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The association between physical, sexual, and emotional abuse and physical pain : a comparison of psychiatric patients in Ontario, Canada and Burlington, Vermont

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ABSTRACT

The purpose of this quantitative study was to investigate the relationship between inpatient psychiatric patients' histories of physical, sexual, and emotional abuse (Abuse) and their current experience of physical pain. This study explored this association between Abuse and physical pain in adult inpatient psychiatric patients in two locations—Burlington, Vermont and Ontario, Canada. It was hypothesized that rates of Abuse between the two locations would not differ significantly, but that patients with a history of Abuse would score higher on a pain scale (report more severe pain) than those without an Abuse history.

Through secondary data analyses using previously collected data the relationships between Abuse and physical pain were considered. Data was collected using the International Resident Assessment Instrument-Mental Health (interRIA-MH).

Results demonstrated a significant difference in the rates of Abuse between the two locations, however, results overwhelmingly confirmed the hypothesis that patients with history of Abuse reported more types of pain as well as more severe pain than their

counterparts without a history of Abuse. These findings are generally in agreement with previous studies and support the use of a biopsychosocial model of assessment and treatment.

THE ASSOCIATION BETWEEN PHYSICAL, SEXUAL, AND EMOTIONAL ABUSE AND PHYSICAL PAIN: A COMPARISON OF PSYCHIATRIC PATIENTS IN ONTARIO, CANADA AND BURLINGTON, VERMONT

A project based upon an investigation at the University of Vermont, Burlington, Vermont submitted in partial fulfillment of the Requirements for the degree of Master of Social Work

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CHAPTER I

INTRODUCTION

The purpose of this quantitative study was to investigate the relationship between inpatient psychiatric patients' histories of physical, sexual, and emotional abuse and their current experience of physical pain. These three types of abuse (physical, sexual, and emotional) will be referred to collectively as Abuse for the remainder of this paper. This study explored the associations between Abuse and physical pain in adult inpatient psychiatric patients in two locations—Burlington, Vermont and Ontario, Canada. Based on the literature it was hypothesized that rates of Abuse between the two locations would not differ significantly, but that patients with a history of Abuse would score higher on a pain scale (report more severe pain) than those without an Abuse history. This study used secondary data analysis from data collected one year prior to the initiation of the current study. Data was collected using the International Resident Assessment Instrument-Mental Health (interRIA-MH), a sophisticated assessment tool. This study utilized a total of 68 Vermont assessments and 740 Ontario assessments.

The interRAI-MH is a comprehensive assessment instrument for evaluating the demographics, characteristics, needs, strengths, and preferences of patients receiving mental health services. It is designed to be a user-friendly assessment system that will inform and guide comprehensive care planning in both institutional and community-based settings. The instrument focuses upon symptoms, functional state, and quality of

life and helps providers to make appropriate decisions about patient care. The RAI has been used successfully to study the needs of chronically mentally ill individuals in nursing home settings (Phillips & Spry, 2000) and at this point, the interRAI-MH has undergone extensive psychometric testing for both reliability and validity and is widely used in Canada (Hirdes, 2002).

Because of the interRIA-MH's multifaceted comprehensive scope, the data that was collected for a prior study is ideal for the current study's investigation into the association of Abuse and physical pain. The current study is a reflection of the researcher's interest in the Abuse rates among psychiatric adult patients. Additionally, her work experience on the Vermont units led to a curiosity in the management of pain among psychiatric inpatients and the two interests formed the current study. Recent health psychology literature suggests that the dichotomy between psychological and physical symptoms is somewhat arbitrary given that the "mind" and "body" are more closely connected than previously assumed (e.g. Gatchel, 1999; Turk & Flor, 1999). Despite the increase in understanding of the importance of a biopsychosocial model for assessment and treatment, the medical model continues to prevail in many settings. Beyond the original research hypotheses, an additional aim of this study is to contribute to the growing body of literature on the importance of a biopsychosocial approach to mental health treatment.

This research adds to other literature that has demonstrated the horrific impact of physical, sexual, and emotional abuse throughout a lifetime. Chang (1996) found a direct correlation between verbal abuse and the probability of depression and the American Medical Association Council on Scientific Affairs has indicated that behaviors of self-

mutilation, suicide attempts, substance abuse, eating disorders, sexual dysfunction, are common among victims (1992). Long term psychological impacts and the development of mental illnesses vary by type; however, disorders of depression, dissociation, anxiety, personality disorders, and PTSD are not uncommon (American Medical Association Council on Scientific Affairs, 1992). Feelings of hopelessness, guilt, low-self esteem, helplessness, and problems in trusting have also been recognized in research (Herman, Perry, & van der Kolk, 1989). This study's findings are consistent with Scarinci and colleagues' 1994 study where individuals with histories of Abuse have demonstrated higher scores on measures of pain.

The intended audience for this study are master level social work students, practitioners, and other mental health providers. Due to the pervasiveness of both Abuse and the experience of physical pain in all parts of society, this study is pertinent to providers in all fields. It is critical for social workers to understand how individuals' symptoms are influenced by physical, psychological, and social factors, so that they can assist in the best form of treatment. This understanding of the relationships between Abuse and physical pain will also help social workers interested in designing programs and services with the use a biopsychosocial model of assessment and treatment.

The following chapter will include a review of the literature and research regarding Abuse and physical pain in the general public and among adult psychiatric inpatients, and the association between Abuse and psychiatric disorders will also be explored. The complexities of pain assessment and measurement as well as with a review of prior literature on the relationships between physical pain and Abuse will be covered. Additionally, the following section will include the reasoning and benefits of

comparing Canada and the USA, and a review of the assessment instrument, the interRIA-MH, utilized in this study.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to investigate the relationships between inpatient psychiatric patients' history of physical, sexual, and/or emotional abuse (Abuse) and their current experience of physical pain. The two data sets were drawn from hospitals in Vermont, USA and Ontario, Canada. This section will explore the effects of Abuse on people's reported pain through a review of the literature and past research. Additionally, his section will discuss the significance of comparing two similar populations in different locations. Lastly, this section will discuss the use of assessment instruments and describe the assessment instrument used in the current study.

Abuse

This section will explore prior research and literature regarding Abuse in the general public as well as more specific populations such as adult psychiatric inpatients. The association between Abuse and psychiatric disorders will also be explored.

Research on the prevalence of Abuse is often underestimated due to underreporting and a lack of expert agreement upon one comprehensive definition. There are numerous factors contributing to underreporting of all forms of abuse. Research has demonstrated that victims of abuse very rarely disclose to others—this is often due to very rational fears of retaliation, stigma, and fears of consequences. Complicated

emotional reasons for not reporting have been documented by researchers (AMA, 2003; Hwang, 1998). Once a report is made, victims often deny abuse during investigations for many of the same reasons. Unfortunately, another large factor contributing to the underreporting is a lack of enforcement of the mandatory reporting laws.

Despite this continuing problem in accurate reporting many studies have provided valuable data on abuse prevalence, incidents, and reporting. Estimates of the prevalence and incidence of abuse in the general population are generally findings of official reports on child abuse, retrospective studies, and surveys of adults. All research is consistent in agreeing that physical, sexual, and emotional abuse (Abuse) are powerful life events and Abuse occurs in every segment of our society (Finkelhor & Korbin, 1988).

Emotional Abuse

Canada's National Clearinghouse on Family Violence (NCFV) states, "There is no universally accepted definition of emotional abuse" (NCFV, 2006). Emotional abuse is one of the most prevalent forms of abuse and often occurs between intimate partners thus adding to it hurtfulness. Emotional abuse greatly varies in type, but common results are a decreased sense of worth, decreased agency, and lack of independence. Emotional abuse crosses all social classes, ethnic groups, sexual orientations and religions (Miller & Veltkamp, 1995).

The literature provides several definitions as well as several names for emotional abuse. These include psychological maltreatment, non-physical abuse, psychological abuse, psychological aggression and indirect abuse. Verbal abuse is a feature of

emotional abuse that communicates worthlessness. Emotional abuse consists of strategies to control or overpower another person (Shepard & Campbell, 1992).

Emotional abuse includes verbal attacks, harassment, belittling, excessive possessiveness, isolation of partner, and deprivation of physical and economic resources (Alexander, 1993). Emotional blackmail or threats to leave are also present in the literature (Kalichman, Craig, & Follingstad, 1990). Much of the literature on emotional abuse describes it in conjunction with physical abuse and the literature reflects a range of 59% (Statistics Canada, 1993) to 88% (Alexander, 1993) of physically abused women also reporting emotional abuse. Literature has also found that the majority of cases of physical violence involve some form of psychological maltreatment (Anderson, 1991; Campbell & Lewandowski, 1997; Kalichman et al., 1990).

Studies carried out in the United States indicated that 55% of divorces were due to psychological abuse; 27% of people in dating relationships reported psychological abuse; 89% - 97% of couples in counseling reported that emotional abuse has taken place in the last twelve months (Chang, 1996). Within the general population there was a direct correlation between verbal abuse and the probability of depression (Chang, 1996). The relationship between emotional abuse, as well as other forms of abuse, and the later onset of psychological disorders is discussed later in this report.

The small amount of literature published exclusively on emotional abuse can be understood in context of the more lethal characteristics of other types of abuse and the struggle of academics and professionals to develop a measurable and precise definition (Jouriles, Barling, & O'Leary, 1987).

Research on specific populations have focused on emotional abuse among elderly populations (Miller, 1995), immigrant or refugee women (Miller, 1995; Papp, 1990), individuals that do no identify as heterosexual (Loring & Smith, 1994), teens (Weine, Becker, Levy, Edell, & McGlashan, 1997), those living in rural or farm areas (DeVink & Doherty, 1995; Community Abuse Program of Rural Ontario CAPRO, 1997), and individuals with disabilities (Eastcott, 1992; National Clearinghouse on Family Violence, 1993; Ridington, 1989). While these populations have higher abuse rates than the general population, individuals and families with a prior history of abuse, those living in poverty, those with a family history of mental illness, and individuals with caregivers who suffer from substance abuse disorders are also at higher risk of experiencing abuse.

Physical Abuse

Being a victim of physical abuse can result in significant disturbances throughout a lifetime. Behaviors of self-mutilation, suicide attempts, substance abuse, eating disorders, and sexual dysfunction, are common among victims of violence according to the American Medical Association Council on Scientific Affairs (1992). Long term psychological impacts and the development of mental illnesses vary by type; however disorders of depression, dissociation, anxiety, personality disorders, and PTSD are not uncommon (American Medical Association Council on Scientific Affairs, 1992; Herman et al., 1989; Kemp et al, 1991). Feelings of hopelessness, guilt, low-self esteem, helplessness, and problems in trusting have also been recognized in research (Robinson, 2003).

Many people associate domestic violence with physical abuse but the reality of domestic violence is that it includes all forms of abuse--physical, verbal, psychological and mental abuse, emotional, sexual, economic, spiritual abuse and more. Domestic violence is also referred to as domestic abuse, intimate partner violence, inter-family violence/abuse husband battering, wife battering, relationship violence, spousal abuse, partner abuse, family violence, and other terms.

The American Institute on Domestic Violence (2001) reports that 85-95 percent of all domestic violence victims are female with over 5.3 million women being abused each year in the USA. While such research is informative, it certainly does not disregard the male victims of domestic violence. Domestic violence impacts women, men, and children from all backgrounds and walks of life. While the world may see North American as a place where women have equal rights and status, it is estimated that over 51% of women in North America experience some type of violence in their lifetime. Despite no formal prohibitions against women's rights, similar figures are found in the United States and in Canada: "among women who are victims of violence, over half experience sexual abuse…two-thirds of those reporting domestic violence suffer from serious and recurrent assaults including being kicked, punched, beaten, or injured by a weapon…52% of lesbian women report being victims of violence" (Lie & Gentlewarrior, 1991). Hammett and colleagues (1992) state, "homicide is the fourth most common cause of death in white female and the most common cause of death in black females ages 15-34 years" (Robinson, pg 185).

A 1995 study by McMauley, Kern, Kolodner and collogues investigated the prevalence of physical and sexual abuse in primary care settings. They found that 5.5%

of women had experienced domestic violence in the previous year, 22% had been physically or sexually abused before age 18; and 32.7% had been physically or sexually abused as an adult or child. Current abuse of any kind was associated with demographic variables of being 36 years old or younger, being separated or divorced, having Medicaid or no health insurance. Psychosocial variables associated with abuse included a high rating on any emotional symptom score, drug or alcohol abuse, and a history of a suicide attempt (McMauley, 1995).

Numerous research studies have documented serious effects on children exposed to violence in the home (Carter, Weitorn, & Behrman, 1999). Research shows that common effects on the child include depression, anxiety, low self-esteem, aggression, conduct and/or behavioral problems (Grynch, Jouriles, McDonald, Norwood, & Swank, 2000). "Much of the research on the effects of exposure to domestic violence involves young children. Fewer studies have addressed the impact of domestic violence on adolescents' development and behavior, and the findings on these studies yield mixed results" (Parker, Stewart, & Gantt, 2006). Carlson's 1990 study revealed that teenage males exposed to domestic violence had more physical aggression towards their family members—specifically their mothers, more suicidal ideation, and increased rates of runaway behavior compared to their female counterparts.

Becker & McCloskey's 2002 study indicated that exposure to domestic violence was predictive of attention problems for female teens, but not male teens. Other studies have showed that factors such as close relationship(s) with another family member mediate the exposure to family violence and decrease negative outcomes for teens (Levendosky, Huth-Bocks, & Semel, 2002). Other research has shown that some teens

"display an array of negative behaviors, others, usually females, take over the responsibilities of the family and attempt to shield siblings from exposure" (Parker, Stewart, & Gantt, 2006).

Sexual Abuse

Statistics on sexual abuse are biased by underreporting even more so than other forms of abuse. Underreporting, like with other types of abuse is due to many factors—however within sexual abuse underreporting has been shown to be highly related to the victims' fears, embarrassment, shame, and feelings of discomfort and mistrust about the official(s) to whom an assault is reported. Societal attitudes also have a large impact on under-reporting of sexual abuse. Despite the underestimation of the true magnitude of the problem, research has gained some understanding of factors that are related to vulnerability.

Statistics on sexual abuse, sexual violence, and sexual offenses vary based on methodology and definitions. Sexual abuse data is often collected by police, clinical settings, research surveys, and nongovernmental organizations or special interest groups. Unfortunately, the available data gravely underestimate prevalence and incidents. Numerous studies state that only a minority of abuse cases are disclosed—and of those even fewer are investigated (Nurcombe, 1999; Finkelhor & Williams, 1988).

In 1991, it was reported that of all substantiated reports of child maltreatment in the United States 15% were related to sexual abuse, and of these, 50% involved genital penetration (Sedlak, 1991). Anderson found that the overall rate of sexual abuse did not differ according to rural or urban residence or decade of birth. Anderson's results

suggest a stable incidence of abuse over the past 50 years. Feldman and colleagues & Kinsey and colleagues compared 19 recent prevalence studies and found no evidence of increased prevalence over the past 40 years. Numerous studies state that only a minority of abuse cases are disclosed—and of those even fewer are investigated (Nurcombe, 1999; Finkelhor & Williams, 1988).

Women, men, and children of all ages can be victims of sexual assault and/or abuse. Sexual abuse affects millions of people every year and research has shown that victims of sexual abuse are at increased risk of being abused again (Elliott, Mok, and Briere 2004; Jewkes, Sen, & Garcia-Moreno 2002; Rickert et al. 2004). The Department of Justice reports rape as one of the most underreported crimes. In 2002, only 39% of rapes and sexual assaults were reported to law enforcement officials (DOJ 2003). While not an exhaustive list, here are some statistics on the occurrence of sexual violence.

In the USA, 1 out of every 500 children was confirmed by child protective services as having experienced sexual assault in 2003 (DHHS 2005). High schools across the nation have approximately 9% of their student population who've been forced to have sexual intercourse. Female students are more likely than male students to report sexual assault (11.9% vs. 6.1%). Overall, 12.3% of Black students, 10.4% of Hispanic students, and 7.3% of White students reported that they had been forced to have sexual intercourse (CDC 2004). Among college students nationwide, between 20% and 25% of women reported experiencing completed or attempted rape (Fisher, Cullen, & Turner 2000).

A 1990 national survey found that 27% of women and 16% of men reported having been sexually abused in their childhoods (Finkelhor, Hotaling, Lewis, & Smith,

1990). The majority of studies on sexual abuse are confined to research on children and adolescent populations. Estimates on the frequency of childhood sexual abuse (CSA) vary widely and conservative measurements suggest that only one out of five instances of child sexual abuse are actually reported to legal authorities (Everstine & Everstine, 1989). A 1994 national study found that less than 22% of those who were victims of sexual abuse told anyone else about the abuse (Laumann et al, 1994). Older studies have reported that 50-60% of female undergraduate college students experience sexual abuse by the time they were 18 years of age (Russell, 1984; Wyatt, 1985). Finkelhor's 1984 research and Fritz, Stoll, & Wagner's 1981 research indicated a wide range of 15-45% of women and 3-9 % of men who had been sexually abused in childhood.

A study on the year 2000 alone found more than 300,000 women and over 90,000 men reported being raped. One in six women (17%) and one in thirty-three men (3%) reported experiencing an attempted or completed rape at some time in their lives. Rape usually occurs more than once, therefore a prior history of sexual abuse increases the likelihood of being victimized again. Among adults who reported being raped, women experienced 2.9 rapes and men experienced 1.2 rapes in the previous year (Tjaden & Thoennes, 2000).

Research is overwhelmingly clear that women are more likely to be victims of sexual violence than men. Tjaden & Thoennes' research found that 78% of the victims of rape and sexual assault are women and 22% are men (2000). Women who are raped before the age of 18 are twice as likely to be raped as adults, compared to those without a history of sexual abuse (Tjaden and Thoennes, 2000). While, the factor of gender has

been labeled as predictive factor for women it has also been included as a factor in underreporting among men.

Sexual violence victimization often starts very early in life. More than half of all rapes of women (54%) occur before age 18; 22% of these rapes occur before age 12. For men, 75% of all rapes occur before age 18, and 48% occur before age 12 (Tjaden and Thoennes, 2000). Young women are at higher risk of being raped than older women (Acierno et al. 1999).

Binge drinking and drug use are related to increased rates of victimization (Champion et al. 2004). As with drug/alcohol use, researchers have worked to gain understanding of the complex relationships between sexuality and sexual violence — the causality, directionality, and other etiologic factors that increase vulnerability for victimization are not well understood. Some researchers believe that engaging in high-risk sexual behavior is both a vulnerability factor and a consequence of childhood sexual abuse. Youth with many sexual partners are at increased risk of experiencing sexual abuse (Howard & Wang 2003; Valois et al. 1999). Poverty has also been indicated as a predictive factor by researchers (Jewkes, Sen, & Garcia-Moreno 2002; Wenzel et al., 2004).

Literature has documented relationship factors, such as those in the family environment, that can act as risk factors for later abuse within and outside of the home. A family environment characterized by physical violence, a patriarchal family, or a family with lack of familial resources and supports, as well as a lack of community resources and supports is more likely to experience abuse. Unemployment increases the risk of some forms of abuse and multiple studies have indicated that paternal

unemployment increases the risk for abuse more than maternal unemployment, however this is contradicted in the literature with some studies citing any parental unemployment as a risk, and other citing maternal unemployment as more a risk (Farmarzi, Esmailzedeh, & Mosayi, 2005; Ström, 2003; Lindell & Syedin, 2001; Gillham et al., 1998).

Protective factors may lessen the likelihood of sexual abuse/ sexual violence victimization. Protective factors that exist at individual, relational, community, and societal levels include social support, higher levels of education, and financial stability. For youth, protective factors often take the form of connectedness with school, friends and adults in the community, and emotional health (Borowsky et al 1997).

Despite research which indicated males are victimized at significant rates, the assumption that males are rarely, if ever, victims of sexual assault, continues to underlie both the lack of research and the hesitancy of male victims to speak out. Prevalence rates vary among research studies on male victimization—however they indicate that considerable numbers of men have been victims of sexual abuse, sexual aggression, etc. (Anderson, Reis, & Stephens, 1997; Finkelhor, Hotaling, Lewis, & Smith, 1990; Gartner, 1999; Mendel, 1995; Scarce, 1997).

Fritz, Stoll, & Wagner's 1981 study of college males indicated 4.8% of college males had experience sexual abuse. In 1987, Risin & Koss' research showed 7.3% of a sample of 2,972 male college students had experienced sexual abuse. Higher prevalence rates of 20% were found in Fromuth & Burkhart's 1987 study of male students. More recent research on college students by Lisak & Luster in 1994 and again by Lisak, Hopper, & Song in 1996 found that 17 % of men had been sexual abused by physical contact, while over 25% of males were sexually abused when non-contact forms of abuse

were included in the assessment (e.g., being made to watch pornography, having a relative expose his or her genitals, etc). Lisak's findings were later supported by Collings' 1995 study which yielded similar rates.

Studies with community samples have found rates of sexual abuse among men as low as 2.8% (Murphy, 1987) with replicate studies by the same researcher yielding rates of 11% (Murphy, 1989). Bagley, Wood, & Young's (1994) research using a community sample found 15.5% of men had experienced sexual abuse, with 6.9% of these subjects having experienced multiple episodes of sexual abuse. Interestingly, the rate of 6.9% for multiple episodes was identical to that found for women who've experienced multiple episodes of abuse in a previous 1991 study using the same methodology (Bagley, 1991; Bagley, Wood, & Young, 1994).

Sexual victimization of both sexes occurs during childhood and adulthood. While the above research varies on the frequencies there is no doubt that sexual abuse of both sexes remains a significant concern. Cultural and societal attitudes have a strong influence on the rate of reports. Research has shown that face-to-face interviews yield significantly low prevalence rates in men, compared to women. Literature suggests this is due to subjects' adherence to stereotypes about males not being victims (Urquiza & Keating, 1990). Finkelhor's (1984) research indicates sexual abuse of men is significantly less likely to be reported regardless of the victim age. Sexual abuse of male toddlers, children, teens, and adults are significantly underreported; even when reported there are significantly less resources for support for this population.

Societal attitudes toward the sexual abuse of men deter men and boys from seeking support after an assault (Frazier, 1993; Gartner, 1999; Isely, 1998; Kaufman,

1984; Mendel, 1995; Mitchell et al., 1999; Scarce, 1997; Washington, 1999). Socialization includes myths of why male rape doesn't happen, and gender socialization results in male victims experiencing sexual assault very differently than female assault victims (Struckman-Johnson & Struckman-Johnson, 1992; Burt, 1991; Gilbert & Scher, 1999; Warshaw & Parrot, 1991; Gordon & Riger, 1989; Bogin, 2006).

In summary, previous literature and research is overwhelmingly clear on the negative impacts of physical, sexual, and emotional abuse (Abuse). All research is consistent in agreeing that all types of abuse are powerful life envens and Abuse occurs in all segments of society. The following section will discuss the relationship between and Abuse and psychological distress.

The Relationship Between Abuse and Psychological Distress

The consequences of Abuse vary by individual and include short and long term symptoms. Research has shown that long term consequences are varied and often depend on the abuse itself or on an interaction between the abuse and other mediating factors such as family pathology, singe episode abuse versus on-going abuse and concurrent events (Beitchman et al., 1992; Glaister & Abel, 2001). The incidence of Abuse in the general population has been estimated to be approximately 5-10% for males and approximately 20% for females; however, estimates vary greatly depending on the study (Fillingim, Wilkinson, & Powell, 1999; Heckman & Westefeld, 2006).

Given the high rates of Abuse and the associated impacts it is not surprising that numerous researchers have found significant relationships between Abuse and psychological distress. Maltreatment in childhood and in adulthood, including sexual

abuse, physical abuse, emotional abuse, domestic violence and other forms of maltreatment have been linked to the development of mental disorders (Kessler, Davis, & Kendler, 1997; MacMillan et al., 2001; Maughan & McCarthy, 1997; Pirkola et al., 2005; Spataro, Mullen, Burgess, Wells, & Moss, 2004; Teicher, Samson, Polcari, & McGreenery, 2006).

As early as 1895, Freud was recognizing the role of trauma in the development of mental illness. Breuer and Freud in 1895 and Janet in 1889 all recognized the existence of trauma exposure in their psychoanalysis of individuals with severe mental disorders. Breuer and Freud's work was published again in 1955 and since then the prevalence of Posttraumatic Stress Disorder (PTSD) in people with severe mental illness has been studied on multiple occasions using standardized measures of testing and found rates ranging from 42% (Switzer et al., 1999) to 43% (Mueser et al., 1998) and 48% (Cascardi, Mueser, DeGiralomo, & Murrin, 1996). In fact, recent studies have examined the prevalence of trauma exposure in inpatient psychiatric units and found that the majority of patients have experienced traumatic events at some point during their lifetime (results range from over 55% up to 97%) (Goodman, Rosenberg, Mueser, & Drake, 1997; Mueser et al., 1998). Childhood abuse has also been broadly liked with forms of adult psychiatric disorders (Garno, Goldberg, Ramirez, & Ritzler, 2005), suicidal ideation and suicide attempts (Santa Mina & Gallop, 1998). People often respond differently to stressful and traumatic events, and specific definitions of trauma pose significant research problems. Researchers have observed that traumatic and stressful life events such as the death of a significant other, miscarriage, intense marital discord, Abuse, moral and religious conflict can, under certain circumstances produce symptoms of depression,

anxiety, grief, guilt, and even significantly more distressing symptoms of dissociation, suicidal ideation, and more severe diagnosable psychiatric difficulties (Irwin, 1998; Trenholm, Trent, & Compton, 1998).

Compelling evidence for the association between a history of child sexual abuse (CSA) and adverse psychological and social outcomes come from random community samples, twin studies, and birth cohorts (Burnam et al., 1988; Dinwiddie et al., 2000; Fergusson, Horwood, & Lynskey, 1996; Fergusson, Lynskey, & Horwood, 1996; Kendler, Myers, & Neale, 2000; Mullen, Martin, Anderson, Romans, & Herbison, 1994) Much of the research on this link between CSA and the later onset of psychological disturbances focuses exclusively on female subjects (Mezey & King, 1992). However, a recent 2004 study by Spataro, Mullen, Bugess, Wells, & Moss "documents the association in male as well as female victims, revealing that although subtle differences may exist in the responses to child sexual abuse between the genders, male victims show associations to most adverse mental health outcomes that are just as strong as those shown in females" (p. 418). Given a large sample size, this 2004 study not only found significance, but has the statistical power to reveal clear association between childhood sexual abuse and the later onset of serious psychological disturbances in adult life (Spataro et al., 2004).

Rates of sexual, and combined sexual and physical, abuse across the lifespan were higher for women than for men with abused patients having a greater number of psychiatric diagnoses than non-abused patients. Abused patients also reported greater affective distress, less perceived life control, and a greater number of ER visits in the 6

months prior to treatment than their non-abused counterparts (Bailey & Freedenfeld, 2003).

Physical Pain

This section will explore the complexities of pain assessment and measurement and discuss the prevalence of pain in the general public and more specific populations like adult psychiatric patients. Rates of Abuse in the general population will be compared with the rates of Abuse in chronic pain populations and the relationship between physical pain and a history of Abuse will be explored through the review of past research and literature.

Pain is defined by the International Association For The Study of Pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." Pain is an experience that is difficult to define because of lack of objective measures, and must be assessed through self-report. Because of the complex nature of pain, the development of a comprehensive and coherent theoretical framework for chronic pain and a universally applicable and accepted classification system has proven difficult (King, 2000). The development of the Diagnostic and Statistical Manual of Mental Disorders (DSM) has tentatively specified and several times revised disorders regarding pain, and has finally labeled "pain disorder" in the DSM-IV as a primarily descriptive and not etiological term (DSM-III, DSM-III-R, DSM-IV, DSM-IVR).

Frohlich, Jacobi, and Wittchen (2006) researched DSM diagnosable pain in the general population found that the 12 month prevalence for a DSM-IV pain disorder was

8.1%. Past literature has provided incomplete rates of pain ranging from 2-50% in the general population. Such variation can be accounted for by inconsistent epidemiological characteristics, differing methodologies, time frame, and conceptual levels. Literature has demonstrated that negative life events are correlated with pain (Bell, Schjodt, & Paulsberg, 2000; Lampe et al., 2003). Pain symptoms are often present in psychiatric patients' presentation and research has linked pain symptoms to psychological difficulties.

As previously discussed the incidence of Abuse in the general population has been estimated to be approximately 5-10% for males and 20% for females (Fillingim et al., 1999; Heckman & Westefeld, 2006). When rates in the general population are compared to rates of abuse in chronic pain patients it has been found that physical and/or sexual abuse in chronic pain patients is high (28-48%), with even higher rates (44-66%) in populations with specific pain disorders (Fillingim et al., 1999; Glaister & Abel, 2001).

The prevalence and impacts of sexual and physical abuse has received increasing attention in the media and in the scientific community over the last two decades and, in recent years, in the study of pain. Kopec and colleagues' (Kopec, Sayre, & Esdaile, 2004) study on predictors of back pain in the general population found that in women, the strongest predictors were personal stress and a history of psychological trauma in childhood. Thornton's publication (2003) showed how "clinical practice has demonstrated a marked prevalence of child psychological trauma in the developmental histories of chronic pain patients. These traumas include physical, emotional abuse and neglect," and associations of pain with Abuse have been reported in several studies

(Bendixen, Muus, & Schei, 1994; Felitti, 1991; Hexel & Sonneck, 2002; Krantz & Ostergren, 2000; Lampe et al., 2003; Walling et al., 1994).

In addition to research demonstrating the relationship between psychiatric patients and Abuse, studies on chronic pain patients have also found high rates of childhood sexual and physical abuse (Alexander et al., 1998; Boisset-Pioro, Esdaile, & Fitzcharles, 1995; Drossman et al., 1990; Harrop-Griffiths et al., 1988; Jamieson & Steege, 1997; Linton, Larden, & Gillow, 1996; McMahon, Gatchel, Polatin, & Mayer, 1997; Olden, 1998; Pecukonis, 1996; Rapkin, Kames, Darke, Stampler, & Naliboff, 1990; Scarinci, McDonald-Haile, Bradley, & Richter, 1994; Taylor, Trotter, & Csuka, 1995; Walker, Katon, Roy-Byrne, Jemelka, & Russo, 1993) as well as high rates of abuse occurring in adulthood (Koss & Heslet, 1992; Schei, 1990). Bailey, Freedenfeld et al's 2003 study results indicated that 61% of chronic pain patients had a history of lifetime physical and/or sexual abuse—this is consistent with the rates found in other literature (Domino & Haber, 1987; Scarinci et al., 1994).

Pain symptoms are often present in psychiatric patients' presentation and research has linked pain symptoms to psychological difficulties. Research involving individuals at an outpatient rehabilitation program for chronic pain found that 61% of the patients indicated a history of lifetime physical and/or sexual abuse. The abused patients in this cohort had a significantly greater number of psychiatric diagnoses than non-abuse patients and reported greater distress and less perceived life control. This study also found that individuals with chronic pain and a history of abuse had significantly more ER visits compared to their non-abused cohorts (Bailey, Freedenfeld, Kiser, & Gatchel,

2003). Reigstad and colleagues' 2006 study of pain in adolescent psychiatric patients found that physical abuse and neglect were significantly related to frequent pain.

High rates of childhood Abuse as well as high rates of abusive relationships during adulthood have been indicated as factors in research of chronic pain sufferers at the community and clinical (outpatient as well as inpatient) levels (Arnow, Hart, Hayward, Dea, & Barr Taylor, 2000; Bailey et al., 2003). Individuals with histories of Abuse have demonstrated higher scores on measure of pain (Scarinci et al., 1994). Research also indicates that individuals with Abuse histories score lower on self-efficacy and are significantly more likely to attribute the pain to chance (Alexander et al., 1998; Scarinci et al., 1994). This has been suggested to be related to the experience of children not being able to escape or control the abusive environments, and are therefore less able to believe they have the ability to reduce or control their pain as adults (Finkelhor & Browne, 1985; Toomey, Seville, Mann, Abashian, & Grant, 1995). Research has demonstrated that individuals with histories of Abuse who also suffer from chronic pain are significantly more likely to have higher levels of psychological distress as well as increased drug and alcohol problems (Green, Flowe-Valencia, Rosenblum, & Tait, 1999)

In summary, physical pain has been demonstrated to be difficult to assess and to measure given its subjective nature. The DSM-IV does recognize pain disorders; however, they are primarily descriptive and not etiological. Literature has demonstrated the prevalence of pain among psychiatric patients. Research has also linked Abuse histories and chronic pain. These connections further indicate the need for further research into the relationships between Abuse and physical pain within adult psychiatric inpatients which this study seeks to specifically explore.

This study seeks to identify the association of Abuse and physical pain through the comparison of two similar populations—psychiatric inpatients on acute units in Ontario, Canada and Burlington, Vermont. Given the comparison locations it is important to understand why comparisons between the two nations are important and helpful.

Comparing Canada & the United States of America

Canada approximates the USA in economic development, history, ethnicity, and geography (Fuchs, 1992; Evans, 1992). Despite the similarities and the shared border, the countries' health care systems are considerably different. Canada's system is a single-payer system with universal health insurance while the United States' system is a combination of both private and public payment sources.

Canada spends approximately half as much on overall health care per capita in comparison to the USA and despite this large expenditure difference it has been clearly documented that Canadians also live an average of 2-3 years longer than their counterparts in the United States (OECD, 2004). Canadians have universal access to publicly funded health care services including primary physicians, hospital services, and more. The majority of U.S. citizens need private insurance to cover the cost of their medical needs and services. Public insurance is, however, provided for the poor (Medicaid) and for those over age sixty-five (Medicare). Nonetheless, as stated, the USA spends significantly more on health care than Canada as calculated in per capita spending (in 2001 U.S. dollars: $4,884 vs. $2,792) and the percentage of gross domestic product (GDP) (14 percent vs. 10 percent) despite more funding supplied from the

private-sector (Sanmartin, C, 2006; OECD, 2004). Mojtabai and Olfson write, "The Canadian system provides full parity for mental health services, whereas in the United States, only some states have passed mental health care parity legislation and only a few private insurers have voluntarily adopted such policies" (2006, p. 631).

Of the existing studies comparing mental health in the USA and Canada, many have not included institutionalized people or members of the armed forces in either country. Additionally, individuals residing in Canadian and U.S. territories have often not been included. In the existing studies, such as Sanmartin's (2006) it was found that "the majority of respondents in both countries were in good, very good, or excellent health, with the percentage being slightly higher among Canadians" (Sanmartin, p 1135). The same study found strong associations between health and income groups—with lower income groups being significantly more likely to be in fair or poor health, however, a higher proportion of individuals in the lowest income bracket were in fair or poor health in the US than in Canada (31% vs. 23%) (Sanmartin, 2006). This study also revealed the USA to have a larger gap between lowest and highest income in relation to health. Americans with the lowest household income were less likely to contact a provider of any kind than their economically similar counterparts in Canada. Individuals in the U.S. and Canada who were in the highest income brackets did not differ from each other in regards to seeking treatment (Sanmartin, 2006).

Kessler et al (1997) found no significant difference between the two countries in the average number of mental health visits. Multiple studies have compared the United States to Ontario and found no significant difference in the populations lag time from onset of a disorder to first treatment (Kessler et al, 1997; Katz et al, 1997, 1998; Olfson et

al, 1998; Edlund et al, 2002). However, the U.S. individuals with serious mental disorders were significantly less likely than their Ontarian counterparts to seek treatment (Kessler et al, 1997; Katz et al, 1997; Mojtabai & Olfson, 2006).

When socio-demographic variables were controlled for in individuals with major depressive disorder, no differences were found in the rates of treatment between the U.S. and Canada. However, Canadians were significantly more likely to seek mental health treatment from a primary care provider rather than a specialist than were their counterparts in the U.S. (Mojtaba & Olfson, 2006). In both countries individuals with depressive episodes were more likely to seek treatment if they were women; more educated; had a regular primary care physician (PCP), and were influenced by the duration of their symptoms. For Canadians, being a widow and having numerous symptoms also increased their probability of seeking treatment—where in the US, being 45-64 years old increased the treatment seeking probability. Identifying with a racial or ethnic group decreased individuals' likelihood to seeking treatment in both countries. Lack of insurance was additionally associated with lower treatment seeking for individuals in the USA (Mojtabai & Olfson, 2006).

"Severity of depression was associated with a greater likelihood of seeking treatment in Canada but *not* in the United States. Thus, there appears to be a closer correspondence between the severity of depression and treatment seeking in Canada than in the United States, suggesting that allocation of mental health treatment resources may be more efficient in Canada" (Mojtabai & Olfson, p 636). Mojtabai & Olfson also found what other researchers have reported in the past—that individuals with mild symptoms of disorders are more likely to seek as well as receive treatment in Ontario than in the U.S.

(Mojtabai & Olfson, 2006; Kessler et al, 1998; Katz et al, 1997). In the USA it is the individuals with the more severe mental disorders that are the most likely to never receive treatment. Sanmartin et al (2006) demonstrated that more than 50% of individuals in both nations had taken a prescription drug in the last 30 days. Insurance coverage in the U.S. increased an individual's likelihood of taking a prescribed medication. Both countries showed that individuals over age 45 were more likely to take prescribed medications.

Overall, it has been shown that more Americans than Canadians have unmet mental health needs. When insurance is controlled for, no differences are found—indicating that the differences are attributable to the high rate of unmet needs among uninsured Americans. In Canada, the primary reason for experiencing an unmet need was waiting for care (32%) , whereas in the USA, regardless of insurance status, the primary reason for an unmet need was cost (53%). Both insured and uninsured Americans had unmet mental health needs due to the cost of care/treatment (40% among the insured vs. 84% among the uninsured). "In both countries, the poor experienced higher levels of unmet needs compared with the rich" (Sanmartin et al, 1138). However, the USA had significantly more people in the lowest economic bracket experience unmet mental health needs than their low-income Canadian counterparts. The rate of unmet need was the same in both countries for those in higher income groups.

Comparative studies continue to show that health status is relatively similar in Canada and the USA—the major disparities are seen in income-related accessibility to treatment (Kessler et al, 1997; Katz et al, 1997; Mojtabai & Olfson, 2006, Sanmartin, 2006). The World Health Organization's (WHO) 2001 World Health Report

acknowledged the impact that under-funded & disregarded mental health care has had on our world as a whole. The WHO report stressed the importance of understanding how genetic, social, biological, and environmental factors interact to cause mental and neurological disorders as well as physical illnesses. This 2001 report was clear in its findings and stressed the importance of "understanding how inseparable mental and physical health really are, and how their influence on each other is complex and profound. It is about understanding that mental disorders occur in all countries and all societies - and that more often than not, they can be treated effectively. And not least, it is about how human understanding can make such a huge difference to the mentally ill" (2001).

Literature exploring comparisons of Abuse between the United States and Canada are limited. Most research on this comparison focuses on childhood Abuse and there appears to be limited literature on Abuse experienced during adulthood. Additionally, many studies are difficult to compare due to different definitions and the types of abuse they study. Child sexual abuse prevalence figures are most affected by whether the definition of child sexual abuse (CSA) used includes non-contact experiences such as exposure, or/in addition to contact exposures. Creighton's 2004 review of research and literature reports the findings and views of a range of authors on the prevalence and incidence of international comparisons of child abuse (Creighton, 2004). MacMillan et al's 1997 general population survey found that 11.1% of women and 3.9% of men experienced contact CSA. Siegal et al's 1987 two stage probability sample of adults in the USA provides comparative prevalence of 6.8 of women and 3.8% of men who had experienced contact CSA.

Creighton's 2004 review of official incidence of child maltreatment revealed a rate of 9.7 per 1,000 children in Canada in 1998 with 49% of the substantiated cases being neglect, 25% physical abuse, and 9% sexual abuse. The United States rates from 2001 were found to be 12.4 per 1,000 children with 59% being cases of neglect, 19% physical abuse, 10% sexual abuse, 7% emotional abuseand other types accounting for 19.5%.

There is certainly a need for more studies on the prevalence of abuse of all types in different countries. Official reports are now collected annually in a number of countries, however, comparing data should be done cautiously given the different systems, definitions, and methods employed in collating the data (Creighton, 2004).

In summary, comparisons between the USA and Canada have proved extremely useful. Clearly, given our similarities and differences, studies comparing the United States and Canada will continue to be of great interest in not only both countries, but worldwide. With so many policy changes occurring around the world that affect health and health care provisions as well as planning, further exploration of the pros and cons of systems will help inform the global community. One important way for researchers and providers to gain information on populations is through the use of assessment instruments.

Assessment Instruments

The health care system has encountered numerous changes in recent decades. Focus on cost-effectiveness, quality care, and evidence-based practice has strengthened funding-driven policy initiatives throughout all sectors of the health care system. Mental

health care providers are not alone in feeling this impact from policy-makers and managed care. "What began as a funding-driven policy initiative has resulted in the development of a new comprehensive assessment system for psychiatry designed to support multiple applications to meet the needs of multiple audiences" (Hirdes, 2001).

Existing assessment instruments available, like the Brief Psychiatric Rating Scale (Overall & Gorham, 1962), the Colorado Client Assessment Record (Ellis, Wilson, & Foster, 1984), and the World Health Organization's Psychiatric Disability Assessment Schedule (WHO/DAS) (1988) are valuable for placement decisions and outcome measurements; however, understanding the demand for facilities to provide quality care in a funding-driven policy system showed a strong need for a multidisciplinary standardized assessment instrument that is comprehensive and viable for use with adults in a variety of settings and facilities. Hirdes (2001) states, there was "no pre-existing instrument that had been demonstrated to have the capacity to support care planning, outcome measurement, quality improvement and case-mix-based funding (p 46)."

Combining multiple instruments to serve these important purposes brought about a multitude of problems (Hirdes, 2001), which led to the development of the Resident Assessment Instrument-Mental Health (RAI-MH). Because the RAI had various other assessment instruments for use in other areas there was the additional benefit of the RAI-MH's capacity to allow for an integrated health information system linking mental health with other sectors of the health care arena (Hirdes et al, 1999).

The WHO 2001 stressed the importance of "understanding how inseparable mental and physical health really are, and how their influence on each other is complex and profound" (p. ix). An integrated health information system would make it possible to

compare the needs of patients in mental health treatment with individuals in other treatment sectors. This would decrease assessment burden while simultaneously improving continuity of care as patients move (as they frequently do) from one sector to another (Hirdes et al, 2001). Hirdes wrote, "Unlike other instruments, RAI instruments include algorithms to organize and interpret the assessment data in order to alert clinicians to the potential need to develop interventions and care plans in a serious of functional areas. No mental health assessment instruments had been identified that employed this innovation in assessment methods" (Hirdes, et al., 2001).

The RAI-MH is intended to measure need and organize information relevant to functioning in a way that supports, rather than replaces, clinical decision making by mental health professionals"(Hirdes, 2001, p 45). The Resident Assessment Instrument–Mental Health (RAI-MH) comprehensively assesses psychiatric, social, environmental, and medical issues at intake, emphasizing patient functioning. The interRAI-MH was developed as an extension of a series of instruments widely used internationally in the area of geriatric (and more recently, general patient) care. These instruments or assessment tools are collectively referred to as the interRAI (international **R**esident **A**ssessment **I**nstrument) suite of instruments. Various versions have been developed which target specific patient/client groups. For example, the original RAI 2.0 for nursing homes and long term care facilities; the RAI-Home Care version for frail elderly community-based residents and the RAI-Acute Care version targeting elderly patients in acute care hospitals. At this point, the interRAI-MH has undergone extensive psychometric testing for both reliability and validity and is widely used in Canada (Hirdes, 2001). Its Resident Assessment Instrument 2.0 (RAI 2.0) has been mandated in

long-term care settings in the United States, Canada, and Iceland, and other InterRAI instruments are being identified for government-sponsored implementation. InterRAI members also have conducted an extensive program of international comparisons based on these efforts (Fries et al, 1996).

The interRAI-MH is a comprehensive assessment instrument for evaluating the demographics, characteristics, needs, strengths, and preferences of patients receiving mental health services. It was designed to be a user-friendly assessment system that will inform and guide comprehensive care planning in both institutional and community-based settings. The instrument focuses upon symptoms, functional state, and quality of life and helps providers to make appropriate decisions about patient care. The RAI has been used successfully to study the needs of chronically mentally ill individuals in nursing home settings (Phillips & Spry, 2000) and at this point, the InterRAI-MH has undergone extensive psychometric testing for both reliability and validity and is widely used in Canada. (Hirdes, 2002).

As this study seeks to explore the relationship between Abuse and pain the formal descriptions of the types of abuse and types of pain as listed in the Inter-RIA-MH are important.

The InterRAI-Mental Health (version 09) for Inpatient Psychiatry Assessment Manual defines sexual assault/abuse as “any form of sexual abuse/assault experienced by the patient, regardless of age when the incident(s) occurred (e.g., an adult being subject to non-consenting fondling, exposure of genitals, sexual intercourse/rape. For incidents that occurred in childhood, all of the above should be considered)” (p. 97). The Assessment Manual is specific in stating that this area should be approached with great sensitivity,

"and the recording of the response should not reflect what [the administer of the assessment] believe[s] may or may not have happened, but rater, what the patient or the record indicates" (p. 97).

Physical assault/abuse is defined as, "any form of physical abuse experienced by the patient regardless of age when the incident(s) occurred (e.g. any incident resulting in non-accidental injury, physical confinements, excessive physical discipline, or withdrawal of necessities of life such as food and shelter)" (p.97).

Emotional abuse is, "the infliction of inordinate mental, emotional, and spiritual anguish, including excessive criticism, humiliation, shame, and loss of culture" (p. 97) A victim of emotional abuse is a person who has been "in a pervasive and hostile emotional environment created by an abuser for the purposes of control. The abused person's self esteem, identity, energy, ability to feel and question, wants and needs are invalidated by the abuser" (p. 97).

The interRIA-MH records both the frequency and intensity of the signs and symptoms of pain. Personnel trained by a RN with extensive experience in the use of the interRAI-MH are responsible for collecting signs, symptoms, observations, the patient's perceived and described pain, family members and staff reports, and other indicators of pain such as body posture and activity. The interRAI-MH has an imbedded pain scale which uses items on pain frequency and intensity to create a score that ranges from 0 to 3 (See Table 1).

The InterRAI-MH defines pain as an, "unpleasant sensory and emotional experience that is generally associated with actual or potential tissue damage" (p. 89).

Pain frequency is how often a person experiences pain while pain intensity is a measure of the level of pain as the person perceives it.

Summary

This study was an investigation into the relationship(s) between physical, sexual, and emotional abuse (Abuse) and reported pain levels among psychiatric inpatients in two locations—Burlington, Vermont and Ontario, Canada. The study investigated whether individuals with a history of abuse on inpatient psychiatric units reported similar levels of pain when compared to those without a history of abuse. It was hypothesized, based on the review of literature, that individuals with a history of abuse would report more pain than those without a history of abuse.

The current chapter reviewed literature relevant to the current study. The examination of Abuse, types of abuse (including physical, sexual and emotional abuse), and the association between Abuse and psychological distress were connected to an examination of literature on physical pain. The importance of comparing the two locations used in the current study were discussed and similarities and differences between the United States and Canada were explored. The assessment instrument utilized in this study was discussed in detail and the instrument's definitions of specific types of abuse were provided. The subjectivity of physical pain as well as the InterRAI-MH's definitions of pain, pain intensity, frequency, and the use of a Pain Scale were discussed. The following chapter summarizes the research methods used in this investigation.

CHAPTER III

METHODOLOGY

Study Aims & Hypotheses

This study was an investigation into the relationship(s) between physical, sexual, and emotional abuse (Abuse) and reported physical pain levels among psychiatric inpatients in two locations—Burlington, Vermont and Ontario, Canada. The study investigated whether individuals with a history of Abuse on inpatient psychiatric units reported similar levels of pain when compared to those without a history of Abuse. It was hypothesized, based on prior literature, that individuals with a history of Abuse would report more pain than those without a history of Abuse.

Research Design

This study used secondary data analysis of data collected in Ontario, Canada and Burlington, Vermont. Data was collected using the interRAI-MH. All data was collected by personnel trained by a RN with extensive experience in the use of the interRAI-MH. Data was analysed using SAS system for Statistical Analysis (version 9.1).

Sample

Participants were recruited from two hospitals acute psychiatric inpatient units in Burlington, Vermont (n=68) and Ontario Canada (n=741). All subjects were 18 years of

age or older. Only patients who provided informed consent were included in the study. No biological materials were requested or collected. All data was collected by personnel trained by a RN with extensive experience in the use of the interRAI-MH. There were no foreseeable risks to the subjects: all items included in the interRAI-MH are questions that would normally be asked of psychiatric inpatients or those familiar with them. In order to protect vulnerable patients from coercion or undue influence, each patient was given an information letter and consent form to review and sign. For patients with mental status changes that rendered them unable to make informed decisions, their legal guardian or appropriate proxy was solicited for permission to use the instrument. All patients 18 years of age or older, who could give informed consent, or who had a legal guardian, who are admitted to one of the inpatient psychiatric units at Fletcher Allen Health Care hospital (FAHC) were eligible to participate in this study.

Procedure

At the University of Vermont (UVM) and the affiliated hospital, FAHC, research involving human subjects must first be approved by the Committees on Human Research regardless of whether or not the project meets the strict federal definition of “research.” Approval involves the completion of a study protocol description. However, prior to submitting the protocol for approval it was necessary to complete an online tutorial entitled, "The Protection of Human Subjects in Research" at the University of Vermont. Tutorial topics include a history of the ethical guidelines and federal regulations governing research with human subjects; a description of the roles and responsibilities of the research investigators and other groups for protecting human subjects; the terms of

the University of Vermont's Assurance with the Office for Human Research Protections; and the research categories that are governed by the regulations and by the Assurance; the different levels of IRB review, from research that is exempt to special considerations for vulnerable populations; protocol submission requirements; the elements of informed consent; and the conduct of research including the reporting of adverse events. Following the completion of the tutorial it was required the researcher pass an examination on the content covered in the tutorial. The exam was successfully completed and the protocol was submitted to the University of Vermont's Committees on Human Research and was later approved and is included in Appendix A.

Data was analyzed on the SAS System for Statistical Analysis, which began as a statistical analysis system in the early 1970's. The SAS Institute was founded in 1976. Since that time, the SAS System has expanded to become an evolving system for complete data management and analysis. Among the products making up the SAS System are products for management of large databases; statistical analysis of time series; statistical analysis of most classical statistical problems, including multivariate analysis, linear models (as well as generalized linear models), and clustering; data visualization and plotting. Other statistical systems which are of the same general vintage as SAS are MINITAB, BMDP and SPSS, however in comparison to SAS the other systems remain smaller scale systems.

Use of secondary data for this study provided many benefits. Secondary data analysis is unobtrusive, faster, less expensive, it allows for the avoidance of data collection problems and it provides bases for comparison. In this study the use of secondary data was critical for gaining access to the inpatient psychiatric population as a

non-faculty researcher. Some disadvantages in using secondary data analysis include the data availability, level of observation, quality of documentation, data quality control, and outdated data. These disadvantages were kept in mind throughout this study.

A series of embedded scales were developed for the interRIA instruments to help professionals understand the characteristics of a patient's state of functioning. This study focused on the embedded Pain Scale, which was initially developed for use in nursing homes and later translated for use with other interRAI instruments. The Pain Scale has been shown to be highly predictive of pain on the Visual Analogue Scale in nursing homes residents in the USA (Fries et al., 2001). The scale uses items on pain frequency and intensity to create a score that ranges from 0 to 3 (See Table 1).

Table 1 Pain Scale Score Description

Score	*Description*
0	No pain
1	Less than daily pain
2	Daily pain, not severe
3	Severe daily pain

Data Analysis

Data was analyzed on the SAS System for Statistical Analysis. Data was collected at both the Burlington, Vermont location and the Ontario, Canada location using the interRAI-MH, Data was analyzed at the University of Waterloo by a research associate at ideas for Mental Health, University of Waterloo, Homewood Research Institute. SAS version 9.1 was used to conduct Chi squared tests and Fisher exact tests with level of significance = 0.05. No unusual or complex procedures were used.

Because this study was testing for group differences using nominal data a chi-square test was used. A set of data is said to be nominal if the values/observations belonging to it can be assigned a code in the form of a number where the numbers are simply labels. Chi-square tests are used to see if there is a relationship between two categorical variables. Because of the small sample size in the Vermont cohort there was a chance that fewer than 5 people would fall into a category. The Fisher's exact test is used when you want to conduct a chi-square test, but one or more of your cells has an expected frequency of five or less. While the chi-square test assumes that each cell has an expected frequency of five or more, the Fisher's exact test has no such assumption and can be used regardless of how small the expected frequency is.

The null hypothesis for the chi-square test is that there is no difference between the groups in how people are distributed in the categories of the nominal level variable. In other words, the null hypothesis for this study was that no difference would be found between individuals with a history of Abuse and those without a history of Abuse. The alternative hypothesis is that there is a difference between the groups—a difference that is beyond what is expected from sampling error. This question is answered by comparing the number of people observed to fall into each category or cell in the table with the number expected to fall in each category. The only limitation on the use of the chi-square test is that no fewer than five people can be expected in each cell in the table.

CHAPTER IV

FINDINGS

This study was an investigation into the relationship(s) between physical, sexual, and emotional abuse (Abuse) and reported physical pain levels among psychiatric inpatients in two locations—Burlington, Vermont and Ontario, Canada. The study investigated whether individuals with a history of abuse on inpatient psychiatric units reported similar levels of physical pain when compared to those without a history of abuse. It was hypothesized, based on prior literature, that individuals with a history of abuse would report more physical pain than those without a history of abuse.

This study compared, through use of secondary data statistcal analyses using chi-square and the Fishers exact test, the two populations of psychiatric patients. Initial data analysis showed a significant difference in the history of Abuse (physical, sexual, and/or emotional) between the Vermont and Ontario cohorts with 73.5% of Vermont and 29% of Ontario patients reporting a history of Abuse ($p<.0001$). Secondary analyses were conducted to provide a more detailed account of the interactions between Abuse and pain among and between the Vermont and Ontario participants. No significant difference in the proportion of type of abuse experienced were found between the two countries. Table 2 shows that of the patients who reported a history of abuse, the same proportion of type of abuse was found for each subtype (physical, sexual, emotional) between Vermont and Ontario participants. Of interest is the sexual abuse row where Vermont and Ontario

appear to have a sizeable difference in the proportion of participants reporting sexual abuse. Despite this difference, Chi Square analysis showed no significance, possibly due to the relatively small Vermont sample size.

Table 2: Abuse by Type - Vermont and Ontario

	Vermont (%)	Ontario (%)	p
Physical Abuse	68	56.28	0.13
Sexual Abuse	62	46.98	0.06
Emotional Abuse	83.67	81.4	0.7

Significance was found in the levels and types of pain experienced between Vermonters with and without a history of Abuse. Table 3 shows that a greater proportion of Vermonters without a history of Abuse experienced no physical pain than those with a history of Abuse. Those with a history of Abuse were not only more likely to have any type of pain, but specifically were more likely to experience daily pain (mild, moderate, and severe) than those without an Abuse history. Findings on the comparison between those with and without a history of Abuse within Vermont are also presented in Figure 1.

Table 3: Pain: Vermont psychiatric inpatients with and without a history of emotional, physical, or sexual abuse (n=50)

Pain Scale	VT with Abuse History	VT without Abuse History	p
No Pain	28	61.11	
< Daily Pain	2	5.56	
Daily - Mild/Moderate Pain	40	27.78	0.04
Daily - Severe/Excruciating Pain	30	5.56	

Figure 1

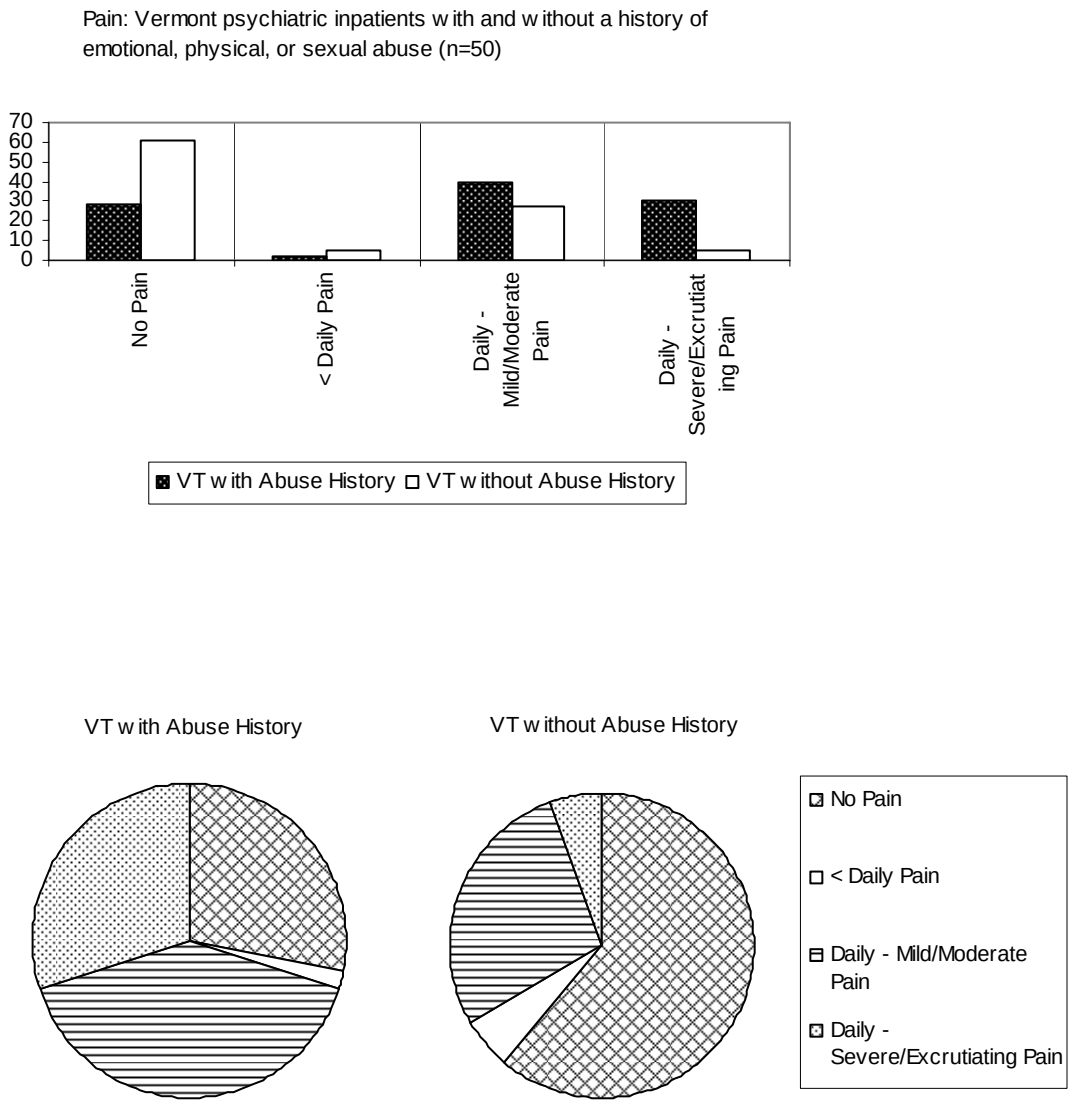


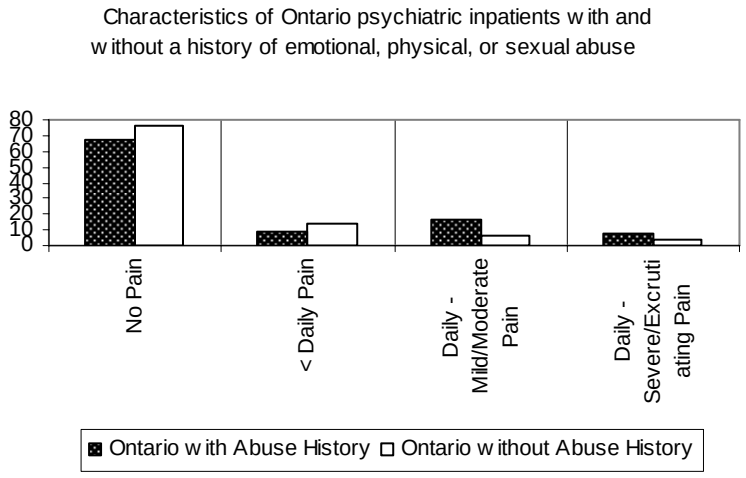
Table 4 is a display of the comparisons made of Ontario patients with and without Abuse. Significance was found in the levels and types of pain experienced by Ontario patients with and without a history of Abuse and shows that a greater proportion of Ontario patients without a history of Abuse experienced no pain than those with a history of Abuse. Similar to the Vermont findings, those with a history of Abuse were more

likely to experience daily pain (mild, moderate, and severe) than those without an Abuse history and these findings are also represented in Figure 2.

Table 4: Characteristics of Ontario psychiatric inpatient patients with and without a history of emotional, physical, or sexual abuse

Pain Scale	Ontario with Abuse History	Ontario without Abuse History	p
No Pain	67.44	75.81	
< Daily Pain	8.84	14.1	0.04
Daily - Mild/Moderate Pain	16.28	6.86	
Daily - Severe/Excruciating Pain	7.44	3.24	

Figure 2

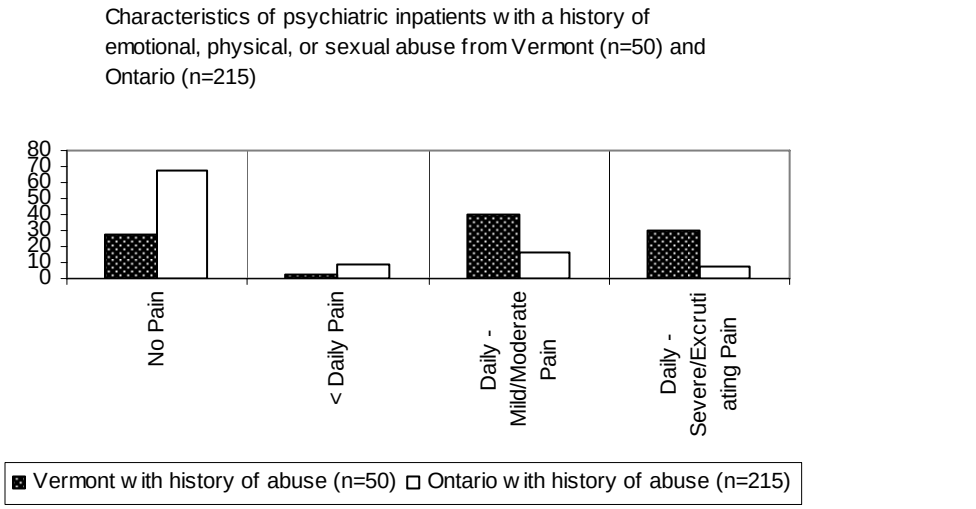


A significant difference was found between the Vermont and Ontario cohorts on the mean scores on the Pain Scale. Table 5 and Figure 4 present the findings on the comparisons of psychiatric inpatients from Ontario with a history of Abuse, a greater proportion of psychiatric inpatients with a history of Abuse from Vermont experience more daily pain (70% vs. 23.7%, $p<0.0001$) and more severe types of pain.

Table 5: Characteristics of psychiatric inpatients with a history of emotional, physical, or sexual abuse from Vermont (n=50) and Ontario (n=215)

Pain Scale	Vermont with history of abuse (n=50)	Ontario with history of abuse (n=215)	p
No Pain	28	67.4	
< Daily Pain	2	8.8	
Daily - Mild/Moderate Pain	40	16.3	<0.0001
Daily - Severe/Excruciating Pain	30	7.4	

Figure 3



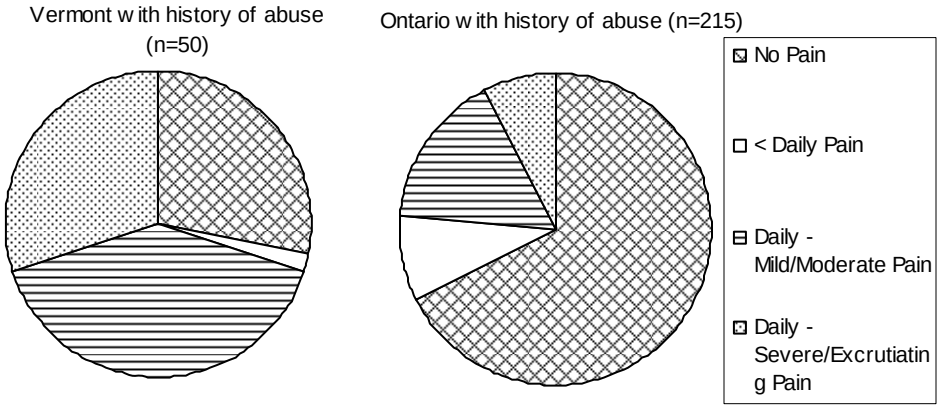


Table 6, Table 7, and Table 8 as well as Figure 4, Figure 5, Figure 6, Figure 7, Figure 8, and Figure 9 represent the comparisons made between Vermont and Ontario separated by type of abuse—all comparisons were significant with Ontario having a higher proportion of patients reporting no pain and Vermont having a higher proportion of patients report more types of physical pain as well as more daily pain than Ontario patients.

Table 6: Characteristics of psychiatric inpatients from Vermont and Ontario with a history of physical abuse

Pain Scale	Vermont with history of physical abuse	Ontario with history of physical abuse	p
No Pain	17.7	66.94	
< Daily Pain	2.94	9.09	<0.0001
Daily - Mild/Moderate Pain	50	16.53	
Daily - Severe/Excrutiating Pain	29.41	7.44	

Figure 4

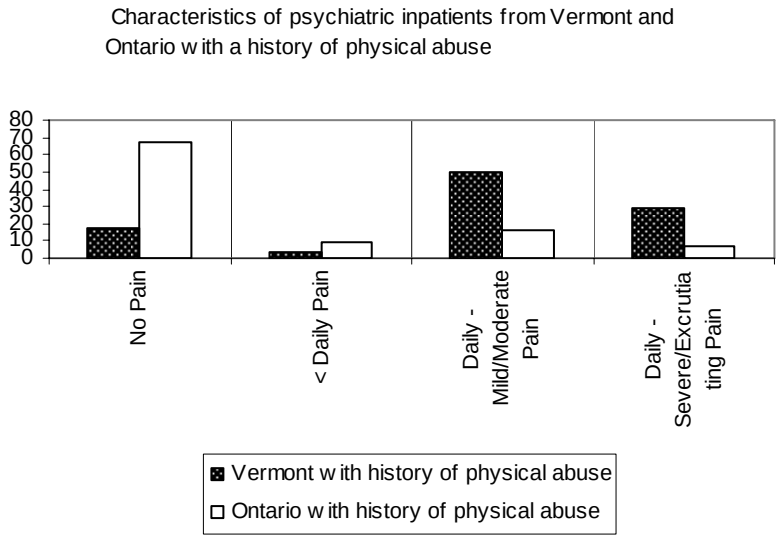


Figure 5

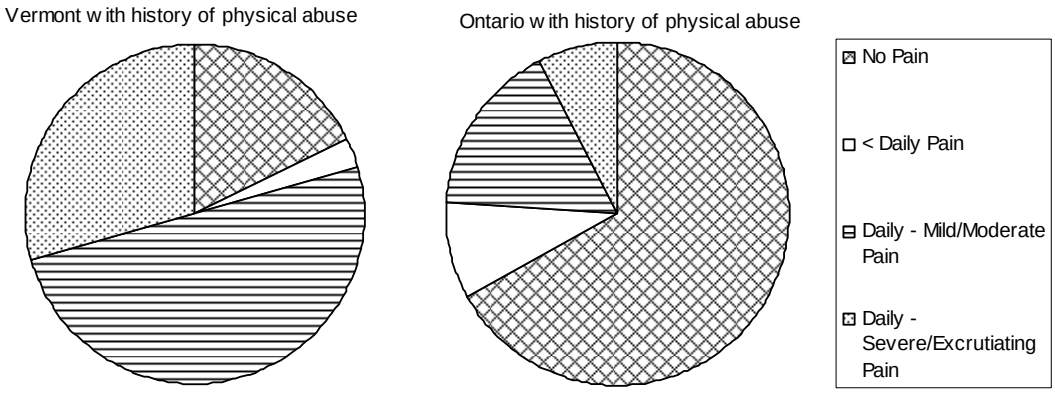


Table 7: Characteristics of psychiatric inpatients from Vermont and Ontario with a history of sexual abuse

Pain Scale	Vermont with history of sexual abuse	Ontario with history of sexual abuse	p
No Pain	35.48	61.39	
< Daily Pain	0	11.88	<0.0002
Daily - Mild/Moderate Pain	29.03	18.81	
Daily - Severe/Excruciating Pain	35.48	7.92	

Figure 6

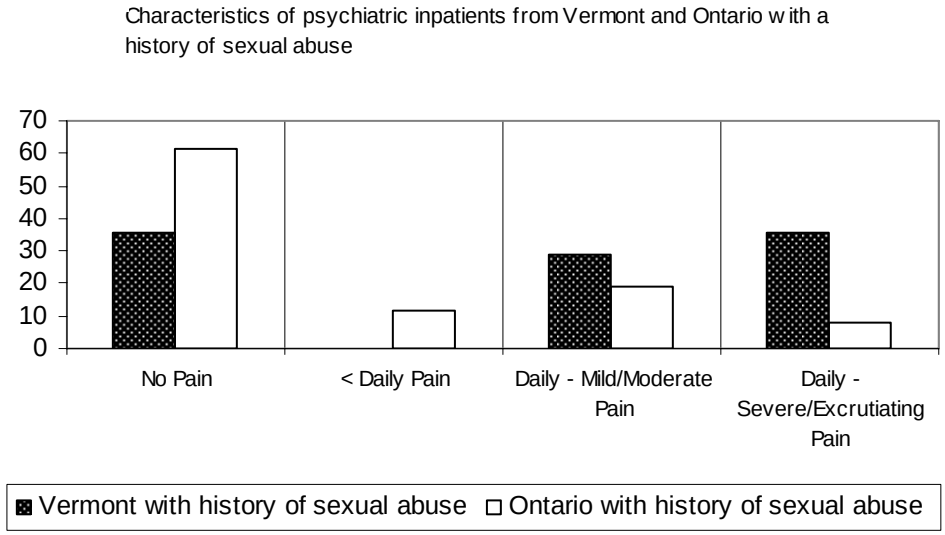


Figure 7

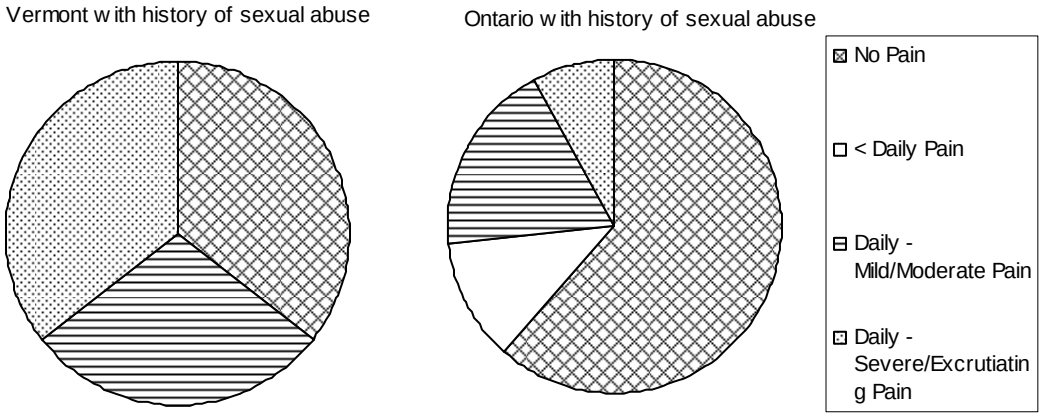


Table 8: Characteristics of psychiatric inpatients from Vermont and Ontario with a history of emotional abuse

Pain Scale	Vermont with history of emotional abuse	Ontario with history of emotional abuse	p
No Pain	19.51	65.71	
< Daily Pain	0	8.57	
Daily - Mild/Moderate Pain	46.34	17.14	<0.0001
Daily - Severe/Excruciating Pain	34.15	8.57	

Figure 8

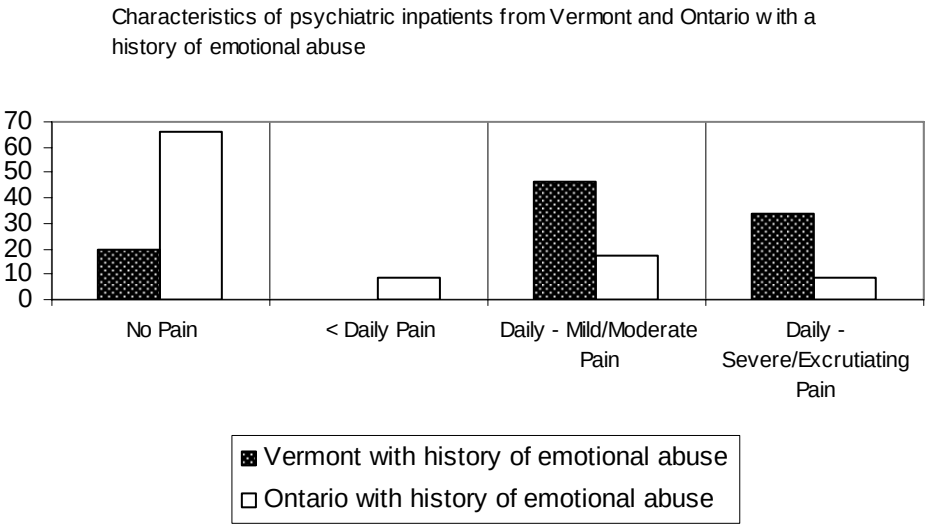
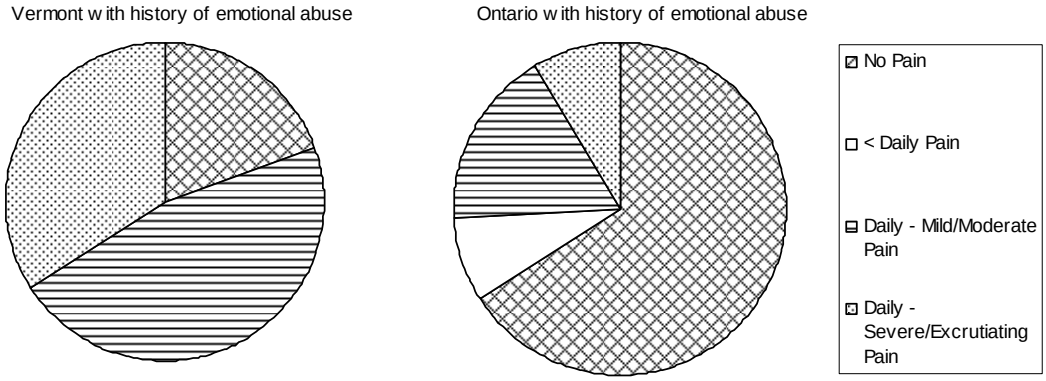


Figure 9



This study demonstrated the powerful association between physical, sexual, and emotional abuse (Abuse) and physical pain in psychiatric inpatients. Results demonstrated a significant difference in the rates of Abuse between the two locations, however, results overwhelmingly confirmed the hypothesis that patients with Abuse histories would report more types of pain as well as more severe pain than their counterparts without a history of Abuse. As hypothesized, this study found that in both locations individuals without a history of Abuse were significantly more likely to report having no pain than those with a history of Abuse. Additionally, patients in both locations with a history of Abuse were more likely to report more daily, mild, moderate, and severe types of pain.

When analyzing the data between the two countries comparisons were significant (regardless of Abuse history) and showed Ontario patients having a higher proportion of patients reporting no pain and Vermonter patients reporting more types of pain and more daily pain than Ontario patients.

CHAPTER V

DISCUSSION

The purpose of this study was to investigate the relationships between inpatient psychiatric patients' history of physical, sexual, and/or emotional abuse (Abuse) and their current experience of physical pain. This study's findings demonstrate the powerful relationship between Abuse and physical pain in psychiatric inpatients. These findings are generally in agreement with previous studies where a history of Abuse has been demonstrated to have compelling long-term negative effects on both psychological, physical wellbeing, and chronic pain (Finestone et al., 2000; Linton, 1997, 2002; Walker et al., 1995; Robinson & Riley, 1999). As hypothesized, this study found that individuals in both the Ontario and Vermont cohorts without a history of Abuse were significantly more likely to report having no pain or minimal pain than those with a history of Abuse—who were more likely to report more daily, mild, moderate, and severe types of pain.

Initial data analysis showed a significant difference in the history of Abuse (physical, sexual, emotional) between the Vermont and Ontario cohorts with 73.5% of Vermont and 29% of Ontario patients reporting a history of abuse ($p<.0001$). These drastic differences were striking and led to an initial review of the coding and all other data collection processes. This review revealed no mishaps and further puzzled the researcher. A later study is planned with the same data to reveal a more detailed

explanation of these extreme differences. Currently, it is difficult to hypothesize the factors influencing this drastic difference, however, cultural and demographic differences, as well as differences in reporting requirements and trend, may help to explain the difference. No significant difference was found between the two countries in the types of Abuse experienced which suggests that while it appears Vermont has a higher rate of Abuse, the proportion of type of abuse is similar between locations. As stated, reporting techniques and investigation processes are likely to influence the current study's findings.

When analyzing the data between the two countries, comparisons were significant (regardless of Abuse history) with Ontario having a higher proportion of patients reporting no pain and Vermont patients reporting more types of pain as well as more daily pain than patients in Ontario. This finding is striking and raises many interesting areas for more in depth exploration as to why Vermonters appear to report more pain and types of pain than their Ontatio counterparts. Investigation in to possible explanations of this difference calls for further research in this area. However, examination of pain management in these two countries may explain some of the differences found regarding the reported pain. Canada offers numerous pain medications over the counter (OTC) that the U.S. restricts. Specifically, Canada has fewer restrictions on higher strength pain killers. The availability of these medications is likely to have impacted the participants reported pain.

Additionally, exploration into the impact of how the two health care systems impact these findings is also warranted. Canadians have universal access to publicly funded health care services including physicians and hospitals while the majority of U.S.

citizens require private insurance to cover the cost of medical care of any type. This major difference is likely to account for some of the results found in the current study.

Lasset and colleagues' 2006 study found that U.S. respondents, compared to Canadians, were less likely to have a regular doctor, more likely to have unmet health needs, and more likely to forgo needed medications. This, along with the results from the current study add to the understanding of why Vermonters reported more severe types of physical pain when compared to their Ontario counterparts. It is possible that Vermont patients entered their hospitalization in greater distress given their likelihood of having more unmet health needs than the Ontario patients. Nonetheless, future studies are suggested to shed further light on this situation. Additional research in this area should help to create a better understanding of the relationship(s) between Abuse and physical pain among not only psychiatric inpatients but a wider population as well.

Findings of analyses within the countries were similar with a greater proportion of both Vermont and Ontario patients without a history of Abuse experiencing no pain than those with a history of Abuse. Those with a history of Abuse were more likely to have any type of pain and specifically more likely to experience daily pain (mild, moderate, and severe) than those without an Abuse history. This supports the study's hypothesis that individuals with a history of Abuse would report more severe pain than their counterparts without a history of Abuse.

This research points to the importance of a biopsychosocial perspective for understanding pain. The emergence of a biopsychosocial perspective on mental health has in many ways paralleled development of scientific thought in medicine (Gatchel, 1999). The view that the mind and body function separately without interchange, a

"dualistic" viewpoint, has dominated medicine and effected the understanding of the relationship between mental health and pain until quite recently.

The 1960's *gate control theory of pain* is the idea that physical pain is not a direct result of activation of pain receptor neurons, but rather its perception is modulated by interaction between different neurons. Similarly stated it is a theory that explains how pain can be modulated in the spinal cord. This theory began to highlight the interaction of physiology and psychological factors which lead to pain perception and response. The more recent view of pain is a convergence of past models in a biopsychosocial approach which has recently influenced the understanding of pain in medicine, psychiatry, psychology, social work, and other related fields.

The biopsychosocial model was initially introduced in the late 1970's and further developed throughout the 1970's and 1980's. The past view that organic pain differed from psychogenic pain suggested the pain was due solely to psychological causes and was not in fact "real" pain unless an organic basis existed. Clearly this model hindered the medical treatment of the pain, but also hindered treatment available from mental health professionals. Today, the DSM-IV does not list psychogenic pain as a diagnostic entity and the assessment and diagnosis of pain does not rule out the organic or psychosocial factors at work in individuals (Gatchel, 2004). The current study's findings overwhelmingly support the use of a biopsychosocial model.

This study's use of the interRAI-MH proved beneficial in many ways. Firstly, as previously discussed, the use of secondary data allowed for the collection of data which would not have been possible in the given time constraints. While this current study only focused on the association between Abuse and physical pain, the use of the interRAI-MH

allows for further studies of greater magnitude to be explored. As a comprehensive standardized instrument the interRAI-MH is more than simply a questionnaire but rather an assessment tool for clinical use that is accompanied with a series of care planning protocols. Assessment with the interRAI-MH allows service providers to assess key domains of function, mental and physical health, social support, and service use while also evaluating for the strengths and preferences for treatment of adults with mental illness in inpatient settings. The InterRAI-MH is also compatible with other internationally used InterRAI instruments which, as Hirdes, et al, 2006 points out, "improves the continuity of care through a seamless health assessment system across multiple settings, and promotes a person centered approach to care" (p. 6). This compatibility also increases the ease of comparative future studies.

This study contributes to the field of social work as well as other mental health professions by clearly demonstrating the existence of a strong association between physical, sexual, and emotional abuse and physical pain—with a history of Abuse increasing the likelihood of the experience of not only pain, but more severe types of pain. This research adds to the data supporting the use of a biopsychosocial model that views physical disorders such as pain as the result of dynamic interaction among physical, psychological, and social factors. Clinicians should have an awareness of the Abuse—Pain association and their practice should reflect their understanding of the biopsychosocial model.

Additionally, this research has other practical implications. First, this study confirms past research and indicates a widespread occurrence of Abuse in adult psychiatric patients. Additionally, these findings support the notion that prevention of

Abuse could contribute to a reduction in psychiatric and somatic symptomatology. This research also reveals the importance of assessing for Abuse in patients with pain complaints. These results also support the need for effective treatments for survivors of Abuse that address both psychological and physical symptoms.

In addition to the areas of further study previously suggested, the current study also indicates that a major contribution could be made by studying the aforementioned issues longitudinally by measuring the frequency and intensity of psychological and physical pain during various modes of treatment.

Several limitations of this study constrain the interpretation of the findings. First the relatively small sample size, with only 50 participants in the Vermont cohort, limited the statistical power. While secondary data analyses can provide numerous advantages (i.e. unobtrusive, fast, inexpensive, avoid data collection problems, provide bases for comparison) there are also some notable general disadvantages including data availability, level of observation, quality of documentation, data quality control, and outdated data. However, thorough examination of the quality of documentation and data control was conducted and maintained by the IRB at UVM and the primary researcher, a full time faculty in the department of psychiatry. Data was not outdated as it was collected less than one year prior to these analyses. However, this research was limited by the small sample size available in the Vermont population. Given a larger sample size it is possible that some comparisons would have shown more significance.

Summary

The purpose of this study was to investigate the relationships between inpatient psychiatric patients' history of physical, sexual, and/or emotional abuse (Abuse) and their current experience of physical pain. The two data sets were drawn from hospitals in Vermont, USA and Ontario, Canada. Results demonstrated a significant difference in the rates of Abuse between the two locations, however, results overwhelmingly confirmed the hypothesis that patients with Abuse histories reported more types of pain as well as more severe pain than their counterparts without a history of Abuse. These findings are generally in agreement with previous studies and support the use of a biopsychosocial model of assessment and treatment. Social Work clinicians and other mental health providers need to understand the dynamic interaction among physical, psychological, and social factors and should assess for Abuse history among patients with pain complaints.

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APPENDIX A

The University of Vermont
COMMITTEES ON HUMAN RESEARCH **RESEARCH PROTECTIONS OFFICE**
SERVING THE UNIVERSITY OF VERMONT
AND FLETCHER ALLEN HEALTH CARE
WEB SITE: HTTP://WWW.UVM.EDU/IRB/
OFFICE OF SPONSORED PROGRAMS
245 SOUTH PARK, SUITE 900, COLCHESTER, VT 05446
TELEPHONE: (802) 656-5040 FAX: (802) 656-5041

January 24, 2007

MEMO TO: Terry Rabinowitz, M.D.

FROM: Gale Weld, Research Review Administrator

SUBJECT: CHRMS 07-129
"Characteristics of Psychiatric Inpatients at Fletcher Allen Health Care and Comparisons with Those of an Ontario Cohort"

Attached is a signed assurance form which certifies that this application has been reviewed and approved. If applicable, the original form, along with a copy of any modifications in the research plan required by the Committee should be sent to the funding agency; you should make a copy for your files.

Also enclosed is a copy of your approved request for waiver of informed consent and waiver of individual authorization for disclosure of PHI.

Federal regulations and University policy require that investigators provide the Committee with the information noted below as the project proceeds. This is essential to maintain accurate protocol files.

1) Immediate notice of any injuries or other unanticipated problems involving risks to subjects or others. These must be reported on the form "Report of Adverse Events and/or Unanticipated Problems" which may be obtained from the Committee office.

2) Submission of any proposed protocol modifications which affect human subjects should be submitted for review prior to implementation. Submit protocol modifications with the form, "Request for Modification / Amendment to Approved Protocol".

3) A brief periodic update on the progress of the project due **January, 2008**; the appropriate forms will be sent to you by this office prior to that date.

4) The date on which the protocol becomes inactive.

5) A copy of all recruitment notices and/or advertisements for human subjects must be approved by the Committee on Human Research prior to printing or posting. Contact the Committee office for guidelines.

NOTES: 1. Copies of the original consent form containing the CHRMS approval stamp with the expiration date included must be used. Also, the copy of the consent form which is provided to the subject must be signed and dated.

2. All Clinical Cancer Research Protocols must receive approval from both CHRMS and the Vermont Cancer Center's (VCC) Protocol Review Committee. An "Approval to Activate" must be obtained from the VCC prior to commencement of any part of the protocol, including accrual of subjects.

3. For any action requiring full committee review, the expiration date will be based on the date of the meeting at which action was taken. The approval period is based on the level of risk, but can be no more than one year from the date of the meeting.

4. Effective immediately, for those protocols with Data Safety and Monitoring Boards (DSMB's), copies of all reports must be provided to CHRMS as soon as possible.

The University of Vermont
COMMITTEES ON HUMAN RESEARCH
SERVING THE UNIVERSITY OF VERMONT
AND FLETCHER ALLEN HEALTH CARE
WEB SITE: www.uvm.edu/irb

RESEARCH PROTECTIONS OFFICE
OFFICE OF SPONSORED PROGRAMS
245 South Park, Suite 900, Colchester, VT 05446
Telephone (802) 656-5040 FAX: (802) 656-5041

CHRMS# : 07-129

PROTECTION OF HUMAN SUBJECTS ASSURANCE

Title: Characteristics of Psychiatric Inpatients at Fletcher Allen Health Care and Comparisons with Those of an Ontario Cohort

Principal Investigator: Terry Rabinowitz MD

Institution: University of Vermont and State Agricultural College, Burlington, VT 05405

This institution has an approved assurance of compliance on file with the Department of Health and Human Services which covers this activity.

Assurance number for University of Vermont and State Agricultural College: FWA 00000723
IRB number: IRB 00000485
(Fletcher Allen Health Care Assurance number: FWA 00000727)

CERTIFICATION OF IRB REVIEW

X This activity has been reviewed and approved by an IRB in accordance with the requirements of 45 CFR 46, including its relevant Subparts; and, when applicable, with the requirements of 21 CFR 50 and 21 CFR 56.

Date of approval JAN 23 2007
Date of expiration JAN 22 2008 JAN 22 2008 1/23/07

Full IRB review _____ Expedited review ___X___

___ This activity contains multiple projects, some of which have not been reviewed. The IRB has granted approval on condition that all projects covered by 45 CFR 46 will be reviewed and approved before they are initiated and that appropriate further certification will be submitted.

As a condition of approval, this institution's Committee on Human Research required ___ did not require X changes and/or modifications to the above referenced application. (A list of required changes and/or modifications is attached as appropriate.)

Institutional Signature/Date: 1/23/07
Name and Title of Official: David Kaminsky, M.D., Associate Chair, Committee on Human Research in the Medical Sciences

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Request for Waiver of Informed Consent/Authorization/Documentation Approval

CHRMS# : 07-129 PI: Terry Rabinowitz MD

Title: Characteristics of Psychiatric Inpatients at Fletcher Allen Health Care and Comparisons with Those of an Ontario Cohort

APPROVAL OF REQUEST FOR WAIVER OF INFORMED CONSENT OR ALTERATION OF INFORMED CONSENT PROCEDURES

Approval of: [X] **Waiver of Informed Consent** [ ] **Alteration of Informed Consent Procedures** [ ] **N/A**

The University of Vermont Institutional Review Board ("IRB") hereby approves a waiver or alteration of the requirement for individual informed consent for the above named protocol.

I. The IRB has determined that the waiver of informed consent or alteration of informed consent satisfies the following criteria:
   A. The research involves no more than minimal risk to the subjects.
   B. The waiver or alteration will not adversely affect the rights and welfare of the subjects.
   C. The research could not practicably be carried out without the waiver or alteration. AND
   D. Whenever appropriate, the subjects will be provided with additional pertinent information after participation.

II. This waiver or alteration has been reviewed and approved under normal or expedited review procedures, in accordance with the requirements of 45 CFR 46, including its relevant Subparts.

APPROVAL OF REQUEST FOR WAIVER OF INDIVIDUAL AUTHORIZATION FOR DISCLOSURE OF PHI

[X] **Approval of Waiver of Individual Authorization for Disclosure of PHI** [ ] **N/A**

The University of Vermont Institutional Review Board ("IRB") hereby approves a waiver of the requirement for individual authorization for use or disclosure of protected health information for the above named protocol.

I. The IRB has determined that the waiver of authorization satisfies the following criteria:
   A. The use or disclosure of protected health information involves no more than minimal risk to the privacy of the individuals affected by this research study, based on, at least, the presence of the following elements:
      1. There is an adequate plan to protect the identifiers from improper use and disclosure;
      2. There is an adequate plan to destroy the identifiers at the earliest opportunity consistent with conduct of the research; and
      3. The researcher has provided adequate written assurances that the protected health information will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research study, or for other research for which the use or disclosure of protected health information would be permitted by the HIPAA Privacy Regulations.
   B. The research could not practicably be conducted without the waiver; and
   C. The research could not practicably be conducted without access to and use of the protected health information.

II. This waiver has been reviewed and approved under normal or expedited review procedures, in accordance with the requirements of 45 CFR 46, including its relevant Subparts.

III. The IRB has considered the extent of the protected health information necessary for this research study, and has concluded that it is the minimum necessary to accomplish the objectives of the research.

APPROVAL OF REQUEST FOR WAIVER OF DOCUMENTATION OF INFORMED CONSENT

[ ] **Approval of Waiver of Documentation of Informed Consent** [X] **N/A**

The University of Vermont Institutional Review Board ("IRB") hereby approves a waiver of the requirement for individual informed consent for the above named protocol.

I. The IRB has determined that the waiver of consent documentation satisfies the following criteria:
   A. The research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside the research context.
   B. The only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality.

Institutional Signature/Date: [signature] 1/23/07 JAN 23 2007
Name and Title of Official:

David Kaminsky, M.D.
Associate Chair , Committee on Human
Research in the Medical Sciences