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Exploring The Association Between Post-Traumatic Stress Disorder And Social Connectedness With Quality Of Life Among High-Risk Hispanic Women Living In The U.s.-Mexico Border: A Mixed Methods Approach

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EXPLORING THE ASSOCIATION BETWEEN POST-TRAUMATIC STRESS
DISORDER AND SOCIAL CONNECTEDNESS WITH QUALITY
OF LIFE AMONG HIGH-RISK HISPANIC WOMEN
LIVING IN THE U.S.-MEXICO BORDER:
A MIXED METHODS APPROACH

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Dedication

I want to dedicate my thesis to my mentor,
Dr. Carla Campbell and Dr. Thenral Mangadu,
for helping me to initiate and continue my academic career in the U.S. respectively.

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by

TAMANNA FERDOUS, MD

THESIS

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Abstract

Quality of life (QOL) is an emerging significant public health concern. The QOL among the women living in the U.S.-MX border region is different than that of other parts of the United States. The unique characteristics of U.S.-MX border include lower socioeconomic status, immigration and acculturation challenges. These along with social, structural, and regional norms place individuals, particularly women, living in this region at high-risk for post-traumatic stress disorder (PTSD), substance use disorder (SUD), weakened social connectedness, and domestic violence, which in turn affect their QOL. The purpose of this study is to examine the effects of PTSD and social connectedness on the QOL among the women living in the U.S.-MX border and in treatment for SUD and/or trauma.

Hypothesis: There is a negative correlation between PTSD and QOL and there is a positive correlation between social connectedness and QOL. Above and beyond demographic covariates and PTSD symptoms, social connectedness adds to the prediction of QOL among the women in the study population.

Methods: A mixed-methods design was used. Secondary data analysis was conducted using 203 quantitative survey and responses from participants of 4 focus groups. Descriptive statistical analyses were conducted for the demographic variables. Pearson correlation and hierarchical regression analysis were conducted for quantitative data analysis. Themes and categories were identified from the qualitative data (focus groups; N= 26) and results from quantitative and qualitative data were triangulated.

Results: The mean age of the participants was 31.2 (10.06 years), predominantly Hispanics (88.7%), 66% unemployed. Hierarchical regression analysis revealed that PTSD negatively predicts QOL, and after controlling demographics and PTSD, social connectedness

does not add to the prediction of QOL. The qualitative data analysis revealed that the overall QOL among the participants is “good” (79%) and there is a mixed opinion about the effects of social connectedness and PTSD on QOL among participants.

Conclusions: This study is among very few studies that address the QOL and its’ predictors among the Hispanic women with SUD and/or trauma living in the U.S.-MX border region. Study findings suggest that PTSD and social connectedness must be explored while designing and implementing mental health and SUD interventions for the study population. However, social network norms related to gender roles and family structure need to be examined in relation to social connectedness as support or barrier to addressing trauma.

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Chapter 1: Introduction

According to the United States Health and Human Services (HHS), the United States-Mexico (U.S. - MX) border region is defined as the area of land is 100 kilometers (62.5 miles) north and south of the international boundary. It spans over four states in the United States and six states in México and has a total of 44 counties in the U.S. and 80 municipalities in México (Anderson & Gerber, 2017). The U.S.-MX border population is predominantly Hispanic (approximately 68%) (Kessels et al., 2012). Between 2000 and 2010, the U.S. border population increased by about 12% and the Mexican border population increased by about 18% (Kessels et al., 2012). The border region is dynamic and consists of unique characteristics which impact the health and wellbeing, as well as the Quality of Life (QOL) of its residents. This is the region where two different languages, two very different cultures, and economies meet and blend to some extent. The U.S.-MX border has other unique characteristics, for example, a higher rate of poverty, unemployment, lower education level, lower health insurance coverage, and low healthcare access. Compared to other parts of the United States, the U.S.-MX border region has an increased prevalence of mental health problem related to immigration issues, work-related stress, stigma, acculturation, length of residency, and weakened social support (Kessels et al., 2012). Due to these unique characteristics and social, structural, and regional norms, minority women in U.S.-MX border are considered high-risk of substance use disorders (SUD), mental health disorders, and domestic violence, all of which affects the overall QOL.

QOL, which is beyond considering health as the absence of illness, has emerged as an important issue of research, particularly among minority women living in the U.S.-MX border region. Several researchers explore the QOL among populations living in the U.S.-MX border, for example, QOL among HIV positive population (Zúñiga et al., 2011; Rao et al., 2012), QOL

among cancer patients (Lopez-Class et al., 2011), QOL among Diabetic patients (Mier et al., 2008) along the U.S.-MX border. However, research on overall QOL and its predictors among minority women remain limited, and to some extent, it is virtually nonexistent. This study would be the first study to explore the QOL and its relationship with PTSD and social connectedness among those Hispanic women high risk for HIV living in the U.S.-MX border.

Healthy People 2020

The “Healthy People 2020” created objectives related to Health-Related Quality of Life (HRQOL) and Well Being. These objectives include:

Objective 1: Increase the proportion of adults who self-report good or better physical health, and

Objective 2: Increase the proportion of adults who self-report good or better mental health.

This study addresses the objective 2 by providing knowledge on the predictive factors of QOL among the high-risk Hispanic women for HIV and SUD living near the border and will set a baseline knowledge which will help to plan and develop future interventions targeting to improve the QOL among the priority population.

Chapter 2: Demographic characteristics of the Priority Population: El Paso, Texas, U.S.A

The most recent statistics from the US census bureau indicates that the total population in Texas in July 2017 was 28,304,596. Among the total population, 39.4% are Hispanic. El Paso is a city in Texas which is adjacent to Ciudad Juarez in Mexico along the United States and Mexico border. El Paso has a total population of 846,615 inhabitants (Healthy Communities Institute, 2018) among which 82.8% are Hispanic (US Census Bureau, 2018). About half of the total population (50.8%) is female (US Census Bureau, 2018). According to the American Immigration Council, one out of six Texas residents is an immigrant and 15 percent of residents are native-born U.S. citizens with at least one immigrant parent. As of 2015, the total number of the immigrant population in Texas is 4.7 million immigrants and more than half of them (55%) are hailing from Mexico (American Immigration Council, 2015).

The number of individuals crossing the border through the El Paso port of entry is high. In fact, El Paso Texas is one among the busiest land ports in the country (Quintana, Stigler, Meléndez, Guillermo, & Ventura, 2012). In 2017, there were 22,046,772 personal vehicle passengers, 6,883,755 pedestrians, and 193,419 bus passengers' crossing over to the United States through the El Paso port of entry (United States Department of Transportation, 2018). Due to the higher rate of border crossing in El Paso, as compared to different port of entries, the population here faces challenges related to immigration and acculturation, which put them at risk of severe psychiatric disorders, including post-traumatic stress disorder (Silove, Manicavasagar, Coello, & Aroche, 2005; Saucedo, Wiebe, Chan, Kutner, & Simoni, 2018; Ortega, Rosenheck, Alegria, & Desai, 2000).

Language barriers and socioeconomic conditions are other important factors that put them at risk of poor QOL. Among the residents of El Paso, 72.2% of the population speaks a

language other than English at their home and only 29.68% of the population speaks only English (United States Census Bureau, 2018). Median household income is \$42,075 and 22.7% of the population is living under the poverty level compared to the entire state of Texas, where the median household income is \$54,727 and 14.7% of the population is living under the poverty line (United States Census Bureau, 2018). The overall educational level of the population in El Paso is lower compared to the Texas state. In El Paso, 76.5% of the population are high school graduates or higher, compared to the overall rate in Texas, which is 82.3%. The proportion of the population living without health insurance in El Paso (21.2%) compared to the rate in Texas (19.4%), and the (United States Census Bureau, 2018).

Chapter 3: Post Traumatic Stress Disorder (PTSD): Prevalence, risk, and related health disparities

Definition of PTSD

According to the National Center for PTSD, “Post-traumatic stress disorder (PTSD) is a mental health problem that some people develop after experiencing or witnessing a life-threatening event, like combat, a natural disaster, a car accident, or sexual assault.”

According to the Diagnostic and Statistical Manual-V (DSM-V) criteria, a diagnosis of PTSD must meet the following criteria:

“a) exposure to death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence, b) the traumatic event is persistently re-experienced, c) avoidance of trauma-related stimuli after the trauma, d) negative thoughts or feelings that began or worsened after the trauma, e) trauma-related arousal and reactivity that began or worsened after the trauma, f) symptoms last for more than 1 month, g) symptoms create distress or functional impairment (e.g., social, occupational), h) symptoms are not due to medication, substance use, or other illness.”

Prevalence of PTSD

According to the report of the National Institute of Mental Health (NIMH), the lifetime prevalence of PTSD is 6.8% among U.S. adults. The prevalence of past year PTSD was 3.6%, which was different for females (5.2%) and males (1.8%). There are also discrepancies about the prevalence of PTSD among Hispanics. According to national epidemiological studies conducted in the United States, the lifetime prevalence of PTSD differs slightly between Hispanics (4.4 –

7.0 percent) and non-Hispanics whites (6.5 – 7.4 percent) (Roberts, Gilman, Breslau, Breslau, & Koenen, 2011). A number of studies have revealed that Hispanics are more likely to have a higher prevalence of PTSD compared to other ethnic groups (Pole, Best, Metzler, & Marmar, 2005; Marshall, Schell, & Miles, 2009; Ehlers et al., 2016; Cox, Resnick, & Kilpatrick, 2014). Several studies have mentioned that the discrepancies in the rate of PTSD among Hispanics might be a result of reporting bias, either underreporting or over-reporting, and sometimes the results are not statistically significant (Roberts et al., 2011). Another reason for the higher prevalence of PTSD among Hispanics is lower service utilization for mental health problems by the Hispanic population. One study conducted on 6,359 Hispanic population found that higher level of Hispanic ethnic identity and higher Spanish language preferences predicted lower service utilization for mental health disorders (Keyes et al., 2012). Another study conducted among Hispanics showed that Hispanics have a lower tendency to seek care for mental health disorder. The possible reasons for lower care-seeking include having higher socio-cultural and structural impediments, limited access to public transportation, and their conservative view toward help-seeking for mental health disorder (Duke, Moore, & Ames, 2011).

Risk factors of PTSD in Hispanics

Understanding the risk factors of PTSD is important because PTSD can consequently (Duke, Moore, & Ames, 2011) lead to mental health problems, SUD, social disability, and poor QOL (Duke, Moore, & Ames, 2011; Ehlers et al., 2016). One of the risk factors of PTSD among Hispanics is acculturation stress. Acculturation stress is defined as “stress that emerges when an individual develops conflicts or problems associated with adjustment between immigrant culture and the culture of the host society” (Ehlers et al., 2016). One important finding from research involving first-generation Mexican immigrants is that the prevalence of psychiatric disorders

increases as time spent in the U.S. increases (Ehlers et al., 2016). A study conducted in San Diego County involving six hundred and fourteen young adults of Mexican American heritage reported that being a female, alcohol dependence, a higher level of acculturation stress, and lower level of education are associated with the development of PTSD (Ehlers et al., 2016).

Another possible explanation of higher PTSD among Hispanics is the higher prevalence of self-blame coping due to the cultural norms such as fatalism and religious beliefs (Cox et al., 2014). Intimate partner violence (IPV), as well as domestic and sexual abuse, are other risk factors for PTSD among Hispanics. IPV is defined as “physical, emotional, psychological, verbal, and/or sexual abuse between two individuals engaged in a current or previous romantic relationship” (Centers for Disease Control and Prevention, 2008). Cummings, Gonzalez-Guarda, and Sandoval (2013) found that the incidence of IPV is higher among Hispanics (14%) compared to non-Hispanic white couples (6%) after controlling socioeconomic status. Moreover, Hispanics compared to other ethnic group have a higher incidence of recurrence of IPV and suicidal ideation, and they are more vulnerable to the consequences of IPV (Cummings et al., 2013). The higher risk of IPV among Hispanics is associated with low income, less education, the experience of sexual abuse in childhood, urbanity, immigration issues, whereas social support and religiosity appear to be the protective factors of IPV (Klevens, 2007).

Substance use disorder (SUD) is another risk factor for PTSD. SUD, defined as a “maladaptive pattern of substance use leading to clinically significant impairment or distress within a twelve-month period” (American Psychiatric Association, 2000). Research suggests that substance use and PTSD can serve as a trigger for each other (Ehlers et al., 2016). SUD is a growing problem in Hispanics. The National Survey on Drug Use and Health (NSDUH) reported that the rate of substance dependence or abuse has risen from 7% in 2000 to 9.7% in 2010 among

Hispanics (Verissimo, Gee, Ford, & Iguchi, 2014). Substance use also serves as a contributing factor to IPV and altogether they increase the risk of PTSD (Cummings et al., 2013).

Part of the Hispanic population immigrates to the United States to escape poverty or political conflicts in their native country. Across the waves of immigration, the Hispanics have to face several challenges from anti-immigration policies which are stressful and sometimes traumatic, especially for the immigrants who are undocumented. One study conducted with younger adults to determine the traumatic experience associated with immigration revealed that approximately one fourth (24%) of the participants experienced traumatic events during their transit to the U.S. (Perreira & Ornelas, 2013). Another study showed that Hispanics have an increased risk for negative physical and mental health issues associated with increased acculturation stress, discrimination, and fear of deportation (Becerra, Androff, Cimino, Alex Wagaman, & Blanchard, 2013). These traumatic events related to immigration issues can contribute to PTSD among the study population, where the majority of individuals are of Mexican origin.

PTSD and Social Connectedness

Eighty percent of the individuals in the U.S. had experienced at least one traumatic event. However, only 10% develop PTSD (Vogt, Erbes, & Polusny, 2017). Research suggests that social context plays an important role to explain the reason for experiencing or not experiencing the symptoms of PTSD (Vogt et al., 2017). Several research articles suggested that social connectedness can mitigate the negative impact of PTSD (Schwartz & Shrira, 2018; Vogt et al., 2017; Wei, Wang, Heppner, & Du, 2012). Vogt et al. (2017) mentioned that perceived social support, social interaction, and depth and breadth of social network influence the consequences of PTSD. A cross-sectional study conducted with the data from the Israeli individuals who were

exposed to warfare trauma discovered that warfare exposure and related PTSD symptoms contribute to worse health. The individuals who had higher social connectedness and higher social support experienced faster recovery from worse health and vice versa (Schwartz & Shrira, 2018). Wei et al. (2012) found that social connectedness is significantly associated with less perceived stress, less perceived racial discrimination, and less posttraumatic stress symptoms.

PTSD and QOL

Several studies conducted on diverse populations demonstrated that there is a negative association between PTSD and self-reported or objectively assessed mental health-related QOL (MHQOL) even after controlling for depressive symptoms (Chopra et al., 2014; Richardson, Long, Pedlar, & Elhai, 2010). PTSD can severely impact on a person's psychological and occupational functioning, QOL, and overall well-being, which in turn, increases the burden on economics and health systems of a country (Pagotto et al., 2015). One study conducted in Brazil involving 65 adult PTSD patients demonstrated that the severity of PTSD symptoms is a strong predictor of worst health-related QOL (HRQOL), even after controlling demographic variables and presence of other psychiatric symptoms (Pagotto et al., 2015). A meta-analysis conducted in 2007 revealed that PTSD is associated with significant impairment in physical health, mental health, social functioning, occupational functioning, and home and family functioning compared to the control (Olatunji, Cisler, & Tolin, 2007). A study conducted using data of 34,653 individuals from the National Epidemiologic Survey of Alcohol and related conditions (NESARC) revealed that PTSD with comorbid social anxiety disorder is associated with lower levels of physical and mental QOL and with an increased rate of suicide attempts among the participants (McMillan, Asmundson, & Sareen, 2017). Another longitudinal study conducted with 1,185 older adults demonstrated that PTSD has an independent association with worst

mental health related QOL at multiple points of times, even after controlling other comorbid major depressive disorders (Chopra et al., 2014). A separate study conducted on 59 civilian volunteers revealed the same result, in that the severity of PTSD symptoms impacted negatively on the psychological and physical domains of QOL (Araujo et al., 2014). Another study conducted among the US service members using a Hierarchical Linear Regression model demonstrated that PTSD, depression, and PTSD comorbid with depression were the strongest predictors of lower long-term HRQOL (Woodruff, Galarneau, McCabe, Sack, & Clouser, 2018). There are several research articles available on the association between PTSD and QOL involving military personnel, adult individuals working as US service personnel, civilians (Richardson et al., 2010; Woodruff et al., 2018; Falloot & Heckman, 2005). However, there is a paucity of research on PTSD as a predictor of QOL among the Hispanic population, particularly in U.S.-MX border. As mentioned earlier, since the Hispanic population in the U.S.-MX border faces various challenges including acculturation, immigration issues, they are more likely to develop PTSD and thus experience a poorer QOL. Given these factors, data driven research in the field of QOL among Hispanics is particularly important to help practitioners developing programs and services to improve the QOL in these populations.

Chapter 4: Social Connectedness

Definition of Social Connectedness:

According to the Ministry of Social Development of New Zealand:

“Social connectedness refers to the relationships people have with others. Social connectedness also refers to people joining together to achieve shared goals which benefit each other and society as a whole – this may range from working together as part of a business and paid employment to contribute to their communities through voluntary groups.”

“Social connectedness is defined as the sense of belonging and subjective psychological bond that people feel in relation to individuals and groups of others.” (Haslam, Cruwys, Haslam, & Jetten, 2017)

Social connectedness is the prime source of social trust and bridging, interconnected social networks. The lack of social interconnectedness can contribute to unemployment, poor education, poor health, and low socioeconomic status. Currently, for the past 25 years, Hispanics lack the interconnected social networks as they struggle with different adversity such as language barriers, acculturation, and income challenges (Bolton, 2014).

Definition of Social support:

“Social support is typically derived from social relationships and is broadly defined as the care that is either provided or perceived to be readily available in times of need. These are all interrelated concepts.” (Haslam et al., 2017).

Social connectedness and social support are terms used interchangeably. These are important social constructs and have a positive influence on psychiatric symptoms and it

positively impacts HRQOL (Strine, Chapman, Balluz, & Mokdad, 2008). There is evidence from previous studies that social support reduces the risk of mental and physical illness and it also affects the person's coping skill with adverse events and adherence to screening of health issues and medical treatment (Strine et al., 2008; Achat et al., 1998; Hale, Hannum, & Espelage, 2005). Lack of social support and social connectedness increases the risk of depressive symptoms (Fiori, Antonucci, & Cortina, 2006) and adversely affect mental and physical health (Cornwell & Waite, 2009) and in turn affect the QOL (Kim & Fredriksen-Goldsen, 2017).

Modalities of Social Connectedness among the residents of El Paso, TX

Social connectedness plays an important role in the overall health of a community. Though social connectedness plays an important role in Hispanic health, the modalities of social support network used by the Hispanic population living in the US-MX border is not uniform. Various modalities of social support group exist in a community: friends and family related support group, religious support group, voluntary self-help group, neighborhood support group, Promotora model related support group, and others.

Study supports that people with better family support have better mental and physical health (Mulvaney-Day, Alegría, & Sribney, 2007). On the other hand, family conflict is associated with increased emotional distress and other health risk behavior (McQueen, Getz, & Bray, 2003). Studies have found that supports from friends may have a more significant impact on mental and physical health for Hispanics compared to family support (Kawachi & Berkman, 2000; Rodriguez, Mira, Myers, Morris, & Cardoza, 2003). On the other hand, social connectedness with friends might have many negative impacts on mental health in some low-income rural communities. Increased mental health problem was found among the population who are living with a higher level of social network density and it is particularly true in

communities with higher rates of crime and lower level of socioeconomic status (Wakefield & Poland, 2005).

Neighborhood support system is another source of social connectedness in a community. Living in a neighborhood with a higher level of trust has many beneficial effects on health. Alternatively, living in a community with low trust or lack of trust may miss an important source of social support (Hendryx & Ahern, 2001).

Attending the religious/faith-related self-help group is another source of social connectedness in a community. A recent study conducted on Mexican communities found that there is a significant negative relationship between the prevalence of rate of depressive disorder, other psychiatric disorder, as well as substance abuse disorder and attending a religious support group (Moreno & Cardemil, 2018).

Community health workers, also known as Promotoras who provide health education to primarily Hispanic or Latino communities, are an example of the support system available in US-MX border. (Strine et al., 2008). Alcoholic Anonymous, Narcotic anonymous, Secular organization for sobriety, and Women for sobriety are also examples of a voluntary self-help group that serves as a source of social connectedness among the population in US-MX border.

Social Connectedness and QOL

Several studies have revealed that there is a linear relationship between social connectedness and QOL. (Strine et al., 2008; Helgeson, 2003; Mulvaney-Day et al., 2007). The stress buffering hypothesis states that social support or social connectedness buffers the state of QOL based on the presence or absence of stress. When a person has little or no stress, social support has no relation to QOL. However, when an individual is under high stress, social support

serves as a buffer against the stressor (Helgeson, 2003). A study conducted in China among HIV patients revealed that perceived social support is associated with less depressive symptoms, less stigma about HIV and better QOL. (Rao et al., 2012). The same study recommended targeting social support as an intervention to reduce the impact of stigma and improve the overall QOL. Another study conducted in 1930 cancer patients in Korea, revealed that low perceived social support is associated with a higher level of depression and a lower QOL (Eom et al., 2013). The same study also mentioned that social support impacts QOL through its direct effect rather than by its stress buffering effects. A meta-analysis result showed that socio-ecological factors, such as life stress and social support, and psychological factors such as emotional wellbeing, are significant predictors of health-related QOL (Kagawa-Singer, Padilla, & Ashing-Giwa, 2010). Social connectedness is proved to be a protective factor in other fields of research. A cross-sectional study conducted on 1617 Wenchuan earthquake survivors, revealed that individuals with stronger social support were more likely to have a better QOL (Ke, Liu, & Li, 2010).

Chapter 5: Quality of Life and related disparities

Definition of Quality of life (QOL)

According to the Center for Disease Control and Prevention (CDC), they discovered that:

Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life. What makes it challenging to measure is that, although the term “quality of life” has meaning for nearly everyone and every academic discipline, individuals and groups can define it differently. Although health is one of the important domains of overall quality of life, there are other domains as well—for instance, jobs, housing, schools, and neighborhoods. Aspects of culture, values, and spirituality are also key domains of overall quality of life that add to the complexity of its measurement. Nevertheless, researchers have developed useful techniques that have helped to conceptualize and measure these multiple domains and how they relate to each other.

World Health Organization (WHO) defines QOL as

“an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment”

Disparities in QOL

The health status of Hispanics living on the U.S.-MX border is different from the health status of Hispanics living in other parts of the United States (Anders et al., 2010). Hispanics in

this area have unequal access to health care compared to other Hispanics as well as non-Hispanic whites. Approximately 50% of the Hispanics live in poverty and 30% of the Hispanics do not have health insurance (Anders et al., 2010). According to the report of the National Center for Chronic Disease Prevention & Health Promotion (NCCD), self-reported health status is poor among Hispanics compared to Anglo-Americans (“CDC - 2016 BRFSS Survey Data and Documentation,” 2017). Disparities in health and QOL are prominent among the Hispanics living in US-MX border. Minority populations living on the U.S.-MX border face disparities in life expectancy, health-related quality of life (HRQOL), and economic opportunities (Strine et al., 2008). Literature shows that there are disparities in QOL among Hispanics and non-Hispanics. The mental health-related quality of life (MHQOL) is significantly lower among Hispanics compared to non-Hispanic whites (Kim & Fredriksen-Goldsen, 2017).

Quality of Life among women in El Paso

The high-risk women for HIV and SUD living in El Paso experience a considerable amount of stresses and challenges, which greatly affects their QOL and leads to mental health problems (Lee, Nezu, & Nezu, 2014; Sherr, Clucas, Harding, Sibley, & Catalan, 2011). The prevalence of substance abuse and domestic violence is higher in El Paso, which further contributes to poor QOL. (Klevens, 2007). A study conducted in a colonia in El Paso (“Colonias consist of peri-urban subdivisions of substandard housing lacking in basic services such as potable water, electricity, paved roads, proper drainage, and waste management.”) demonstrated that the prevalence of binge drinking among Hispanics living in this area is high and higher prevalence of binge drinking further decreases the QOL (Anders et al., 2010). The most commonly used drugs among Hispanics living in the U.S.- MX border are alcohol, cocaine, heroin, marijuana, and inhalants (Austin & Gilbert, 1989). A large national study of cohabitating

couples reported that after controlling socio-economic status, 14% of Hispanic couples had experienced intimate partner violence (IPV) compared to 6% of non-Hispanic white couples. The rate of recurrence of IPV is highest among Hispanics couples (58%) compared to non-Hispanic black (52%) and white (37%) (Cummings et al., 2013). Unlike substance abuse, physical and sexual abuse negatively affects the QOL (Gielen, McDonnell, Wu, O'campo, & Faden, 2001).

A randomized control trial conducted in El Paso, has demonstrated the prevalence of depressive symptoms (sadness, poor concentration, psychomotor retardation, suicidal ideation) is higher among the individuals living with HIV/AIDS and these depressive symptoms are contributing to QOL (Simoni et al., 2013).

Several studies were conducted to find out the factors that contribute to the improved QOL among Hispanics. One study that was conducted included adults living with HIV and showed that social capital and social belongings are positively associated with a satisfactory QOL ($p < .001$) (Webel, Sattar, Schreiner, & Phillips, 2016). Social belonging was measured using a scale of perceived social isolation and perceived emotional loneliness and social capital scale included participation in the local community, social agency, neighborhood connection, friends and family connections, tolerance of diversity, feelings of trust and safety, and workplace connectedness (Webel et al., 2016). Moreover, social capital is particularly important in preventing substance abuse, particularly in the low-income Hispanic population and thus helps to improve their QOL. (Warner et al., 2006)

Factors associated with QOL

A previous study on the QOL among the Hispanic population living in the *colonias* of U.S.- MX border found that poor education, length of time living in colonia, co-morbidity status, and perceived problems with access to healthcare are the associated factors of QOL among them

(Strine et al., 2008). Another study conducted in Washington D.C. involving the Hispanic Lesbian, gay, and bisexual (LGB) adults showed that lack of social connectedness is significantly associated with depressive symptoms and poor mental and physical health-related QOL (Kim & Fredriksen-Goldsen, 2017).

Although the QOL among the Hispanics living in the US- MX border is significantly lower, studies assessing the QOL of life among them is scarce (Strine et al., 2008). Understanding the predictor factor of QOL among high-risk Hispanic women for HIV and SUD living in U.S.- MX border is important because it will provide the opportunities for health care professionals to track and improve the health of this vulnerable population by providing better preventive and medical services. The proposed predictors of QOL among the target population include demographics variables, PTSD symptoms, and social connectedness. The proposed study aims to clarify and extend preliminary research in this area through the use of epidemiological research methods to assess the impact of PTSD and social connectedness on QOL among high-risk women for HIV and SUD living in U.S.- MX Border.

Chapter 6: Goals and objectives

Goal

To explore the factors affecting the Quality of Life (QOL) among high-risk women for HIV and SUD living in the US- MX Border and if PTSD and social connectedness affect the QOL among them.

Objectives

- To find out the prevalence of PTSD among the women participating in the MSFF.
- To examine if PTSD and social connectedness affect QOL among the women participating in the MSFF.
- To examine if there is any relationship between PTSD, social connectedness, and QOL, the result of this experiment will provide information for the future development of appropriate interventions to improve QOL.
- To explore the nature of social support networks among the women participating in the MSFF.

Chapter 7: Research Questions and hypothesis

Research question 1: What is the relationship between PTSD and QOL among the women in the study population?

Hypothesis 1: There is a negative relationship between PTSD and QOL among the women in the study population.

Research question 2: What is the relationship between social connectedness and QOL among the women in the study population?

Hypothesis 2: There is a positive relationship between social connectedness and QOL among the women in the study population.

Research question 3: What amount of variance in QOL is predicted by social connectedness, above and beyond demographics covariates and PTSD symptoms among the women in the study population?

Hypothesis 3: Above and beyond demographic covariates and PTSD symptoms, social connectedness adds to the prediction of QOL among the women in the study population.

Chapter 8: Methods and Materials

IRB approval and ethics statement

This study is a secondary data analysis study. The parent study was approved on May 2, 2017, by the University of Texas at El Paso Institutional Review Board (IRB). The IRB reference number was 1040899-1 under study title “Targeted Substance Abuse Disorder (SUD) Treatment Capacity Expansion for Minority (Latina and Native American) women at high risk for HIV/AIDS in vulnerable U.S.- MX Border Communities.” For the current secondary analysis of data from the parent study, I applied for exemption from the UTEP IRB board using the “Secondary Use of Pre-existing Data” form. The request for exemption was approved on February 25, 2019, under study titled “Exploring the association between post-traumatic stress disorder and social connectedness with QOL among high-risk women for HIV and SUD living in the U.S.- MX border: a mixed methods approach” and IRB reference no 1397625-1.

Parent study

“Mujer Saludable, Familia Feliz (MSFF)”/ “Healthy Women, Happy Family” program is the parent study which was funded by Substance Abuse and Mental Health Services Administration (SAMHSA) (Grant number 1H79TIO80065). This program provides services to the low-income priority communities who are at risk of substance use disorder (SUD), mental disorders, trauma, and who are at high risk of HIV and Hepatitis C. The goal of the program is to expand the treatment capacity for substance abuse disorder in relation to HIV prevention by establishing and implementing screening, testing, and follow-up protocol. To keep track of the progress of the clients and to measure the success of the program, a GPRA (Government Performance and Result Act) measurement survey was administered on the clients who received services for SUD, Co-occurring mental disorder (COD), and/or trauma from the program. The

survey was administered on the participants at three specific points of time: intake, follow up and discharge. The baseline survey was administered when a participant met the eligibility criteria and getting services for SUD, COD, and/or trauma provided by the program or its partnering organization. The follow-up survey is administered 6 months after the baseline survey to measure the participants' progress (or decline). The discharge data is collected when a participant has received all the required services from the program and are no longer in need of services. The research study analyzed the data collected through MSFF. For this research study, only data from the baseline survey were analyzed.

Study Participants

The study population includes high-risk women for HIV and SUD living in El Paso County. The study participants include the high-risk women for HIV and SUD who attend the support services provided by the MSFF program or its partnering organization. In this current study, secondary data were used from the participants of the MSFF program who completed the GPRA intake.

Inclusion Criteria: Study participants should be women; age 18 years and older; residents of El Paso County; living in the US- MX border (El Paso, TX) and living in the priority communities including Clint, Fabens, San Elizario, and Socorro.

Sample size

For the current research study, a priory power analysis was conducted using G*Power Software (Faul, Erdfelder, Buchner, & Lang, 2009a; Faul, Erdfelder, Buchner, & Lang, 2009b) to find out the minimum number of the sample size. Power was set at .95, with an alpha level of .05 for 7 predictors including demographic variables, PC-PTSD variables, and social

connectedness variables. One hundred and fifty-three participants were found to be required for medium effect size. ($f^2 = .15$; Cohen, 1988).

For the quantitative part of the study, 203 women completed the GPRA intake after receiving services from the program.

For the qualitative part of the study, four focus groups were conducted. Two “Bystander Intervention” focus groups and two “Sexual Assault Support Group (SASG)” focus groups. The total number of participants in Bystander Intervention focus group was 16 women and in SASG focus group were 10 women. The participants of the focus group completed the GPRA intake survey and data were included in the qualitative study.

Study Instrument

The tool used to collect data for the parent study was the Government Performance Results Act (GPRA) surveys. The GPRA survey was a face to face interview that is designed to be administered by trained staff. The collection of information required an average of 30 minutes to complete. In the parent study, GPRA survey was administered at three points of time, intake follow-up, and discharge. The GPRA collects data on seven different domains which include demographics; drug and alcohol use; family and living conditions; education, employment, and income; crime and criminal justice status; mental and physical health problems and treatment/recovery which includes violence and trauma; and social connectedness. All questions pertained to the 30-days period that preceded the GPRA interview (Roque & Lurigio, 2009). The following four measures were used for the current study:

Measures

Demographic Characteristics

Data were collected on age, ethnicity, education, employment, and income as part of the study demographics.

PC-PTSD Screen

PTSD symptoms were measured by using Primary Care PTSD (PC-PTSD; Prins et al.,) scale. At first, the participants were asked: “if they had experienced any violence or trauma”. If the answer was no, they were assigned “0” points assuming that they had no PTSD symptoms. On the other hand, the participants who answered “yes” to the above questions were asked an additional 4 questions to screen for PTSD. The additional questions were: have had nightmares about it or thought about it when you did not want to; tried hard not to think about it or went out of your way to avoid situations that remind you of it; were constantly on guard, watchful, or easily startled; felt numb and detached from others, activities, or your surroundings. Each of the questions had two possible answers “yes” or “no”. Each positive answer was assigned 1 point and a negative answer was assigned 0 points and the highest possible points were 4. The cutoff points to diagnose PTSD among women were 3 and the sensitivity and specificity of the scale was 70% and 84% respectively and the efficiency was 51% (Cameron & Gusman, 2003). The reported internal consistency (Cronbach’s alpha) of this screening tool is 0.80 (Cameron & Gusman, 2003). For this study, PTSD score was used as a continuous variable.

Social Connectedness

The intent of this variable was to measure the participant’s use of social support (nonprofessional, peer-oriented self-help groups, religious services) to assist in their recovery. The questions that were asked to the participants to measure their social connectedness included: if they attended any voluntary self-help groups for recovery that were not affiliated with a religious or faith-based organization; if they attended any religious/faith-affiliated recovery self-

help groups; if they attended meetings of organizations that support recovery other than the organizations described above; if they had interaction with family and/or friends that are supportive of your recovery. The response to the questions included: “Yes” and “No. Each question was assigned 1 point with the highest scores possible was 4. The participants with higher score had a higher social connectedness.

Quality of Life

The QOL among the participants was measured using the “EUROHIS-QOL 8-item index” instrument (Schmidt, Mühlan, & Power, 2005). The EUROHIS-QOL was developed as an adaptation of the WHOQOL-100 and the WHOQOL-BREF to measure QOL. The overall QOL score was calculated by simply summing each item of the index and the higher score indicates a better QOL. The questions included: How would you rate your QOL; How satisfied are you with your health; Do you have enough energy for everyday life; How satisfied are you with your ability to perform your daily activities; How satisfied are you with yourself; How satisfied are you with your personal relationships; Have you enough money to meet your needs; How satisfied are you with the conditions of your living place. All responses were collected on a 5-point response format on a Likert scale, ranging from ‘not at all’ to ‘completely’. Total score could range from 8 to 40 with higher scores indicating higher levels of QOL. The reported Cronbach alpha values range from .73 to .80 (Power, 2003).

Following research framework illustrates that demographic variables, PTSD, and social connectedness will predict QOL.

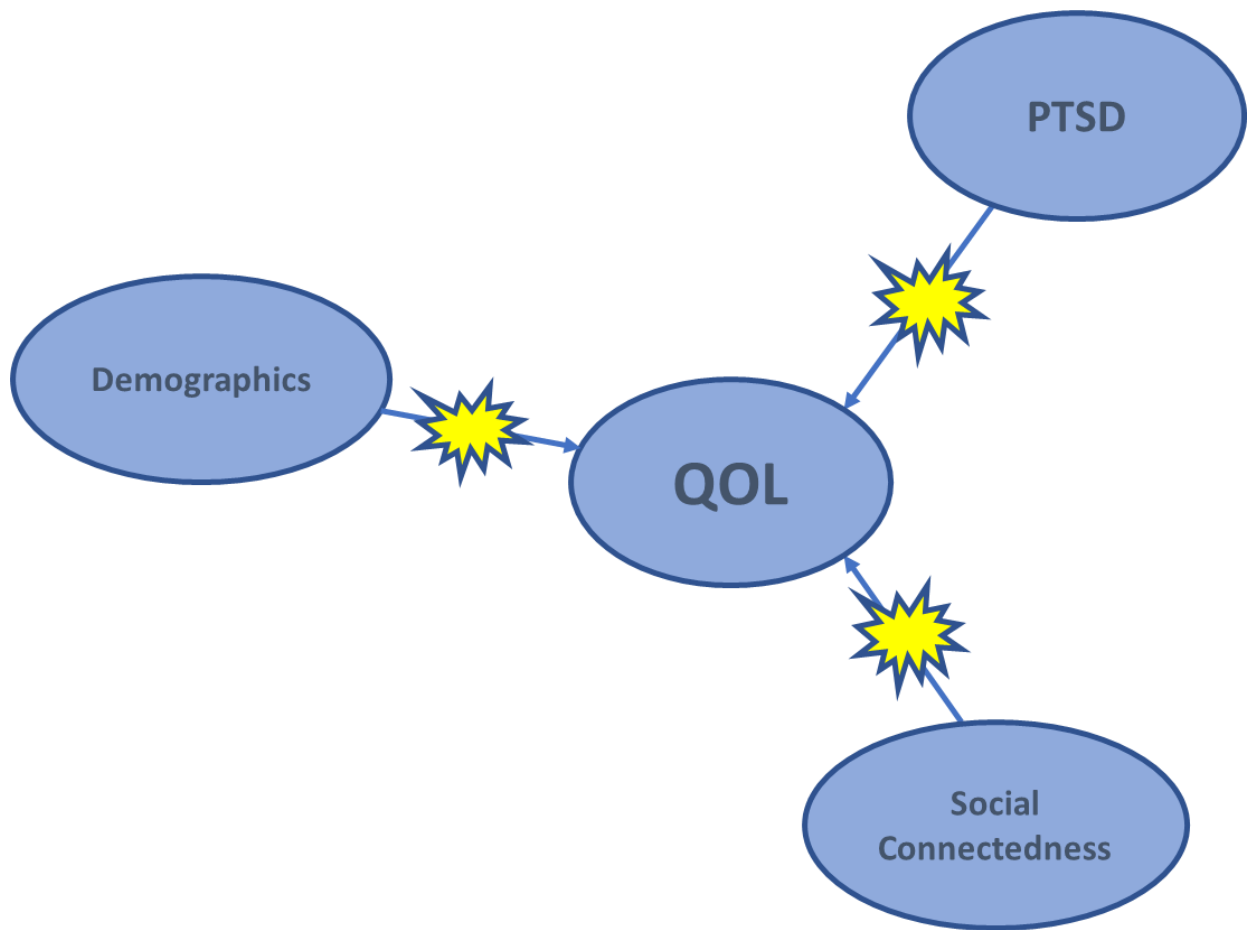


Figure 1: Research Framework

Study design

A mixed-methods design (i.e., quantitative and qualitative component) was used for the current study. The quantitative component includes results from the GPRA survey which is a cross-sectional study. GPRA survey included questions to measure the participants' demographics, their PTSD symptoms, social connectedness, and their self-reported QOL. The qualitative component includes findings from the focus groups to measure the QOL among the high-risk women for HIV and SUD, which leads to PTSD among them and their available social

support network. The qualitative component will serve to triangulate the findings of the quantitative component (McKim, 2017). The reason for choosing a mixed methodology or triangulation is that mixed methods research combines the strengths of each methodology and minimizes the weaknesses (McKim, 2017; Morse, 2016; Jick, 1979). The weakness of quantitative research is that it lacks the participants' voices and interpretation and at the same time the weakness of qualitative research is that it lacks objectivity and generalizability (McKim, 2017). Moreover, triangulation allows the researchers to be more confident about the study result (Jick, 1979).

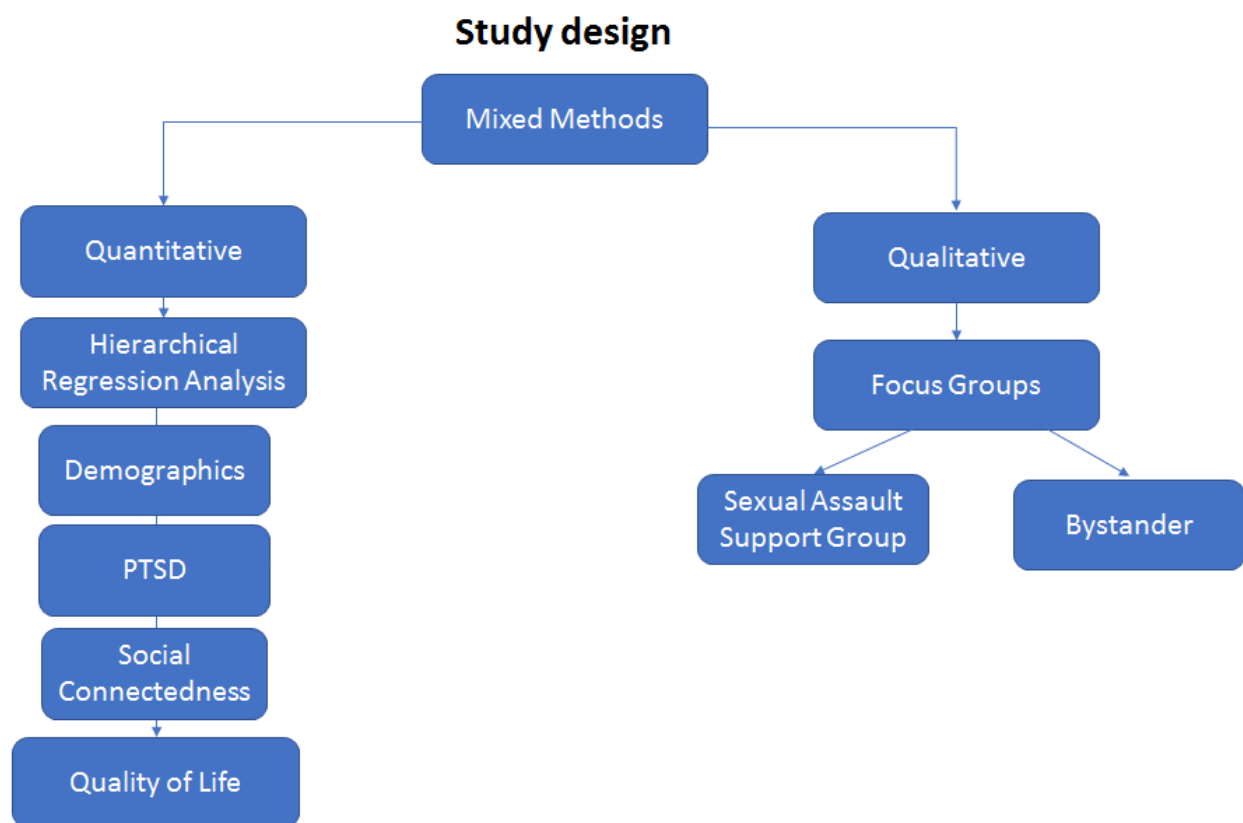


Figure 2: Study Design

Theoretical Framework

This study was guided by the Social Ecological Model. The Social Ecological Model (SEM) is a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviors, and for identifying behavioral and organizational leverage points and intermediaries for health promotion within organizations (UNICEF, 2009). There are five hierarchical levels of the social-ecological model which include individual, interpersonal, institutional, community, and society. The overall QOL is an interplay between the individual, interpersonal, community, and societal factors. The social ecological model will help to understand how a range of factors can affect QOL. The overlapping nature of this model illustrates how one factor can influence the other factor. The individual factors encompass the demographic factors. Improving the overall QOL in this level includes empowerment of the individuals through higher education, increasing income of the participants, and increasing the rate of employment. The interpersonal level includes PTSD and an individual can develop PTSD when he/she experience any violence or trauma. Approaches to improve QOL in this level includes providing support from a different aspect of the community and societal level. The institutional level includes support from organizational support group, religious self-help group, and voluntary self-help groups and community level includes overall social connectedness. Intervention in these levels includes educating the family members, religious institutions, and voluntary support groups so that they can provide evidence-based support to the high-risk women whenever needed by the participants.

Theoretical Framework

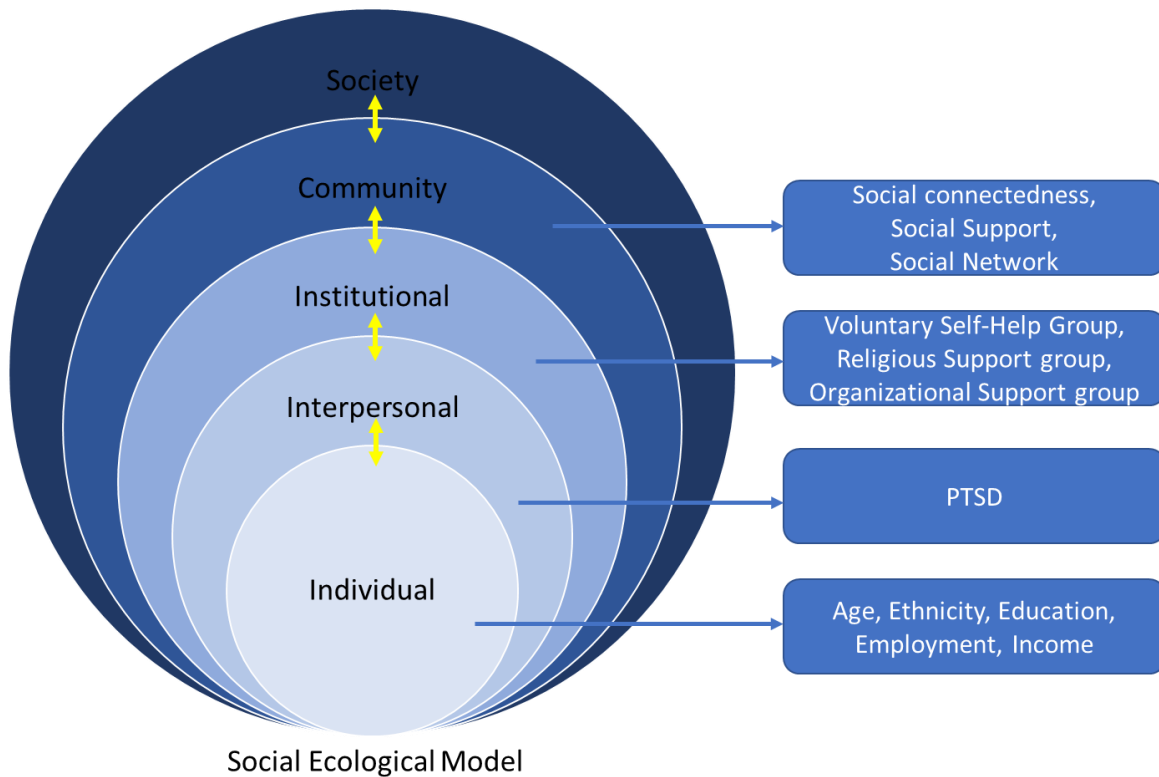


Figure 3: Theoretical Framework

Procedures for Data Collection

In the parent study, all the data were collected through individual interviews conducted by a trained data collector using the GPRA client outcome survey. Written informed consent was taken from each participant. The consent form and the whole survey was available in both languages: English and Spanish. The interview was conducted in either language based on participants' convenience. The participant privacy and confidentiality were highly maintained in the study. No personal identifiers were collected in the survey. All the participants were informed that the participation was voluntary and they would stop participating in the survey at any point in time. Each survey was collected as a one-on-one interview with a trained data

collector. Each participant received a \$10 incentive at their intake/baseline survey to compensate for their time and transportation.

For the qualitative part of the study, data from four focus groups conducted for the MSFF program were analyzed. A semi-structured open-ended focus group guide was used to probe for factors shaping risk for SUD, HIV and mental illness, knowledge, and skills gained and, program performance.

Data Analyses

For quantitative data analysis, the Statistical Package for Social Sciences (SPSS) 25.0 software was used to code, clean, and analyze data. Data were analyzed using descriptive statistics for the demographic variables, Pearson correlational analysis, and hierarchical regression analysis. Descriptive statistics were computed for all the demographic variables.

Among the five demographic variables age, education, and income was used as continuous variables. Ethnicity (1 = Hispanic) and employment (1 = employed) were used as categorical variables. Employment was recoded to create two groups from various different groups. For the continuous variables mean (SD) was reported whereas for the categorical variable frequency (percentage) was reported.

For the QOL variables, five of the variables were reverse coded for the uniformity of data. Those were satisfaction with living space, satisfaction with health, satisfaction with the ability to perform daily activities, satisfaction with themselves, and satisfaction with personal relationships. Data were reverse coded in a way so that a higher QOL score can be considered as good QOL. After coding and reverse coding the variables, a total score was calculated. A mean (SD) was calculated from the total score. QOL total score was the dependent variable for the entire hierarchical regression analysis.

PC-PTSD and social connectedness total score were independent variables for the hierarchical regression analysis.

Pearson correlational analysis was used to examine the research question 1 and 2. Hierarchical regression analysis was used to examine the research question 3. Hierarchical regression refers to the process of adding or removing predictor variables from the regression model in steps. For the current study, to find out the predictive variables of QOL, demographic variables were entered in the first step. In the next step, the PTSD variables were entered and finally, the social connectedness variables were entered. This enabled us to see the predictive power that social connectedness adds to the QOL above and beyond the demographic variables and PTSD factors.

Table 1: Hierarchical regression model level

Step	Category	Variable
	Criterion	Quality of Life
Step 1	Predictor	Demographics <ul style="list-style-type: none"> • Age • Ethnicity • Education • Employment • Income
Step 2	Predictor	PTSD score
Step 3	Predictor	Social Connectedness Total Score

For qualitative data analysis, data from the focus groups already transcribed, translated, and coded for the parent study were examined for themes related to study hypotheses. Emergent themes gleaned by the investigators from the parent study were used as a foundation for the analysis. For the secondary data analysis, the transcripts and themes were examined to identify categories and subcategories relevant to the variables analyzed and the study hypotheses in order to help explain the results. Qualitative data revealed multiple themes related to risk and program

outcomes. However, only two categories were examined for the purpose of this research: QOL and social connectedness.

Chapter 9: Results

Descriptive Statistics

The mean age of the participants was 31.2 (SD = 10.06) years, ranging from 18 years to 71 years. Majority of the participants (180 out of 203 or 88.7%) identified themselves as Hispanic, whereas only 11.3% of the participants identified themselves as non-Hispanic. On average 12 (SD = 2.6) years of education was completed by the participants. More than half of the participants (57.6%) had an educational level lesser than or up to high school level and 42.4% of the participants had a more than high school degree. A larger portion of the participants (66%) were unemployed. The average income was \$809.45 (SD = 754.3) among the participants and surprisingly, most of them 96.6% had monthly income at or below the mean income.

Among the 203 participants, the mean (SD) QOL among the participants were 28.90 (5.54) (total score =40). Thirty-nine percent (n = 124) of the participants had a QOL score below the mean, whereas 61% (n = 79) of the participants had a QOL score above the mean. Ninety-two (45%) participants had PTSD which means they scored ≥ 3 in the PC-PTSD scale, whereas 111 (55%) participants had no PTSD. Sixty-four percent (n = 130) of the participants did not attend any voluntary self-help groups, 79% of the participants did not attend any religious self-help groups. Most of the participants' preferred to have interaction with friends and family for their recovery. Among the 203 participants, 84% (n = 171) of the participants turn back to their friends and family when they have any problems. Table 1 represents the descriptive statistics.

Table 2: Quantitative Research Participants' Demographic Characteristics

Variable	n (%)	Mean (SD)
Age		31.20 (10.06)
Ethnicity <ul style="list-style-type: none"> Hispanic Non-Hispanic 	180 (88.7%) 23 (11.3%)	
Education		12 (2.60)
Employment <ul style="list-style-type: none"> Employed Unemployed 	69 (34%) 134 (66%)	
Income		809.45 (754.30)

Correlation Analysis

Table 3: Pearson's Correlational Analysis

		PTSD Score	Social Connectedness Score
QOL	Coefficient	-.311	-.105
	p- value	.000	.139

Pearson correlational analysis shows that there is a significant negative correlation between PTSD and QOL; however, there is no significant correlation between social connectedness and QOL.

Hierarchical Regression Analysis

A hierarchical regression analysis was used to examine the third research question which included QOL as a criterion variable and three sets of predictor variables were entered into the equation sequentially. A priori specifications for the order of entry for the sets in hierarchical regression analysis were (a) demographic variables (i.e., age, ethnicity, education, employment, income); (b) PC-PTSD total score; and (c) social connectedness (attending voluntary self-help group, attending religious group, attending any other organizations, interaction with family and

friends). The results including R^2 , ΔR^2 , the unstandardized regression coefficients (B), and standardized coefficients (β) for all predictor variables at each step and within the final model are presented in the following Table 3.

Table 4: Hierarchical Regression Analysis for Predictors of QOL (N=201)

Variable	Step 1	Age	Ethnicity ^a	Education	Income	Employment ^a	Step 2	PTSD score	Step 3	Social connectedness score
R²	.073**						.180**		.179	
ΔR²	.073**						.106**		.000	
F	3.093*						7.075**		.015	
B		-.045	.117	.056	.002	-.036		-1.102		.042
SE B		.038	1.210	.152	.001	.914		.220		.339
β		-.082	.007	.026	.250**	-.003		-.338**		.009
B		-.056	-1.299	.122	.002	-.168		-1.102		.042
SE B		.036	1.176	.144	.001	.863		.226		.339
B		-.102	-.075	.057	.248**	-.014		-.337**		.009
		At Entry into Model 1				Final Model 1				

Note. PTSD = Post-Traumatic Stress Disorder

^a Employment (1 = Employed), Ethnicity (1 = Hispanic),

* $p < .05$; ** $p < .01$; *** $p < .001$

At the first step of hierarchical regression analysis in predicting QOL, the set of demographic covariates was entered. This set of predictors accounted for a significant amount of variance in QOL, $R = .271$, $R^2 = .073$, $\Delta F = 3.093$, $p < .01$. Examination of the standardized partial regression coefficient indicated that the total income of the participants, $B = .002$ $t = 3.293$, $p < .001$, significantly contributed to explaining the variance in QOL.

PC-PTSD total score was entered in the second step of the regression analysis. The addition of this variable accounted for a significant amount of the variance in QOL that was not explained by demographic variables, $R = .424$, $R^2 = .180$, $\Delta R^2 = .106$, $\Delta F = 25.007$, $p < .001$. The large ΔR^2 indicated that the PC-PTSD score accounted for a significant amount of the variance above and beyond that explained by demographic variables. Examination of the standardized partial regression coefficient indicated that PTSD, $B = -1.102$ $t = -5.008$, $p < .001$, significantly contributed to explaining the variance in QOL.

Finally, Social connectedness total score was entered into the final step of the regression analysis. The addition of social connectedness variables did not account for significant amount of additional variance in QOL, $R = .423$, $R^2 = .179$, $\Delta R^2 = .000$, $\Delta F = .015$, $p = .902$. As social connectedness total score did not predict the QOL significantly, a different hierarchical regression was conducted to explore if individual social connectedness variable predicts the QOL among the sample population.

The 1st step in the regression model accounted for 7.3% variance, the 2nd step accounted for additional 18% variance and the 3rd step accounted for additional 18% variance when social connectedness total score was entered. Income and PTSD score was significantly related to QOL. Among the demographic variables, Income is positively related to QOL. PTSD score is negatively related to QOL.

Qualitative Research Result:

Quality of life:

To get an idea of what does QOL mean to the participants, they were asked “Definition of QOL/What things should be there in someone’s life to say that, the quality in their life is there? The answer to this question was inconsistent where most of the participants included good health. The other components of QOL mentioned by the participants are safety, happiness, support, love, trust, ability to share with friends and family, motivation, strength, kids, stability, comfortability, and happiness. Following are some of the responses from the participants:

- *“good health, free of pain, no medication”*
- *“safety, happiness, support, and love”*
- *“Trust”*
- *“Being able to open up”*
- *“My motivation, my strength, my kids”*
- *“With the quality of life, you will think of stability, comfortableness, and happiness.”*

QOL was measured by a survey in the quantitative study. However, to get an idea about the qualitative measure of QOL among the participants, they were asked to grade their overall QOL on a scale of 0 to 5 where 0 being poor and 5 being amazing. Among the 26 participants in the focus group, 18 were asked about QOL and 14 participants answered this question, 79% (n = 11) of the participants reported that their QOL is awesome or good. They were also asked, “If someone says my QOL is good, what does it mean?” Some of them answered that the QOL good means, they are healthy and they don’t have diseases. Few responses are given below:

- *“When they say they are good they don’t have anything major like any illnesses, they have likely no problems and they are financially healthy. Overall, they are doing okay”*
- *“I want to say the same thing about the overall quality of life; they are doing okay education wise, access to healthcare, financial assistance and things like that”*
- *“If I hear that I would assume they don’t have any major health issue. I am talking about diabetes and things like that”*

Two of the participants’ answered differently mentioning that sometimes participants do not express their actual condition and try to hide from the person asking the question. One of the participants mentioned that the reason behind this is they can avoid several follow-up questions if they mention that their QOL is not good. One of another participant mentioned that revealing about their personal issue to someone depends on the type of relationship between those two persons. Most of the time they do not have an open relationship with the person asking the question to share all of the life events. Following are a few responses from the participants:

- *“I am trying to say that they are trying to cover their actual feelings ”*
- *“It’s typically a lie.”*

PTSD:

Three of the participants brought the issue of PTSD and they mentioned that they had PTSD because of sexual assault and childhood experience of violence. Responses from the participants were:

- *“It (Sexual assault) can give you PTSD.”*
- *“at the end of the day I have PTSD for that (childhood violence experiene) and I am afraid of going to Walmart or any other supershop....”*

- *“When I was little I probably had PTSD because I was beaten like black and blue and I really needed a medical attention”*

Social Connectedness

The focus groups were conducted among the participants who attended either the sexual assault support group class or in the engaged bystander intervention class. So, the participants were asked about their support system in relation to domestic or sexual violence. To assess the extent of family support, they were asked what type of support you get when you are in a difficult situation? There were mixed responses from the participants. One of the participants mentioned that their friends and family played a prominent role to help the participants get over the difficult situation whereas another participant answered that sometimes they had to continue the abusive relationships because of lack of support from peers, friends, and family and few of them responded that they don't involve their family members in difficult situations. Few participants also mentioned that when they share anything difficult to their family, their family advises them to negotiate with their partner for the wellbeing of their kids.

- *“I do not want to get my brothers or father involved in this matter.”*
- *“My family helped me a lot to get over my situation”*
- *“I will continue to be in the relationship. Because of a lack of support from positive peers such as other women, friends, and family.”*
- *“I am the only girl in the family, I have 2 older brothers and I could not talk to anybody. When my parents were divorced, they were on their own. I didn't have someone to talk about, so I keep it to myself.”*

- *“I did talk to my mom but it was pretty much "okay it was all right”. Now at days I am like really that’s all you did.”*
- *“When I was younger 7, 9, I told my mom about non-family member and what had happened, she was like "okay I will talk to their partners" but nothing was done.”*

To assess the extent of support from a religious support group for the participants, they were asked if they get any support from the religious group when they share their difficult situation from them. One of the participants responded that she never talks to church for this type of issues. Another participant added that the church offers the best resources in this situation however, churches need to have more education to properly approach and address these issues. One of the participants commented that Catholic churches handle these issues in a different way. Catholic churches do not support divorce, so they will counsel the participants to overcome the situation and continue with the relationships.

- *“I am a church going person but I would not talk to the church about it, just me personally.*
- *“I am Catholic and you know Catholics do not believe in divorce and all of that so they will try for you to fix it I think if you are in marriage try going to counseling probably, they will offer counseling is just another way to go around it.”*
- *“I just think churches just need more education. I think you can find the best resources in churches. I think your spirituality is the most important thing. I think just the people in the leadership that are helping women going through this need just a little more education on how to approach this.”*

Finally, the participants were asked what type of services they need when they are in a difficult situation and where do they get it? All the participants talked about the support they get

from organization X (service organization), a local support group which provides services for substance abuse, domestic violence. They acknowledged that organization X (service organization) not only provide them mental support they also provide housing, shelters, medical services, as well as legal services. They admitted that organization X (service organization), empowered them to be vocal about their problems and organization X (service organization), provided a platform where they can share about their difficult situations and get support from everyone.

- *“But organization X (service organization), had opened my eyes, people here talk about this type of stuff. Of course, it is painful to talk about it but does open your eyes.”*
- *“They even have housing, shelters, medical services and law, they have legal help”*
- *“They also have legal services. Like for sexual assault”*
- *“Organization X (service organization)*
- *made me empowered to say "what happen to me that wasn't right"”*

Triangulation of results:

When the results from both components of the study were examined and compared to explore the QOL among the participants and association of social connectedness/support with QOL among the high-risk women for HIV and SUD living in the U.S.- MX border, the results from qualitative focus groups shed lights on quantitative findings. Quantitative result found that 61% of the participants had a QOL score above the mean. The qualitative result confirms the finding from a quantitative result. Qualitative result found that 79% of the participants had a good/awesome QOL. One of the reasons for the QOL score higher among the focus group

participants is the timing of data collection. The quantitative data were collected when the participants started getting services from the support groups whereas the focus group data were collected when the participants are done with getting services from the support groups.

Quantitative results found no significant relationship between social connectedness and QOL which corroborated by the comments of the participants of the qualitative focus groups. The comments of the participants on the focus groups revealed mixed responses on the contribution of family and friends support, a religious-support group on QOL. However, the focus group comments strongly support that the voluntary self-help group such as organization X (service organization), is contributing to the good QOL among the participants. One of the reasons for not finding a significant relationship between social connectedness and QOL in the quantitative result is the measure of social connectedness was not specific enough to find a significant relationship.

Chapter 10: Discussion

The most important goal of this study was to explore the QOL among the study participants and significant predictors of their QOL. Specifically, the purpose was to find out if PTSD and social connectedness predicts the QOL and if the qualitative study supports the result from the quantitative study. The study found that after controlling for demographic variables, PTSD score significantly predicts the QOL however, social connectedness does not predict QOL among the study participants.

With regards to PTSD exposure, the prevalence of PTSD among the study participants (45%) was 7 times higher than the national prevalence of PTSD (6.8%). There are many potential explanations for higher PTSD prevalence. The most important reason is the unique location and study participants. U.S.-MX border is a unique area with a higher rate of poverty, unemployment, lower insurance coverage, and low health-care access. The population of El Paso comprised of 81% Hispanic and most of them have roots in MX. They had to deal with immigration issues, acculturation, and work-related stress which predispose them to mental health problems. Domestic violence is highly prevalent in this area. Due to easy access to non-prescription drugs, the prevalence of SUD is high which predisposes them to PTSD and other mental health problems. Another reason for higher PTSD among the participants might be lack of social engagement to a professional and non-professional support group. Only 36% of the participants attend voluntary self-help groups and only 21% of the participants attend religious/faith-based recovery self-help group.

Result of this study shows that PTSD is a predictor of QOL and PTSD is negatively related to QOL among the study population. The finding from this study supports the findings from previous studies. Previous studies found that PTSD is negatively related with the physical

and mental health-related QOL and PTSD is a strong predictor of worst QOL (Chopra et al., 2014; Pagotto et al., 2015; Richardson, Long, Pedlar, & Elhai, 2010). Several previous studies were conducted to find the association between PTSD and QOL in different locations involving different sample population, for example, among the military personnel (Richardson et al., 2010; Woodruff et al., 2018; Falloot & Heckman, 2005), civilians (Araujo et al., 2014), war survivors (Pagotto et al., 2015), however, no research was done previously to find out if PTSD is similarly related to QOL among the population living along the U.S.- MX border. The current study is adding to the existing literature which will serve as a guide for the future researchers and policymakers on border health.

Participants' involvement in social organization is low in the study population. Contrary to the most previous result, the result of the present study shows that social connectedness does not significantly add to the prediction of QOL among the study population, above and beyond PTSD. The non-significant result is similar to the finding of one previous study. According to the stress buffering hypothesis, social connectedness buffers the QOL based on presence or absence of stress. When a person or individual has no stress, social connectedness has no relation with QOL (Helgeson, 2003). However, most of the previous studies found a relationship with social connectedness and QOL. One of the studies conducted among the HIV patients in China found that perceived social support is associated with higher QOL and recommended that intervention strategies should target social support as a component to reduce HIV related stigma and to improve QOL (Rao et al., 2012). Another cross-sectional study conducted among earthquake survivors found that stronger social support was associated with better QOL (Ke, Liu, & Li, 2010).

One of the reasons for this non-significant association might be lower participation in the voluntary and religious self-help recovery groups which makes the sample size of social connectedness lower to yield a significant result. Another reason might be the reported QOL score among the study participants are relatively higher. Sixty-one percent of the participants had a QOL score higher than the mean score. The participants who had higher QOL did not attend any recovery groups. Among 124 participants who had QOL above mean, 74% of the participants do not attend voluntary self-help groups. The qualitative research results also provide information that social connectedness variables except for voluntary self-help groups such as support from friends and family and religious self-help groups are not always helpful for the recovery of the participants.

Although literature suggest that the QOL among the Hispanic population living in the U.S.-MX border is lower compared to the other part of the United States due to the presence of various unique characteristics, the QOL score was higher among the study participants. The result might be true due to the fact that health care professionals in this area are providing services targeting this particular area to improve the QOL among the sample population. However, the result of this study might be a reporting bias because the participants may not be reporting their actual feelings. The focus group data suggest that the participant may not be reporting all elements related to their actual QOL. Few participants mentioned that the reason for not revealing the actual QOL is the participants can avoid answering several sensitive questions to the interviewer by not expressing about what's actually going on in their life. And they don't feel comfortable to talk about their sensitive issues with the interviewer who is most of the time not a familiar person to the participant. Another reason for higher QOL among the study participants might be that the study participants are the group of women who are more aware of

and conscious of their health and who had more self-efficacy for support seeking. That's why they might be attending different support services from available organizations and they might have higher QOL than the general population of the study area.

Implications/Recommendations

This study's findings have implications for intervention design related to improving the QOL among the priority and similar minority populations. Based on the study findings that demonstrate that PTSD and social connectedness are important predictors of QOL, it is recommended that future interventions focusing on SUD and HIV prevention may have enhanced outcomes if there is a focus on reducing PTSD and provide support services for participants to either prevent or manage PTSD in future. Additionally, given that various forms of social support such as religious support, local organizations are positively mediating the QOL among the sample population, future interventions can focus on providing services centering around the more accessible and well known locations to increase the participation of the target population. Finding also suggests that it is important to educate and empower the family members, religious support group, and voluntary self-help groups because the participants rely mostly on these forms of support networks when they face challenges and barriers in their day to day life.

One of the recommendations for future study focusing on social connectedness would be to using an established scale of social connectedness. Another recommendation would be to include personality trait as one of the variables along with demographic variables because the support seeking behaviour and reporting PTSD also depends on personality trait and including

personality trait would give a better picture of the result as to what type of personality traits would be associated with increased help-seeking and reporting of PTSD.

Strengths

The main strength of this study is the study population, which is composed of Hispanic women and its unique location in the U.S.- MX Border. The specific population is particularly at high-risk for HIV and SUD of developing mental health disorders, SUD, and HIV which in turn lead to a poor QOL. Hispanic/minority women particularly need attention and interventions to improve their QOL to reduce the healthcare burden and also to improve the QOL of future generations. Moreover, this is one of the few studies that explore the QOL among the high-risk women for HIV and SUD living in the U.S.-MXborder. This research will be adding to the existing literature and will serve as a guide for future research and future development of interventions for SUD, HIV and mental health.

Limitations

In this study, the study population only consists of women living in the El Paso, TX region. This limits the generalizability of the results to all genders and population of other parts of the country. This study gathered data from the women who came to different support centers to get various health services. This group of women may represent a group with different beliefs, perception, and with a higher level of self-efficacy to seek help than the general population. This study only collected data on the participants who are currently living in the El Paso region, however, data on length on a stay in El Paso was not included. There might be participants who moved to El Paso from another part of the United States who might have different cultural background and value level related to social connectedness and QOL which might contribute to study results in terms of statistical significance. Another limitation of this study is that due to its

cross-sectional nature, the causal relationship could not be reported. The scale used to measure the social connectedness was not an established scale so the result could not find the actual variance that social connectedness adds to QOL. The quantitative data was not collected based on the study. So there were not a significant amount of data on PTSD.

Competencies Addressed

Epidemiology is the study of patterns of disease and injury in human populations and the application of this study to the control health problems. The Epidemiology related MPH Core Competencies were met by describing the magnitude of a public health issue that is QOL among Hispanic women living in the US-MX border and applying the basic terminology and definitions of epidemiology. In addition to that, I was able to make appropriate inferences from epidemiologic data, evaluate the strengths and limitations of epidemiologic reports, and communicate epidemiologic information to the audiences through this study.

Biostatistics is the development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health; health care; and biomedical, clinical and population-based research. I applied biostatistics to analyze, summarize and interpret the results that apply to my study. Throughout the study, I was able to gain skill in data collection and data analysis. I conducted descriptive statistics from the data which is a common technique to summarize public health data. Moreover, I conducted correlation and Hierarchical regression for my study which has given me immense competency in Biostatistics.

Social and behavioral sciences in public health address the behavioral, social, and cultural factors related to individual and population health and health disparities over the life course. Research and practice in this area contribute to the development, administrative and evaluation of programs and policies in public health and health services to promote and sustain healthy environments and healthy lives for individuals and populations. I have gained knowledge in this field that will, in turn, allow me to plan and implement programs targeted to improve the QOL among vulnerable populations such as high-risk women for HIV and SUD living in US-MX border.

Hispanic / Border Health Concentration Specific Core Competency: the entire study was concentrated on the Hispanic population living in Us- MX Border. Through this study, I was able to develop cultural competency to deal with the people in the border region. I had developed the skills to collaborate with different partnering organization who deal with High-risk women in the US-MX border. I will be able to work as a mentor and advocate for the vulnerable population living in the border region by considering the cultural competency.

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Appendix

Appendix A: Government Performance and Results Act (GPRA)

PC_PTSD Scale:

Have you ever experienced violence or trauma in any setting (including community or school violence; domestic violence; physical, psychological, or sexual maltreatment/assault within or outside of the family; natural disaster; terrorism; neglect; or traumatic grief?)

- ☐ Yes
- ☐ No

Did any of these experiences feel so frightening, horrible, or upsetting that, in the past and/or the present, you:

Have had nightmares about it or thought about it when you did not want to?

- ☐ Yes
- ☐ No

Tried hard not to think about it or went out of your way to avoid situations that remind you of it?

- ☐ Yes
- ☐ No

Were constantly on guard, watchful, or easily startled?

- ☐ Yes
- ☐ No

Felt numb and detached from others, activities, or your surroundings?

- ☐ Yes

- ☐ No

Social Connectedness Scale:

In the past 30 days, did you attend any voluntary self-help groups for recovery that were not affiliated with a religious or faith-based organization? In other words, did you participate in a non-professional, peer- operated organization that is devoted to helping individuals who have addiction-related problems such as: Alcoholics Anonymous, Narcotics Anonymous, Oxford House, Secular Organization for Sobriety, or Women for Sobriety, etc.?

- ☐ Yes
- ☐ No

In the past 30 days, did you attend any religious/faith-affiliated recovery self-help groups?

- ☐ Yes
- ☐ No

In the past 30 days, did you attend meetings of organizations that support recovery other than the organizations described above?

- ☐ Yes
- ☐ No

In the past 30 days, did you have interaction with family and/or friends that are supportive of your recovery?

- ☐ Yes
- ☐ No

EUROHIS-QOL scale:

How satisfied are you with the conditions of your living space?

- ☐ Very dissatisfied
- ☐ Dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Satisfied
- ☐ Very satisfied

Have you enough money to meet your needs?

- ☐ Not at all
- ☐ A little
- ☐ Moderately
- ☐ Mostly
- ☐ Completely

How would you rate your quality of life?

- ☐ Very poor
- ☐ Poor
- ☐ Neither poor nor good

- Good
- Very good

How satisfied are you with your health?

- Very dissatisfied
- Dissatisfied
- Neither satisfied nor dissatisfied
- Satisfied
- Very satisfied

Do you have enough energy for everyday life?

- Not at all
- A little
- Moderately
- Mostly
- Completely

How satisfied are you with your ability to perform daily activities?

- Very dissatisfied
- Dissatisfied
- Neither satisfied nor dissatisfied
- Satisfied
- Very satisfied

How satisfied are you with yourself?

- Very dissatisfied
- Dissatisfied

- Neither satisfied nor dissatisfied
- Satisfied
- Very satisfied

How satisfied are you with your personal relationships?

- Very dissatisfied
- Dissatisfied
- Neither satisfied nor dissatisfied
- Satisfied
- Very satisfied

Vita

Tamanna Ferdous, MD MPH is an incoming Resident Physician (Class of 2022) in the Department of Family and Community Medicine at Texas Tech University Health Sciences Center, El Paso (TTUHSC-EP). She completed her Bachelor of Medicine and Bachelor of Surgery (MBBS) from Sir Salimullah medical College, Bangladesh in 2016 and Master of Public Health (MPH) from the University of Texas at El Paso (UTEP) in Spring 2019 with a concentration in Hispanic and Border Health. She has been honored with a Director Award from her Medical School and an Academic Excellence Award by the College of Health Sciences, UTEP. She completed her thesis on Quality of Life among the high-risk Hispanic women living in the U.S.-Mexico border and its relationship with post-traumatic stress disorder and social connectedness. She has also completed her practicum at TTUHSC-EP on "Characterization of an at-risk population for Non-Alcoholic Fatty Liver Disease" in a primary care setting along the US/Mexico border."

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