Size</td>
<td>Intervention</td>
<td>Cultural Consideration</td>
<td>Results</td>
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<tr>
<td>Kim, Nguyen, &amp; Kim (2010)</td>
<td>Translating Current Dietary Guidelines Into a Culturally Tailored Nutrition Education Program for Korean American Immigrants with Type 2 Diabetes</td>
<td>Community based</td>
<td></td>
<td>by a bilingual dietician at a local community center (Korean Resource Center)</td>
<td>2. Korean food models and an individually tailored serving table were utilized</td>
<td>knowledge in the intervention group.</td>
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<td></td>
<td></td>
<td>Baltimore-Washington area</td>
<td></td>
<td>2. Control group: no intervention</td>
<td>The participants’ satisfaction, 9.7/10</td>
<td></td>
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<td></td>
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<td>3. Help to individualize dietary goals for glycemic control and weight management</td>
<td></td>
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<td></td>
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<td>4. Site at Korean Resource Center</td>
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<td>25</td>
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<tr>
<td>Kim, Han, Song, Lee, Kim, Ryu, &amp; Kim (2009)</td>
<td>Type 2 diabetes/ A community-based, culturally tailored behavioral intervention for Korean Americans with type 2 diabetes.</td>
<td>RCT, pilot (intervention vs no intervention) CBPR</td>
<td>79 (40 vs 39)</td>
<td>Six 2-hour weekly psycho-behavioral education, home glucose monitoring and BP with tele-transmission, and monthly bilingual nurse telephone counseling (10-25min) for 24 weeks.</td>
<td>1. Education delivered by trained bilingual nurses and a nutritionist. 2. Education material constructed and pilot tested as integrating traditional diet and exercise and tailored counseling on pharmacological regimens based on their use of traditional herbal medicine and behavioral patterns 3. Telephone counseling by trained bilingual nurses 4. Education conducted at Korean resource center</td>
<td>Positive: 1% reduction in A1C Improvement of DM knowledge, self-care activities, self-efficacy, and attitude toward DM in the intervention group, but not statistically significant in depression and insulin injection related knowledge</td>
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<td></td>
<td></td>
<td>Baltimore-Washington area</td>
<td></td>
<td></td>
<td>All translated/modified measurement tools for KAs reflected cultural values (no further details described)</td>
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<td><strong>Mental Illness</strong></td>
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<td>Shin (2004)</td>
<td>Chronic mental illness/ Effects of culturally relevant psychoeducation for Korean American families of persons with</td>
<td>RCT, pre and posttest</td>
<td>48 (24 vs 24, experiment vs control)</td>
<td>1. Experiment: Ten 90 min weekly psychoeducational sessions, and individual supportive sessions on an as needed basis</td>
<td>1. Intervention sessions delivered by Korean-speaking SW specializing in mental health 2. Conventional curriculum was modified for KAs such as traditional disease concepts- ‘haunted by a ghost’ or ‘a misfortune destined to be carried on their birth’</td>
<td>Positive: Significant decrease of stigma and increase of empowerment, but improvement of coping skills was not significant</td>
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<tr>
<td>Author (Year)</td>
<td>Topic/Title</td>
<td>Methods</td>
<td>Sample Size</td>
<td>Intervention</td>
<td>Cultural Consideration</td>
<td>Results</td>
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<td>Shin, &amp; Lukens (2002)</td>
<td>Chronic mental illness/ Effects of psychoeducation for Korean Americans with chronic mental illness.</td>
<td>RCT, Pre &amp; posttest (intervention/control) New York City</td>
<td>48 (24 vs 24)</td>
<td>Ten 90 min weekly culturally sensitive psychoeducation group sessions and ten weekly individual support therapy vs ten weekly 45 min individual support therapy Lecture form followed by a question-and-answer and discussion Contents adopted from other published studies (stigma included) 8 in each group</td>
<td>1. All sessions conducted and written materials provided in Korean language 2. Educational sessions conducted by Korean speaking psychiatric social worker 3. Supportive sessions conducted by 2nd year master’s program students 4. Utilized didactic format than interactive format (less conducive and sharing self-disclosure) 5. ‘Culturally determined respect for experts and authority may facilitate both the educational process and the therapeutic alliance’ 6. Discussion of traditional disease concepts integrated into the sessions 7. Psyche and soma were presented as two complimentary aspects of life 8. Parallel sessions were offered for the families</td>
<td>Positive: Significantly decreased symptom severity and perception of stigma, and greater coping skills one week after treatment</td>
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<tr>
<td>Author (Year)</td>
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<tr>
<td>28 Pa - Parenting</td>
<td>Kim, Cain, &amp; Webster-Stratton (2008)</td>
<td>Parenting/ The preliminary effect of a parenting program for Korean American mothers: a randomized controlled experimental study</td>
<td>RCT, pilot Pre &amp; posttest (Intervention vs control)</td>
<td>29 (20 vs 9)</td>
<td>2-3 hours weekly sessions over 12 weeks (10 in a group) vs No intervention</td>
<td>Sessions were delivered in Korean Language by bilingual KA counselor (PI) and nurse. Korean parenting style was well explored from literature, but specific consideration in the intervention was not described. Positive: significant increase of positive discipline use at the completion of the program and it maintained at 12 months f/u</td>
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</table>
### Appendix J:
Details of Interventions for KAs

<table>
<thead>
<tr>
<th>Topic</th>
<th>Author (Year)</th>
<th>RCT</th>
<th>CBPR/CC</th>
<th>Sample Size</th>
<th>Main Intervention/venue</th>
<th>Added Intervention</th>
<th>Intervention carrier</th>
<th>Cognitive intervention</th>
<th>F/U period</th>
<th>Primary OCM</th>
<th>Cognitive OCM</th>
<th>Result</th>
<th>Area</th>
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</thead>
<tbody>
<tr>
<td>Cancer Screening</td>
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<tr>
<td>BCA</td>
<td>Lee, 2014</td>
<td>RCT</td>
<td>CBPR</td>
<td>428 couples</td>
<td>DVD education + discussion + Homework, once Venue Not mentioned</td>
<td>No</td>
<td>Research specialists (Social worker)</td>
<td>Changing health belief about BCA</td>
<td>6m, 15m</td>
<td>mammo gram</td>
<td>No</td>
<td>Positive</td>
<td>Chicago</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>No</td>
<td>180</td>
<td>One 45min group education Korean churches</td>
<td>No</td>
<td>PI</td>
<td>BCA related beliefs &amp; Korean cultural beliefs</td>
<td>16w, 24w</td>
<td>Mammo gram use</td>
<td>No</td>
<td>Negative</td>
<td>Midwest</td>
</tr>
<tr>
<td></td>
<td>Maxwell, 2010</td>
<td>RCT</td>
<td>No</td>
<td>176</td>
<td>Peer navigation KA Clinics in Koreatown</td>
<td>No</td>
<td>Patient navigator (pastor wife at 40s, well trained by one of authors, physician)</td>
<td>No</td>
<td>6m</td>
<td>Mammo gram (flu exam)</td>
<td>No</td>
<td>Positive</td>
<td>LA</td>
</tr>
<tr>
<td></td>
<td>Han, 2009</td>
<td>No</td>
<td>CC</td>
<td>100</td>
<td>One session Group education KRC</td>
<td>Telephone or home visit counseling, 6m</td>
<td>Lay health worker (18h training, evaluation process by two trainers)</td>
<td>No</td>
<td>6m</td>
<td>Mammo gram</td>
<td>Positive (primary outcome)</td>
<td>MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kim, 2009</td>
<td>No</td>
<td>CC</td>
<td>300</td>
<td>Group education KRC</td>
<td>No</td>
<td>PI (RN, PhD)</td>
<td>Discussion about CA belief</td>
<td>16w, 24w</td>
<td>Readiness of MMG</td>
<td>beliefs (perceived risk, pros, cons, fear, self-efficacy, modesty, fatalism)</td>
<td>Negative</td>
<td>Chicago</td>
</tr>
<tr>
<td>Topic</td>
<td>Author (Year)</td>
<td>RCT</td>
<td>CBPR /CC</td>
<td>Sample Size</td>
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<td>Cognitive intervention</td>
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<tr>
<td>6</td>
<td>Maxwell, 2008</td>
<td>No</td>
<td>CC</td>
<td>656</td>
<td>Mailing print material KA clinic</td>
<td>No</td>
<td>NA</td>
<td>No</td>
<td>3m, 6m</td>
<td>No</td>
<td>BCA screening rate</td>
<td>Negative</td>
<td>LA</td>
</tr>
<tr>
<td>7</td>
<td>Juon, 2006</td>
<td>No</td>
<td>CC</td>
<td>186</td>
<td>Group Education with photo novel and DVD for SBE Churches, KA clinics, senior housing, individual homes</td>
<td>Navigating service</td>
<td>Not stated</td>
<td>No</td>
<td>6m</td>
<td>No</td>
<td>Intent to have Mammogram</td>
<td>Positive</td>
<td>MD</td>
</tr>
<tr>
<td>8</td>
<td>Kim, 2004</td>
<td>No</td>
<td>CC</td>
<td>141</td>
<td>Peer group Education, Mobile mammogram KA Churches</td>
<td>No</td>
<td>Cancer survivors (2x2h training), NP</td>
<td>Attitude including fatalistic view and KA cultural values discussed</td>
<td>3m</td>
<td>Mammo gram use</td>
<td>BCA related knowledge and attitude</td>
<td>Positive</td>
<td>LA</td>
</tr>
<tr>
<td>BCC A 9</td>
<td>Moskowitz, 2007</td>
<td>No</td>
<td>CC</td>
<td>1084</td>
<td>Workshop + print material + health counselor + incentives Media advertisement in 2001 KA Churches</td>
<td>Health counselor’s reminder of CC screening</td>
<td>SW/RN (workshop), Lay health counselor (counseling: trained by KA research staff)</td>
<td>Not at all</td>
<td>1yr</td>
<td>Screening rates, frequencies, community intervention program exposure</td>
<td>No</td>
<td>CA</td>
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<tr>
<td>Topic</td>
<td>Author (Year)</td>
<td>RCT</td>
<td>CBPR /CC</td>
<td>Sample Size</td>
<td>Main Intervention /venue</td>
<td>Added Intervention</td>
<td>Intervention carrier</td>
<td>Cognitive intervention</td>
<td>F/ U period</td>
<td>Primary OCM</td>
<td>Cognitive OCM</td>
<td>Result</td>
<td>Area</td>
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<tr>
<td>10</td>
<td>Wismeyer, 2001</td>
<td>No</td>
<td>CC</td>
<td>724</td>
<td>Workshop + print material + lay health counselor KA Churches</td>
<td>Health counselor’s reminder of CC screening</td>
<td>Project staff (workshop) Lay health counselor</td>
<td>No</td>
<td>18m</td>
<td>Screenin g rate</td>
<td>No</td>
<td>Negative</td>
<td>CA</td>
</tr>
<tr>
<td>CCA 11</td>
<td>Fang, 2007</td>
<td>No</td>
<td>CC</td>
<td>102</td>
<td>One session Group education KA community center</td>
<td>Navigating service (arranging apt, translating, 75% of participants)</td>
<td>Only stated “trained Korean community health educators”</td>
<td>health belief and psychosocial barriers incorporated into intervention</td>
<td>6m</td>
<td>CCA screening rate</td>
<td>Health Beliefs and Barriers</td>
<td>positive</td>
<td>PA?</td>
</tr>
<tr>
<td>CRC 12</td>
<td>Sabado, 2015</td>
<td>No</td>
<td>CC</td>
<td>&gt;2500</td>
<td>Individual education (15min) Group seminar (30min) KA churches, KRC, KHF</td>
<td>Providing FIT test kit, navigator</td>
<td>Physician (for group) Student intern/student volunteer (individual)</td>
<td>Navigation services</td>
<td>12m</td>
<td>FIT return rate</td>
<td>No</td>
<td>NA</td>
<td>LA</td>
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<tr>
<td>CRC 13</td>
<td>Ma, 2009</td>
<td>No</td>
<td>CBPR</td>
<td>167</td>
<td>Group education, 6w KA churches</td>
<td>Navigating assistance</td>
<td>Only stated “Trained community health educator”</td>
<td>No</td>
<td>12m</td>
<td>Screening behavior</td>
<td>HBM variables</td>
<td>Positive</td>
<td>PA</td>
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<tr>
<td>Smoking</td>
<td>Kim, 2015b</td>
<td>RCT</td>
<td>No</td>
<td>109</td>
<td>40min Individual Counseling x8 weekly</td>
<td>NTP 8w</td>
<td>Trained therapists (lay persons?) (“received tobacco)</td>
<td>CBT</td>
<td>3, 6, 12m</td>
<td>Abstinence: 12m, 7d</td>
<td>attitudes, perceived social norms, and self-efficacy</td>
<td>Positive</td>
<td>NY, NJ</td>
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<tr>
<td>Topic</td>
<td>Author (Year)</td>
<td>RCT</td>
<td>CBPR /CC</td>
<td>Sample Size</td>
<td>Main Intervention /venue</td>
<td>Added Intervention</td>
<td>Intervention carrier</td>
<td>Cognitive intervention</td>
<td>F/ U period</td>
<td>Primary OCM</td>
<td>Cognitive OCM</td>
<td>Result</td>
<td>Area</td>
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<td></td>
<td></td>
<td>Venue Not mentioned</td>
<td>treatment specialist training“)</td>
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<tr>
<td>15</td>
<td>Kim 2012</td>
<td>RCT</td>
<td>No</td>
<td>30</td>
<td>Individual CBT x 8 weekly</td>
<td>NTP 8w</td>
<td>Mental health clinicians</td>
<td>CBT</td>
<td>1w, 4w, 3m, 6m</td>
<td>7 day abstinence</td>
<td>Attitude, self-efficacy</td>
<td>Positive</td>
<td>NY</td>
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<tr>
<td>16</td>
<td>McDonnell, 2011</td>
<td>RCT</td>
<td>CBPR</td>
<td>1112</td>
<td>Internet based CBT NA</td>
<td>No</td>
<td>NA</td>
<td>CBT</td>
<td>50w (q5w)</td>
<td>7 day cessation, 30 day cessation</td>
<td>No</td>
<td>negative</td>
<td>NA</td>
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<tr>
<td>17</td>
<td>Fang, 2006</td>
<td>RCT</td>
<td>No</td>
<td>66</td>
<td>90-120min Individual session x once</td>
<td>No</td>
<td>Not mentioned</td>
<td>Yes</td>
<td>1, 3m</td>
<td>smoking cessation rate</td>
<td>Behavioral intervention; risk perceptions, Self-efficacy</td>
<td>Positive</td>
<td>PA</td>
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**Hypertension**

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<tr>
<th>HTN 18</th>
<th>Kim, 2011</th>
<th>No</th>
<th>CBPR</th>
<th>359</th>
<th>Group education x 6 weekly</th>
<th>Telephone counseling 12m</th>
<th>Nurses</th>
<th>No</th>
<th>12m</th>
<th>BP control rate</th>
<th>HBP Knowledge and Belief Depression</th>
<th>Positive</th>
<th>Baltimore, MD</th>
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<tr>
<td>19</td>
<td>Han, 2010</td>
<td>No</td>
<td>CBPR</td>
<td>360</td>
<td>Telephone counseling post Psycho-behavioral education or education with mailed</td>
<td>Educations before phone counseling</td>
<td>Nurses</td>
<td>No</td>
<td>12m</td>
<td>BP control rate</td>
<td>No</td>
<td>Positive</td>
<td>Baltimore, MD</td>
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<tr>
<td>Topic</td>
<td>Author (Year)</td>
<td>RCT</td>
<td>CBPR /CC</td>
<td>Sample Size</td>
<td>Main Intervention /venue</td>
<td>Added Intervention</td>
<td>Intervention carrier</td>
<td>Cognitive intervention</td>
<td>F/U period</td>
<td>Primary OCM</td>
<td>Cognitive OCM</td>
<td>Result</td>
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<tr>
<td>20</td>
<td>Kim, 2008</td>
<td>No</td>
<td>CBPR</td>
<td>380</td>
<td>(2h Psycho-behavioral in-class education vs mail education) x 6 weekly Community center</td>
<td>Telephone counseling 12m</td>
<td>Nurses</td>
<td>Yes (in the later part of the education)</td>
<td>12m</td>
<td>BP control rate</td>
<td>feelings of self-efficacy and health belief</td>
<td>Positive</td>
<td>Baltimore, MD</td>
</tr>
<tr>
<td>21</td>
<td>Kim, 2006</td>
<td>No</td>
<td>CBPR</td>
<td>31</td>
<td>2h Psycho-behavioral education x 6 weekly Community sites</td>
<td>Support group meeting</td>
<td>Nurses</td>
<td>Problem solving skills included in education sessions</td>
<td>6m</td>
<td>BP control rate</td>
<td>No</td>
<td>Positive</td>
<td>WA</td>
</tr>
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<td>Type 2 DM</td>
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</tr>
<tr>
<td>DM2</td>
<td>Kim, 2015a</td>
<td>RCT</td>
<td>CBPR</td>
<td>150</td>
<td>1h Group Education x6 times weekly KRC</td>
<td>Telephone counseling 1yr</td>
<td>RN, community health worker (“had extensive training for DM management”)</td>
<td>Problem solving skills, cognitive reframing</td>
<td>3, 6, 9, 12m</td>
<td>A1C</td>
<td>diabetes-related quality of life, self-efficacy, adherence to diabetes management regimen, and health literacy.</td>
<td>Positive</td>
<td>Baltimore, MD</td>
</tr>
<tr>
<td>22</td>
<td></td>
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<tr>
<td>23</td>
<td>Islam, 2013</td>
<td>RCT</td>
<td>No</td>
<td>48</td>
<td>2h Group education x 6 times Q3w</td>
<td>Phone counseling for 6m</td>
<td>community health worker (60h+30h training)</td>
<td>Only Progressive muscle relaxation</td>
<td>6m</td>
<td>weight, BMI, waist circumference, blood pressure</td>
<td>No</td>
<td>Positive</td>
<td>NYC</td>
</tr>
<tr>
<td>Topic</td>
<td>Author (Year)</td>
<td>RCT</td>
<td>CBPR /CC</td>
<td>Sample Size</td>
<td>Main Intervention /venue</td>
<td>Added Intervention</td>
<td>Intervention carrier</td>
<td>Cognitive intervention</td>
<td>F/ U period</td>
<td>Primary OCM</td>
<td>Cognitive OCM</td>
<td>Result</td>
<td>Area</td>
</tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Community setting (KBO)</td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>dietician</td>
<td>No</td>
<td>18w, 30w</td>
<td>Nutritional Knowledge</td>
<td>No</td>
<td>B-W</td>
</tr>
<tr>
<td>24</td>
<td>Song, 2010</td>
<td>RCT</td>
<td>CBPR</td>
<td>79</td>
<td>2h Group education x 2 over 6w KRC</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>dietician</td>
<td>No</td>
<td></td>
<td></td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Kim, 2009</td>
<td>RCT</td>
<td>CBPR</td>
<td>79</td>
<td>2h Group education x 6 weekly KRC</td>
<td>Monthly Phone counseling for 6m</td>
<td>RN</td>
<td></td>
<td>No</td>
<td>18w, 30w</td>
<td>A1C</td>
<td>Positive</td>
<td>B-W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>psychoeducation</td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td></td>
</tr>
</tbody>
</table>

**Mental Illness**

<table>
<thead>
<tr>
<th>Mental Illness</th>
<th>shin, 2004</th>
<th>RCT</th>
<th>No</th>
<th>48</th>
<th>90 min Group Psychoeducation x10 weekly</th>
<th>Venue Not mentioned</th>
<th>No</th>
<th>Psychiatric SW (experiment G) 2nd year grad students (control G)</th>
<th>psychoeducation</th>
<th>End of the sessions</th>
<th>Perception of Stigma, Family empowerment, Family coping skills</th>
<th>Perception of Stigma, Family empowerment, Family coping skills</th>
<th>Positive-cognitive Negative-behavioral</th>
<th>NYC</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>shin, 2002</td>
<td>RCT</td>
<td>No</td>
<td>48</td>
<td>90 min Group Psychoeducation x10 weekly</td>
<td>Venue Not mentioned</td>
<td>No</td>
<td>Psychiatric SW</td>
<td>psychoeducation</td>
<td>1w</td>
<td>Symptoms, stigma, coping skills</td>
<td>Symptoms, stigma, coping skills</td>
<td>Positive</td>
<td>NYC</td>
</tr>
</tbody>
</table>

**Parenting**

<p>| Parenting | Kim, 2009 | RCT | No | 29 | 2-3h Group education x 12 weekly | No | PI, trained counselor nurse | No | 12m | Use of positive discipline, children’s social competence, child problem behaviors | Positive | Austin, TX |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>Author (Year)</th>
<th>RCT</th>
<th>CBPR /CC</th>
<th>Sample Size</th>
<th>Main Intervention /venue</th>
<th>Added Intervention</th>
<th>Intervention carrier</th>
<th>Cognitive intervention</th>
<th>F/ U period</th>
<th>Primary OCM</th>
<th>Cognitive OCM</th>
<th>Result</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise</td>
<td>Sin, 2005</td>
<td>No</td>
<td>No</td>
<td>13</td>
<td>50 min group Exercise session x 12 weekly Senior House for low-income minority elders</td>
<td>No</td>
<td>Author (RN, DSN)</td>
<td>No</td>
<td>At the end of intervention</td>
<td>Health outcome</td>
<td>No</td>
<td>Positive</td>
<td>Seattle, WA</td>
</tr>
</tbody>
</table>
## Appendix K:
Categorized Cultural Considerations and Strategies for KAs

<table>
<thead>
<tr>
<th>Targeted area</th>
<th>Problems</th>
<th>Detailed intervention/strategies</th>
<th>What learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Difficulty</td>
<td>difficulty in understanding instructions, guidelines, knowledge</td>
<td>Korean language services – providers and materials (KA educator, counselor, community health worker)</td>
<td>Korean language service necessary for KAs: Materials &amp; providers</td>
</tr>
<tr>
<td></td>
<td>lack of English proficiency as a barrier in HTN management</td>
<td>Use of Korean-language DVD featuring the Korean Immigrants (Lee, 2014 BCA)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of Korean Videotapes (Kim, 2012 smoking)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Use of Korean-dubbed Video, photo novel in Korean language (Juon, 2006 BCA)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developed self-help intervention program, bilingual KA nurses’ telephone counseling for 12 months (Han, 2010)</td>
<td>bilingual KA nurses’ telephone counseling was effective in BP control, and the effectiveness was dose dependent (monthly, bi-monthly)</td>
</tr>
<tr>
<td>Health belief</td>
<td>Not susceptible to BCA if women breast fed children. misconceptions of family history (Lee, 2014)</td>
<td>DVD developed for KA women – susceptibility, seriousness, and benefits are outweigh the barriers (Lee, 2014 BCA)</td>
<td>DVD developed KA women was effectively increase the knowledge, attitudes, and BCA screening rates</td>
</tr>
<tr>
<td></td>
<td>Beliefs of low risk of BCA, confidence in their health, lack of knowledge of cancer screening guidelines, misconceptions of family history, no time, and no insurance.</td>
<td>Photo novel developed via CBPR (Juon, 2006)</td>
<td>Effective to increase knowledge, perception of susceptibility and severity, and self-efficacy</td>
</tr>
<tr>
<td></td>
<td>Low perception of susceptibility</td>
<td>Peer BCA survivor in education (Kim, 2004)</td>
<td>Increase perception of susceptibility</td>
</tr>
<tr>
<td></td>
<td>self-care and fatalism</td>
<td></td>
<td>Increase perception of susceptibility</td>
</tr>
<tr>
<td>Targeted area</td>
<td>Problems</td>
<td>Detailed intervention/strategies</td>
<td>What learned</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Susceptibility and severity with KA statistics, basic information about CRC incorporated into education program (Ma, 2009 CRC)</td>
<td></td>
</tr>
<tr>
<td>Attitude (from the theory of planned behavior)</td>
<td></td>
<td>facilitating positive attitudes toward quitting through culture-specific education and counseling, and alleviating negative attitudes with culture-specific counseling and NRT (Kim, 2015b; Kim, 2012 Smoking)</td>
<td></td>
</tr>
<tr>
<td>Self-efficacy (from the theory of planned behavior)</td>
<td></td>
<td>enhancing self-efficacy through culture specific counseling and behavioral skills training (Kim, 2015; Kim, 2012 Smoking)</td>
<td></td>
</tr>
<tr>
<td>Korean disease concepts</td>
<td></td>
<td>traditional disease concepts-‘haunted by a ghost’ or ‘a misfortune destined to be carried on their birth’ incorporated into education (Shin, 2004)</td>
<td></td>
</tr>
<tr>
<td>Social norm &amp; Collectivism</td>
<td>Modesty</td>
<td>Male physician talks about BCA in education DVD to reduce KA women’s feelings of embarrassment when talking to male physician (Lee, 2014)</td>
<td>Family involvement increase the effectiveness</td>
</tr>
<tr>
<td></td>
<td>Family focused, as opposed to individual</td>
<td>Peer BCA survivor in education (Kim, 2004)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Husband participation in education session and discussion with wife (Lee, 2014)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Education content focused on several topics in relation to the life roles of Asian women (e.g., social norm, family responsibility) (Fang, 2007 CCA)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Concerns relating to children’s health, importance of familial support (Fang, 2007 smoking)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contacting family members to facilitate their support including how to help with withdrawal symptoms (Kim, 2012 smoking)</td>
<td></td>
</tr>
<tr>
<td>Targeted area</td>
<td>Problems</td>
<td>Detailed intervention/strategies</td>
<td>What learned</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Shame/ keep faces</td>
<td>coaching family members (especially wives) to reinforce anti-smoking messages and support (Kim, 2015b; Kim, 2012, Smoking)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>working as a family, for the family; Shame as a powerful tool for social control within the family – in mental health management (Shin, 2004; Shin &amp; Lukens, 2002)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Church leaders and family members’ support and encouragement to participants’ screening efforts (Ma, 2009 CRC)</td>
<td>Increased screening rate, but not self-efficacy</td>
</tr>
<tr>
<td></td>
<td>Social norm about smoking ( shared culture among men)</td>
<td>Behavioral skills training in preparation for Korean specific relapse-prone situations (e.g., a visitor who smokes from Korea and a trip to Korea). (Kim, 2015b; Kim, 2011 Smoking)</td>
<td>(Ma, 2009 CRC)</td>
</tr>
<tr>
<td>Stigma</td>
<td>Korean women who voiced concerns possibility of meeting other Koreans whom they knew in the community (Kim, 2012 Smoking)</td>
<td>the study site was moved from a Korean community center to an office of a private company (Kim, 2011 Smoking)</td>
<td>Measure to protest the person who might be subject of Stigma- Koreans’ perception of female smoker</td>
</tr>
<tr>
<td></td>
<td>Life adversity as an immigrant having chronic disease (HTN, DM, smoking)</td>
<td>perception change facilitated: “challenge rather than threat” (Kim, 2013 DM)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avoidance of self-disclosure in mental health issues</td>
<td>Utilization of didactic format than interactive format (less conducive and sharing self-disclosure) (Shin &amp; Lukens, 2002)</td>
<td></td>
</tr>
<tr>
<td>Hardship of Immigrants’ life</td>
<td>Economic hardship, family obligation (busy life), lack of information on healthcare access</td>
<td>Peer navigation (Maxwell, 2010)</td>
<td>Peer navigation significantly increased diagnostic exam after an abnormal mammogram</td>
</tr>
<tr>
<td>Targeted area</td>
<td>Problems</td>
<td>Detailed intervention/strategies</td>
<td>What learned</td>
</tr>
<tr>
<td>---------------</td>
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<td>---------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Economic hardship</td>
<td>Free or low-cost mammogram (Kim, 2004 BCA)</td>
<td>Introducing and enhancing strategies for managing life adversities that are inherent in the experience of having high BP and being a middle-aged immigrant (Kim, 2008)</td>
<td>Increased BP control and psychosocial correlates of BP control</td>
</tr>
<tr>
<td></td>
<td>Navigation services (Ma, 2009 CRC)</td>
<td>Problem solving skills to manage immigrants life added in education (Kim, 2006)</td>
<td>BP control increased (Kim, 2006)</td>
</tr>
<tr>
<td>Time constraints as a barrier to seeking medical help or health education programs.</td>
<td>Providing health care access information including one for nonocumented immigrants (Islam, 2013 DM)</td>
<td>Increased mammogram use</td>
<td>Significantly increased mammogram use</td>
</tr>
<tr>
<td>Difficulty in diabetic diet management</td>
<td>Developed self-help intervention program including self-BP monitoring, Bilingual KA nurses’ telephone counseling (Han, 2010)</td>
<td>Increases CRC screening rate and HBM variables</td>
<td>Increases CRC screening rate and HBM variables</td>
</tr>
<tr>
<td></td>
<td>Educational materials mailed out each week for 6 weeks, bilingual KA nurses’ telephone counseling (Kim, 2008)</td>
<td>Recommendation from Korean diabetic association incorporated, Korean food models and an individually tailored serving table were utilized (Song, 2010 DM)</td>
<td>Bilingual KA nurses’ telephone counseling was effective in BP control, and the effectiveness was dose dependent (monthly, bi-monthly)</td>
</tr>
<tr>
<td></td>
<td>Recommendation from Korean diabetic association incorporated, Korean food models and an individually tailored serving table were utilized (Song, 2010 DM)</td>
<td>Educational material integrated traditional diet, exercise, use of traditional herbal medicine (Kim, 2009 DM)</td>
<td>Mail education achieved the same result with in-class education</td>
</tr>
<tr>
<td>Culturally &amp; linguistically appropriate Slogans/strategies</td>
<td>Program name - KIM-CHI</td>
<td>“Healthy Family, Healthy Wife,” “Healthy Family, Healthy Diet,” “As most Koreans have a habit of eating</td>
<td>Familiarity may increase psychological comfort and effectiveness of interventions</td>
</tr>
<tr>
<td>Targeted area</td>
<td>Problems</td>
<td>Detailed intervention/strategies</td>
<td>What learned</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Kimchi every day, Korean women should have a habit of getting a mammogram every year.&quot; (Lee, 2014)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>&quot;Let’s Talk Between Women” (Kim, 2004 BCA)</td>
<td></td>
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<td></td>
<td></td>
<td>&quot;Tell A Friend” (Moskowitz, 2007)</td>
<td></td>
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<td></td>
<td></td>
<td>Utilization of Korean news media: recent celebrity death, Norwegian terrorist Anders Behring Breivik, statistics of cancer death (Kim, 2015 smoking)</td>
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<td></td>
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<td>Explanation of the harmful effects of CO in an analogy of gas poisoning from coal briquettes that had been most widely used as a heating system in Korea till 1980s. (Kim, 2015; Kim, 2012 smoking) Examples from the popular drama, Giant, presented (Kim, 2011 smoking)</td>
<td></td>
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<td></td>
<td></td>
<td>Information on smoking related death rates in Korea (Kim, 2011 smoking)</td>
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<td></td>
<td></td>
<td>photos with Korean foods, culturally appropriate images and language, examples with Korean foods (Islam, 2013 DM)</td>
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<tr>
<td></td>
<td></td>
<td>having a health Asian diet was employed to encourage participants during their quit attempts (Fang, 2007)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Korean music, popular in 1970s and 1980s, was used in the exercise classes (Sin, 2005)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using venues that support Korean language and culture (18/29) - 7 not mentioned, 3 no venue need, one at multiethnic senior housing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calling participants with a term of respect, teacher. Treat elderly participants like parents or grandparents (Islam, 2013 DM)</td>
<td>Gained participants’ appreciation</td>
</tr>
</tbody>
</table>
Appendix L  
Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not At All</th>
<th>Mildly but it didn’t bother me much.</th>
<th>Moderately - it wasn’t pleasant at times</th>
<th>Severely – it bothered me a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbness or tingling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling hot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wobbliness in legs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unable to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of worst happening</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizzy or lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Heart pounding/racing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Terrified or afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling of choking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hands trembling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shaky / unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of losing control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty in breathing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of dying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Indigestion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Faint / lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Face flushed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hot/cold sweats</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total score: ________________
Appendix M
Beck Depression Inventory

Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem apply equally well, circle the highest number for that group.

**Sadness**
0. I do not feel sad.
1. I feel sad much of the time.
2. I am sad all the time.
3. I am so sad or unhappy that I can’t stand it.

**Pessimism**
0. I am not discouraged about my future.
1. I feel more discouraged about my future than I used to be.
2. I do not expect things to work out for me.
3. I feel my future is hopeless and will only get worse.

**Past Failure**
0. I do not feel like a failure.
1. I have failed more than I should have.
2. As I look back I see a lot of failures.
3. I feel I am a total failure as a person.

**Loss of Pleasure**
0. I get as much pleasure as I ever did from the things I enjoy.
1. I don’t enjoy things as much as I used to.
2. I get very little pleasure from the things I used to enjoy.
3. I can’t get any pleasure from the things I used to enjoy.

**Guilty Feelings**
1. I don’t feel particularly guilty.
2. I feel guilty over many things I have done or should have done.
3. I feel guilty most of the time.
4. I feel guilty all the time.

**Punishment Feelings**
1. I don’t feel I am being punished.
2. I feel I may be punished.
3. I expect to be punished.
4. I feel I am being punished.
**Self-Dislike**
0. I feel the same about myself as ever.
1. I have lost confidence in myself.
2. I am disappointed in myself.
3. I dislike myself.

**Self-Criticalness**
0. I don’t criticize or blame myself more than usual.
1. I am more critical of myself than I used to be.
2. I criticize myself for all of my faults.
3. I blame myself for everything bad than happens.

**Suicidal Thoughts or Wishes**
0. I don’t have any thoughts of killing myself.
1. I have thoughts of killing myself, but I would not carry them out.
2. I would like to kill myself.
3. I would kill myself if I had the chance.

**Crying**
0. I don’t cry anymore than I used to.
1. I cry more than I used to.
2. I cry over every little thing.
3. I feel like crying, but I can’t.

**Agitation**
0. I am no more restless or wound up than usual.
1. I feel more restless or wound up than usual.
2. I am so restless or agitated that it’s hard to stay still.
3. I am so restless or agitated that I have to keep moving or doing something.

**Loss of Interest**
0. I have not lost interest in other people or activities.
1. I am less interested in other people or things than before.
2. I have lost most of my interest in other people or things.
3. It’s hard to get interested in anything.

**Indecisiveness**
0. I make decisions about as well as ever.
1. I find it is more difficult to make decisions than usual.
2. I have much greater difficulty in making decisions than I used to.
3. I have trouble making any decisions.
Worthlessness
0. I do not feel I am worthless.
1. I don’t consider myself as worthwhile and useful as I used to.
2. I feel more worthless as compare to other people.
3. I feel utterly worthless.

Loss of Energy
0. I have as much energy as ever.
1. I have less energy than I used to have.
2. I don’t have enough energy to do very much.
3. I don’t have enough energy to do anything.

Changes in Sleeping Pattern
0. I have not experienced any change in my sleeping pattern.
1. I sleep somewhat less than usual. –or– I sleep somewhat more than usual.
2. I sleep a lot less than usual. –or– I sleep a lot more than usual.
3. I sleep most of the day. –or– I wake up 1-2 hours early and can’t get back to sleep.

Irritability
0. I am no more irritable than usual.
1. I am more irritable than usual.
2. I am much more irritable than usual.
3. I am irritable all the time.

Changes in Appetite
0. I have not experienced any change in my appetite.
1. My appetite is somewhat less than usual. –or– My appetite is somewhat greater than usual.
2. My appetite is much less than usual. –or– My appetite is much greater than usual.
3. I have no appetite at all. –or– I crave food all the time.

Concentration Difficulty
0. I can concentrate as well as ever.
1. I can’t concentrate as well as usual.
2. It’s hard to keep my mind on anything for very long.
3. I find I can’t concentrate on anything.

Tiredness or Fatigue
0. I am no more tired or fatigued than usual.
1. I get more tired or fatigued more easily than usual.
2. I am too tired or fatigued to do a lot of the things I used to do.
3. I am too tired or fatigued to do most of the things I used to do.
Loss of Interest in Sex
0. I have not noticed any recent change in my interest in sex.
1. I am less interested in sex than I used to be.
2. I am much less interested in sex now.
3. I have lost interest in sex completely.
St. George Respiratory Questionnaire

PART 1
Questions about how much chest problem you have had over the past 4 weeks.

Please checkmark ( ) one box for each question:
Most days a week
Several days a week
A few days a month
Only with chest infections
Not at all

1. Over the past 4 weeks, I have coughed
2. Over the past 4 weeks, I have brought up phlegm (sputum)
3. Over the past 4 weeks, I have had shortness of breath:
4. Over the past 4 weeks, I have had attacks of wheezing
5. During the past 4 weeks, how many severe or very unpleasant attacks of chest problem have you had? Please checkmark ( ) one box only:
   more than 3 attacks
   3 attacks
   2 attacks
6. How long did the worst attack of chest problem last:
(Go to question 7 if you had no severe attacks)
Please checkmark ( ) one box only:
   a week or more
   3 days or more
   1 or 2 days
   Less than a day

7. Over the past 4 weeks, in an average week, how many good days
(with little chest problem) have you had:
Please checkmark ( ) one box only:
   No good days
   1 or 2 good days
   3 or 4 good days
   Nearly every day was good
   Every day was good

8. If you have a wheeze, is it worse in the morning:
Please checkmark ( ) one box only:
   No
   Yes

St. George’s Respiratory Questionnaire
PART 2
Section 1

How would you describe your chest condition?
Please checkmark (✓) one box only:
   The most important problem I have □
   Causes me quite a lot of problems □
   Causes me a few problems □
   Causes me no problem □

If you have ever had paid employment.
Please checkmark (✓) one box only:
   My chest problem made me stop work altogether □
   My chest problem interferes with my work or made me change my work □
   My chest problem does not affect my work □

Section 2
Questions about what activities usually make you feel breathless these days.

For each item, please checkmark (✓) the box as it applies to you these days:
True  False
Sitting or lying still  □  □
Getting washed or dressed  □  □
Walking around at home  □  □
Walking outside on the level  □  □
Climbing up a flight of stairs  □  □
Climbing hills  □  □
Playing sports or games  □  □

**Section 3**

*Some more questions about your cough and breathlessness these days.*

For each item, please checkmark (✓) the box as it applies to you these days:

True  False
My cough hurts  □  □
My cough makes me tired  □  □
I am breathless when I talk  □  □
I am breathless when I bend over  □  □
My cough or breathing disturbs my sleep  □  □
I get exhausted easily  □  □

**Section 4**

*Questions about other effects that your chest problem may have on you these days.*

For each item, please checkmark (✓) the box as it applies to you these days:

True  False
My cough or breathing is embarrassing in public  □  □
My chest problem is a nuisance to my family, friends or neighbours  □  □
I get afraid or panic when I cannot get my breath  □  □
I feel that I am not in control of my chest problem  □  □
I do not expect my chest to get any better  □  □
I have become frail or an invalid because of my chest  □  □
Exercise is not safe for me  □  □
Everything seems too much of an effort  □  □

**Section 5**

*Questions about your medication. If you are taking no medication go straight to Section 6.*

For each item, please checkmark (✓) the box as it applies to you these days:

True  False
My medication does not help me very much  □  □
I get embarrassed using my medication in public  □  □
I have unpleasant side effects from my medication  □  □
My medication interferes with my life a lot  □  □

**Section 6**

*These are questions about how your activities might be affected by your breathing.*
For each item, please checkmark (✓) the box as it applies to you because of your breathing:

<table>
<thead>
<tr>
<th>Item</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I take a long time to get washed or dressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot take a bath or shower, or I take a long time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I walk slower than other people, or I stop for rests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jobs such as housework take a long time, or I have to stop for rests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I walk up one flight of stairs, I have to go slowly or stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I hurry or walk fast, I have to stop or slow down</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My breathing makes it difficult to do things such as climbing up hills, carrying things up stairs, light gardening such as weeding, dancing, playing bowls or golf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My breathing makes it difficult to do things such as carrying heavy loads, digging the garden or shovelling snow, jogging or walking at 8 kilometres per hour, playing tennis or swimming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My breathing makes it difficult to do things such as very heavy manual work, running, cycling, swimming fast or playing competitive sports</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 7
We would like to know how your chest problem usually affects your daily life.

For each item, please checkmark (✓) the box as it applies to you because of your chest problem:

<table>
<thead>
<tr>
<th>Item</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I cannot play sports or games</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot go out for entertainment or recreation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot go out of the house to do the groceries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot do housework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I cannot move far from my bed or chair</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

St. George’s Respiratory Questionnaire

Here is a list of other activities that your chest problem may prevent you doing (you do not have to checkmark these, they are just to remind you of ways in which your breathlessness may affect you):

- Going for walks or walking the dog
- Doing things at home or in the garden
- Sexual intercourse
- Going out to church or place of entertainment
- Going out in bad weather or into smoky rooms
- Visiting family or friends or playing with children
Please write in any other important activities that your chest problem may stop you doing:

Now, would you checkmark the box (one only) which you think best describes how your chest affects you:

- It does not stop me doing anything I would like to do
- It stops me doing one or two things I would like to do
- It stops me doing most of the things I would like to do
- It stops me doing everything I would like to do

*Thank you for filling in this questionnaire. Before you finish, would you check to see that you have answered all the questions.*

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Jenner Wing,
Cranmer Terrace, Tel. +44 (0) 20 8725 5371
London SW17 ORE, UK. Fax +44 (0) 20 8725 5955

* Available at http://www.healthstatus.sgul.ac.uk/sgrq-downloads/sgrq-downloads
Appendix O
Patient Satisfaction Survey Questionnaire

Please help us improve our research by answering some questions about the therapy. We are interested in your honest opinions, whether they are positive or negative. *Please circle a number that is most close to your thought.* We also welcome your comments and suggestions. Thank you!

1. How would you rate the therapy?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
</tbody>
</table>

2. How much did the therapy help you deal more effectively with your depression and anxiety?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very much</td>
<td>Some</td>
<td>Not Really</td>
<td>Not at all</td>
</tr>
</tbody>
</table>

3. Do you believe the therapy you received will help you in the future?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very much</td>
<td>Some</td>
<td>Not Really</td>
<td>Not at all</td>
</tr>
</tbody>
</table>

4. How would you rate the therapists?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
</tbody>
</table>

5. How would you rate the environment of the clinic?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
</tbody>
</table>

6. How often have you received emergency service before the therapy?

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Once a year</td>
<td>Once in 6 months</td>
<td>Once in 3 months</td>
<td>More often than once in 3 months</td>
</tr>
</tbody>
</table>
7. How many times have you received emergency service after the therapy?

<table>
<thead>
<tr>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three</td>
<td>Two</td>
<td>One</td>
<td>None</td>
</tr>
</tbody>
</table>

8. How do you feel about the quality of your life after the therapy compare to before the therapy?

<table>
<thead>
<tr>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better</td>
<td>Somewhat better</td>
<td>No changes</td>
<td>Worse</td>
</tr>
</tbody>
</table>

9. How would you rate your activity level after the therapy compare to before the therapy?

<table>
<thead>
<tr>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better</td>
<td>Somewhat better</td>
<td>No changes</td>
<td>Worse</td>
</tr>
</tbody>
</table>

10. How would you rate your overall satisfaction with the therapy?

<table>
<thead>
<tr>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
</tbody>
</table>
## Appendix P
Demographic Data Form

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Female [ ]</th>
<th>Male [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td>Married [ ]</td>
<td>Divorced [ ]</td>
<td>Widowed [ ]</td>
</tr>
<tr>
<td>Living condition</td>
<td>Alone [ ]</td>
<td>With Spouse [ ]</td>
<td>With Children or relatives [ ]</td>
</tr>
<tr>
<td>Education (Highest degree)</td>
<td>No Schooling [ ]</td>
<td>Middle School [ ]</td>
<td>High School [ ]</td>
</tr>
<tr>
<td>Years Lives in the States</td>
<td>About 5 years [ ]</td>
<td>5-10 years [ ]</td>
<td>10-20 years [ ]</td>
</tr>
<tr>
<td>Smoking Status</td>
<td>Never smoked [ ]</td>
<td>Quit smoking [ ]</td>
<td>Currently smoking [ ]</td>
</tr>
<tr>
<td>Number of Years Smoked</td>
<td>About 5 years [ ]</td>
<td>5-10 years [ ]</td>
<td>10-20 years [ ]</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other medical conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix Q
Mini Mental Status Exam (MMSE)

**Time Orientation**
Ask:
What is the year?
What is the month of the Year?
What is the day of the week?
What is the season of the year?
What is today's date?
Give one point for each correct answer.  

**Place Orientation**
Ask:
Where are we now? What is the state?
What is the city?
What part of the city are we in?
What part of the building are we in?
What floor of the building are we on?
Give one point for each correct answer.

**Registration of Three Words**
Say: Listen carefully. I am going to say three words. You say them after I stop. Ready? Here they are: (wait one second between giving each word)
Horse
Penny
Orange
Ask: Now what were those words?
Give one point for each correct answer.

**Serial Seven as a Test of Attention and Calculation**
Say: Subtract 7 from 100 and continue to subtract 7 from each subsequent remainder until I tell you to stop. What is 100 take away 7?
Keep going....
Stop the patient after five calculations.
Give one point for each correct calculation

**Recall of Three Words**
Ask: What were those three words I asked you to remember?
Give one point for each correct answer

**Naming**
Ask: What is this? Show
A pencil
CBT for Anxiety and Depression secondary to COPD among KAs in Honolulu

A watch
Give one point for each correct answer.  

**Repetition**
*Say:* Now I am going to ask you to repeat what I say. Ready?
"No ifs, ands, or buts." Now you say that.
Give one point for correct repetition

**Comprehension**
*Say:* Listen carefully because I am going to ask you to do something. Take this paper in your left hand. Fold it in half.
Put it on the floor.
Give one point for each correct action, for a total possible score of 3.

**Reading**
*Say:* Please read the following and do what it says, but do not say it out loud.

Show the patient the following words on a piece of paper:
Close your eyes.
Give one point if the patient closes his or her eyes without speaking.

**Writing**
*Say:* Please write a sentence
If the patient does not respond, say:
Write about the weather.
Give one point if the patient writes a sentence.

**Drawing**
Say: Please copy this design.

Give one point for a correct copy of the diagram.

Total Score ______/30____

Appendix R
Short Acculturation Scale for Koreans

Please, circle one of five choices of each question.

1. In general, what language(s) do you read and speak?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

2. What was the language(s) you used as a child?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

3. What language(s) do you usually speak at home?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

4. In which language(s) do you usually think?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

5. What language(s) do you usually speak with your friends?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

6. In which language(s) are the T.V. programs you usually watch?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>
7. In which language(s) are the radio programs you usually listen to?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
</tr>
</tbody>
</table>

8. In general, in what language(s) are the movies, T.V. and radio programs you prefer to watch or listen to?

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<tbody>
<tr>
<td></td>
<td>Only Korean</td>
<td>Korean better than English</td>
<td>Both Equally</td>
<td>English better than Korean</td>
<td>Only English</td>
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</table>

9. Your close friends are:

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<tbody>
<tr>
<td></td>
<td>All Koreans</td>
<td>More Korean than Americans</td>
<td>About Half &amp; Half</td>
<td>More Americans than Koreans</td>
<td>Only Americans</td>
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10. You prefer going to social gathering/parties at which the people are:

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<tr>
<td></td>
<td>All Koreans</td>
<td>More Korean than Americans</td>
<td>About Half &amp; Half</td>
<td>More Americans than Koreans</td>
<td>Only Americans</td>
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11. The person you visit or who visit you are:

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<tbody>
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<td></td>
<td>All Koreans</td>
<td>More Korean than Americans</td>
<td>About Half &amp; Half</td>
<td>More Americans than Koreans</td>
<td>Only Americans</td>
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12. If you could choose your children’s friends, you would want them to be:

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<tbody>
<tr>
<td></td>
<td>All Koreans</td>
<td>More Korean than Americans</td>
<td>About Half &amp; Half</td>
<td>More Americans than Koreans</td>
<td>Only Americans</td>
</tr>
</tbody>
</table>
Appendix S  
Consent Form

Consent to Participate in Research Project:

Feasibility Study: Cognitive Behavior Therapy for Anxiety and Depression secondary to COPD among Korean-Americans in Honolulu, Hawai‘i

My name is Mary Jang. I am a graduate student at the University of Hawaii at Manoa in the Department of Nursing. As part of the requirements for earning my PhD degree, I am doing this research that will be a part of my dissertation. The purpose of my study is to evaluate the feasibility of Cognitive Behavior Therapy for Anxiety and Depression secondary to COPD among Korean-Americans. I am asking you to participate because you are a Korean–American suffering from Chronic Obstructive Pulmonary Disease (COPD) and experiencing anxiety and/or depression associated with COPD.

Activities and Time Commitment: If you participate in this study, you will be asked to fill out several questionnaires, participate in a 60-minute long group cognitive behavioral therapy (CBT) session once a week for six weeks with 5-7 other Korean-Americans having COPD, and have one interview for about 30-40 minutes at the end of the therapy. Questionnaires about your respiratory conditions, level of anxiety, and level of depression will be given twice during the study. A questionnaire about your demographic data will be given once at the start of participation, and two satisfaction surveys about the therapy will be given at the end of the therapy in addition to one more survey six weeks after the therapy completion. All questionnaires take about 5 to 15 minutes. You may be asked to share your experience or participate in role-play in the therapy sessions guided by the facilitator. You may also be asked to do homework as a part of the CBT.

Benefits and Risks: There will be no direct benefits for participation in this research. Only possible benefit to you for participating in the group therapy is experiencing decreased level of anxiety or depression as a result of the therapy. However, the results of this study may provide a scaffolding of future studies for management of depression and anxiety among Korean-Americans, and they will be used to expand on the literature and knowledge about COPD patients and assist in the future health care of other Korean-Americans. There will be minimal risk associated with participating in this study. However, you may lose some privacy by sharing ideas and experiences with other participants. If you ever had unpleasant experiences related to your COPD condition, you might feel some psychological pain by recalling those memories. If you do become stressed or uncomfortable, you may focus on listening to others and therapist or take a break. You can also stop participating in the therapy session or you can withdraw from this study altogether.

Privacy and Confidentiality: I will keep all information in a safe place. Only three individuals have access to the information: my University of Hawaii advisor, a CBT expert, and myself. Other agencies that have legal permission have the right to review research records. The University of Hawaii Human Studies Program has the right to review research records for this
study. Once the study is completed, I will erase or destroy all data collected as well as the audio-recordings of therapy sessions. I will keep your name and contact information, but will not collect any data with your name. When I report the results of my research, I will not use your name. I will not use any other personal identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

**Voluntary Participation:** Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss to you. Your choice to participate or not participate will not affect your rights to services at the UH Career Development and Counseling Program.

You will not receive any gratuity as participating in this research, but will be invited to a small potluck at the end of the last therapy session.

**Questions:** If you have any questions about this study, please call or email me at 808-386-7230, maryjang@hawaii.edu. You may also contact my adviser, Dr. Chen Wang, at 808-956-5473, chenwang@hawaii.edu. If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at 808.956.5007 or uhirb@hawaii.edu.

If you agree to participate in this project, please sign and date this signature page and return it to:

Please keep the section above for your records.

If you consent to be in this project, please sign the signature section below and return it to ***.

------------------------------------------------------------------------------------------------------------
Tear or cut here
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**Signature(s) for Consent:**

I give permission to join the research project entitled, *Feasibility Study: Cognitive Behavior Therapy for Anxiety and Depression secondary to COPD among Korean-Americans in Honolulu, Hawai‘i.*

Please initial next to either “Yes” or “No” to the following:

_____ Yes  _____ No  I consent to be audio-recorded for the therapy sessions of this research.

**Name of Participant (Print):**

___________________________________________________
Participant’s Signature: ________________________________

Signature of the Person Obtaining Consent: ____________________________

Date: ____________________________
Appendix T
Manual of Mind Well-Being Program

Manual of Group Cognitive Behavior Therapy
For Anxiety and Depression Secondary to COPD among Korean-Americans:
Mind Well-Being Program

Preface

This program is prepared for Korean-Americans who suffer from mild to moderate depression and/or anxiety secondary to their COPD. The purpose is to increase understanding of depression and anxiety and learn about ways to treat them along with management of their COPD. However, this program is also suitable for COPD patients who are at risk of depression and anxiety.

The program is designed for one hour weekly session over six weeks considering participants’ busy schedules or their physical ability to stay in a classroom setting. It is intended to be delivered by primary care providers who trained for CBT. Ninety percent of the content is devoted to acquiring cognitive behavior concepts and skills, and ten percent includes COPD education.
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Characteristics of the Group

Preparation for Running a Group Program

Session Structure

Session by Session Outline

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Appendix 2: Thought Diary 1
Appendix 3: Daily Breathing Rate Record
Appendix 4: Mood Diary 1
Appendix 5: Thought Diary 2
Appendix 6: Activity Diary
Appendix 7: Anxiety Symptoms Record
Appendix 8: List of Distorted Thoughts
Appendix 9: Thought Diary 3 (with Alternate Thoughts and Actions)
Appendix 10: Mood Diary 2
Appendix 11: Problem Solving Worksheet
Appendix 12: Pros and Cons for Each Solution
Appendix 13: Weekly Activity Planner
Appendix 14: Sleep Hygiene Check List
Appendix 15: Sleep Record
Appendix 16: My Well-Being Blueprint
Appendix 17: Script of the Slow Breathing
Appendix 18: Script of the Abdominal Breathing
Appendix 19: Script of the Progressive Muscle Relaxation
Appendix 20: Script of the Guided Imagery
General Rationale

CBT is a well-known psychological therapy that has proved successful over half a century for primary psychological disorders as well as secondary to medical illness such as COPD, DM, tinnitus, pain, MS, CFS etc. CBT is also recommended as the first-line treatment method for mental problems among COPD patients.

However, there are not enough mental health specialists to provide CBT to all of the people who might benefit from it. The author believes that CBT can be presented successfully by trained primary care providers (APRN, MD, PA) or by nurses who have direct contact with patients. Group therapy also adds the benefits of cost saving and forming supportive milieu.

Korean-Americans (KAs) often avoid receiving psychotherapy or counseling due to the stigma of mental illness and the language barrier. About 70% of KAs speak only Korean at home and their acculturation levels are low. Group therapy for KAs delivered in the Korean language and takes into consideration the Korean culture may be necessary to effectively serve KAs.

Characteristics of the Group

This program is intended to treat mild to moderate depression or anxiety with mild to severe COPD. However, providers need to be flexible respond to the participants’ characteristics such as age, gender, education level, reading level, and comorbidity.

Preparation for Administering a Group Program

1. Preparing a Group Therapy Manual for participants: this is a guide that includes the content and worksheets for each session. Participants will keep the all handouts and be encouraged to use as often as needed. There are explanations about session structure, calendar, and session content at the beginning of the manual

2. Preparing for appropriate resources: setting up equipment (overhead projector, audio player, tables and chairs), water/coffee/tea

3. Assessing/Collecting Baseline Data: depression, anxiety, COPD, demographics, cultural adaptation

4. Preparing participants: emphasis on the collaborative aspect of CBT; motivating participants to play the main role in their therapy

Session Structure

1. Review of homework and last session’s content (1st week will be different)
2. Short lecture 1
3. Exercise 1
4. Break (5 min)
5. Short lecture 2
6. Exercise 2
   - Explanation of homework is in the lecture
   - COPD education pieces in the latter part of lecture 2
## Program Content & Homework

<table>
<thead>
<tr>
<th>Session</th>
<th>Content</th>
<th>Homework</th>
</tr>
</thead>
</table>
| 1       | ● CBT Model  
         | ● Effective Breathing  
         | ● Progressive Muscle Relaxation | ● Thought Diary 1 (identifying automatic thought)  
         | ● Breathing Rate Record  
         | ● CD1: Breathing & Relaxation |
| 2       | ● Depression  
         | ● Increasing Activity  
         | ● Effective Coughing | ● Mood Diary  
         | ● Thought Diary 2 (including core-belief)  
         | ● Activity Diary |
| 3       | ● Anxiety  
         | ● Distorted Thoughts and Alternative thoughts  
         | ● Imagery Practice | ● Anxiety Symptoms Record  
         | ● Thought Diary 3 (including Alternative Thoughts)  
         | ● Mood Diary (with Imagery practice)  
         | ● CD2: Guided Imagery |
| 4       | ● Problem Solving  
         | ● COPD Diet | ● Problem Solving Worksheet  
         | ● Weekly Activity Planner |
| 5       | ● Sleep  
         | ● Exercise  
         | ● Energy Saving Strategies | ● Sleep Hygiene Check List  
         | ● Sleep Diary  
         | ● Exercise to strengthen upper body muscles |
| 6       | ● Review  
         | ● Blueprint for Future | ● Blueprint for Future  
         | ● All worksheets for next 6 weeks |
Session by Session Outline

Session 1. Orientation, CBT concepts, and Relaxation skills

Lecture 1: Welcome, Overview of the program and session structure, Ground rules for group therapy
- Motivation to change your life will guide you to complete the program and achieve your goal
- Learning about the program
- The responsibility is yours

Exercise 1: Getting to know people
- Introduce self and welcome each other
- Name, Goal, One thing about you (make it simple and brief)

Lecture 2: What is CBT? (Thoughts and feelings)
- Automatic thoughts
- Negative/Positive beliefs
- Cycle of events, thoughts, feelings, and behaviors

Exercise 2: Breathing exercise & Relaxation skills
- Pursed lip breathing
- Abdominal breathing
- Progressive muscle relaxation

Homework:
- Record breathing rate before and after breathing exercise and progressive muscle relaxation practice twice a day,
- Record thoughts and feelings with Thought Diary (Event-Emotion-Automatic Thought)

Handouts:
- Ground rules for group therapy (Appendix 1),
- Session content in the PowerPoint format
- Thought Diary 1 (Appendix 2),
- Breathing Rate Record (Appendix 3)
- CD1 Breathing and Relaxation
Session 2: Depression & Activity Activation

Review homework and group rule

Lecture 1: Cognitive Therapy of Depressive mood
- What is depressive mood?
- Awareness of my own mood level
- Characteristics of Automatic thoughts
- Types of distorted thoughts/beliefs
- Beck’s Cognitive triad of depression
- Difference between Sadness and depression

Exercise 1: Identifying distorted thoughts
- Share distorted thoughts
- Identify distorted thoughts

Lecture 2: Activity Activation
- Do you stop doing things because you are depressed? or:
- Do you get depressed because you stop doing things?
- Many things in this life influence each other
- The less you do, the more depressed you feel, the more depressed you feel, the less you do, which makes you feel even more depressed, and so on.
- Since it is hard to just tell yourself to “feel better,” that is, change your feelings by just telling yourself to do it, you can instead focus on what you do. It is easier to tell yourself to do something pleasant and do it. This should affect your mood.
- Provide a List of Pleasant Activities

Exercise 2: Creating activity hierarchy (pleasant event list)
- Select top 3 activities that you wish to do and share them
- Effective cough

Homework:
- Mood Diary 1
- Activity Record

Handouts:
- Mood Diary 1 Worksheet (Appendix 4)
- Thought Diary 2: Event-emotion-Automatic thought-Core Belief (Appendix 5)
- Activity Record (Appendix 6)
Session 3: Anxiety, Alternative thoughts & Increasing Activity

Review homework and group rule

Lecture 1: Anxious Mind (Anxiety and CBT)
- What is anxiety?
- Awareness of own anxiety symptoms
- Cognitive restructuring 1 - Identifying automatic thoughts
  - What is it
  - How to restructure your thoughts
- Exposure: Worry time, worry exposure, mindfully observing

Exercise 1:
- Worry time,
- Worry exposure,
- Write a response card for mindfully observing

Lecture 2: Cognitive restructuring 2 – finding Alternate thoughts
- Countering automatic thoughts
- Introduce types of distorted thoughts & practice categorizing distorted thoughts
- How to find alternative thoughts: Examining evidence, quantifying evidence, cost-benefit analysis, vertical arrow method

Exercise 2: Changing thoughts
- My distorted thought & alternative thought,
- What methods do you want to use?
- Guided Imagery practice

Homework: symptoms record with breathing rate & relaxation level, letting go
- Record Symptoms of Anxious Mind
- Thought Diary 3 (Event-Emotion-Automatic thought-Alternative thought)
- Mood Diary 2 (before and after Imagery practice)

Handouts:
- Anxiety Symptoms Record (Appendix 7)
- List of Distorted Thoughts (Appendix 8)
- Thought Diary 3: Event-Emotion-Automatic thought-Alternative thought (Appendix 9)
- Mood Diary 2 (Appendix 10)
- CD 2 Imagery training
Session 4: Problem-solving and Increasing activity

Review homework and group rule

Lecture 1: Identify and Define Problem Area/Issue
  - Challenges in daily life
  - Worries vs Problems
  - Identify all possible solutions
  - Evaluate pros and Cons
  - Select a solution
  - Plan
  - Do (put the plan into action)
  - Review
  - Follow through with an Example

Exercise 1:
  - identify problems;
  - worry vs problem (solvable/ unsolvable)

Lecture 2:
  - Do the Problem Solving Worksheet
  - COPD Diet: Fluid, High calories & nutrition, anti-inflammation foods

Exercise 2: Sharing your problem solving plan

Homework:
  - Do Problem Solving Worksheet along with Pros and Cons for Each Solution
  - Plan activities for a week

Handouts:
  - Problem Solving Worksheet (Appendix 11)
  - Pros and Cons for Each Solution (Appendix 12)
  - Weekly Activity Planner (Appendix 13)
Session 5: Sleep, Exercise, and Energy saving strategies

Review homework and group rule

Lecture 1:
- COPD & Sleep
- Sleep Hygiene
- CBT for Sleep
  - Distorted thoughts about sleep
  - Sleep restriction, Stimulus control, Paradoxical Intention
- Relaxation (Abdominal Breathing, PMR, Imagery)

Exercise 1:
- Identifying your distorted thought about sleep
- What method do you want to use?

Lecture 2: Exercise & Energy saving Strategies
- Importance of exercise and energy saving strategies for management of breathing
- Basic rules for energy saving (Energy saving postures, movement)
- Breathe in at rest, out for movement/exertion
- Exercise to strengthen upper body muscles

Exercise 2:
- Exercise to strengthen upper body muscles
- Practice breathing with walking/vacuuming/rising stairs

Homework:
- Do sleep hygiene check list daily
- Record Sleep diary
- Exercise to strengthen upper body muscle

Handouts:
- Sleep Hygiene Check List (Appendix 14)
- Sleep Record (Appendix 15)
Session 6. Review of skills, Planning for maintenance of gains, and Creating ‘My Well-Being Plan’

Review homework and group rule

Lecture 1: Review of Skills
- CBT concepts and characteristics
- Breathing and Relaxation Exercise
- Identifying depressive mood, automatic thoughts, increasing activities
- Identifying symptoms of anxious mind,
- Identifying negative automatic thoughts that create anxious mind
- Cognitive restructuring: understanding of types of distorted thoughts
- Cognitive restructuring: finding alternative thoughts through Examining evidence, Quantifying evidence, vertical arrow method, Thought stopping
- Guided imagery
- Problem solving
- Sleep hygiene & distorted thoughts about sleep
- CBT for sleep: Sleep restriction, Stimulus control, Paradoxical intention

Exercise 1:
- What skills do you want to continue to use?
- Write a letter to myself with 3 skills that I want to continue to use

Lecture 2: My Wellbeing Plan
- What have you found most helpful about the skills you have learned?
- How will you continue to build on what you have learned?
- What are your goals for one year’s time?
- How will you recognize your problems getting worse?
- How will you maintain your wellbeing if you notice the problems getting worse?
- What are your most unhelpful thoughts?
- What are the alternatives to these?
- What can you do daily, weekly and monthly to help your wellbeing?
- Who can you contact for support?

Exercise 2: Creating My Wellbeing Plan

Homework: Wellbeing Plan Sheet

Handouts: Wellbeing Plan Sheet (Appendix 16)
Appendices
Appendix 1
Ground Rules for Group Therapy

COME ON TIME
  * do not keep others waiting.

COME EVERY WEEK
  * make a commitment to the group.
  * call me (**-****) if you can't make it.

BE SUPPORTIVE TO EACH OTHER

BE CONSTRUCTIVE
  * avoid criticism, give constructive feedback.
  * help each other find the good side of things.
  * be caring, thoughtful.
  * don't put pressure on each other (no "shoulds").

EQUAL TIME FOR ALL
  * give everyone a chance to talk.
  * one person at a time talks, no side conversations.

KEEP IT PRACTICAL
  * focus on solutions, not on how bad things are.

DO THE HOMEWORK!!
  * practice what you learn.
  * these methods can help you control your depression, only if you practice.

CONFIDENTIALITY
  * do not discuss personal things with people outside of the group.
  * you can discuss what you are learning about depression with others.
  * do not talk about other people who are in group with you.

TELL ME IF YOU ARE UNHAPPY!!
  * bring concerns up in the group.
  * I want to work with you.

COME BACK TO THE GROUP.
  * stay committed
  * let us know if you feel upset or have concerns, we can work things ou

(Adapted from ‘Group Therapy Manual for Cognitive-Behavior Treatment of Depression’ by Ricardo F. Munoz)
Appendix 2
Thought Diary 1

<table>
<thead>
<tr>
<th>Date and Time</th>
<th>Activating Event</th>
<th>Automatic Thought</th>
<th>Emotional Consequences</th>
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**Appendix 3**

**Daily Breathing Rate Record**

Record before and after breathing and relaxation exercise.

<table>
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<th>Date &amp; Time</th>
<th>Exercise 1</th>
<th>Exercise 2</th>
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Appendix 4
Mood Diary 1

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<th>Date and Time</th>
<th>Worst 1</th>
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<th>Average 5</th>
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<th>Best 10</th>
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### Appendix 5
#### Thought Diary 2

<table>
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<tr>
<th>Date &amp; Time</th>
<th>Situation (record situation that triggered negative feeling)</th>
<th>Emotion (Record your feeling and the degree as 0% - 100%)</th>
<th>Automatic Thought (Record your thought that arose right before negative feeling)</th>
<th>Core Belief (The Self, The world, the Future) Love/Approval Addiction, Perfectionism, or Achievement oriented</th>
</tr>
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<tbody>
<tr>
<td>7/22/2015 1:00 pm</td>
<td>Experienced SOB when I hurried to catch the bus</td>
<td>Disappointment 90%</td>
<td>I cannot do anything because of SOB</td>
<td>I am incapable. People will think that I am useless. I can never feel better</td>
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Appendix 6
Activity Diary

<table>
<thead>
<tr>
<th>Date and Time</th>
<th>Types of activity</th>
<th>Mood before Activity</th>
<th>Mood after Activity</th>
<th>Degree of Satisfaction (%)</th>
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### Appendix 7

#### Anxiety Symptoms Record

<table>
<thead>
<tr>
<th>Date and Time</th>
<th>Physical Symptoms</th>
<th>Cognitive/ Emotional Symptoms</th>
<th>Behavioral Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/15/2015</td>
<td>shortness of breath, tightness in the chest, lightheadedness, etc.</td>
<td>fear of having a heart attack, going crazy, feeling frightened, etc.</td>
<td>Hyperventilation, excess use of meds or Oxygen, not going out, avoiding people or objects, etc</td>
</tr>
</tbody>
</table>
## Appendix 8

### List of Distorted Thoughts

<table>
<thead>
<tr>
<th>Cognitive Distortions</th>
<th>Definitions</th>
<th>My Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Polarized Thinking (or “Black and White” Thinking)</strong></td>
<td>In polarized thinking, things are either “black-or-white.” We have to be perfect or we’re a failure — there is no middle ground. You place people or situations in “either/or” categories, with no shades of gray or allowing for the complexity of most people and situations. If your performance falls short of perfect, you see yourself as a total failure.</td>
<td></td>
</tr>
<tr>
<td><strong>2 Discounting or disqualifying the positive</strong></td>
<td>We often discount positive experiences insisting that they do not count. For example, “I passed the exam, but I was just lucky.”</td>
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</tr>
<tr>
<td><strong>3 Emotional Reasoning</strong></td>
<td>We believe that what we feel must be true automatically. If we feel stupid and boring, then we must be stupid and boring. You assume that your unhealthy emotions reflect the way things really are — “I feel it, therefore it must be true.” “I am terrified of airplane, so flying must be dangerous.”</td>
<td></td>
</tr>
<tr>
<td><strong>4 Global Labeling</strong></td>
<td>We generalize one or two qualities into a negative global judgment. These are extreme forms of generalizing, and are also referred to as “labeling” and “mislabeling.” Instead of describing an error in context of a specific situation, a person will attach an unhealthy label to themselves. For example, they may say, “I’m a loser” in a situation where they failed at a specific task. When someone else’s behavior rubs a person the wrong way, they may attach an unhealthy label to him, such as “He’s a complete real jerk.”</td>
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<tr>
<td>5</td>
<td><strong>Mind reading</strong></td>
<td>I believe that I know the thoughts or intentions of others (or that they know my thoughts or intentions) without having sufficient evidence. “He is thinking that I failed”. “She thought I did not know the job”</td>
</tr>
<tr>
<td>6</td>
<td><strong>Selective abstraction (Filtering or tunnel vision)</strong></td>
<td>We take the negative details and magnify them while filtering out all positive aspects of a situation. For instance, a person may pick out a single, unpleasant detail and dwell on it exclusively so that their vision of reality becomes darkened or distorted.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Overgeneralization</strong></td>
<td>In this cognitive distortion, we come to a general conclusion based on a single incident or a single piece of evidence. If something bad happens only once, we expect it to happen over and over again. A person may see a single, unpleasant event as part of a never-ending pattern of defeat.</td>
</tr>
<tr>
<td>8</td>
<td><strong>Should statements</strong></td>
<td>We have a list of ironclad rules about how others and we should behave. People who break the rules make us angry, and we feel guilty when we violate these rules. A person may often believe they are trying to motivate themselves with shoulds and shouldn’ts, as if they have to be punished before they can do anything. For example, “I really should exercise. I shouldn’t be so lazy.” Musts and oughts are also offenders. The emotional consequence is guilt. When a person directs should statements toward others, they often feel anger, frustration and resentment.</td>
</tr>
<tr>
<td>9</td>
<td><strong>Jumping to Conclusions</strong></td>
<td>Without individuals saying so, we know what they are feeling and why they act the way they do. In particular, we are able to determine how people are feeling toward us. For example, a person may conclude that someone is reacting negatively toward them but doesn’t actually bother to find out if they are correct. Another example is a person may anticipate that things will turn out badly, and will feel convinced that their prediction is already an established fact.</td>
</tr>
<tr>
<td></td>
<td><strong>Catastrophizing</strong> (what if?)</td>
<td>We expect disaster to strike, no matter what. This is also referred to as “magnifying or minimizing.” We hear about a problem and use <em>what if</em> questions (e.g., “What if tragedy strikes?” “What if it happens to me?”). For example, a person might exaggerate the importance of insignificant events (such as their mistake, or someone else’s achievement). Or they may inappropriately shrink the magnitude of significant events until they appear tiny (for example, a person’s own desirable qualities or someone else’s imperfections).</td>
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<td></td>
<td><strong>Personalization</strong></td>
<td>Personalization is a distortion where a person believes that everything others do or say is some kind of direct, personal reaction to the person. We also compare ourselves to others trying to determine who is smarter, better looking, etc. A person engaging in personalization may also see themselves as the cause of some unhealthy external event that they were not responsible for. For example, “We were late to the dinner party and <em>caused</em> the hostess to overcook the meal. If I had only pushed my husband to leave on time, this wouldn’t have happened.”</td>
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<tr>
<td></td>
<td><strong>Blaming</strong></td>
<td>We hold other people responsible for our pain, or take the other track and blame ourselves for every problem. For example, “Stop making me feel bad about myself!” Nobody can “make” us feel any particular way — only we have control over our own emotions and emotional reactions. “It is my fault that my son married an uncaring person.”</td>
</tr>
</tbody>
</table>

Reference:
Irismar Reis de Oliveira; [http://trial-basedcognitive therapy.com](http://trial-basedcognitive therapy.com)
**Appendix 9**  
*Thought Diary 3*  
*(With Alternate Thoughts and Actions)*

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>An event that caused thought</th>
<th>Automatic thought</th>
<th>Alternative thought</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emotion with</td>
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<td></td>
<td></td>
<td></td>
<td>Automatic thought</td>
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<tr>
<td></td>
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<td>Emotion with</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Alternative thought</td>
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</table>
Appendix 10
Mood Diary 2

Record before and after Guided Imagery

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Before guided Imagery</th>
<th>After Guided Imagery</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 29th 10AM</td>
<td>Anxious</td>
<td>pleasant</td>
</tr>
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</tbody>
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## Appendix 11
### Problem Solving Worksheet

<table>
<thead>
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<th>Problem</th>
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<tbody>
<tr>
<td>Identify all possible solutions</td>
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<tr>
<td>Evaluate pros and Cons</td>
<td></td>
</tr>
<tr>
<td>Select a solution</td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td></td>
</tr>
<tr>
<td>Do (put the plan into action)</td>
<td></td>
</tr>
<tr>
<td>Review</td>
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</table>
### Appendix 12

**Pros and Cons for Each Solution**

<table>
<thead>
<tr>
<th>Possible solution 1</th>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Possible solution 2</th>
<th>Pros</th>
<th>Cons</th>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>Possible solution 3</th>
<th>Pros</th>
<th>Cons</th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Possible solution 4</th>
<th>Pros</th>
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<table>
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<th>Possible solution 5</th>
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</tbody>
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Appendix 13
Weekly Activity Planner

<table>
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<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<tbody>
<tr>
<td>AM 7-8</td>
<td></td>
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<td>8-9</td>
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<td>9-10</td>
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<tr>
<td>10-11</td>
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<tr>
<td>11-12</td>
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<tr>
<td>PM 12-1</td>
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<td>1-2</td>
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<td>2-3</td>
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<td>3-4</td>
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<td>5-6</td>
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<td>6-7</td>
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<td>7-8</td>
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</table>

Appendix 14
Sleep Hygiene Check List
### CBT for Anxiety and Depression secondary to COPD among KAs in Honolulu

Write Yes or No before going to bed.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Limit time in bed</td>
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<tr>
<td>2</td>
<td>Fix a bedtime and an awakening time</td>
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<tr>
<td>3</td>
<td>Avoid napping during the day</td>
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<td>4</td>
<td>Exercise regularly late afternoon or early evening, but not right before bed</td>
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<td>5</td>
<td>Avoid caffeine, alcohol, nicotine before bedtime</td>
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<td>6</td>
<td>Avoid heavy, spicy, or sugary foods 4 hours before bedtime</td>
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<td>7</td>
<td>Avoid bright light at night</td>
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<td>8</td>
<td>Block out all distracting noise</td>
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<td>9</td>
<td>Reserve the bed for sleep</td>
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<tr>
<td>10</td>
<td>Have a light snack before bed</td>
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<tr>
<td>11</td>
<td>Don't take your worries to bed</td>
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<tr>
<td>12</td>
<td>Remove a clock in a bedroom</td>
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<tr>
<td>13</td>
<td>Practice relaxation techniques before bed</td>
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<tr>
<td>14</td>
<td>Go to bed only when you feel sleepy</td>
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<td>15</td>
<td>Get out of bed if you don't fall asleep after 20 minutes</td>
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<tr>
<td>16</td>
<td>Tolly</td>
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</tbody>
</table>
### Appendix 15
### Sleep Record

Write the first raw just before going to bed, and the rest in the morning.

<table>
<thead>
<tr>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>What time I went to bed</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>What did I do in bed? (Read, TV, conversation)</td>
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<tr>
<td>What time did I put the lights out?</td>
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<td>How many minutes before I fell asleep?</td>
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<td>What time did I wake up?</td>
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<td></td>
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<tr>
<td>Number of times I woke up?</td>
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<td>Number of hours I slept?</td>
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<td>On waking up in the morning, how rested do I feel? 0–10 (10 most rested)</td>
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</tbody>
</table>
# Appendix 16

**My Well-Being Blueprint**

Keep this blueprint somewhere easy to refer to.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What have you found most helpful about the skills you have learned?</td>
<td></td>
</tr>
<tr>
<td>How will you continue to build on what you have learned?</td>
<td></td>
</tr>
<tr>
<td>What are your goals for one year’s time?</td>
<td></td>
</tr>
</tbody>
</table>
How will you recognize your problems getting worse?

Situation:

How will you maintain your wellbeing if you notice the problems getting worse?

What are your most unhelpful thoughts?

What are the alternatives to these?
What can you do daily, weekly and monthly to help your well-being?

Who can you contact for support?

My healthcare provider:

Suicide Crisis Hotline 24 hours / 7 days
   Island of Oahu: (808) 832-3100
   1-800-SUICIDE (1-800-784-2433)
   Text: 1-800-799-4889

Mental Health Helpline 01438 843322.

Local Emergency Service:

Families or Friends:

Reference:
Appendix 17
Script of the Slow Breathing

Now we will actually try out the breathing exercises. Please follow along with all the steps. I will now count from one to ten and back down to one. Inhale along with the count and say "relax" as you exhale to self-hypnosis. We will now start.


Keep your eyes closed and let’s stay in this relaxed mode. Simply breathe normally for about 30 seconds—no need for abdominal breathing at the moment.

(Pause for 30 seconds)

Now I will count again.


Keep your eyes closed and let’s stay in this relaxed mode. Simply breathe normally for about 30 seconds—no need for abdominal breathing at the moment.

Now open your eyes.
Appendix 18
Script of the Abdominal Breathing

Find a chair that you can lean your head backward and rest for a few seconds calming your mind. One hand on the chest and the other hand on top of your navel and breathe comfortably. As you inhale, feel your stomach expanding with the hand on your navel, but try to keep your chest still. Focusing more on the abdominal area. Exhale as smoothly and consistently as possible.

Don’t be too eager and avoid inhaling more than you feel comfortable. Also be careful to not purposely move your hands while focusing on the abdominal muscles.

Breathe in for three counts, hold for one count, and then exhale. Say “relax” as you exhale. Do this exercise twice a day for about 10 minutes each time. Avoid exerting too much control to breathe slowly. Even, regular pacing is more important. Even though you might not notice an improvement right away, don’t be disappointed.
Appendix 19

Script of the Progressive Muscle Relaxation

Rest comfortably wearing comfortable clothes. Close your eyes and breathe in deeply using abdominal breathing.

Now we will start relaxation.

Make a fist with your right hand and feel the tension on the muscles. Now relax your hand feel the difference between the tensions when you were making a fist and now.

Now for the left hand.
Make a fist with your left hand and feel the tension on the muscles. Now relax your hand feel the difference between the tensions when you were making a fist and now.

Now right arm muscle. Flex your right arm and purposely tighten your muscles. Now relax. Compare the difference between the two positions. Repeat for the left arm.
Flex your left arm and purposely tighten your muscles. Now relax. Compare the difference between the two positions.

Next is right foot and leg. Lift your right left stretch out your foot as well. Feel all the tension on the muscles and joints. Now relax and compare the difference.
Do the same for the left foot and leg. Now relax and compare the difference between tension and relaxation

Pull both legs toward your body and press on the thighs. Feel the tension on those muscles. Now relax. Compare the difference.

Okay! Now let's engage the lower abdominal muscles.
After pulling your lower abdomen inward, hold the position. Now relax those muscles. Compare the difference between when you were engaging the muscles and when you were relaxed.
Now let's engage the chest muscles.
Take a deep breath and hold it. Okay! Relax all your muscles as you exhale. Compare the difference between when you were engaging the muscles and when you were relaxed.

We are entering into deeper relaxation. Observe your breathing. You are breathing regularly, steadily. Each time you breathe you go deeper and deeper into relaxed state. With every exhale the feeling of relaxation spreads throughout the body.

Now let's engage the shoulder muscles!
Raise your shoulders to your ears. Now relax them. Compare the difference between when you were engaging the muscles and when you were relaxed.

Let us now engage the lips.
Please close your mouth and hold it tightly. Now relax. Compare the difference between when you were engaging the muscles and when you were relaxed.

Now on to the eyes. Close your eyes and shut them tight. Now relax and compare the difference between when you were engaging the muscles versus when you were relaxed.

Let's now focus the brows.
Make a frowning face and bring in your brows. Now relax. Compare the difference between when you were engaging the muscles and when you were relaxed.

Onto the forehead.
Stretch your eye brows upward and engage the forehead muscles. Now relax them. Compare the difference between when you were engaging the muscles and when you were relaxed.
Appendix 20
Script of the Guided Imagery

We are now entering the relaxed state. I will count from one to five. As I count, let your body fall into deeper and more comfortable relaxation and reach a quiet resting place.

One, two, three, four, five… in very deep and quiet being.

As you maintain this relaxed state, observe your breathing. Quietly continue abdominal breathing. Imagine as you continue abdominal breathing.

You're lying by the beach under a warm sunshine. You feel the warmth and smoothness of the sand. Hear the waves. The waves come ashore and break along the coast. Smell the lush smell of the sea.

Now it is time to come back. I will count down from five to one. You will slowly wake up. Open your eyes at two. Upon reaching one you will return to your normal state.

Five, four, three, two one. It's a refreshing feeling.

Avoid sudden movements and start moving slowly.