

**MEASURING GENERALIZED ANXIETY DISORDER (GAD) USING THE DSM-V SEVERITY
MEASURE ASSESSMENT AMONG RESETTLED BHUTANESE-NEPALI REFUGEES**

by

Alexander Kovalik

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This thesis was presented

by

Alexander Kovalik

It was defended on

April 15, 2016

and approved by

Thesis Advisor:

Martha Ann Terry, Ph.D.

Assistant Professor

Department of Behavioral and Community Health Sciences
Graduate School of Public Health, University of Pittsburgh

Committee Member

Jaime Booth, Ph.D.

Assistant Professor

School of Social Work, University of Pittsburgh

Committee Member

Tomas Matza, Ph.D.

Assistant Professor

Department of Anthropology
Dietrich School of Arts and Sciences, University of Pittsburgh

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Martha Ann Terry, PhD

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ABSTRACT

Public Health Relevance: Mental illness affects refugees who settle all over the world; however, Bhutanese refugees who settle in western societies are at higher risk. These high rates affect local communities, health systems, and economies, while highlighting the importance of refugee health services. **Objective:** The aim of this study was to measure generalized anxiety disorder (GAD) in a sample of Bhutanese-Nepali refugees experiencing mental health symptoms in Pittsburgh, Pennsylvania, and explore their attitudes about mental health and treatment options. **Methods:** Six participants volunteered for in-home interviews where GAD status was assessed using the mean DSM-V Severity Measure for Generalized Anxiety Disorder questionnaires. A review of literature, in-home interviews and a single focus group with four participants were conducted to gain information on attitudes about mental health, culturally specific events or experiences related to mental health, and treatments available and utilized by this community. **Results:** A moderate level of GAD was found in the sample. Traditional medicine (meditation, yoga, dhamis) and clinical medicine (pharmaceuticals) were reportedly used to treat anxiety in this sample, with a combination of both reportedly working best. Stress associated with relocation and resettlement has been suggested as a cause of GAD among the sample. **Conclusion:** In a

small sample of Bhutanese-Nepali refugees in Pittsburgh, Pennsylvania; moderate levels of GAD were reported; however, due to a small sample size an alternative diagnosis such as a culture-bound syndrome should not be excluded. Future evaluations should be done to expand treatment regimens for mental health in the international refugee population, as well as evaluate diagnostic measuring tools.

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PREFACE

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1.0 INTRODUCTION

As of 2012, the suicide rate in Bhutanese refugees in the U.S was 21.5 per 100,000, a rate much higher than the global suicide rate of 16.0 per 100,000 (Center for Disease Control and Prevention [CDC], 2013). Mental illness affects refugees who settle all over the world; however, Bhutanese refugees who settle in western societies are at high risk of depression (21%) compared to the world refugee average of 5% (Vonnahme, Lankau, Ao, Shetty, & Cardozo, 2015). Posttraumatic stress disorder (PTSD) is a co-morbidity that is often exhibited with depression among Bhutanese refugees and has affected up to 71% of the population (Vonnahme et al., 2015).

There are limited data on the rates of generalized anxiety disorder (GAD) among resettled Bhutanese-Nepali refugees in western societies, but it is expected to resemble the high rates of mental illness of the global refugee average because of known life course events and acculturation stressors. Understanding how trauma, negative life course events, and environment are associated with mental health among Bhutanese refugees may also be a key component moving forward and improving the lives of this population (Husain, Creed, & Tomenson, 1997; Wittchen, 2001).

Acculturation may have an important role in how the resettled Bhutanese-Nepali community deals with and responds to stress. Stress associated with the migration from one culture or community another has been associated with negative health effects as a result of

uncertain legal status, cultural separation, and confusion about the social structure of the new community (Cervantes, 1990). Culturally specific events, cultural understanding, and cultural interpretation can potentially alter psychological health, or physical health in ways that are not well defined by western medicine's classification of disease.

Culturally competent clinicians who understand cultural interpretations of disease and disease symptoms are important when working with diverse populations. The constantly changing definition of 'cultural competence' is one of the biggest barriers to culturally competent mental health care (Bhui, Warfa, Edonya, McKenzie, & Bhugra, 2007). Cultural competence has been identified by the United States (U.S) Department of Health and Human Services as "a critical factor in providing relevant services to nations growing culturally ethnically diverse population" (Bhui et al., 2007. p. 3). The New York Medical School defines cultural competence as the "dynamic continuum consisting of seven stages: Listen, Elicit, Assess, Recommend, Negotiate (LEARN)" (Ferguson, Keller, Haley, & Quirk, 2003. p. 1223). The nursing community defines cultural competence "an individual's ability to respect each person's uniqueness. Goals of marketplace success, ability to compete, enhanced overall performance, and increased capability of all staff" (Frusti, Niesen, & Campion, 2003. p. 31).

In Pittsburgh, Pennsylvania, the Squirrel Hill Health Center (SHHC) has taken the initiative to diagnose and treat the Bhutanese-Nepali refugee population with culturally competent care. Over the last several years, doctors and nurses have worked to improve the physical and mental health of this population, but based on clinical observations patients still express sadness, loss, and physical pain on a regular basis.

In the winter of 2015, a small research team from the University of Pittsburgh Graduate School of Public Health and doctors from the SHHC began to investigate the Bhutanese-Nepali refugee population in Pittsburgh, to understand if the symptoms experienced in this population can be accurately diagnosed by the DSM-V, and improve the basic understanding and attitudes of mental health, cultural treatment methods, and clinical treatments:

Prior to conducting the research, doctors, a behavioral specialist from the SHHC, and the research team predicted that Bhutanese-Nepali refugees would not report high levels of generalized anxiety disorder (GAD), depression, somatization, or PTSD as diagnosed by the DSM-V severity measures of mental illness. These four specific diagnoses were chosen because the doctors at the SHHC reported from observation and research high prevalence of symptoms relating to these disorders in the Bhutanese-Nepali sample. GAD is the main focus of this thesis because of the suspicion that it is being misdiagnosed in the Bhutanese-Nepali community in Pittsburgh.

This research team aimed to measure GAD among a small sample of Bhutanese-Nepali refugees in Pittsburgh. By conducting a short literature search, six cultural formulation interviews and a single focus group the research team hoped to learn more about the Bhutanese-Nepali conceptualizations of mental health, attitudes towards treatment, and the experiences possibly attributed to GAD and mental illness. The long-term goal of this research is to improve the well-being of this population here in Pittsburgh, Pennsylvania.

2.0 BACKGROUND

GAD is a relatively misunderstood mental disorder; however, it remains a frequently diagnosed mental illnesses in primary care settings worldwide (Wittchen, 2001). According to observational research done by medical professionals in Pittsburgh, Pennsylvania, the prevalence of mental illness among Bhutanese refugees is high, yet their ability to effectively treat this population has been limited. Bhugra et al. (2004) concluded that there are major generational factors that affect the mental health status of refugee populations and a doctor's ability to accurately diagnosis symptoms. First-generation refugees, like many Bhutanese refugees in Pittsburgh, experience stress associated with "striving harder, is for example, the stress or pressure that is associated with wanting to achieve too much in short periods of time.

This is different than the stress that is associated with bicultural settings and cultural conflict seen in second-generation refugees (Bhugra, 2004). Other stress factors may stem from the experiences refugees encountered during relocation. Throughout the immigration process stressors include preparation, the process, and post-migration factors. The stress may be different depending on whether the population was forced to relocate or if it was voluntary. Legal status, language barriers, structural confusion of a new cultural and society, and alienation are factors that increase stress in the Bhutanese population (Cervantes, 1990).

2.1 MENTAL HEALTH

According to the National Alliance on Mental Illness (NAMI), mental illness is experienced differently by every individual, but an acceptable definition is that mental illness is “a condition that impacts a person's thinking, feeling or mood and may affect his or her ability to relate to others and function on a daily basis” (National Alliance on Mental Illness [NAMI], 2016. p. 1). The relation between the mental and physical components in a “mental disorder” should not be kept distinct; in fact, the DSM states that there is as much a physical component in mental disorders as a mental component (American Psychiatric Association [APA], 2000).

Mental illness affects one in five American adults during their lifetime, and one in 25 American adults currently suffers from a severe mental illness. Additionally, in a given year, over 43.8 billion American adults will experience an episode of mental illness (NAMI, 2016d). The most commonly diagnosed mental illness is anxiety disorder, which affects 18.1% of American adults (42 million) (NAMI, 2016a). Similarly, major depressive disorder, bipolar disorder, and schizophrenia affect 6.7%, 2.6%, and 1.1% of American adults respectively (NAMI, 2016b, 2016c, 2016e).

Access to mental health care remains one of the biggest problems for people living with mental illness (Thornicroft, Rose, & Kassam, 2007). Although mental disorders are often times difficult to diagnose, recent research has found that even after a mental illness has been clearly diagnosed treatment may not be prescribed for weeks or years (Black et al., 2001; Johannessen & McGlashan, 2001). Even more difficult is treating mental illness when comorbid, or multiple mental disorders are present (McManus, Shafran, & Cooper, 2010). Although the sample in this research already has access to medical care, personal

testimonials from prior focus groups have indicated that there still is a portion of the Bhutanese-Nepali population that reports stigma and transportation as barriers to care.

Stigma continues to be a barrier for people living with mental illness (Thornicroft et al., 2007). Perceived stigma can be associated with prolonged periods of disease symptoms before medical consultations are sought and patients get treatment. Stigma along with societal pressures are thought to be a major factor in the delay of help seeking behavior (Barney, Griffiths, Jorm, & Christensen, 2006). Individuals who avoid medical treatment are often times young males, who come from culturally or ethnically minority groups, with low income and low education (Wang et al., 2005). Furthermore stigmatization remains a barrier for individuals after treatment, especially for those seeking employment, housing, and health care (Manning & White, 1995; Page, 1995; Wahl, 1999).

2.2 THE DSM-V, HOW IS IT USED, AND CHANGES OVER TIME

As noted earlier, the DSM is a resource for mental health clinicians (e.g. psychologists, nurses, social workers, occupational counselors, and behavioral specialist), educators, and researchers who are involved in the field of mental health. The DSM was originally created in 1952 to categorize and gain statistical information on mental disorders in the U.S. The manual is best applied to an individual's current disease symptoms, as previous symptoms cannot typically be used to make a diagnosis using the DSM.

The DSM opens with instructions on how to best utilize the manual, followed by DSM classifications, Preface, DSM-V Basics, Diagnostic Criteria and Codes, and Emerging Measures

and Models. Then using a coding system to diagnose mental illness in psychiatric patients, mental disorders are organized based on general classifications. The DSM groups disorders based on particular aspects of the disorder or disability using headings titled “Diagnostic Features,” “Subtypes and/or Specifies,” “Recording Procedures,” “Associated Features and Disorders,” “Specific Culture, Age, and Gender Features,” “Prevalence,” “Course,” “Familiar Pattern,” and “Differential Diagnosis.” Classifications may not be available for each disorder, in which case they are not needed to classify that particular mental disorder (APA, 2000).

The DSM has evolved into a diagnostic tool that has international and cross-cultural relevance, although difficulties have been noted when a clinician uses the DSM to assess the mental health of an individual of a different culture or ethnic group. Difficulties in diagnosis may be due to misjudgment of cultural behaviors or practices (APA, 2000). The DSM continues to incorporate cultural perspectives and increase cultural awareness, but the validity of the DSM as a universal valid tool has been questioned (Lewis-Fernández et al., 2010). Lewis-Fernández et al. (2010) recommend that in order to improve upon the cultural validity of GAD that the DSM make three specific changes. First, for criterion A, expand the range of worry symptoms to be more representative of different cultural groups. DSM results for worry were found to have cross-culture variance when compared to other cross-cultural validated scales. The expansion of worry to include examples such as family, social, medical, financial, and work may increase the cross-culture validity. Second, expand criterion C and expand somatic symptoms to include symptoms such as palpitations, gastrointestinal dysfunction, difficulty breathing, and distress. Finally, a secondary data analysis is necessary to assess the cross-cultural variability associated with GAD (Lewis-Fernández et al., 2010).

The DSM has been changed regularly since the first edition was published in 1952. This first edition was published in a coordinated effort with the International Classification of Diseases (ICD). Changes are made with the guidance of the American Psychiatric Association (APA) as new knowledge and research associated with mental health make revisions necessary (APA, 2000, 2014). The DSM-I contained a glossary of mental disorders that were the main focus in the clinical setting of the time. This original version of the DSM maintained a view that mental illness was a personality reaction to psychological, social, and biological factors and stressors (APA, 2000). The term “psychodynamic” has also been used to define the early views of mental illness which added to the belief that mental disorders were conflicts of personality and intrapsychic conflict (Mayes & Horwitz, 2005).

With new research on and knowledge of mental disorders emerging after the DSM-I, new versions were published in 1975 and 1978. The DSM-III introduced the diagnostic system that we are familiar with today that is symptom-based with categorical diseases (APA, 2000; Mayes & Horwitz, 2005). Such changes were made in large part because of Emil Kraepelin. Kraepelin favored what is considered a “medical model” of psychiatry that has been summarized in to nine key themes:

- 1) Psychiatry is a branch of medicine
- 2) Psychiatry should utilize modern scientific methodologies and base its practice on scientific knowledge.
- 3) Psychiatry treats people who are sick and who require treatment for mental illnesses.
- 4) There is a boundary between the normal and the sick.
- 5) There are discrete mental illnesses. Mental illnesses are not myths. There is not one but many mental illnesses. It is the task of scientific psychiatry, as a medical specialty, to investigate the causes, diagnosis, and treatment of these mental illnesses.
- 6) The focus of psychiatric physicians should be particularly on the biological aspects of mental illness.
- 7) there should be an explicit and intentional concern with diagnosis and classification.
- 8) Diagnostic criteria should be codified, and a legitimate and valued area of research should be to validate such criteria by various techniques. Further, departments of psychiatry in medical schools should teach these criteria and not deprecate them, as has been the case for many years.
- 9) In research efforts directed at improving the

reliability and validity of diagnosis and classification, statistical techniques should be utilized. (Decker, 2007. p. 248).

Significant changes in the DSM have also been seen in the DSM-IV as a large amount of literature and research data were provided in the revision of the DSM. The DSM has changed its criteria for GAD over the last several editions, and minor changes have been made in this category from the DSM-IV to the DSM-V (see Appendix B). The DSM-V redefines GAD from the DSM-IV by separating it from posttraumatic stress disorder (APA, 2013). With such changes the ability to effectively diagnose GAD has improved vastly, and it is now predicted that the diagnosis of GAD is as reliable as depression screenings. However, it is still not known if the DSM is an effective and valid tool to diagnose GAD in children and adolescents (Andrews et al., 2010).

2.3 GENERALIZED ANXIETY DISORDER SYMPTOMS

GAD often presents through hyper-vigilance, excessive worrying, muscle tension, irritability, fatigue, and restlessness. These key features are difficult for the patients to manage and control, keeping them from completing daily tasks (APA, 2013). To be diagnosed with generalized anxiety disorder through the DSM-V, a person must exhibit three or more of the six symptoms listed in the DSM for more days than not during the last six months (see Appendix B). GAD is often distinguished from other anxiety disorders by the excessiveness of the symptoms, lengthened duration of symptoms, and distinct physical symptoms (APA, 2013). Stress and trauma are often associated with GAD, which is why it is often seen with

PTSD. In fact PTSD was classified as an anxiety disorder until the release of the DSM-V. PTSD is now classified under trauma and stress related disorders and an individual is now required to experience at least one traumatic event (APA, 2013).

Persons will typically experience GAD symptoms five to 10 years before they are formally diagnosed and treated by a medical professional (Ballenger et al., 2001). GAD has been found to cause more impairment and be more disruptive than other anxiety disorders like social phobia, agoraphobia, and obsessive-compulsive disorder (Hoffman, Dukes, & Wittchen, 2008).

2.4 COMORBIDITIES

Comorbid psychiatric illnesses are common among those with GAD. The presence of co-occurring psychological symptoms makes it more difficult for medical professionals to diagnose and treat patients in a clinical setting.

The distinction between GAD and other psychological diagnoses such as PTSD has been very hard for clinicians to make (Newman, Kaloupek, & Keane, 1996). Difficulties in differentiating PTSD from GAD arises for a number of reasons: they have common symptoms; it is possible that PTSD and GAD may lead to one another; and both are frequent among people vulnerable to adverse traumatic stressors with PTSD being slightly more frequent (Keane & Kaloupek, 1997). Research by Keane, Taylor, and Penk (1997) concluded that PTSD could be distinguished from GAD and major depressive disorder (MDD) by the presence of reminders from traumatic events.

Wittchen et al. (2002a) have concluded that subjects with pure GAD have a 90% risk of developing at least one more psychiatric disorder in their lifetime. The same research study found that 35%-65% of GAD patients developed MDD, dysthymia, alcohol abuse, and social phobia (Wittchen, 2002a). Generalized anxiety is commonly associated with other mental disorders, as well as economic and personal burdens (Moffitt et al., 2007). GAD patients are at a 17% higher risk of developing bipolar disorder, and unipolar depressive disorder is seen in up to 67% of GAD patients, while only 16% of GAD patients do not develop a comorbid mood disorder in their lifetime (Kessler et al., 1996; Simon, 2009).

MDD is most commonly associated with GAD and is seen in 50-60% of individuals who have been diagnosed with GAD. The association between GAD and MDD is unclear, but recent research suggests that GAD may increase the development of MDD due to the early onset of GAD and anxiety disorders in relation to MDD (Kessler et al., 1996). However, other research fails to validate this claim. Moffitt and colleagues (2007) concluded that 32% of patients up to the age of 32 develop MDD before being diagnosed with GAD. High comorbid rates associated with GAD, specifically MDD, may be due to genetics and neurobiological responses such as serotonergic dysregulation, hypothalamic-pituitary-adrenal axis dysfunction, and overlapping genetic factors (Kendler, Neale, Kessler, Heath, & Eaves, 1992; Simon, 2009). Comorbidities may also be explained by environmental stresses or patterns of life stress (Simon, 2009). According to Kendler et al. life stresses can be classified as excessive loss and humiliation (Kendler, Hettema, Butera, Gardner, & Prescott, 2003).

Mental health research has continued to grow in the Bhutanese refugee population. Recently it was found that the prevalence rate of anxiety among Bhutanese refugees in the U.S was 19%, a rate similar to the overall U.S population (18%) (Aoe et al., 2015; ADAA,

2016). In the same study, Aoe et al. (2015) analyzed suicidal ideation and mental health among Bhutanese refugees in the U.S and concluded that 3% of Bhutanese refugees are likely to experience suicidal ideations in their lifetime.

Although the risk of developing more than one psychiatric disorder is greater after the onset of GAD, other side effects may occur as well. Recent research on GAD and other cognitive impairments such as depression has linked them to short-term cognitive impairments (Mantella et al., 2007). Finally, the prevalence of anxiety disorders is higher in young adults compared to older adults, and anxiety remains higher in all adults than children (Regier et al., 1988; Wittchen, Zhao, Kessler, & Eaton, 1994). It also is possible that GAD rates may be even higher than what is reported. Research suggests that GAD is underreported, and the lack of late-life anxiety reporting measures may lead to inaccurate prevalence rates in the adult population (Kogan, Edelstein, & McKee, 2000).

2.5 GAD PREVALENCE

The risk of generalized anxiety disorder has been a major research topic for many psychologists. The lifetime prevalence of GAD in the U.S is 4.3%, with a 12 month prevalence between 1.9-5.1% (Wittchen, 2002a; Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012;). The 12 month prevalence of GAD among tortured and non-tortured Bhutanese refugees was found to be 20.6% and 12.5% respectively (Van Ommeren et al., 2001). Although the root causes of GAD are still unclear it remains evident that GAD is twice as likely to be diagnosed in women than men, and generalized anxiety disorder is more commonly

diagnosed in individuals who are older than 24 years of age (Wittchen et al., 1994; Wang, Berglund, & Kessler, 2000). Wittchen et al. (1994) concluded that this may be due to the accumulation of life experiences such as partnership separation, divorce, unemployment, and homemaker responsibilities (Hunt, Issakidis, & Andrews, 2002).

In addition to personal and social disconnections, research has associated educational level to the risk of GAD development. Wang et al. (2005) concluded that individuals with fewer than 11 years of schooling are at higher risk for GAD. Similarly annual income has been linked to GAD in that those who make less than \$23,500 are at higher risk of lifetime GAD development than those who make over \$23,500 by 2.6% (Wang et al., 2000).

It appears that personal stress of relationships may also trigger GAD among adults. Research has found that older adults who take on caregiver roles develop GAD 7.3% of the time, a much higher rate than the United States average of 3.1% (Dew et al., 2004; Anxiety and Depression Association of America [ADAA] , 2016).

2.5.1 Biological Development of GAD

The development of anxiety disorders may be associated with genetic factors. And although GAD has been found to occur twice as often in women than men, research has shown that the same pathway for the development of GAD occurs in both genders (Hettema, Prescott, Myers, Neale, & Kendler, 2005). Dysregulation of the hypothalamic-pituitary-adrenal axis (HPA axis) function has been associated with the development of generalized anxiety disorders, as well as panic disorder and other phobias (Abelson, Khan, Liberzon, & Young, 2007). Research has also theorized that genetic components may interfere with regulatory systems of the

autonomic and neuroendocrine systems leading to the neurological development of GAD (Charney, 1998). Studies linking GAD to genetic factors have isolated specific genetic factors that have been found to be associated with anxiety disorders (Charney, 1998). According to Amstadter et al. (2009) changes in RGS2, a G-protein, have been linked to the development of anxiety disorders in both humans and mice. The combination of genetic changes in RGS2 and environmental stress increase the risk of both anxiety and PTSD in human subjects (Amstadter et al., 2009).

Research has found positive correlations between genetic factors and the development of GAD later in life. Scherrer et al. (2006) found that genetic factors account for a 37.2% increase in the development of GAD among male twins. Twin studies have shown that first relatives who have an anxiety disorder are 30%-50% times more likely to have a relative who also has an anxiety disorder (Scaini, Belotti, & Ogliari, 2014). Although genetic components appear to contribute to the development of GAD, other contributing factors may exist.

2.5.2 Environmental Development of GAD

Early stress and trauma are both important risk factors that have been linked to the development of anxiety disorders later in life (Gibb, Chelminski, & Zimmerman, 2007). Events such as childhood sexual abuse, parental loss, job loss, financial stress, or separation have been linked to GAD in older adults (Harris, Brown, & Bifulco, 1987; Scherrer et al., 2000; Hettema et al., 2005). Interestingly, widowed status was not found to be significantly attributed with the development of GAD by research conducted with subjects in Singapore

(Lim et al., 2005). Potential reasons for this may be the increase in emotional and financial support that follows the death of a spouse. Similarly, research conducted by Sherrer et al. (2000) found that although social stress contributes to the development of GAD, family environment is not a contributing factor among middle-aged males.

However, this result conflicts with a majority of previous research among family studies. Lim et al. (2005) made an interesting conclusion when assessing GAD risk factors in Singapore, finding that individuals in families with low and high socioeconomic status were most likely to develop GAD while groups falling in the middle were less likely to develop GAD symptoms. It has also been found that parent-child bonding, parenting style, and couple's stress are contributing factors to GAD in children (Dadds & Powell, 1991; Silove, Parker, Hadzi-Pavlovic, Manicavasagar, & Blaszczynski, 1991).

There are many reasons for why immigrant populations may experience high rates of psychological disorders. Acculturation is a factor that has been shown to increase psychological distress among immigrant populations leading to poorer health (Torres, 2010). Perceived ethnic discrimination, legal status, cultural conflict, alienation, and language barriers are factors that have been shown to affect health status, even with social support (Cervantes, 1990; Oh, Koeske, & Sales, 2002). Research by Finch and Vega (2003) states that the allosteric load associated with constant stress and acculturation can have detrimental physical effects such as a suppressed immune system, and increase blood pressure (Finch & Vega, 2003). To reduce the effects of acculturation stress it has been theorized that social integration such as the blending of both the new and native culture can reduce acculturation stress (Berry & Sam, 1997).

2.6 SOCIETAL COSTS OF GAD

Mental illness in the United States carries high personal and social implications. The high cost of treatments can have a negative effect on a patient's personal finances, but also there are social consequences linked to high GAD prevalence rates. Medical analyses of GAD have determined that a high number of patients with GAD symptoms utilize primary care facilities rather than mental health clinics (Wittchen et al., 2002b). The overuse of primary care facilities to treat mental health puts a strain on the medical system due to a heightened number of misdiagnoses or failed diagnoses (Üstün & Sartorius, 1995).

Several societal costs have emerged with the growing rates of GAD in the United States similar to those of chronic illnesses, as GAD affects work productivity and increases the use of medical services (Kessler, Mickelson, Barber, & Wang, 2001). Kessler et al. (1999) found that pure GAD has been associated with 10% reductions in productivity in 34% of research subjects. Along with the loss of productivity, employees with pure GAD miss 4.6 days of work per month due to the disability, while those with comorbid MDD miss 8.0 days (Wittchen, 2002a).

The economic burden that is associated with anxiety disorder and GAD is substantial. A study conducted in 1996 analyzed the economic impact of anxiety disorder on society in 1990. Du Pont et al. (1996) concluded that \$46.6 billion dollars are directly associated with anxiety disorder expenditures. This expense was 31.5% of the total annual expenditure on mental illness in the same year. There are minimal data on the current economic cost of anxiety on society and the costs associated specifically with GAD.

2.7 TREATMENT OF GENERALIZED ANXIETY DISORDER

Medical professionals have used several treatment methods including pharmaceuticals, behavioral therapy, and psychotherapy to manage GAD. Currently the doctors and nurses at the SHHC are using a standard regiment of western medicine to treat GAD symptoms in the Bhutanese-Nepali community. Activities such as community meetings, yoga, and dance are currently used by Bhutanese Community Organization of Pittsburgh (BCAP), a partner of the SHHC, to reduce anxiety and depression symptoms. The best method of treating anxiety disorders remains unclear; however, research has confirmed that by targeting the primary mechanisms of anxiety and using evidence based approaches to develop and maintain a treatment program, benefits to the patient are evident (McManus et al., 2010).

2.7.1 Pharmaceutical Treatment Approaches

Many pharmaceuticals such as benzodiazepines and antidepressants have been used successfully to treat the symptoms of GAD (Hollister, 1986). Benzodiazepines (BZs) have been the main treatment for GAD since the 1960s (Wood, 1993). BZs have been shown to offer patients fast and consistent results to treat their GAD symptoms; however, there can be several side effects such as withdrawal symptoms, ataxia, muscle relaxation, incoordination, and dizziness (APA, 1990; Rickels, DeMartinis, & Aufdembrinke, 2000; Lukasz, Femiano & Katzman, 2004) . For this reason, BZs have typically been used specifically for short treatment programs, some lasting less than six weeks (Ross & Matas, 1987; Rickels et al., 2000). BZs have also been added to treatment programs where somatic

symptoms have emerged as comorbid symptoms rather than cognitive impairments (Hoehn-Saric, McLeod, & Zimmerli, 1988). BZs work as an anxiolytic that affects the neurotransmitter GABA and have a calming or hypnotic effect. The binding of BZ molecules with chlorine (Cl-) to GABA receptor sites makes the site more efficient and increases the number of reactions in the receptor site. The neuron becomes less active and excited after the reaction due to an increase in Cl- in the postsynaptic neuron causing polarization (“THE BRAIN FROM TOP TO BOTTOM,” n.d.).

Antidepressants and selective serotonin reuptake inhibitors (SSRIs) have been effectively used to treat many patients suffering from GAD with fewer side effects than BZs (Lukasz, Femiano & Katzamn, 2004). Recently the drug Paroxetine (Eflexor) has been used in the treatment of GAD and depressive disorders by blocking the absorption of serotonin, a neurotransmitter in the brain (Stahl, 2002). Rickels et al. (2003) found that Paroxetine can be used effectively to reduce the symptoms of GAD by 50%, and suggested that 30-40% of patients will experience full remission of GAD symptoms. Remission of GAD was most effective when Paroxetine was taken at a 40mg dose rather than a 20mg dosage (Rickels et al., 2003). Antidepressants such as SSRIs work by inhibiting serotonin reabsorption into their original nerve cells. Scientists believe that the reuptake of serotonin leads to an increase of serotonin concentration in the synaptic cleft providing relief from GAD symptoms (Rivas, 2015). Similarly SNRIs work by inhibiting the reuptake of serotonin and norepinephrine to achieve relief from GAD like symptoms (Rivas, 2015).

2.7.2 Psychological Treatment Approaches

Cognitive-behavioral therapy (CBT) has proven to have long term benefits associated with the reduction of generalized anxiety disorder in late life adults (Freshour et al., 2016). Research conducted by Freshour et al. (2016) found that non-expert CBT providers were able to deliver treatments that reduced GAD status over a six- and twelve-month time period in elderly adults. Although there has been a strong correlation between the use of CBT and the reduction of anxiety, recent research has found that the implementation method of CBT may have an important role in the long-term effect of the therapy. In children ages six to 13, it was found that family-focused cognitive behavioral therapy (FCBT) was more effective in reducing anxiety symptoms than child focused cognitive behavioral therapy (CCBT) (Wood, McLeod, Piacentini, & Sigman, 2009).

Similarly, the combination of CBT with other treatment protocols has been found to have positive effects towards reducing anxiety symptoms in children. Research conducted by Kendall et al. (1994) found that CBT paired with feeling identification, recognizing of bodily symptoms, and cognitive restructuring (TAPS manual) effectively reduced anxiety symptoms in the sample population, children eight to 15 (Kendall, 1994). The same study concluded that modified behavior therapy could lead to effective treatment measures for children with anxiety or somatization disorders. In addition to CBT, research has shown that counseling and problem solving therapy (PST) are both effective in reducing anxiety (Cape, Whittington, Buszewicz, Wallace, & Underwood, 2010). However, this research established no evidence that counseling and PST alone were effective tools to reduce anxiety, and the effectiveness of CBT may be due to effect size (Cape et al., 2010). In adults it has also been

established that CBT is an effective treatment for anxiety disorders including GAD (Hoffman et al., 2008). Similar research conducted by Norton found that CBT was superior to relaxation techniques in adults. He also notes that CBT was associated with the greatest effects with GAD and PTSD, possibly due to pathological differences from obsessive-compulsive disorder (OCD), panic, and social anxiety (Norton & Price, 2007).

Group therapies have been found to be an effective tool in improving community healing among torture survivors in the Bhutanese population. However, findings from such research may not be generalizable and need to be validated (Kira et al., 2012). Kira et al. (2012) concluded that group therapies specifically working with tortured Bhutanese refugees can improve health status by discussing topics such as adapting to new cultures, economic survival, problem-solving, and learning to say no to individuals of higher status such as doctors.

Other psychological approaches have been used to treat anxiety and GAD including exposure therapy, and acceptance and commitment therapy (Hayes, Luoma, & Bond, 2006; McNally, 2007). Methods like yoga and meditation are often used as well to treat different forms of anxiety. BCAP leads groups that practice yoga and dance as a strategy to reduce mental health symptoms among the Bhutanese-Nepali community in Pittsburgh. Research has suggested that yoga variations done after a brief eight-week cycle of traditional therapy can have a positive impact on the reduction of GAD. Similarly, six mind-body based interventions reduced anxiety symptoms in adults on average by 7.5 points on the State Trait Anxiety Inventory- State Subscale (STAI-State).

Other treatment approaches have been used in the Bhutanese-Nepali community to treat mental health symptoms. Locally, reports of exercise, meditation, and spiritual healers

have been used to treat anxiety and depression. The use of traditional healers such as dhamis have been found to provide small improvements in an individual's symptoms of distress specifically for anxiety and depression. The effectiveness of spiritual healers has not been well captured by traditional rating scales, and has not been found to be effective for more severe mental illnesses like bipolar disorder (Nortje, Oladeji, Gureje, & Seedat, 2016).

2.8 BHUTANESE REFUGEES IN PITTSBURGH, PENNSYLVANIA

Pittsburgh has a population of 305,704, of which over 4,000 are Bhutanese refugees (Stats, 2015; BCAP, 2016). Current research with the Bhutanese population in Pittsburgh suggests that nearly the whole Bhutanese-Nepali population is Hindu, and much of the older Bhutanese population does not speak English, communicating primarily in their national dialect, Nepali or Dzongkha. However, much of the younger working or educated population has adopted the English language. Education for many of the older Bhutanese population is limited to informal training back in Bhutan or Nepal. Much of the younger population has begun formal education in American schools. The Bhutanese community is strongly rooted as an agricultural society, which is how many of the Bhutanese men and women provided for their families prior to being removed from their homes in Bhutan. Unfortunately many of the resettled Bhutanese-Nepali refugees live in areas where farming is not possible. According to participants in a BCAP focus group, this has caused feelings of loss and worthlessness because they do not know skills relevant to American society. The stress of

being unable to work, speak English, or navigate through the city may be contributing factors in the development of GAD in this sample.

The Bhutanese culture has one of the oldest traditional medical systems in the world and has dealt with physical and psychological health for centuries (Wangchuk, Wangchuk, & Aagaard-Hansen, 2007). It is important to state that the national health service in Bhutan has incorporated traditional medicine as part of the national health care system since 1967 (Wangchuk et al., 2007). Religious and traditional medicine are very important among the Bhutanese for treating mental health ailments (Kandasamy & Shetty, 2015). Buddhist traditional medicine in Bhutan is referred to as gSo-baRig-pa and uses over 1,000 herbs. Bhutanese traditional medicine has been used to treat physical, spiritual, and behavioral impurities by balancing rLung (air), mKhris-pa (bile), and Bad-kan (phlegm) (Kandasamy & Shetty, 2015). Traditional medicine can involve herbal medicines, physiotherapy, minor surgery, and spiritual healings (Wangchuk et al., 2007).

Located between Nepal and China, Bhutan is made up of three separate ethnic groups. The Ngalongs of Tibetan heritage are generally located in the western portion of the country, the Sharchops inhabit the eastern half, and the Nepalese (Bhutanese-Nepali) are located in the southern regions. The Ngalongs and Sharchops are the original inhabitants of Bhutan and practice Buddhism while the Nepalese who openly practice Hinduism have steadily migrated to Bhutan for centuries (Voyagers, n.d.).

The three ethnic groups in Bhutan lived peacefully until 1988 when the national census determined that the Bhutanese-Nepali population had grown to make up 40-50% of the population (Voyagers, n.d.). A fearful government began forcing the Nepalese population out

of the country through persecution, oppression, torture, and “voluntary” emigration signings (Kira et al., 2012).

Since 1988 over 100,000 Bhutanese-Nepali people have fled to nearby countries, most of whom have found refuge in one of the seven major camps in Nepal. In these camps, a large number of the population faced psychological abuse and constant stress. Finally, in 2008, the United States government admitted 60,000 Bhutanese-Nepali refugees who have been relocated throughout the eastern part of the country, including Pittsburgh, Pennsylvania (Kira et al., 2012). Today over 75,000 Bhutanese-Nepali refugees live in the United States (Horn & Whitehill, 2013). The number of Bhutanese refugees entering Allegheny County, Pennsylvania, has exceeded 3,500 over the last several years and this population has exhibited symptoms of mental illness at alarming rates (Smith, 2014).

2.8.1 WHY WE CARE

Current data on mental health in Bhutan are outdated. The most current published data come from a mental health study conducted between 1999-2001 at the Jigme Dorji Wangchuck National Referral Hospital. Of the 1,500 patients treated, 31% were treated for anxiety symptoms (Kandasamy & Shetty, 2015). As mentioned earlier, high rates of GAD can have detrimental effects on health and wellness, as well as an individual’s contribution to family and society.

The Bhutanese-Nepali refugee population has put a strain on the doctors, physicians, and the healthcare system in Pittsburgh. Increased knowledge about this population will allow physicians, healthcare workers, and social services to improve individual care

resulting in a more efficient and cost-effective healthcare system and better quality of life for the refugees. Determining if resettled Bhutanese-Nepali men and women in Pittsburgh have symptoms of GAD seen in the DSM-V can improve treatment strategies and techniques in addition to improving the healthcare system for other refugee populations.

One of the long-term goals of this research is to improve the treatment outcomes of Bhutanese-Nepali refugees experiencing mental illness. To do this it is important that researchers gain a better understanding of the attitudes about mental health, cultural handling of mental illness, and feelings about clinical care strategies, so that the most effective treatment approaches can be implemented.

2.8.2 SQUIRREL HILL HEALTH CENTER (SHHC)

The SHHC is in the neighborhood of Squirrel Hill in Pittsburgh, Pennsylvania. The SHHC is a community-based primary care center established in 2006 dedicated to bringing high-quality health care to everyone in the Pittsburgh area regardless of ability to pay, background, or insurance status. The health center offers a wide range of services including medical, dental, interpretation, behavioral and mental health, and includes a mobile health unit. The SHHC also has several peer support members on staff who are members of the Bhutanese-Nepali community. The peer supports spend time in the clinic helping translate, and help Bhutanese-Nepali patients understand treatment options in the clinic and in the community.

The center is a trusted entity in the Bhutanese-Nepali community and is commonly frequented by community members seeking care. In addition to meeting the needs of the

local Pittsburgh community, the SHHC has developed a refugee program to help serve the growing international population. The health center has partnered with the Pennsylvania Office of Refugee Resettlement, which allows the SHHC to complete many of the initial health screenings for the local refugee population. The SHHC is also a community partner with BCAP, an organization committed to ensuring a high quality of life to Bhutanese community members and support their integration into American culture.

3.0 METHODS

Working in collaboration with the SHHC and the BCAP the research team measured the mental health status of Bhutanese-Nepali refugees who are currently experiencing symptoms of mental illness as depression, somatization, post-traumatic stress disorder (PTSD), generalized anxiety disorder (GAD), or a culture bound syndrome.

The research process began in February 2015 when a research team from the University of Pittsburgh Graduate School of Public Health first met with the doctors and physicians at the SHHC. Initial meetings were conducted to discuss how data were going to be collected, recruitment goals, and implement timelines for project completion. During this time the methods and tools for data collection were established.

3.1 INTERVIEW TOOLS

The DSM-V Severity Measure for Generalized Anxiety Disorder was used to measure GAD during the research process (see Appendix E). The Severity Measure for Generalized Anxiety Disorder is a tool that is copyrighted by The American Psychiatric Association and is an “Emerging Measure” for recognizing GAD. This measure was chosen because researchers wanted to measure GAD in the Bhutanese-refugee sample using a validated measurement tool in the United States and among international populations including Chinese-Americans (Broers et al., 2006; Husain et al., 1997; Löwe et al., 2010; Spitzer, Kroenke, & Williams, 1999; Yeung et al., 2008). The DSM-V Severity Measure for Generalized Anxiety Disorder also offers

researchers the ability to diagnose different mental disorders in a relatively short time frame, allowing researchers to maintain the focus and concentration of the participants during the interview process.

The DSM-V Severity Measure for Generalized Anxiety Disorder for the diagnosis of GAD is scored on a Likert scale ranging from 0 to 4, relating to symptoms experienced in the last seven days as “never,” “occasionally,” “half of the time,” “most of the time,” and “all of the time.” After the DSM-V Severity Measure for Generalized Anxiety Disorder has been fully completed the scores are summed and divided by the number of items in the questionnaire (i.e. 10) at which point an average score is assessed. Averaged scores are then correlated to GAD status on a scale of (0) none, (1) mild, (2) moderate, (3) severe, or (4) extreme. For the purpose of this study scores were rounded to a whole number and then GAD was assessed in each individual ($>.51$, round down to nearest whole number) ($.51 \leq$, round up to nearest whole number). The raw scores were then correlated to disease severity for generalized anxiety disorder. Each DSM-V Severity Measure for Generalized Anxiety Disorder assessment was hand scored by the research team in the privacy of their own workspace and all scores were kept confidential except to the members of the research team.

3.2 SAMPLING AND

In July 2015, after terms and conditions were established with the SHHC, the research team submitted a protocol for Institutional Review Board (IRB) approval through OSIRIS and the University of Pittsburgh IRB. In August 2015, the research project was approved by the IRB

as minimal risk research (see Appendix A). At this point the research team continued with the research and began the recruitment process.

Recruitment for the individual interviews was conducted in conjunction with staff from the SHHC. The target sample size was 25, but due to loss to follow-up only six in-home interviews were conducted. Doctors, a behavioral specialist, and community peer supports were informed about the scope of the study, and, with the research team, provided recruitment letters to patients and family members who met the inclusion criteria (see Appendix C). This packet described the goals, objectives, and participant requirements of the study, and provided the telephone number and email of the primary and co-investigators. Individuals interested in participating in the study or those having questions could contact the research team. In addition, the research team actively followed up with all interested patients.

The research team and the practicing physicians at the SHHC selected Bhutanese refugees for the study. The practicing physicians at the SHHC referred Bhutanese men and women 18 years or older and who were currently suffering from symptoms of mental illness (depression, somatization, PTSD, GAD, inability to complete daily tasks, or an unknown illness- a culture bound syndrome) to the research team from October 1, 2015, to December 31, 2015. Individuals excluded from participating in the research were those who did not identify as a Bhutanese-Nepali refugee, as well as those who were not suffering from an undiagnosed mental health outcome believed to be unique to this sample by the physicians at the SHHC. Subjects and their families were spoken to by a member of the research team without a medical staff member from the SHHC. Subjects were provided with an explanation of the purpose of the study, what participation in the research entailed, their basic rights as

a participant, and the steps moving forward. If the individual expressed interest in the study, the research team then gathered contact information (phone number, home address) and then the second phase of recruitment began.

Participants for the single focus group were recruited with the help of BCAP, a community organization that provides community support groups for Bhutanese-Nepali refugees. The program director of BCAP who organizes Saturday support groups assisted the research team in the recruitment process. He selected four individuals who participated in the community support group who suffered or are currently suffering from mental illnesses. Prior to conducting the focus group participants were provided with an explanation of the purpose of the study, what participation in the research entailed, their basic rights as a participant, and the steps moving forward. If the individual expressed interest in the focus group, the research team then gathered contact information (phone number, home address). The focus group consisted of four participants, two males and two females. Participants for the focus group were currently members of BCAP, and were 18 years or older at the time of the interview.

3.3 PROCEDURE

3.3.1 IN-HOME INTERVIEW

Scheduling an in-home interview began the next stage of the research process. If at all possible the research team tried to schedule an interview at the time of initial contact, but due to scheduling limitations of the participants, this rarely happened. Therefore, the

majority of recruitment was done over the phone at the SHHC, using an over-the-phone medical translating service which the SHHC had previously subscribed. To use this service, the research team dialed a private number, typed in a site-specific code, and then with the assistance of a real Nepali translator, recruitment calls were made to all interested participants. Once on the phone with the translator and potential participant, the research team again explained the purpose of the study, what participation in the research entailed, basic rights as a participant, and the steps moving forward. At this point the research team asked if the participant wanted to continue and participate in the study. If the individual wanted to participate the research team scheduled a two-hour time reservation at the person's home at their convenience.

After confirming a date and time for each in-home interview it was the responsibility of the research team to find a trained translator. The SHHC trained peer supports who worked closely with the research team during this stage of research and two translators offered their time to help the researchers translate during the in-home interview process. The peer supports, who spent several hours each week at the SHHC, also helped the research team make follow-up phone calls to participants to confirm or remind them of their future participation. Follow-up calls were made each week to the participants to confirm their appointment, and calls were made the day prior to the interview as a final reminder.

On the day of data collection, the research team and translator met at the participant's home 15-20 minutes prior to the interview time. This time was used to make sure that all materials were accounted for, including the interview guide, informed consent copies, and tape recorder. Once all materials were accounted for the research team called participants to notify them that they were present, and were ready to begin the interview if they wanted

to proceed. At this time the participants opened the door, or buzzed the team into their apartment and a more formal introduction was done with the help of the translator.

Prior to conducting the interviews, participants were given a written and translated informed consent, which was explained in depth verbally with a translator (see Appendix D). Participants were told their rights, and with their permission the interview proceeded. Interviews took place in a comfortable area of the participant's home; the living room or kitchen was suggested depending on the participant's preference. All interviews were recorded so that the research team could refer back to oral responses during the transcription process. All participants were informed about these recordings, agreed to be recorded, and always had the option to stop the interview at any time.

At this point the research team and translator began the interview that was guided by the DSM-V Severity Measure for Generalized Anxiety Disorder (see Appendix E). During the interview process subjects were asked periodically if they would like to take a break; if they chose not to take a break, the interview continued. Each individual DSM-V Severity questionnaire (GAD, MDD, somatization, and PTSD) was completed without interruptions.

At the conclusion of the GAD questionnaire and cultural formulation interview that researchers used to gain a better understanding of the participants attitudes towards mental health, and mental health treatments (see Appendix F), after which participants received a short verbal summary, and the interview ended. Researchers asked if the participants had any questions, and all questions were answered thoroughly. If participants had any questions or concerns later they were instructed to call the researchers or the SHHC.

3.3.2 FOCUS GROUP

A focus group was conducted to gain a better understanding of mental illness in the Bhutanese-Nepali population, as well as treatment strategies and outcomes, and possible causes of mental illness (see Appendix G). With the help of BCAP a focus group with four participants was conducted in one of their community facilities. The focus group was recorded so that the research team may refer back to the discussion during the transcription process. The focus group was not to last more than two hours, after which the research team would answer any questions the participants may have had. If participants had questions later they were instructed to call the researchers or the SHHC. After the completion of the focus group the research team analyzed the focus group data by pulling common themes regarding participants attitudes toward mental health, cultural formation of disease, and effective treatment option using the research software NVIVO.

3.4 HUMAN RIGHTS PROTECTION

In addition, all subjects were reminded that answering all questions was voluntary and that they could stop the interview or focus group at any time if they felt uncomfortable sharing sensitive information. Data collection was conducted in a familiar place for each of the subjects (home, familiar public place) to increase comfort during the interview or focus group. A medical translator was present at every interview to provide support to the patient if necessary. All data that were collected was accessible only to the Principal Investigator and the Co-Investigators, which maximized the security of confidential information. Data were

stored on password-protected computers and kept in secure locations including the University of Pittsburgh Graduate School of Public Health, and locked home offices.

3.5 STATEMENT OF ASSUMPTIONS

It was assumed that the participants selected from the SHHC were currently suffering from GAD-like symptoms leading up to and during the research because of the professional referral from the doctors and physicians at the SHHC. During data collection, it was assumed that the participants provided honest and truthful answers regarding their questionnaire answers.

3.6 TRANSCRIPTION AND DATA ANALYSIS

In-home interviews and the focus group were recorded during the data collection process and audio recordings were transcribed into Microsoft Word so that the research team could reevaluate responses. Answers from the DSM-V Severity Measure for Generalized Anxiety Disorder were also analyzed in a statistical software (STATA) and reorganized in Microsoft Excel so that researchers could better compare and interpret the responses given. Mean and median were utilized to estimate the average scoring range for each participant's classification of GAD symptoms due to small sample size.

The analysis included a statistical analysis of the compiled data. Demographics of the sample were recorded, as well as the overall status of GAD based on mean scores from the

sample. Mean GAD scores were then broken down to assess the status of GAD in each individual. Finally, each of the 10 questions used in the questionnaire were analyzed individually to gain a greater understanding of where the greatest symptoms of GAD persist.

Qualitative data from the interview and the focus group were transcribed and then using NVIVO, a qualitative research software, sorted based on reoccurring themes (nodes). Each of the themes presented were used to draw conclusions based on the participants' ideas and attitudes about mental health, treatment options, and possible stressors associated with GAD.

4.0 FINDINGS

4.1 DSM-V SEVERITY ASSESSMENT

The research team conducted a total of six interviews with Bhutanese-Nepali males and females. The mean age of the sample was 58.83 years old with an age range of 44 to 67 years old. All of the respondents openly practiced Hinduism in their homes and in the community; the participants had formal education in Bhutan, Nepal, or in the United States, although two of the participants reported having taken English classes after relocating to the United States. Finally, the number of years lived in the United States ranged from four to seven years (Table 1).

Table 1: Characteristics of the Sample

Gender	Mean age	Age Range	English Training	Years in United States
M=3, F=3	58.83	44 - 67	50%, n=2	4 - 7, n=3

The mean GAD score of the sample based on DSM-V Severity Measure for Generalized Anxiety Disorder results was 1.75 (SD: .579). Individual participant scores varied from mild to moderate as seen in Table 3. Recorded responses from each of the ten questions ranged from mild (0) to extreme (4), raw scores ranged from 7-24, and total average scores ranged from .70 to 2.4 (Table 3). Five subjects experienced at least moderate generalized anxiety

symptoms (average score ≤ 2), and just one participant experiencing less mild symptoms (average score = 1).

Table 2: GAD Severity Questionnaire Sample Scores

	Number of Subjects	Min.	Max.	Average Total Score	Standard Deviation	Overall Correlated GAD Status
Severity Measure for Generalized Anxiety Disorder- Adult	(n=6)	0.66	2.40	1.75	0.579	Moderate

Table 3: GAD Severity Questionnaire Subject Scores

Subject	Raw Sum	Range	Average Total Score	Correlated GAD Status
1	18	0-4	1.80	Moderate
1	20	0-4	2.00	Moderate
3	16	0-4	1.60	Moderate
4	20	0-3	2.00	Moderate
5	24	0-4	2.40	Moderate
6	7	0-3	0.70	Mild

Table 4.0 presents a more detailed breakdown of the GAD questionnaire and the overall score each of the ten questions has in the status of GAD. Based on cumulative scores for each of the individual severity questionnaire question, four of the survey questions were scored as mild (=1) GAD score; while 60.0% (n=6) of the survey questions were scored as moderate (≤ 2) GAD score. Question 10 has the highest average score of 2.67, while other questions that scored highly in GAD severity are question four that has a mean score of 2.50; and question nine with a mean of 2.50.

Table 4: GAD Severity Questionnaire Data Table

GAD Severity Questionnaire	Total Sum Score	Mode	Range	Average Score	Standard Deviation	Correlated GAD Status based on average
1 Felt moments of sudden terror, fear, or fright	11	3	0-4	1.83	1.72	Moderate
2 Felt anxious, worried, or nervous	10	1,3	0-3	1.67	1.21	Moderate
3 Had thoughts of bad things happening, such as family tragedy, ill health, loss of a job, or accidents	12	1,3	0-4	2.00	1.55	Moderate
4 Felt a racing heart, sweaty, trouble breathing, faint, or shaky	15	3	1 to 4	2.50	1.22	Moderate
5 Felt tense muscles, felt on edge or restless, or had trouble relaxing or trouble sleeping	7	0	0-4	1.17	1.61	Mild
6 Avoided, or did not approach or enter, situations about which I worry	7	0,1	0-3	1.17	1.60	Mild
7 Left situations early or participated only minimally due to worries	6	0	0-3	1.00	1.26	Mild
8 Spent lots of time making decisions, putting off making decisions, or preparing for situations, due to worries	7	0	0-3	1.17	1.47	Mild
9 Sought reassurance from others due to worries	14	1	1 to 4	2.33	1.51	Moderate
10 Needed help to cope with anxiety (e.g., alcohol or medication, superstitious objects, or other people)	15	3,4	1 to 4	2.67	1.37	Severe

Each DSM-V Severity Measure for Generalized Anxiety Disorder question was assessed to look at the differences in scoring between each question, and to determine if patterns were presented (Table 4). Researchers determined that the greatest individual symptomology association with GAD was seen in physical symptoms such as sweating, racing heart, troubled breathing, or fainting (question 4), or in commonly sought reassurance from others and needed help coping with symptoms, and use medication, objects, people, or superstitions to cope with anxiety symptoms (questions 9 and 10).

The overall mean score of question four was 2.5 indicating that participants experience episodes of a racing heart, sweating, trouble breathing, or may feel faint or shaky up to half of the days in a week, in other words, a moderate amount. Question 9 had a mean score of 2.33, meaning that participants on average sought reassurance from others due to worries up to half of the days in a week, a moderate amount. Question 10 was scored with a mean of 2.5, meaning that on average participants need help to cope with anxiety with alcohol, medication, superstitious objects, or other people up to half of the days in a week, a moderate amount. Also with high average sums associated with moderate levels of anxiety among the sample population were symptoms expressed moments of fear, terror or fright and feelings of anxiousness, worrisome, or nervousness.

It should be mentioned that the research team did conduct a DSM-V severity measure for PTSD. The results of the questionnaire revealed low levels of PTSD in the five participants who completed the survey in the sample. The mean score of PTSD the survey was .84, and all five subjects scored in the mild range of PTSD severity.

4.2 CULTURAL FORMULATION INTERVIEW AND FOCUS GROUP

Table 5: Characteristics of Focus Group Sample

Number of Subjects	Gender Ratio		Speaks English	
	4	2 Male	2 Female	Yes (1)

The research team conducted a single focus group which four volunteers from a BCAP community support group. The sample included a single member who spoke English and three who did not. The focus group guide and cultural formulation interview conducted at the time of the GAD questionnaire aimed to answer questions regarding the participants' attitudes toward mental health, cultural formation of disease, and effective treatment options (see appendices F-G). Cultural formulation interview results (Tables 6-9) and focus groups results (Tables 8 -11) revealed themes related to the participants' attitudes towards mental health, attitudes towards treatment, stress associated with Bhutan, stress experienced in the U.S, and how mental health symptoms present in their community. The results from the interview and focus group are presented as direct quotes from the participants that corresponded to questions in the interview, and focus group.

The participants' attitudes towards mental health varied greatly. Several participants had a deep belief that there was a spiritual cause or religious factor that was associated with the onset of their mental illness. The idea of ghosts was used when describing health among two of the members of the focus group, while the other two members were opposed to the idea. Similarly in the focus group, the concept of physical and spiritual balance was reported

as relating to mental health. In the interview, the idea that specific traumatic events possibly have led to permanent wounds relating to their current pain and sadness was reported. They also think that mental illness is something brought on by the U.S, because they never experienced mental illness in Bhutan or Nepal.

Participants revealed mixed views about the ability of the doctors here in the U.S to effectively improve their mental health symptoms. Several participants have full faith in clinical medicine, disease diagnosis, and even have positive views of the doctors' and facilities specifically. On the other hand participants also reported not trusting their doctors diagnosis and reported that even though they were diagnosed with a specific disorder, they believe the diagnosis to be false or inaccurate.

Similarly, the participants in both the interviews and the focus group mentioned several treatments that were associated with positive results. The use of clinical medicine such as pharmaceuticals prescribed by doctors was at the center of the discussion. There was a split view in the focus group that clinical medicine had the potential to improve disease state, even though none of the subjects reported having positive results to this point. It was also recorded in the cultural formulation interview that medication may lead to the development of mental illness. Other participants in the interview and focus group reported that traditional approaches reduced their mental health symptoms, and that they currently were practicing such as yoga, meditation, and candle burning.

Stress was reported in Bhutan, Nepal, and in the U.S. Stress prior to migration to the U.S came from a wide variety of sources including torture, lack of medical resources, poor job stability, and governmental control. Several participants told very emotional stories of torture in Bhutan and the amount of stress it caused. One person mentioned that he was

taken from his family by members of the Bhutanese army, hung upside down, and beaten with the butt of a gun and steel-toed boots. Other participants talked about being separated from their family members because the government wanted to keep the highly educated and those holding high office in Bhutan, while forcing all other Bhutanese-Nepali out.

Once in the U.S, stress was reported to come from language barriers, perceived loneliness, and family stress associated with providing for their family. The inability to communicate was reported by participants in the in-home interview and the focus group. Several participants specifically stated that they wished that they could speak directly with the research team, and felt saddened that they could not, and they mentioned feelings of loneliness and isolation. Another stress was reported to come from legal barriers and their lack of citizenship. After one of the interviews had concluded, one participant told the researchers that her child had been taken away from her under the suspicion of child abuse. She has been asking for help but due to language barriers and lack of legal resources and knowledge had been unable to get her child back.

At the conclusion of the in-home interviews and focus group several symptoms were reported that the research team believed might be unique to the sample. Multiple individuals reported having memory loss in association with their other mental health symptoms. One participant could not remember why they came to the U.S, and why they were forced out of Bhutan. Another mentioned that she frequently forgets what she is doing in the moment, and she leaves the stove on. Other participants reported having physical symptoms in addition to the pain commonly associated with this population. Feelings such as being heavy and weighted down, to the physical movement of pain were described, as well as extreme lengths

of time that they were experiencing symptoms, as one person mentioned feelings of sadness for 17 years.

Themes were identified in the cultural formulation interview and focus group based on participants' responses are presented in Table 12 and Table 13 respectively. Themes that were found in the focus group were that mental illness may be caused by spiritual factors, and that medication has mixed results in improving mental health status. The use of alternative treatments such as yoga and meditation is common and accepted in the community. Stressors in Bhutan related mostly to stress in the camps, forced migration, and divided families.

Similar results were found in the cultural formulation interviews. Mental health was linked to both a physical and mental component. Many subjects reported having a positive outlook for improvements in mental health status in the future. Stress in Bhutan was linked to loss of citizenship, political unrest, lack of ownership, and resources such as food. Similar stressors were found in the U.S such as uncertain legal status, job stability, divided families, and lack of skills in the American culture.

In the focus group participants reported that they do not distinguish mental disorders in their culture, meaning that the use of terminology like GAD, PTSD, somatization of depressions would rarely be made in Bhutan or Nepal, although GAD and depression might be used in the clinical setting. Participants did report using the term depression most often, and that this term could be used to cover a wide range of symptoms. More likely, people would be called "crazy," or be put under an umbrella term of mental illness.

Table 6: Cultural Formulation Interview Data

Prompt Questions	Attitudes Toward Mental health
What do you think causes your sadness/pain?	"She doesn't know why she have pain. But she have three times surgery, maybe that's why"
What is mental health to you?	"No (she was never sick in Nepal). She comes here in 2009 and in 2011 that's when it started. One time she had a heart attack and after that she has pain every day"
What are different aspects of mental health?	"This coughing is causing the main problem because of that I am getting pain here, on the on the other side and like getting fever, maybe headache everyday like that so it might be the main causes."
What are different aspects of mental health?	"I was not a diabetic person back in country Nepal, but after I came her doctor said you are diabetic patient I have many other disease so it get worse when I came (to the U.S)"
What are different aspects of mental health?	"I was not able to work and make my own money and I get diseases like headache and because of that I thinking every day I just think that I might not be able to run my family good might be the main cause"
What are different aspects of mental health?	"Some of our family members saw them mistreat him and because of that if I get that cough that I have right now I might have some past history there that somebody beat me and tried to kill me like that. I might have some disease inside, I might have old wound inside my body that might cause the cough "
	Attitudes Toward Treatment
Are you doing or taking anything that is making the sadness or pain better or worse?	"Well I did eat one medicine already but maybe its too um, severe that medicine I don't think is helping me"
Are you doing or taking anything that is making the sadness or pain better or worse?	"If there is any medicine that he (participant) can get rid of it he might be the happiest person in the world"
Are you doing or taking anything that is making the sadness or pain better or worse?	"I really hope that the future of my grandchildren and even my children's will be bright and good"
Are you doing or taking anything that is making the sadness or pain better or worse?	"When I came here to U.S. They switch that medication to something else from which I think that was helping me a bit, but if it goes worse and I am really feeling not okay that medication will not help either"
Are you doing or taking anything that is making the sadness or pain better or worse?	"I don't really see any changes because it was about three years when this started happening to me in Bhutan, Nepal all the time when I spent in Nepal I live with medication and I'm doing the same here"

Table 6 Continued

	Positive Treatment Strategies or Concepts
	"When she take medicine she is better"
	"I worship to God morning and evening. I burn lamps."
	"I feel like the medication is working for me a lot"
	"Healthcare is very good and they're trying to cure me and they're doing everything they can, so overall I am happy"
	"It (family) might help a little bit because if we feel our relatives and family members like together it might so... get happy"
	Negative Treatment Strategies or Concepts
	"If I stop eating I will get bad, it (the sadness) will get worse"
	"But even after taking those medications I am still feeling symptoms every day"
	Stress in Bhutan/Nepal
What was life like in Bhutan and Nepal?	"When we were in Bhutan they like beat me like badly, they hang me the rope, they hang me upside down like head down leg up, they put their gun in my mouth and they like used that steel toed boot and beat me"
	"But they just beat me like hell and I was feeling upset about it and I just think negatively at that time"
	"We were not allowed to wear the Nepali clothes, our country clothes. And were not allowed to celebrate the festival, like what we celebrate Nepali festival. And they said you have to do this, if you want to live here, and wear this kind of clothing if you want to live your life here, and our people we also have some people in our country that like educated and they said no we don't"
	"If I was still there maybe I would be no longer here. I'm happy. I'm here"
	"There are no healthcare providers"
	Stress in the United States
What is life like for you and your family in the U.S?	"She doesn't have anything here. She can't work, she can't do anything"
	"I'm not doing anything I'm just sitting home here in this country not doing anything"
	"We were facing some challenges because we did not speak any English we don't know where to go we just are walking like you know by ourselves"

Table 6 Continued

	Stress in the United States (Continued)
	<p>"... on this paperwork or any sort of help that we could possibly get. She also mentioned that my husband is getting this five hundred fifty dollars every month, not sure if it's a, I don't know what that money is. But that's all the help we are getting"</p>
	<p>"She said don't like anything about U.S because she has no voice, she can't speak or doing anything she want"</p>
	<p>"Because of like un-education he might, himself might think it hard to go somewhere else like um where to go, he don't know where to go and like how to get it by there"</p>
	<p>"Shortly coming here from Nepal I lost my personal documents. And my relatives and other people have told me that after those documents are lost it's like losing your identity in the United States"</p>
	<p>"My son's income is low. He is going to work but that is not a reliable work. He gets paid \$8 per hour and he has to take the bus to go to work so that is also difficult"</p>
	<p>"But a lot of them (family) are here now. My sister is still there"</p>
Examples of unique symptoms related to their sadness and pain	Examples of Symptoms and Possibly Unique Characteristics
	<p>"She has something big on the mind. Something heavy"</p>
	<p>"She doesn't know why she came here" (specifically referring to the question, "Why did you and your family come to the U.S"?)</p>
	<p>"She doesn't remember anything (about Bhutan)"</p>
	<p>"It feels like I'm losing my entire body, you know pain all that but sometimes I feel light okay, so I don't really recall or realize any of that"</p>
	<p>"Yeah, sometimes she forget to put salt on the curry, like some spices, sometimes she forget to turn off the gas, but after a while if she go there she like oh the light is on"</p>
	<p>"The places of pain change. But the pain feels the same"</p>

Table 7: Focus Group Data

Prompt Question	Attitudes Toward Mental health
What do you think causes your sadness/pain?	"It affects everything. We're not able to go to people and talk to them. Be friendly. Enjoy our life. I feel like my life is in a dark hole where there is no light"
What is mental health to you?	"It's not physical. It's like a moment when you're out of balance"
What are different aspects of mental health?	"Depression is mostly what we're getting"
What are different aspects of mental health?	"In Nepal it's very religious. Some people... they just go crazy. It's mental. It's in their head that they're sick"
What are different aspects of mental health?	"They will think it's because of some ghost or something bad happened to them. And they need something religious to free them to get better"
Are you doing or taking anything that is making the sadness or pain better or worse?	Attitudes Toward Treatment
What do people in the community do to improve their mental health?	"The doctor diagnosed her with depression. But she said she doesn't have depression"
What do people in the community do to improve their mental health?	"And they (doctors) are not able to diagnose it"
What do people in the community do to improve their mental health?	"There's nothing helping me. I don't have insurance. And I've been going to hospital. And I have to pay them money. I have to buy medication"
What do people in the community do to improve their mental health?	"The yoga is helping for some of them. But others it's not helping"
What do people in the community do to improve their mental health?	" I have been going to see counseling. And I go to the doctor. And they advise me to exercise to get the hormone serotonin up in my brain. The medication help together. So I've been doing what they tell me. I'm not feeling better though and I want to"
What do people in the community do to improve their mental health?	"He says that it might be something physical or chemicals in the brain"
What do people in the community do to improve their mental health?	"Very few people have depression. It's a mental problem (umbrella term)"
What do people in the community do to improve their mental health?	"Yeah we don't talk to other people about it (depression)"
	Positive Treatment Strategies or Concepts
What do people in the community do to improve their mental health?	"Right now it's medication for most of them. She says that as soon as the pain goes away she does yoga"
What do people in the community do to improve their mental health?	"Yoga, meditation. And when we come here (BCAP) there are many people together. We have a chance to share our feelings. If we have a problem we can share it. So they are doing a great job here (BCAP)"
What do people in the community do to improve their mental health?	"Mostly friends and families here. There are a lot of Nepali people in this community and they help each other"

Table 7 Continued

	<p align="center">Positive Treatment Strategies or Concepts. Continued</p> <p>"He thinks that the library is a great place to go. And if he says that if there were more Nepali books as well as English that more people that are depressed could read. And he likes the fact that everyone can go there to learn and be together"</p> <p>"They pray sometimes if they get sick and it makes them feel better"</p> <p>"He's saying that if you believe the Dhami (spiritual healer) will work, it will. It depends on who's asking for help and who's helping them. If you believe that what they're going to do will work it most of the time works. Like a placebo effect"</p>
	<p align="center">Negative Treatment Strategies or Concepts</p> <p>"The doctor diagnosed her with depression. But she said she doesn't have depression. The medication didn't help at all"</p> <p>"Nothing is helping me. I have been trying to do something. But I don't have concentration..."</p>
<p>What was life like in Bhutan and Nepal?</p>	<p align="center">Stress in Bhutan/Nepal</p> <p>"Life was hard. Even though they are giving us food. And some of us are working outside"</p> <p>"There she didn't have money so she had to take what she was given"</p> <p>"She had to leave in the night, like pronto as a kid. Her friends got taken by the army"</p>
<p>What is life like for you and your family in the U.S?</p>	<p align="center">Stress in the United States</p> <p>"There are a lot of problems in the community. People are alone...And so when they come here they don't have any friends, relatives to talk to"</p> <p>"And some people they don't even speak English. There is difficulty in doing various things. They don't understand anything. That they have to go to the bank. If they have to go to the hospital. And they feel like "What kind of country is this? I don't understand anything"</p> <p>"They aren't able to work because of the language. So these are the things that cause problems"</p> <p>" (Moving to the U.S) In a way it's good. In a way it's bad for her"</p> <p>"He's realized this is a place to struggle. To strive and he's doing his best to provide for his family"</p> <p>"She feels helpless because she doesn't know the language and wants to explore but she can't. She wants to go other states and travel. She wants to talk to you but she can't"</p>

Table 7 Continued

	Examples of Symptoms and Possibly Unique Characteristics
<p>Examples of unique symptoms related to their sadness and pain</p>	<p>"She doesn't remember much (about leaving being forced out of Bhutan)"</p>
	<p>"I have the feeling of movement all over my brain. Pain"</p>
	<p>"It's been 17 years for her (having a mental illness). The past three years have been very severe"</p>
	<p>"She had sleep problems. A lot of back pain"</p>

Table 8: Cultural Formulation Interview-Emerging Themes

Attitudes of Mental Health	Attitudes Toward Treatment		Stress in Bhutan	Stress in the U.S
Mental Health Attributed to U.S	Dr.'s doing everything possible		Citizenship	Ownership
Physical and Mental Correlation	Good health care facilities		Illness/ Death	Lack of Skills
Positive Outlook for Improvement	Abided Dr.'s treatment programs		Medical resources	Cultural Awareness
			Political Unrest	Job Stability
	Positive	Negative	Ownership	Legal Status
	Traditional healers			Food Stability
	Medication			Divided Families

Table 9: Focus Group Emerging Themes

Attitudes of Mental Health	Attitudes Toward Treatment		Stress in Bhutan	Stress in the U.S
Spiritual Causes	Belief in Western Medicine		Life in Camps	Loneliness
Not diagnosable	Barriers to Treatment		Lack of Resources	Change in Culture
			Forced Migration	Language Barriers
	Positive	Negative	Divided Family	Work Availability
	Medication	Medication		Providing for Family
	Counseling	Misdiagnoses		Immobility
	Spiritual Healers			Divided Family
	Prayer			
	Meditation			
	Positive Thinking			
	Community Support			
	Family Support			
	Library			

5.0 DISCUSSION

The DSM-V Severity Measure for Generalized Anxiety Disorder served as the single tool to explore GAD symptomology among a sample of Bhutanese refugees in Pittsburgh, Pennsylvania. The DSM-V Severity Measure for Generalized Anxiety Disorder shows that GAD was presented at a moderate level among the research sample. The existence of GAD in the Bhutanese-Nepali population suggests that treatments that have become standardized in western culture for GAD such as CBT and antidepressants should reduce the symptoms of GAD. Although some participants reported this to be true, this claim might not be most effective for this Bhutanese-Nepali sample as a whole. Differences in life course experiences, cultural norms, and spiritual beliefs may affect the treatment outcomes for GAD, and Bhutanese traditional medicine may be effective as well.

The individual analysis of each GAD severity question highlighted areas where the participants expressed GAD symptoms (Table 4). Participants reported the highest number of symptoms that correspond to physical indicators such as sweating, fainting, racing heart, or trouble breathing, as well as those that related to seeking assurance from others or the use of coping mechanisms like medication or the use of superstitious objects. It is not surprising that GAD is expressed through somatic symptoms as such symptoms have been commonly observed in Asian population (Hinton, Park, Hsia, Hofmann, & Pollack, 2009). Interestingly GAD presented in the U.S has been commonly distinguished through excessive

worrying (Borkovec, Shadick, & Hopkins, 1991). These differences might be associated with culture, for example, the mind body imbalance has been said to cause pain of the heart in eastern culture (Fox, 2003). Researchers were unable to determine the root causes of the physical association with mental health. However, there is a common understanding that the mind and the body are interconnected.

Participants reported using help-seeking behaviors, such as relying on family, hospitals, clinics, medication, and spiritual healers. This is most likely due to that recruitment was initiated out of the SHHC, a community clinic where people can seek help for their physical and psychological needs. It is then possible that the portion of the Bhutanese-Nepali with the most symptoms of mental illness were not included in the study, and the proportion of Bhutanese-Nepali refugees willing to seek help is not as high as reported in this study.

In fact, it is predicted that the proportion of Bhutanese-Nepali refugees seeking help is much smaller than reported. Those with high levels of psychological distress may feel stigma associated with their mental health status, and may not seek help for their symptoms in the community or clinic. Stigma was reported in the focus group and has been seen in research as a source of shame, inferiority, and a barrier to health care (Weiss, 2006). The Bhutanese-Nepali people who have not sought out help may be intentionally avoiding doing so because of social barriers in their community. Stigma associated with mental health and traumatic events is due to the cultural idea that these negative events occur because an individual must have done something wrong, or was a bad person in their life, or an ancestor was a bad person in their life (Kohrt & Hruschka, 2010). This cultural shame might prevent people from getting help from doctors, community leaders, and even family and friends.

It is likely that stressors in Bhutan, Nepal, and the U.S aided in the development of mental illness. The link between societal stress, trauma and the development of GAD is common among western clinicians (Gibb et al., 2007). The Bhutanese-Nepali people became refugees in a very short period of time after being forced out of Bhutan and lived as refugees for up to 18 years. These experiences are potential causes of anxiety. Political unrest and uncertain legal status were reported as stressors among those interviewed both in Bhutan and the U.S. Such stresses could impact the behaviors, happiness, and degree of comfort that is experienced by the Bhutanese-Nepali people. Not helping the situation in the U.S is the fact that a large portion of this population do not speak English, have access to transportation, or have the skills to work. Such stress has put a burden on the caretakers of each family and therefore increased stresses and possibly likelihood of GAD.

Members of the Bhutanese-Nepali community revealed the idea that spiritual causes are closely related to mental health during the focus group. Participants mentioned that spiritual forces could create imbalances in the body, creating changes in their mental health. Spirits could also be used to reduce their symptoms, and several participants reported benefits from dhamis, and meditation. Other spiritual causes have been seen in recent research by Kohrt and Hruschka (2010) who found that karma might be a contributing factor to mental illness and traumatic events. It is believed in the Bhutanese tradition that if a person or a deceased ancestor committed a sin, that individual or family member will have to endure a traumatic experience or other evils.

There is research that helps explain the strong association between mental illness and physical pain. Somatic complaints associated with anxiety related disorders and PTSD in the Bhutanese-Nepali population have been attributed to posttrauma syndromes (Fox,

2003). Syndromes of the heart, brain, and mind can happen cumulatively due to fear and can disturb the heart causing somatic symptoms. Events such as torture, the refugee experience, and social isolation may have caused disturbances in the heart, brain, and mind, causing physical pain in many Bhutanese-Nepali refugees. Similarly, numbness, tingling, indigestion have been found to be closely related to psychological stress (Kohrt, 2005). Although numbness, tingling, and indigestion were not measured in the GAD questionnaire, the research team did find complaints of indigestion in the somatic measure (not presented in this research).

Complaints of pain and other somatic symptoms were expected because of cultural manifestations of pain that were reported in previous research. What surprised the research team were the mild levels of PTSD that were scored by a similar DSM scoring tool in the same sample. Higher levels of PTSD were expected because of the known experience with trauma among the participants and the length of time that stressful situations were faced among individuals in the whole sample. The sample reported an absence of flashbacks, a characteristic highly associated with PTSD. The nonexistence of flashbacks means PTSD is not present, but it is possible that the Bhutanese-Nepali refugees in the sample express stress in a unique way. It is also possible that PTSD does not exist in other parts of the world. Research by Kohrt and Hruschka (2010) states that PTSD is not identified in the Bhutanese-Nepali culture and that PTSD as a cross-cultural diagnosis has uncertain usefulness because it is not recognized. Other explanations of trauma related illnesses are found in the Nepalese community. As mentioned earlier by Fox, (2003), posttrauma syndromes in Nepal can be attributed to disorders the heart, mind, and the brain. Each of these syndromes can occur cumulatively, for example, dysfunction of the heart can lead to dysfunction of the mind. The

dysfunction of the mind might involve memory loss among the research sample seen as a posttrauma disorder, specific to the Bhutanese-Nepali culture.

Several individuals reported symptoms of mental illness that are not closely associated with GAD as defined by the DSM. Memory loss was a symptom reported during the in-home interviews and the focus group. Several research participants could not remember their life in Bhutan, why they came to the U.S, or everyday tasks like leaving the gas stove on. The research team did not expect memory loss to be one of the possible symptoms of mental illness in the sample. Some research shows that memory loss is a societal norm in Bhutanese culture for those who do not meet social expectations (Kohrt & Hruschka, 2010). For example, men who are unsuccessful in their profession and women who are unable to maintain good household relations are advised to not think about it to forget it. Attributing memory loss to failure to meet social or traditional expectations in our sample is concerning. The Bhutanese-Nepali refugee population was forcefully displaced from homes in Bhutan, and they were forced to adapt to new environments, and to leave parts of their culture behind. These circumstances would make it nearly impossible to meet any traditional expectations in Bhutanese culture.

With the uncertainty of the questionnaire results, and based on the results of culturally unique symptoms it is possible that an alternative diagnosis may be present based on cultural norms. Culture-bound syndromes, or symptoms that are localized to a specific set of people, might be an alternative diagnosis. The DSM has included culture-bound syndromes to help explain mental health symptoms observed in specific cultures or societies. Culturally specific symptoms that may have emerged from the interview and focus group were the reported experiences with memory loss after trauma and somatic

symptomology. For example participants reported being unable to remember why they came to the U.S, or having a sense of traveling pain throughout their body. Expanding the DSM's symptoms to better represent cultural manifestations of mental health might lead to more accurate diagnoses of GAD. Cultural factors should be taken into consideration when applying the DSM into populations with cultural differences.

Although the language used in the DSM-V Severity Measure for Generalized Anxiety Disorder was determined to be appropriate for the Bhutanese-Nepali refugee community by a medically trained translator and SHHC peer support, it still appeared that there were translation barriers. Certain terms like "anxious" or "anxiety" were not always understood, so terms such as "worry," "stress," and "concern" were used instead. The use of different terminology may have affected responses to the questionnaire, leading to inaccurate GAD scoring. Interestingly, anxiety scores are often known to voice higher levels of anxiety than an individual may experience. These results may be due to the wide range of symptoms that can be presented in anxiety (Rose & Devine, 2014). With the validity of the DSM used among in the refugee population in question it is possible that other anxiety and GAD measuring tools should be used to confirm the results. Commonly The Hopkins Symptom Checklist-25 and the Refugee Health Screener-15 has been used in international refugee populations. Although The Hopkins Symptom Checklist-25 was not found to be a valid measurement tool among refugees despite being validated for depression (Sandanger et al., 1998).

The combination of psychological and somatic symptoms and moderate levels of GAD suggests that western medicine tools for diagnosis can identify the presence of GAD. What is still uncertain due to limitations in the research study is the ability of the DSM generalized anxiety severity survey to accurately measure the severity of GAD present. Due to the fact

that all participants were recruited at the SHHC and were currently using or had used different treatment approaches in the past, it remains unclear if levels of GAD are reducing, or increasing. It is also uncertain if the treatments used are reducing GAD levels or if GAD has increased during treatment regimens. Obeyesekere, a researcher who published work on depression in Buddhism, criticizes quantitative measurements as a whole, stating that quantitative measurements cannot quantify the need, but only the quality and intensity of the symptoms (Obeyesekere, 1986). To Obeyesekere's point, as clinicians move forward and aim to improve the lives of the Bhutanese-Nepali population they may find feelings of helplessness to be the most significant problems at hand. And the DMS would not be able to measure this; instead, it might suggest the use of clinical strategies like antidepressants for symptoms of worry.

Whether the DSM is an accurate diagnostic tool for GAD is unclear, but the presence of an imbalance between the mind and body has been reported by the research sample. It is still the goal of the research team to improve the treatment measures for the Bhutanese-Nepali population in Pittsburgh. During the focus group and cultural formulation interviews participants reported mixed reactions to medication as a tool to reduce anxiety symptoms. Individuals have reported that community support groups such as those provided by BCAP help improve emotional well-being as have yoga, dancing, and meditation. Also, participating in regular physical activity and outdoor activities such as yoga, exercise and gardening has been shown to improve mental health (Tekur, Nagarathna, Chametcha, Hankey, & Nagendra, 2012). Other participants reported having more trust in clinical medicine, believing in western diagnoses of mental illness, and trusting that pharmaceuticals would improve their symptoms. Interestingly several participants reported that the combination of both clinical

and cultural treatments was the most effective for reducing anxiety. This is consistent with what recent research has suggested, that clinical medicine such as pharmaceuticals, counseling and cultural treatments are effective in reducing anxiety (Hollister, 1986).

Several participants did believe that westernized clinical medicine was the best method to cure their mental health symptoms. The belief in clinical medicine may be due to several reasons. First, it is possible that those more trusting in clinical medicine may have personal experience with successful treatment with either themselves or a family member. Secondly, those who have more engagement in U.S society such as a child in school, or someone who works in the community may be more likely to believe that treatments given by doctors are effective. On the other hand, Bhutanese-Nepali refugees who are older with fewer social ties to American culture may be less likely to follow recommendations given by their doctor. Also, refugees who previously had a strong belief in Bhutanese traditional, or spiritual medicine may continue to practice these treatment approaches before consulting a doctor or using prescription drugs.

6.0 CONCLUSION

The number of refugees is growing around the world and here in the United States. With the high number of Bhutanese refugees settling in Pittsburgh, Pennsylvania, new services should be implemented to better accommodate this population. While providing new services is vital, health care providers should keep in mind that cultural differences exist and that services may need to be tailored to better ensure a successful experience for the refugee population. Relocation is an extremely stressful experience and stress has been shown to be a triggering factor for physical and mental disease. For this reason, it is socially and financially advantageous to establish effective medical screening and treatments for all persons who have been relocated (Bhugra, 2004). Despite the claim that DSM is not accurate in measuring mental illness in the refugee population it remains a highly used tool in many populations.

After conducting the DSM-V Severity Measure for Generalized Anxiety Disorder for GAD in Pittsburgh, Pennsylvania, it was learned that the sample of Bhutanese refugees express a moderate level of GAD; and individual level ranged from mild to moderate. Based on the GAD severity table this result correlates to experiencing generalized anxiety symptoms occasionally or half of the time during a seven-day week. Although the overall level of GAD among these individuals was moderate, refugees may experience personal symptoms ranging from mild to severe.

The attitudes toward mental health varied from traditional and cultural to western and clinical ideologies. Participants reported that spiritual causes such as spirits or bodily imbalances might have caused their symptoms. Others did not believe spirits or ghosts had

an impact on their health and had a more westernized belief of how disease manifested. There were also mixed feelings on the effectiveness of doctors, but all participants felt health care facilities were good sources of care and that doctors were doing everything possible to reduce their symptoms. Situations in Bhutan, Nepal, and the U.S were reported as causes of stress throughout the life cycle. Experiences with displacement, torture, language barriers, and divided families for prolonged periods of time are several of the symptoms mentioned that may help explain the onset of GAD and other mental illnesses among the Bhutanese-Nepali refugee sample.

6.1 LIMITATIONS

This study has a number of limitations. As mentioned earlier the doctors at the SHHC referred patients to the research team who expressed symptoms of somatization, anxiety, depression, and inability to complete daily tasks, then PTSD, GAD, depression, and somatization were measure. It is possible that the participants who presented GAD in this research are experiencing a separate illness such as depression, or a culture-bound syndrome.

The researchers' decision to include participants from a clinical setting led to a level of selection bias. The sample already has an established understanding of the American medical system, and therefore may not feel the same stigmatization as those experiencing symptoms who have not yet sought out treatment. This sample bias also limits the researchers' ability to make any conclusive results about effectiveness of treatments.

Without using a baseline measure with individuals who already are seeking treatment to improve their mental health makes it unclear whether the treatment measures are improving mental health symptoms, worsening the symptoms, or if no change has occurred.

Symptoms were recognized through interviews and focus group results that were collected through a medical or family member interpreter. The use of translators leaves the opportunity for misinterpretation as the research investigator delivered the question to the participant and interpreter, and as the response from the participant was relayed to the interpreter, and back to the researcher. Although each DSM-V Severity Measure for Generalized Anxiety Disorder question was reviewed by a medical interpreter prior to data collection, it was clear that the ability of the Bhutanese sample to understand western medical terms of illness is limited. Terms such as “anxiety” and “faint” were often replaced with words such as “stress” and “pass out.”

Another limitation is that the participants often gave unclear answers to many of the DSM-V Severity Measure for Generalized Anxiety Disorder questions as reported in the qualitative analysis. Unclear responses may be due to language barriers, or culture-bound associations. With responses that could not be easily classified into one of the five categories in the survey, researchers referred to the recording and transcription. In these instances, the score was left to the research team’s discretion.

The use of a single research measure, the DSM-V Severity Measure for Generalized Anxiety Disorder for GAD, limits the ability to accurately diagnose GAD in this sample. For this reason, the results must be interpreted with caution. The results suggest that this Bhutanese refugee sample suffers from a moderate level of GAD. The use of only ten

questions may limit the accuracy of the DSM severity measures, as culturally relevant symptoms may not have been included in the survey.

6.2 MOVING FORWARD

It is important that researchers continue to study the refugee population and continue to look at ways to improve their transition process into American society. By increasing knowledge about relocated refugees' culture, religious background, and societal norms, healthcare workers can improve screening measures and improve medical services, treatments, social services, and job services.

Researchers need to be aware of cultural barriers as they proceed with future studies. Based on the observations from this research, Bhutanese are generally much more easy-going than most Americans. When scheduling in-home appointments researchers should extend their time estimates because in many cases research subjects are not ready at the scheduled time, all family members are present, and distractions are common. Follow-up was difficult with many of the research participants. It was observed that participants might feel obligated to verbally agree with researchers or medical professionals. This led to many problems as the research team recruited over 30 participants for research, but due to an inability to follow up with them (disconnected or nonexistent phone lines), they were not included in the study. After discussing this problem with the doctors and physicians at the SHHC several suggestions for recruitment were made for future research.

First, all recruitment from the clinic should incorporate the entire research team and the medical staff, including front desk attendants. By including all personnel, potential participants can be made aware that the research team would like to speak with them before or after a doctor's appointment. The most successful process occurred when the doctors or nurses concluded their consultation and stated that a researcher would like to speak with the patient before he or she left the medical facility. This gave the researcher an introduction and allowed for a private location to introduce and discuss the research with potential participants.

Secondly, it would be advantageous for the research team to schedule a time to conduct data collection at initial recruitment. Due to difficulties with follow-up, it was found that scheduling an appointment in person as early as possible worked best. This was found to be very effective in the second half of recruitment; however, many families have a "head of house" and if that specific person was not present participants felt the need to consult this person prior to making any formal commitment. In these instances, researchers should follow up within the next two or three days to ensure that the participant was able to discuss the research with the "head of the house" and ask about participation in the research. In addition to changes in patient enrollment, strategies for follow-up should be considered as well. Follow-up should be done often between the initial contact and the scheduled interview date, such as, a week in advance, three days prior to, and the day before.

Third, in this research project, researchers collected data in the participant's home. Moving forward researchers might consider collecting data at the clinic or site of recruitment. After discussing how to improve research methods with the doctors and physicians at the SHHC, it was suggested that data collection be done prior to or after the

patient's next check-in at the health center. This method is limited depending on availability of space, caretaker's availability, and transportation restrictions.

One of the ways public health workers and medical professionals can improve care and reduce stigma often associated with care among this population is by removing stigmatizing terminology. Also, doctors and nurses should target the symptoms causing the most problems, and then administer the most appropriate treatment. For instance, if an individual reports somatic symptoms the underlying pathology and additional support should be addressed. If psychotic symptoms are the most disabling then doctors can provide psychiatric care and counseling (Kohrt & Hruschka, 2010).

Continuing research about culture and health is very important for doctors and nurses. It is also very important that health professionals and social support workers continue to deliver services that are needed in the community. Specifically, it has been reported from one of the peer supports at the SHHC that legal services would greatly improve the quality of life among the resettled Bhutanese-Nepali population. This gentleman stated that legal services would better help them understand their rights as U.S residents, and in the most extreme cases protect them from eviction and save their children from child services.

Other culturally relevant and culturally specific treatment approaches should be developed in the clinical setting as well. The partnership between the SHHC and BCAP remains to be one of the best options for Bhutanese-Nepali refugees moving forward. The expansion of the SHHC to Brentwood, Pennsylvania, gives relocated refugees living in the South Hills have more accessible health care. And with the continuing partnership between the SHHC and BCAP it is expected that patients going to the clinic will also be given the

opportunity to participate in BCAP community groups to improve their physical and psychological well-being. Bhutanese-Nepali peers supports on staff at the SHHC can tell patients about the services provided at BCAP. Many patients who suffer from anxiety, depression, or other culturally related symptoms of sadness or isolation might see benefit from the services offered at BCAP. BCAP offers community sports leagues, yoga, meditation and dance as a part of a community support group, counseling, senior support, and even English language training.

BCAP and the peer supports should also keep the SHHC updated on community events, for instance the opening of a new daycare service for children, or expansion of the community support to other locations or days. Keeping the SHHC involved will allow peer supports and doctors to provide up-to-date information about the services that members of the Bhutanese-Nepali community can take advantage of.

The number of Bhutanese refugees experiencing mental health issues remains high in western Pennsylvania. The ability to deliver effective and timely healthcare is important for this population's ability to integrate itself into American society and culture. It is advantageous to solve this mental health problem as it will save the Bhutanese people and the American healthcare system time and money. The amazing people in the Bhutanese-Nepali community suffering from mental illness in Pittsburgh deserve to be happy and joyful again, just as they hope and pray for each day.

APPENDIX A: IRB APPROVAL



University of Pittsburgh *Institutional Review Board*

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
<http://www.irb.pitt.edu>

Memorandum

To: Alexandra Nowalk
From: IRB Office
Date: 8/6/2015
IRB#: [PRO15050150](#)
Subject: Bhutanese-Nepali Community Research Study

The University of Pittsburgh Institutional Review Board reviewed and approved the above referenced study by the expedited review procedure authorized under 45 CFR 46.110 and 21 CFR 56.110. Your research study was approved under:

45 CFR 46.110.(6)
45 CFR 46.110.(7)

The risk level designation is Minimal Risk.

Approval Date: 8/6/2015
Expiration Date: 8/5/2018

This study meets the criteria for an extended approval period of three years. **In the event that any type of federal funding is obtained during this interval, a modification must be submitted immediately so the IRB can reassess the approval period.**

For studies being conducted in UPMC facilities, no clinical activities can be undertaken by investigators until they have received approval from the UPMC Fiscal Review Office.

Please note that it is the investigator's responsibility to report to the IRB any unanticipated problems involving risks to subjects or others [see 45 CFR 46.103(b)(5) and 21 CFR 56.108(b)]. Refer to the IRB Policy and Procedure Manual regarding the reporting requirements for unanticipated problems which include, but are not limited to, adverse events. If you have any questions about this process, please contact the Adverse Events Coordinator at 412-383-1480.

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

APPENDIX B: DSM-V GAD CRITERIA (APA, 2013)

Diagnostic Criteria

300.02 (F41.1)

- A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- B. The Individual finds it difficult to control the worry.
- C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months):

Note: Only one item is required for children.

- 1. Restlessness or feeling keyed up or on edge.
 - 2. Being easily fatigued.
 - 3. Difficulty concentrating or mind going blank.
 - 4. Irritability
 - 5. Muscle tension.
 - 6. Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).
- D. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
 - E. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., hyperthyroidism).

- F. The disturbance is not better explained by another mental disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social anxiety disorder [social phobia], contamination or other obsessions in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder, or the content of delusional beliefs in schizophrenia or delusional disorder).

APPENDIX C: RECRUITMENT LETTER

Bhutanese-Nepali Community Research Study

मिति[DATE]:

प्रिय श्री / सुश्री (थर) (Dear [Mr. / Ms. LAST NAME]),

पिट्सबर्ग विश्वविद्यालय सार्वजनिक स्वास्थ्य ग्रेजुएट स्कूल (Graduate School of Public Health at the University of Pittsburgh) देखि स्नातक विद्यार्थीहरूले स्क्विरेल हिल स्वास्थ्य केन्द्र (Squirrel Hill Health Center) बाट गरेको अध्ययन सम्बन्धि म तपाईं हरुलाई जानकारी दिरहेको छु। एक हेरविचार प्रदायक भएकोले, म मेरा बिरामीहरूको उपचारमा, र अधिक राम्रो उपाचालाई बुझ्न वा फेलापार्न का लागि गरिने अनुसन्धानलाई अघि बढाउनमा संलग्न छु।

I am writing to tell you about a study being conducted at the Squirrel Hill Health Center by graduate students from the Graduate School of Public Health at the University of Pittsburgh. As a care provider, I am involved in treating my patients and promoting research in order to understand and find better ways to treat medical conditions.

मेरो सहकर्मी, आलेक्सान्द्रा नोवाल्क र अलेक्सान्दार कोवालिक, विश्वविद्यालय संकाय सदस्य डाक्टर स्टेवे अल्बर्ट को पर्यवेक्षण अन्तर्गत पुनर्वास भएका भूटानी शरणार्थीहरूका मानसिक स्वास्थ्य परिणाम र संस्कृति अध्ययन गर्दै छन्। म आफै यस अध्ययनको सदस्य हैन, तर पनि, म आफ्नो बिरामीहरू र उनीहरूका परिवार सदस्यहरूलाई, यदि उनीहरू रुचि हुनुहुन्छ भने, यो अध्ययन बारे जानकारी दिन चाहन्छु। अध्ययन सहभागिता छोटो समय १-२ घण्टा को कुराकानीमा समावेश हुनेछ। यो अध्ययन तपाईंको घरै बाट क्लिनिक देखि अनुवादकको सहयोगमा हुनेछ।

My colleagues, Alexandra Nowalk and Alexander Kovalik, are studying mental health outcomes and culture among resettled Bhutanese refugees under the supervision of university faculty member, Dr. Steven Albert. I am not a member of their research team, however, I am contacting some of my patients and their family members to let them know about the research in case they might be interested in learning more. Study participation will involve a short, 1-2 hours conversation with researchers in your home with the assistance of a translator from the clinic.

तपाईंले यो बुझ्नु ररुी छ कि, यो पत्रले तपाईंलाई अध्ययनमा सहभागी हुनैपर्छ भनेको होइन। सहभागी हुनु नहुनु तपाईंमै भर पर्छ र यो तपाईंको सहभागी स्वैच्छिक कार्य हुनेछ। तपाईं यसमा सहभागी हुनुभएन भने पनि तपाईंको स्कुलेल हिल्ल हेल्थ सेन्टर संग भएको नाता लाई केही असर पर्ने छैन।

It is important to know that this letter is not to tell you to join this study. It is your decision.

Your participation is voluntary. Whether or not you participate in this study will have no effect on your relationship with Squirrel Hill Health Center as a patient.

यदी तपाईंलाई यस अध्ययनको बारेमा अज जानकारी लिन मन छ भने, यो फोरम भरेर मलाई स्कुलेल हिल्ल हेल्थ सेन्टर पठाइदिनु होला। तपाईंको डाक्टर भएको नाताले, म तपाईंको अनुमति अनुसार

तपाईंबारे जानकारी खोज कार्यका व्याक्तीत्वहरुलाई मात्र दिनेछु। त्यस पछि उनीहरुले तपाईंलाई सम्पर्क गर्ने छन्।

तपाईंलाई सहभागी हुन मन भए, अनि आफै अध्ययनकर्तालाई सम्पर्क गर्ने चाहानु हुन्छ भने, तल दिएका फोन य ईमेल मार्फत सम्पर्ग गर्न सक्नु हुन्छ ।

If you are interested in learning more about this study, please fill out the enclosed form with your contact information and return it to me at the Squirrel Hill Health Center. As your physician, I will only share this information with the researchers with your permission who will then contact you with further information about the study. If you still wish to participate, but wish to contact the research team on your own, you can do so via telephone or email. You do not have to respond if you are not interested in this study. If you do not respond, no one will contact you.

यस अनुसन्धानमा भाग लिन मन नभए, तपाईंले कसैलाई पनि सम्पर्क गर्नु पर्दैन। यदि तपाईंले यो पत्रको जवाफ दिनु भएन भने, तपाईंलाई कसैले पनि सम्पर्क गर्ने छैन ।

You do not have to respond if you are not interested in this study. If you do not respond, no one will contact you.

आफ्नो विचार को लागि धन्यवाद।

Thank you for your consideration.

आलेक्ष कोवालिक Alex Kovalik (216) 544-7118

alk173@pitt.edu

आलेक्सान्द्रा नोवाल्क Alexandra Nowalk (704) 363-2928

aan20@pitt.edu

सच्चारुपले,

Sincerely,

पुनर्बासी भूटानीबारे सामाजिक अनुसन्धान
RESETTLED BHUTANESE COMMUNITY RESEARCH STUDY

अनुसन्धानमा सहभागी हुन मन भए, कृपया यो फारम पूरा गरि आफ्नो डाक्टरलाई स्कुरेल्ल हिल्ल हेल्थ सेन्टर पठाइदिनु होला। Please complete this form and return to your physician at the Squirrel Hill Health Center

मलाई यस अध्ययन बारेमा अज्ज धरै कुरा जान्न मन छ। निम्न जानकारी उपयोगगरि मलाई सम्पर्क गर्नुहोला। I am interested in learning more about this study. Please contact me using the following information:

नाम(Name): _____

टेलिफोन (Telephone(s)): _____

कल गर्नका लागि सर्वश्रेष्ठ दिन र समय (Best time and day to

call): _____

ईमेल (Email):

_____ @ _____

APPENDIX D: INFORMED CONSENT FORM

पुर्व मन्जुरीनामा INFORMED CONSENT FORM

पुनर्बासी भूटानीबारे सामाजिक अनुसन्धान Resettled Bhutanese Community Research Study

भाग लिनको लागि निमन्त्रणा INVITATION TO PARTICIPATE

तनाव, मनःस्थिति र स्वास्थ्य का बारेमा भूटानीहरूका कस्तो सोचाई छ भन्ने बिसयमा जानकारी लिनकालागि तपाईंहरूलाई हार्दिक निमन्त्रण छ।

You are invited to take part in a research study that investigates how resettled Bhutanese think about stress, mood and health.

बिसय चयनका आधार BASIS FOR SUBJECT SELECTION

यदि तपाईं या तपाईंका कोहि अन्य परिकारका सदस्य लामो समय देखि दुखित या अस्पष्टीकृत दुखाई अनुभव गर्नु हुदैछ भने, र १८ वर्ष उमेर का भए, यस अध्ययनमा भाग लिन तपाईं योग्य हुनुहुन्छ।

You are eligible to take part in this study if you or a family member experiences long periods of sadness or unexplained pain, and are older than the age of 18.

यस अध्ययनका उद्देश्य PURPOSE OF THIS STUDY

यस अध्ययनको उद्देश्य चाही पुनर्बास भएका भूटानी शरणार्थीहरूका सोच तनाव, मनःस्थिति र स्वास्थ्य का बारेमा मानसिक विकार को निदान सांख्यिकीय म्यानुअल (DSM-5) संग मिल्दो-जुल्दो छ या छैन भन्ने हो। यो DSM-5 एउटा यस्तो स्रोत हो जो संयुक्त राज्य अमेरिका र अन्य देशहरूले सिमित मानसिक स्वास्थ्यका चिन्ह र लक्षण पहिचान गर्न प्रयोग गर्छन्। यो एउटा महत्वपूर्ण अनुसन्धान हो किनभने अमेरिकामा बस्दै आएका भूटानी शरणार्थीहरूका मानसिक स्वास्थ्यका समस्या अन्य आबादी भन्दा बढी भएको हुन सक्छ। पुनर्बास भएका भूटानी शरणार्थीहरू गहिरो दुःख, भावनात्मक तनावपूर्ण प्रतिक्रियाहरू, र अस्पष्टीकृत दुखाइ बाट पिडित हुन् कि भनि अनुसन्धान गर्न यो बिषय छानिएको हो।

The purpose of this study is to determine if the ways resettled Bhutanese refugees think about stress, mood and health are similar to classifications of the Diagnostic Statistical Manual of Mental Disorders (DSM-V). The DSM-V is a source used by the United States and many other countries that uses signs and symptoms to identify symptoms of poor mental health. This is an

important investigation because the number of resettled Bhutanese refugees experiencing mental health problems in the United States may be higher than other populations. This study has been created to identify if deep sadness, emotionally stressful responses, and unexplained pain are seen in resettled Bhutanese refugees.

प्रक्रिया PROCEDURE

सहभागीहरू अनुसन्धानकर्ता र अनुवादक संग बसी कुरा गर्छन्। सहभागीका रूपमा, तपाईंले आफ्ना दुःख, भावनात्मक तनाव, र दुखाइ सम्बन्धित धेरै प्रश्नहरूको जवाफ दिनु पर्ने हुन्छ। अनुसन्धानकर्ता ले स्वास्थ्य संग कस्तो सम्बन्ध छ भनि जान्नका लागि संस्कृति र धर्मका बारेमा सरल प्रश्नहरू सोदनेछन्। प्रत्येक सहभागी संग एक वा दुई घण्टा भन्दा बढी कुराकानी हुने छैन। दोस्रो अन्तरबार्ता परिवारको एक स्वस्थ सदस्य संग हुनेछ। सहभागी को दुःख, भावनात्मक तनाव, र दुखाइ बारे सो परिवारका स्वस्थ सदस्य बाट उसैगरी जानकारी लिईने छ। आकडा संकलन भएपछि सहभागीलाई एउटा छोटो सारांश दिइनेछ र त्यसपछि अन्तरबार्ता टुंगिनेछ।

Subjects will begin by sitting down and talking with the researchers and a translator. As a subject, you will answer several questions relating to your experiences with sadness, emotional stress, and pain. The researchers will also ask simple questions about culture and religion to see how they relate to health. The conversation for each subject should take no longer than one or two hours. A second interview will take place with a healthy family member; the healthy subject will undergo a similar interview to gain information on sadness, emotional stress, and pain of their family member. After the data collection has been completed subjects will receive a short summary of the study and the interview will conclude.

दोबारा अन्तरबार्ता हुनेछैन तर यदि सहभागी संग कुनै थप जानकारी वा प्रश्न भए अनुसन्धानकर्ता संग सम्पर्ग राख्न सक्नेछन्।

Their will be no follow up after the interview process, but the subjects may contact the investigators at any time if they have any further questions.

संभावित जोखिम POTENTIAL RISK

अन्तरबार्ताका प्रश्नहरूले अप्रिय सम्झनाहरू ल्याउन सक्छन् र सहभागीले दुःखका अनुभव बारे कुराकानी गर्नु पर्ने पनि हुन सक्छ। यो अन्तरबार्ताको दौरानमा पुराना अप्रिया दुघटना, दुखी सम्झनाहरू अनुभव हुन सक्छ। अझ गोप्यतको उल्लंघन हुने संभावना उत्पन्न पनि हुन सक्छ।

Interview questions may bring back unpleasant memories, and subjects may be asked about sad experiences. During the interviews, subjects may experience unhappy memories, and sadness. In addition, a breach of confidentiality could potentially occur.

जोखिम कम गर्नको लागि हरेक प्रयास गरिनेछ।

Every effort will be made to minimize all possible risks.

संभावित लाभ र क्षतिपूर्ति POTENTIAL BENEFITS and COMPENSATION

भुटानीहरूमा तनाव, मनःस्थिति र स्वास्थ्य बारे राम्रो समजदारी र सुधार अनि व्यक्तिगत हेरविचारनै संभावित लाभ हुन्। यो कुरा तपाइले बुझ्नु जरुरि छ कि यो अध्ययनमा तपाइको सहभागिता हुदा तपाइको अवस्थामा न सुधार वा न खराब हुनेछ। यो प्रक्रियामा सहभागी हुदा कुनै प्रकारको आर्थिक लाभ हुनेछैन।

Potential benefits include improved understanding of resettled Bhutanese views of stress, mood and health for better understanding and improved individual care. It is important to understand that your participation in this study will not offer a cure and that your condition will not improve or worsen by participating in this study. There will be no money offered for participating in this study.

सहभागिता गर्न विकल्प ALTERNATIVES TO PARTICIPATION

सहभागिता हुने अन्य कुनै तरिका छैन। There are no other ways to participate.

गोपनीयता GUARANTEE OF CONFIDENTIALITY

यो साक्षात्कार प्रक्रियाद्वारा संकलित सम्पूर्ण आकडा तथा जानकारीहरू पिट्सबर्ग ग्रेजुएट विश्वविद्यालय (University of Pittsburgh Graduate School of Public Health) को एक सुरक्षित स्थानमा या शोधकर्ताको घर कार्यालयमा राखिने छ। आकडा कम्प्युटरमा संकेत शब्द (पासवर्ड) लगाई सुरक्षित रूपमा राखिने छ, अनि तल उल्लेखित अनुसन्धानकर्ता र कार्यालय लाई मात्रै उपलब्ध गराइने छ।

All data collected during the interview process will be kept in a secure location at the University of Pittsburgh Graduate School of Public Health or researchers' home offices. Data will be loaded to a computer and will be password protected, and made available only to the following researchers & offices:

- आलेक्सान्द्रा नोवाल्क - प्राथमिक अनुसन्धानकर्ता Alexandra Nowalk – Primary Investigator
- आलेक्ष कोवालिक - सह-अनुसन्धानकर्ता Alex Kovalik – Co-Investigator
- डाक्टर स्तेवे अल्बर्ट - शिक्षक सल्लाहकार Dr. Steven Albert – Faculty Advisor
- पिट्सबर्ग विश्वविद्यालय अनुसन्धान आचार र अनुपालन कार्यालय The University of Pittsburgh Research Conduct & Compliance Office

त्यसका साथसाथै, पहिचान फोरिएका डटा भविष्यमा गएर नया अनुसन्धानकर्ताको खोज कार्यका लागि पनि उपलब्ध गराइनु सकिने छ। सहभागीको व्यक्तिगत जानकारी एवं परिचय सुरक्षित राख्नको लागि सबै रेकर्डिङहरू नष्ट गरिन्छ। पिट्सबर्ग विश्वविद्यालयको नीति अनुसार, सबै अनुसन्धान गरिएका कुराहरू यस अनुसन्धानको अन्तिम प्रतिवेदन वा प्रकाशन भएको सात वर्ष सम्म जोगाएर राख्नु पर्नेहुन्छ।

In addition, de-identified data may be shared with secondary investigators in future studies. Safety measures are in place to protect subjects who are audio recorded by destroying all recordings that identify subjects. In compliance with University of Pittsburgh policies all research records must be maintained for at least 7 years following final reporting or publication of this project.

सहभागिता देखि इन्कार WITHDRAWAL FROM PARTICIPATION

यस अध्ययन मा तपाइको सहभागिता आफनै इच्छाअनुसार हो, र तपाइको वर्तमान वा भविष्यको सम्बन्ध पिट्सबर्ग विश्वविद्यालय वा स्कुइर्ले हिल स्वास्थ्य क्लिनिक संग कुनै असर पर्ने छैन। तपाईं सहभाग हुदै गर्दा पनि, सहभागी देखि छुट लिन सक्नु हुनेछ।

Your participation in this study is voluntary, and will not affect your present or future relationship with The University of Pittsburgh or the Squirrel Hill Health Clinic. If you decide to participate, you are then free to withdraw your consent and to stop participating at any time.

कुनै प्रश्न भए IF YOU HAVE QUESTIONS

सहभागीले यस प्रक्रियाबारे कुनै प्रश्नहरू सोध्न सक्नुहुनेछ। यदि प्रश्नहरू पछि भविष्यमा आए, तल निम्नलिखित व्याक्तिसंग सम्पर्क राख्न सक्नु हुनेछ। अध्ययन बारेका सबै प्रश्नहरूको जवाफ मिल्नेछ। तथापि, अध्ययन पूरा नभएसम्म, अध्यानकर्ताले तपाइको उत्तर प्रभावित नहोस भनिकन तपाइको प्रश्न को जवाफ केहि समय पछि दिनसक्नु हुनेछ। यो कुरा तपाइले बुझ्नु जरुरि छ कि, यदि कुनै समस्या, चिन्ता, या प्रश्न भए, कुराहरूको जानकारी लिन, केहि कुरा भन्नुपर्ने छ भने, अथवा तपाईं यस कार्यमा भाग लिएको बेला कुनै अवस्थाको बारेमा कुरा राख्नु छ भने, तपाइले यस आईआरबी कार्यालय को मानव विषय संरक्षण अधिवक्ता, पिट्सबर्ग विश्वविद्यालय (१-८६६-२१२-२६६८) मा सम्पर्ग पनि गर्न सक्नुहुन्छ।

If you have any questions about the procedures in which you will participate, please ask. If you have questions later, please feel free to contact the people listed below. All questions about the study will be answered. However, the investigator may choose to wait to answer your questions until you have completed the study, to ensure that your answers will not be affected by your knowledge of the research. Understand that you may contact the Human Subjects Protection Advocate of the IRB Office, University of Pittsburgh (1-866-212-2668) to discuss problems, concerns, and questions; obtain information; offer input; or discuss situations that occurred during your participation.

तपाईं आफ्नो स्वेच्छाले भाग लिन वा नलिन निर्णय दिनुहुदैछ। उक्त प्रस्तुति पढी र बुझीकन आफ्नो हस्ताक्षर गरि भाग लिन मन्जुरी दिनुहुदैछ। तपाईंको हस्ताक्षरले यो पनि जनाऊछ कि तपाईं अध्ययनकर्ता

संग यस प्रक्रिया बारे कुरा-कानी गर्ने मौका पाउनु भएकोछ, र सम्पूर्ण प्रश्न को उत्तर तपाइको सहमति अनुसार भएकोछ। तपाईंलाई यस मन्जुरी पत्रको एक प्रतिलिपि मिल्नेछ।

You are voluntarily making a decision whether or not to participate. Your signature says that you have decided to participate, having read and understood the information presented. Your signature also states that you have had an chance to talk about this study with the researchers, and that you have had all your questions answered to your liking. You will be given a copy of this consent form.

सहभागी को हस्ताक्षर Signature of participant

मिति (Date)

सहभागिको पुरा नाम Printed name of participant

अध्यनकर्तको हस्ताक्षर Investigator Signature

मिति (Date)

स्नातक विद्यार्थी अनुसन्धानकर्ता Graduate Student Investigators

आलेक्ष कोवालिक Alex Kovalik (216) 544-7118

alk173@pitt.edu

आलेक्सान्द्रा नोवाल्क Alexandra Nowalk (704) 363-2928

aan20@pitt.edu

विभाग निरीक्षक Faculty Supervisors:

डाक्टर स्तेवेँ अल्बर्ट Dr. Steven Albert (412) 383-8693

APPENDIX E: DSM-V SEVERITY MEASURE FOR GENERALIZED ANXIETY DISORDER

Severity Measure for Generalized Anxiety Disorder—Adult

Name: _____ Age: _____ Sex: Male Female Date: _____

Instructions: The following questions ask about thoughts, feelings, and behaviors, often tied to concerns about family, health, finances, school, and work. Please respond to each item by marking (✓ or x) one box per row.

							Clinician Use
	During the PAST 7 DAYS, I have...	Never	Occasionally	Half of the time	Most of the time	All of the time	Item score
1.	felt moments of sudden terror, fear, or fright	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
2.	felt anxious, worried, or nervous	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
3.	had thoughts of bad things happening, such as family tragedy, ill health, loss of a job, or accidents	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
4.	felt a racing heart, sweaty, trouble breathing, faint, or shaky	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
5.	felt tense muscles, felt on edge or restless, or had trouble relaxing or trouble sleeping	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
6.	avoided, or did not approach or enter, situations about which I worry	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
7.	left situations early or participated only minimally due to worries	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
8.	spent lots of time making decisions, putting off making decisions, or preparing for situations, due to worries	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
9.	sought reassurance from others due to worries	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
10.	needed help to cope with anxiety (e.g., alcohol or medication, superstitious objects, or other people)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	
Total/Partial Raw Score:							
Prorated Total Raw Score: (if 1-2 items left unanswered)							
Average Total Score:							

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APPENDIX F: CULTURAL FORMULATION INTERVIEW

Cultural Formulation Interview

We now would like to ask you some more in-depth questions about what you think may be causing your pain, concerns, mood, or stress. These questions may be a little different from the questions your doctor asks you when you go to the health clinic.

1. People often understand their problems in their own way, which may be similar or different from how doctors describe the problem. How would you describe the problem? **[Use the term, expression, or paraphrased description elicited in this question to identify the {PROBLEM} in subsequent questions]**

[For the following questions, focus on the individual's own way of understanding the problem]

2. How do you think your {PROBLEM} affects your body? Your mind? Your spiritual well-being?
3. How has your {PROBLEM} affected your ability to do the things you need to do each day, that is, your daily activities and responsibilities?
4. How has your {PROBLEM} affected your ability to interact with your family and other people in your life?
5. How has your {PROBLEM} affected your ability to take part in the community and social activities?

[For the next questions, focus on the aspects of the {PROBLEM} that matter most to the individual]

6. What troubles you most about your problem?
7. Why do you think this is happening to you? What do you think are the causes of your {PROBLEM}?
 - **[Prompt further if required]** Some people may explain their problem as the result of bad things that happen in their life, problems with others, a physical illness, a spiritual reason, or many other causes. What do you think is going on?

[Note that individuals may identify multiple causes]

8. Are there any kinds of support that make your {PROBLEM} better, such as support from family, friends, or others?
9. Are there any kinds of stresses that make your {PROBLEM} worse, such as difficulties with money, or family problems?
10. Are there any aspects of your background or identity that make a difference to your {PROBLEM}?
11. Are there any aspects of your background or identity that are causing other concerns or difficulties for you?
12. Often, people look for help from many different sources, including different kinds of doctors, helpers, or healers. In the past, what kinds of treatment, help, advice, or healing have you sought for your {PROBLEM}?

- **[Prompt further if required]** *What types of treatment were most useful? Not useful?*

Refugee Experience

We are going to conclude our conversation today by asking you some questions about your refugee experience.

1. *Could you begin by telling us what country were you born in?*
 - a. *How long have you lived in the United States?*
 - b. *When and with whom did you leave ____ {COUNTRY OF ORIGIN}?*
 - c. *Why did you leave ____ {COUNTRY OF ORIGIN}?*
2. *Prior to arriving in the United States, were there any challenges in ____ {COUNTRY OF ORIGIN} that you or your family found especially difficult?*
 - a. *Of the persons important/close to you, who stayed behind?*
 - b. *Often people leaving a country experience losses. Did you or any of your family members experience losses upon leaving the country? If so, what are they?*
 - c. *Were there any challenges on your journey to the United States that you or your family found especially difficult?*
 - d. *Do you or your family miss anything about your way of life in {COUNTRY OF ORIGIN}?*
 - e. *Do you have concerns about relatives that remain in {COUNTRY OF ORIGIN}?*
 - f. *Do relatives in {COUNTRY OF ORIGIN} have any expectations of you?*
3. *Have you or your family experienced any difficulties related to your citizenship or refugee status here in the United States?*
 - a. *Are there any other challenges or problems you or others in your family are facing related to resettlement here?*
 - b. *Has coming to the United States resulted in something positive for you or your family? Can you tell me more about that?*
4. *Is there anything about your migration experience or current status in this country that has made a difference to your {PROBLEM}?*
 - a. *Is there anything about your migration experience or current status that might make it easier or harder to get help for your {PROBLEM}?*
5. *What hopes and plans do you have for you and your family in the coming years?*

Demographics

Thank you so much for your time today. Before you go, I would like to ask some basic questions about your background characteristics. We just want to make sure we have all the information we need, and that it is coming directly from you.

- *What is your age?*
- *What is the highest level of education that you have?*
- *What do you do for a living (job/occupation/profession)?*
- *Do you identify with any particular spiritual, religious or moral tradition? Can you tell me more about that?*
 - *Do you belong to a congregation, group, or community associated with that tradition?*
- *What is your marital status?*
- *Who do you live with?*

- What is your (approximate) annual family income?

This is the end of our interview. Thank you again for your time and participation.

[If subject provides their consent, do not stop the tape recorder until after she leaves the space.]

APPENDIX G: FOCUS GROUP GUIDE

Bhutanese-Nepali Community Research Study Focus Group Guide

Consent Process

Consent forms will be distributed and reviewed by the research team prior to the focus group. Each subject will be given the chance to ask any questions they may have, and state any concerns about the research prior to signing their consent form.

Introduction:

1. Welcome

Introduce the research team, and pass around the Sign-In Sheet with a few quick demographic questions (age, gender) around to the group while you are introducing the focus group.

Review the following:

- Background of the research team and the goals of the research
- What we will do with this information
- Why we asked you to participate

2. Explanation of the process

Ask the group if anyone has participated in a focus group before.

Logistics

- Focus group will last about one hour
- Feel free to move around
- Locate the bathroom? Exits?
- Help yourself to refreshments

Ground Rules

- Everyone should participate.
- Information provided in the focus group will be kept confidential
- Stay with the group and please don't have side conversations
- Turn off or silence cellphones
- Have fun

Ask the group if there are any questions before we get started

3. Turn on Tape Recorder

4. Introductions

- Begin with personal introductions

Questions:

1. Let's start the discussion by talking about what mental health is. What are some of the aspects of mental health that you can identify?
2. What places do people go to for physical or mental health issues?
3. What activities change the degree or level of mental illness?
4. Are there different degrees of mental health, or different types?
5. If you know someone that is mentally ill is there anything that you can do? If so, what?
6. What aspects of mental illness affect an individual?
7. What suggestions do you have to improve the life of those living with mental illness?
8. What are some different types of mental illness in your culture? Can you describe them? How are they different?
9. How are spirituality and mental health linked?
10. What types of things can you do to treat or heal someone with mental illness? Are there any traditional practices in your culture?
11. There has been a very high rate of suicide in this community compared to other refugees. Why do you think this is? What are your opinions?
12. How has coming to the United States changed things for you and your family? What are the challenges?
13. What was life like for you and your family in Bhutan and Nepal?

Probes for Discussion:

- *Culture*
 - *Relationships, religion, spiritual life*
- *Safety & Health protection*
 - *Protective measures (e.g., yoga)*
- *Working conditions*
 - *Hours, wage, resources*
- *Opportunity, achievement, growth*
 - *Advancement, further education, responsibility*
- *Supervision*
- *Is there a sense of ownership of the outcomes here?*

- *Work content, responsibility*
- *Standards of living*
 - *Cost of living*
 - *Housing*
 - *Electricity*
 - *Water*
 - *Transportation*
- *Education for children*
- *Work/home balance*

Conclude focus group

- Thank participants for coming and sharing their opinions

Materials for focus groups

- Sign-in sheet
- Consent forms (one copy for participants, one copy for the team)
- Name tags
- Focus Group Discussion Guide for Facilitator
- 1 recording device
- Notebook for note-taking
- Refreshments

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