FEASIBILITY OF SCREENING FOR INTIMATE PARTNER VIOLENCE

ASSESSING THE FEASIBILITY OF SCREENING WOMEN FOR INTIMATE PARTNER VIOLENCE AT AN ORTHOPEDIC SURGICAL HOSPITAL IN INDIA

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A Thesis Submitted to the School of Graduate Studies in Partial Fulfillment of the Requirements for the Degree Master of Science in Global Health

McMaster University MASTER OF SCIENCE (2011) Hamilton, Ontario (Global Health)

TITLE: Assessing the Feasibility of Screening for Intimate Partner Violence at an Orthopedic Surgical Hospital in India AUTHOR: Zahra N. Sohani, B.H.Sc. (McMaster University) SUPERVISOR: Dr. Mohit Bhandari NUMBER OF PAGES: xii, 113

ABSTRACT

Background: Intimate Partner Violence (IPV) includes psychological, physical, and sexual abuse (Alhabib et al, 2010). Under conditions of pronounced gender inequality, there is evidence that IPV represents an institutionalized practice in India (Koenig et al, 2003). IPV associated injuries often require consultation with orthopaedic surgeons. Given the infrequency of identification by primary care physicians, orthopaedic professionals have a second opportunity to identify IPV and provide referrals (Bhandari et al, 2009).

Objective: Our study explored the feasibility of screening women for IPV at an orthopaedic hospital in India. Specifically, we assessed prevalence of IPV, method of questionnaire administration, response rate, availability of interventions, environment of administration, and perspectives of health professionals regarding screening.

Study Design: We administered validated questionnaires to consenting women at an orthopedic hospital in Pune during May and June 2011. The instrument was a compilation of two questionnaires designed for assessment of IPV status in emergency departments and family practices, which are applicable for the intended setting. Health professionals involved in conducting the study and in managing care for patients were also interviewed. Data from the interviews were categorized and analyzed for themes. Lastly, the investigator kept a field log with observations and interpretations to address other aspects of feasibility.

Results: Of the 48 eligible women, 47 consented. All women completed the Woman Abuse Screening Tool (WAST) and 45 completed the Composite Abuse Scale (CAS).

Therefore, the response rate was high. Prevalence ranged between 30% (WAST) and 40% (CAS). Method of administration most used was self-report, which indicated a greater disclosure than interview-administration. The environment at this private hospital was considered adequate for conducting a larger study. We found that local support networks existed in the area to help patients who disclosed IPV. Lastly, health professionals were found to be reluctant to screen for IPV.

Conclusions: Our pilot study suggests that conducting a large-scale study in this region is feasible with some methodological modifications. Recommendations for change are outlined.

ACKNOWLEDGMENTS

Many people have been essential to my success and have impacted my life with their love and friendship. I would like to take a moment to acknowledge them and sincerely thank them for touching my life.

Firstly, I would like to express my sincere appreciation and gratitude to my supervisor, Dr. Mohit Bhandari, for his unwavering support. He has been an amazing teacher, advisor, and a true inspiration this past year. Working with him has contributed significantly to my understanding of research and has been integral to my success as a graduate student. I also want to thank my supervisory committee, Dr. Harry Shannon, Diana Tikacz, and Dr. Jason Busse, for their patience, guidance, and feedback. Furthermore, I would not have been able to complete my research if it were not for Mangesh Shende, Dr. Parag Sancheti, Dr. Steve Rocha, and the Sancheti Institute for Orthopedics and Rehabilitation Research Team.

Words cannot describe the gratitude and love I feel for my parents and siblings. Without their motivation, direction, and advice, I would not be where I am today.

My friends have been an incredible source of encouragement and undying support, and for this, I express my appreciation. I especially want to thank Nixshi Narendra for being ever-present and for the incredible motivation.

Lastly, I would like to acknowledge Catherine Kreatsoulas for being an amazing mentor and friend as well as Laurie Kennedy for all her efforts and dedication.

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LIST OF ABBREVIATIONS AND SYMBOLS

IPV	Intimate Partner Violence
WHO	World Health Organization
NFHS	National Family and Health Survey
DAIP	Domestic Abuse Intervention Program
SES	Socioeconomic status
WorldSAFE	World Studies of Abuse in the Family Environment
HIV	Human Immunodeficiency Virus
NSVAW	National Survey of Violence Against Women
TBI	Traumatic Brain Injury
STI	Sexually Transmitted Infection
UTI	Urinary Tract Infection
PTSD	Post-Traumatic Stress Disorder
ED	Emergency Department
PVS	Partner Violence Screen
WAST	Woman Abuse Screening Tool
CAS	Composite Abuse Scale
PC	Patient Centered
CTS 2	Conflict Tactics Scale 2
ISA	Index of Spousal Abuse
ABI	Abuse Behavior Inventory

HITS	Hurt, Insult, Threaten, and Scream
AAS	Abuse Assessment Screen
SIOR	Sancheti Institute for Orthopaedics and Rehabilitation
OPD	Out-Patient Department
IPD	In-Patient Department
HARK	Humiliation Afraid Rape Kick
CMVK	Chetna Mahila Vikas Kendra
MASUM	Mahila Sarvangeen Utkarsh Mandal

DECLARATION OF ACADEMIC ACHIEVEMENT

The following is a declaration that the content of the research in this document has been completed by Zahra Sohani and recognizes the contributions of Dr. Mohit Bhandari, Dr. Harry Shannon, Dr. Jason Busse, and Diana Tikacz in both the research process and the completion of the thesis.

CHAPTER ONE

INTRODUCTION TO INTIMATE PARTNER VIOLENCE

Organization of this Paper

This paper is divided into four chapters. The first chapter presents an overview of Intimate Partner Violence (IPV), including discussions on definitions used to study the phenomena, prevalence of IPV in various parts of the world, signs of abuse in a relationship, the dynamics of abuse, health consequences as a result of IPV, and lastly a brief discussion on response to this abuse.

The second chapter discusses screening in health care settings, with a particular focus on the role of orthopaedic surgeons and professionals as a secondary point of intervention for IPV victims.

The third chapter begins with a discussion on aspects of feasibility and outlines conditions under which conducting the study would be possible. We then present the specific objectives of this study, the methodology used, as well as our results. The findings are also discussed in this chapter with specific attention to strengths and limitations.

The last chapter provides recommendations in light of the feasibility of conducting large-scale prevalence studies at trauma centres in the Indian context.

Definitions

Until recently, violence against women was considered a relatively minor social problem and a private family matter. Recently, however, governments and policy makers have recognized this violence as a significant public concern (WHO, 2005). A major problem in researching violence against women is the lack of consensus regarding its definition (Ellsberg & Heise, 2005). Many of the commonly used terms have different meanings in different countries and cultural contexts and tend to be derived from different theoretical perspectives. Some authors use a broad definition which include all acts that endanger women or contribute to the subordination of women (Ruiz-Perez, Plazaola-Castano & Vives-Cases, 2007). However, to facilitate research, operational definitions are warranted. Specifically, in order to ensure comparability between studies, it is important to know exactly what kind of violence is being investigated.

With regard to the specific conceptualization of abuse against women, there are several terms used in literature. The official United Nations definition of gender-based violence, first presented in 1993 in the Declaration on the Elimination of Violence against Women, includes only harmful behaviors directed at women and girls by men. These include wife abuse, sexual assault, dowry-related murders, marital rape, selective malnourishment of female children, forced prostitution, female genital mutilation, and sexual abuse of female children (Declaration of Violence Against Women, 1993). Furthermore, while in many parts of the world, the term “domestic violence” refers to the abuse of women by current or former partners, some countries understand domestic

violence to be any violence that takes place in the home or is perpetrated by any family member. This could include violence against children and the elderly (Ellsberg & Heise, 2005). Another term, more commonly used in literature, is the term "intimate partner violence". However, even the study and determination of IPV has little consensus in literature and has been discussed with numerous definitions. All the definitions surrounding IPV do, however, commonly discuss as a pattern of psychological, economic, and sexual coercion of one partner in a relationship by another that is punctuated by episodes of physical violence or threats to bodily harm (Gunter, 2007). The benefit of using this definition is that it encompasses all facets of violence against women: physical, emotional, and sexual. The World Health Organization (WHO) defines IPV as "any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship" (Ruiz-Perez et al., 2007). Such behaviour includes emotional violence (constant intimidation, insults and humiliation), sexual relations without consent and other forms of sexual coercion, as well as various dominating behaviours (isolating women from family and friends, watching their movements and restricting their access to information or help) (Ruiz-Perez et al., 2007).

Although men may also be abused, women are overwhelmingly the victims of IPV (Ferris, 2004). In women between the ages of 15 to 44, IPV has been estimated by the WHO to account for between 5-20% of healthy years of life lost (Curtis, Larsen, Helweg-Larsen & Bjerregaard, 2002). IPV has also emerged as a central concern within the field of women and development because it can impede women's economic and social

development and their capacity for self-determination (Koenig, Ahmed, Hossain & Mozumder, 2003).

An important consideration when studying IPV is the transcultural applicability of definitions used since the concept of what constitutes violence against women differs greatly from one country to another (Ruiz-Perez et al., 2007). This consideration is particularly important in the context of international studies. To facilitate research in this context, it is imperative to specifically define what is meant by abusive behaviour and adapt the research methodologies as well as instruments used to the particular cultural context (Ruiz-Perez et al., 2007).

With regard to the present study, IPV will be understood as ‘‘any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship” **(**Ruiz-Perez et al., 2007). Such behaviour includes psychological violence (constant intimidation, insults and humiliation), sexual relations without consent and other forms of sexual coercion, as well as physical abuse (hitting, kicking, and punching) (Ruiz-Perez et al., 2007).

Prevalence of Physical, Emotional, and Sexual Violence

Prevalence studies of violence against women report wide variations in rates between heath care settings. Women of all socioeconomic backgrounds, race, ethnicity, and sexual orientation are at some risk of experiencing IPV (Crowell & Burgess, 1996). Furthermore, there is little understanding how factors such as race, ethnicity,

socioeconomic status, culture and sexual orientation intersect with gender to shape the circumstances in which violence occurs (Crowell & Burgess, 1996).

The reported lifetime prevalence of physical or sexual violence ranged between 15% and 71% among the ten countries studied by the WHO in a multi-country cohort (Garcia-Moreno, Jansen & Ellsberg, 2006). These included Bangladesh, Brazil, Peru, Thailand, United Republic of Tanzania, Japan, Namibia, Serbia and Montenegro, and Samoa. The study used relatively conservative definitions of violence to incorporate for differences that exist between cultures (WHO, 2005). Physical violence was measured by asking if the current or former partner had ever "slapped her, pushed or shoved her, hit her with a fist or something else, kicked, dragged, or beaten her up, choked or burnt her on purpose, threatened her with or used a gun, knife, or other weapon against her" (WHO, 2005). Sexual violence was defined as "being physically forced to have sexual intercourse against her will, having sexual intercourse because she was afraid of what her partner might do, being forced to do something sexual she found degrading or humiliating" (WHO, 2005). Across the 15 different sites in ten countries, 24 097 women completed interviews about their experiences of violence. Between 1172 and 1837 interviews were conducted per site. The percentage of ever-partnered women in the population who had experienced severe physical violence ranged from 4% in Japan (city) to 49% of women in Peru (province) (Garcia-Moreno et al., 2006). Generally, the prevalence of partner violence was much lower in more industrialized countries, such as Japan and Serbia and Montenegro, as compared to other study sites (12-month prevalence

estimates of physical or sexual partner abuse of 3.8% in Japan and 3.7% in Serbia and Montenegro compared with 19–34% in most other settings). These estimates correspond with other documented estimates in industrialized countries, including 12 month prevalence of 1.5% in the USA, 4% in the UK, and 4% in Canada (Garcia-Moreno et al., 2006). The life time prevalence for these countries were higher (Breiding, 2005).

In the WHO multi-country cohort, provincial Bangladesh had among the highest prevalence of violence. Forty one percent of women interviewed reported experiencing physical violence and 46% reported experiencing sexual violence (WHO, 2005). The response rate was 93.9% for households surveyed in Bangladesh and 95.9% for individuals surveyed in the city. The province response rate was 99.4% for households and 95.8% for individuals surveyed (WHO, 2005).

Prevalence of IPV in India

Our study focuses on IPV in India. It is therefore imperative to discuss prevalence in this setting. Although research is limited in a health care environment, estimates of prevalence are available from other rural and urban settings.

India is one the fastest growing countries in the world with a population of 1.2 billion and a gender ratio of 944 women per 1000 men (India Statistics, 2011). Under conditions of pronounced gender inequality and dependence of women on men, there is evidence that domestic violence represents an accepted and, in many cases, institutionalized practice in much of the subcontinent (Koenig et al, 2003). Women in

India experience violence in various forms throughout their lives (Ghosh, 2007). In the 1998-1999 National Family Health Survey (NFHS) in India, 21% of ever-married women reported having been physically mistreated since age 15 (Koenig et al, 2003). Far from being an isolated event, most acts of physical violence by an intimate partner reflect a pattern of continuing abuse. The vast majority of women who had ever been physically abused by partners experienced acts of violence more than once and sometimes frequently (WHO, 2005). Statistics from the National Crime Records Bureau depict an increase in reporting of violence from 31% in 1995 to 45% in 1999 (Ghosh, 2007). In a study of 4000 women reporting physical violence, 63% reported the experience more than three times (Ghosh, 2007). These statistics strongly suggest that domestic violence in India is rarely an isolated event.

Prevalence rates of violence reveal state-wide variation in India (Ghosh, 2007). In a study of rural women in Tamil Nadu, 37% had been beaten by their husbands. In Uttar Pradesh, 45% had been beaten by their husbands and 67% of women surveyed in rural Gujarat had experienced some form of psychological, physical, or sexual abuse (Simister & Makowiec, 2008). The consequences of violence range from cuts and bruises to permanent disabilities and death (Koenig et al, 2003). In accordance with the NFHS 2, Andhra Pradesh, Karnataka, Meghalaya, Arunachal Pradesh, Mizoram, Orissa, Bihar and Jammu and Kashmir have prevalence rates higher than 20 percent (Ghosh, 2007). In a survey of 6700 men in Uttar Pradesh, 30% of married men acknowledged that they had physically beaten their wives (Naved, 2003).

A mixed methods study conducted by Vijayendra Rao (1997) sought to assess domestic violence in the Karnataka state of Southern India and ascertain associated determinants. The author noted that while only 22% of women formally reported being physically assaulted by their husbands, a much greater proportion reported incidences of violence in informal and focus group discussions (Rao, 1997).

Correlates of Intimate Partner Violence

Gender Norms and Power Imbalances

Evidence suggests that IPV is widely and deeply entrenched in the Indian community. Several studies have described conditions under which it appears to be accepted. These include a variety of circumstances, ranging from disobedience and disrespect to in-laws, to infidelity and alcohol abuse. Data from the National Family and Health Survey (NFHS) II shows that 40% of women agreed violence is justified on the basis of neglect for the house or children. Additionally, 37% condoned abuse if "wife goes out without telling her husband", 34% if "wife shows disrespect for in-laws", and 7% if the wife's natal family did not comply with the husband's demands for money or jewelry (IIPS and ORC Marco, 2000).

Studies of men found similar reasons for justifying abuse. In a study in Uttar Pradesh, approximately 67% of the men surveyed felt their wives should follow instructions and approximately 25% felt that physical violence was justified if women

disobeyed their husband (Evaluation Project, 1997). Another study found that 79% men agreed violence is justified if their wives were sexually unfaithful, 75% if wives were disrespectful to family elders, and 77% justified violence if wives were disrespectful to husbands (Duvvury, Nayak & Allendorf, 2002).

Age

The incidence of IPV tends to be higher among younger women, particularly between the ages of 15 and 19 (Gunter, 2007). Several studies have found young women to report verbal abuse (greater than 90%), physical abuse (25%), and sexual abuse (14%) (Gunter, 2007).

Age at marriage

Women's age at marriage has some association with experience of violence (Kishor, 2004). Research in India have found a positive correlation between age at marriage and violence. Ghosh (2007) reports that the younger a woman is at marriage, the higher risk she has of experiencing violence.

Age difference between spouses

Greater differences in spousal age, in which the husband is much older than the wife, is also correlated with violence. The age difference could lead to power imbalances (Kishor, 2004) which may play a role in perpetuating abuse. A combination of seniority

and perceived masculinity may put wives that are much younger than their husbands in a vulnerable position (Ghosh, 2007).

Socio-demographic Factors

Research has indicated that violence occurs in all socioeconomic groups (SES) (Jewkes, 2002). Some studies have, however, found that violence is more frequent and perhaps more severe in lower SES groups across such diverse settings as the USA, Nicaragua, and India (Jewkes, 2002). Bangdiwala, Ramiro, Sadowski, Bordin, Wanda & Shankar (2004) used data collected by The World Studies of Abuse in the Family Environment (WorldSAFE) consortium in select communities in five countries to examine the relationship of SES with current physical and psychological IPV. Women between the ages of 15 and 49 from six urban low and middle income communities were included. Information was collected on the following SES indicators: dwelling ownership, land ownership, number of rooms in the house, number of residents, toilet facilities, ownership of 13 specific individual and household items, current work status of women and her partners, and formal schooling completed by women and her partners. Results of the study suggested that a higher educational level and greater asset ownership for the family were protective factors against IPV among all communities (Bangdiwala et al., 2004). Interestingly, a study conducted in South Africa found the opposite. They report that physical violence was not associated with indicators of SES (ownership of household goods, male and female occupations, and unemployment). Women in this study were

protected from IPV in some of the poorest households, which are mainly supported by someone other than the woman or her partner (Jewkes, 2002). Furthermore, Jewkes (2002) reports that financial independence of women is protective in some settings. Circumstances in which the woman, but not her partner, is working convey additional risk. This finding highlights that perhaps economic inequality within a context of poverty is more important than the absolute level of income. Violence is associated with the product of inequality in the form of advantage to either party (Jewkes, 2002).

In contrast, Gunter (2007) reports that SES factors are correlated with a woman's ability to escape abusive situations. Poverty increases financial dependence on the abusive partner and thus creates additional barriers to leaving (Gunter, 2007). Furthermore, economically disadvantaged women, compared to affluent women or women with average financial means, have greater difficulty overcoming financial barriers to health care, are less likely to have access to health care, and thus less likely to be screened for IPV (Gunter, 2007).

Additionally, evidence from the NFHS suggests that affluent women are less likely to experience violence. However, this data should be interpreted with caution as women from a higher SES may be less likely to disclose such incidents (INCLEN, 2000). Findings from the NFHS II indicate that women residing urban areas in India report less experiences of violence than women living in rural areas (17% compared with 23%, respectively). Furthermore, women with no education reported experiencing violence

significantly more than women who have completed high school 26% compared to 9%, respectively) (IIPS & ORC Macro, 2000).

The NHFS II also suggests that more recently married women (within the past 5 years) are less likely to have suffered violence (approximately 14%) as compared to women who have been married for longer durations (between 21-23%). Findings also suggest that women residing in nuclear households may be more likely to experience violence compared to women residing with extended family members (IIPS & ORC Macro, 2000).

Dynamics of Abuse

Signs of Abuse in a Relationship

In 1984, the Domestic Abuse Intervention Program (DAIP) developed an educational program for batterers and victims of IPV. In order to create a framework to describe the behaviour of men who abuse their partners for victims, offenders, practitioners, and the general public, a group of approximately 200 abused women convened in focus groups (Pence & Paymar, 1993). The focus groups then documented the most common abusive behaviours or tactics that were used against women (Babcook, Green & Robie, 2004). These behaviours are included in the power and control wheel as those generally experienced by abused women (Figure 1).

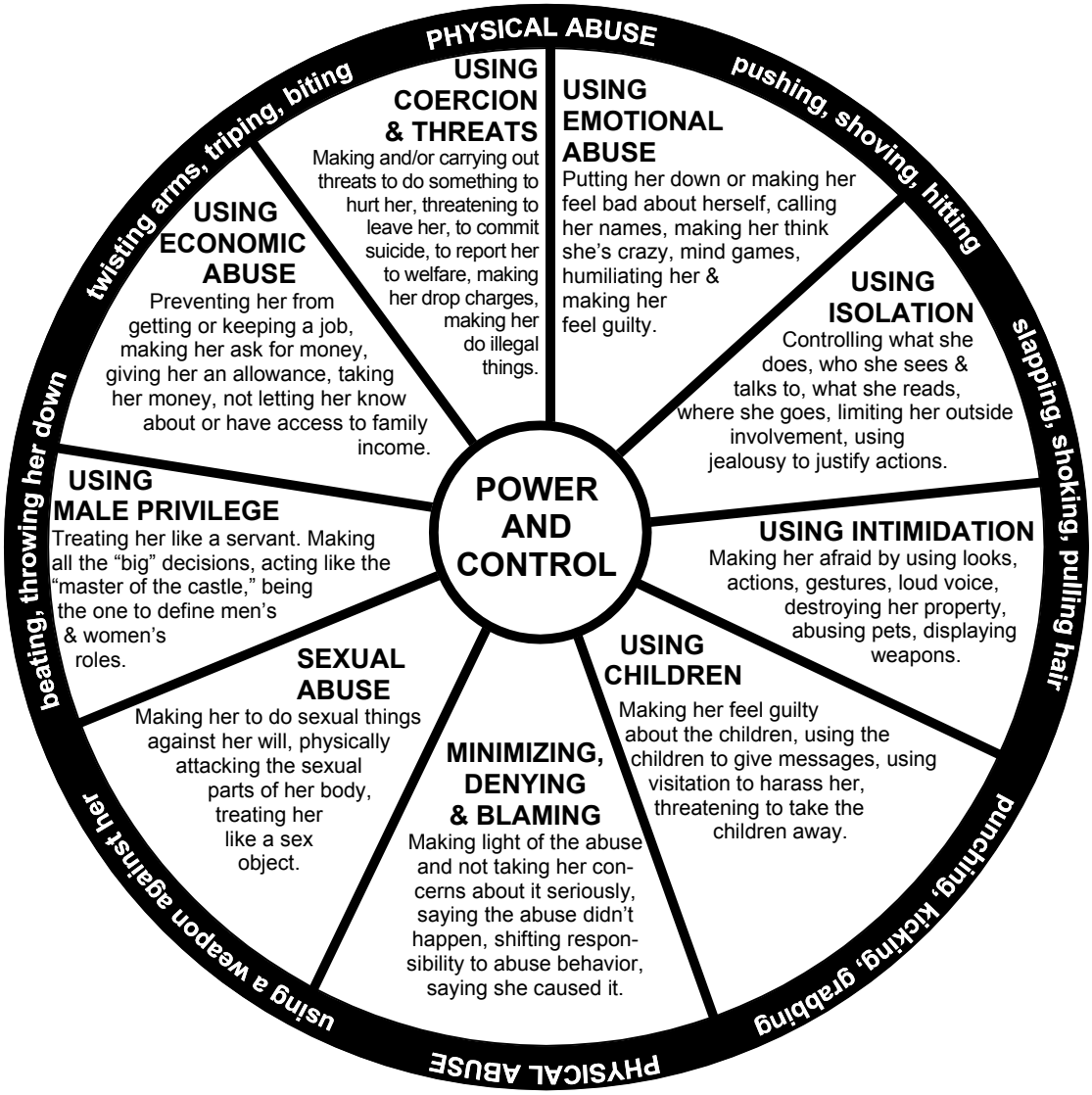

Figure 1 - Power and control wheel (from the Domestic Abuse Intervention Project)

The Cycle

The dynamics of abuse can be understood using the cycle of violence (Figure 2). It should be noted that while the model provides a useful way of understanding abuse, it

does not necessarily present the complete picture and it should be recognized that not all abuse follows this pattern. According to the cycle, in the first phase, there is gradual build up of tension, which may include name calling, intimidation and mild physical abuse, such as pushing (McClennen, 2010). This behaviour gradually escalates. The abused woman likely becomes very cautious of her actions and attempts to avoid further aggravating the aggressor. The second phase is characterized by physical and verbal attack, which results in frequent injury and may result in rape (McClennen, 2010). The last phase of the cycle involves the aggressor asking for forgiveness and showing remorse. This behaviour entraps the victim as she may truly believe his promises of change (McClennen, 2010).

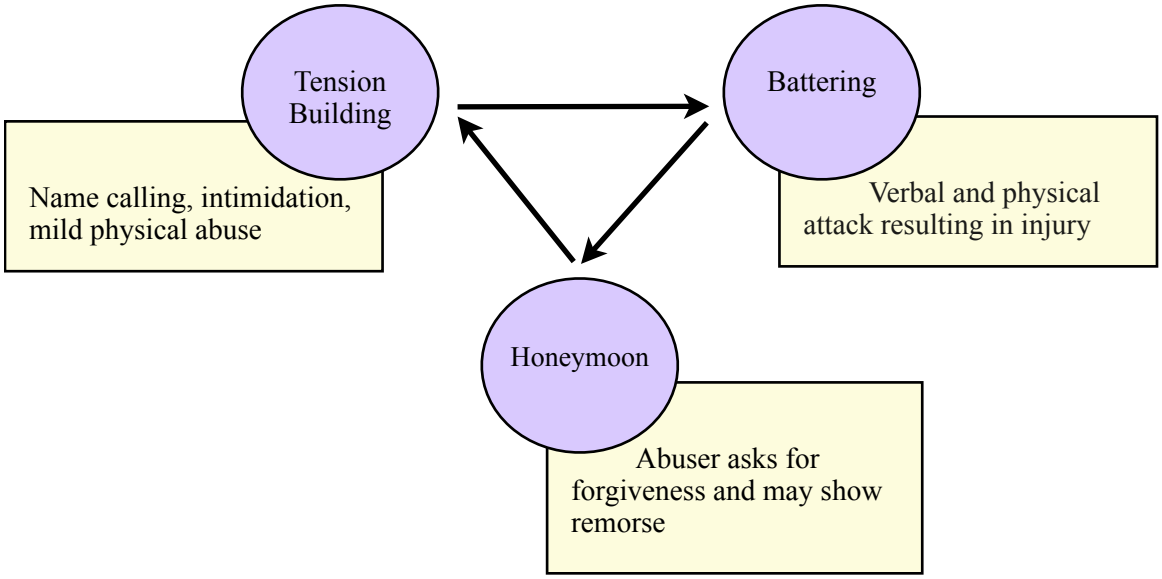

Figure 2 - IPV cycle of violence

With repeated cycles, the first phase increases in length and the violence may become more acute. The abuser learns that he has control and needs not to ask for forgiveness and therefore the length of the third phase decreases and may eventually disappear. As a result, the victim is demoralized and lacks self-esteem making it difficult to leave the situation (McClennen, 2010).

IPV as a Multimodal Problem

Our discussion thus far has framed IPV as a complex problem that cannot be attributed to a single factor. There are several key risk factors, such as alcohol and drug abuse, SES, childhood witnessing of violence, experience of violence (Krug, Dalhberg, Mercy, Zwi & Lozano, 2002), mental health of the perpetrator (Anderson, 2002) which contribute to the incidence and severity of IPV. It is a multi-causal problem influenced by factors involved at the individual, community and societal levels framed by social, economic, psychological, legal, medical, and cultural factors. The ecological model (Figure 3) attempts to depict the involvements of various facets associated with IPV (Krug et al., 2002).

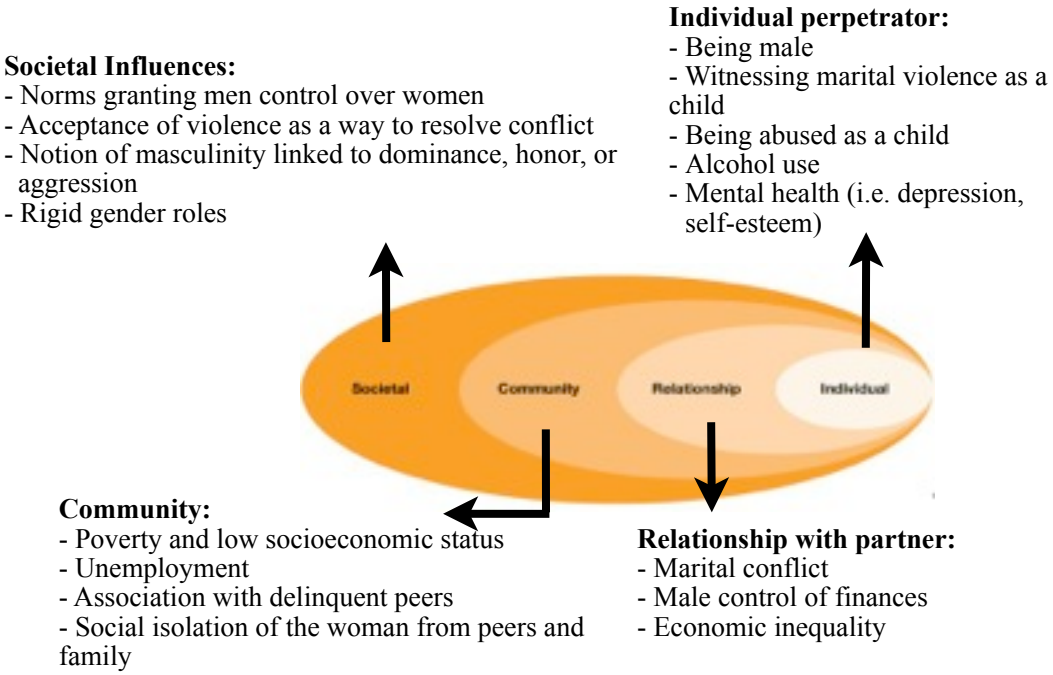

Figure 3 - Ecological model of factors associated with IPV (adapted from Krug et al., 2002).

Health Consequences for Women

At a global level, the health burden from violence against women aged 15-44 is comparable to that posed, in this age group, by HIV, tuberculosis, cancer, or cardiovascular disease (Jejeebhoy, 1998). Evidence from literature consistently indicates that IPV is detrimental to women's physical and psychological health (Campbell, 2002; Campbell et al., 2002). The harm may be immediate and direct, such as injury or death, long term and direct, such as disability, indirect, such as gastrointestinal disorders, or a combination thereof (Plitcha, 2004). In addition to physical health consequences, IPV negatively affects mental health. The health consequences of IPV can be characterized as

fatal and non-fatal outcomes. Figure 4 provides some examples of these outcomes, which are discussed in the proceeding paragraphs.

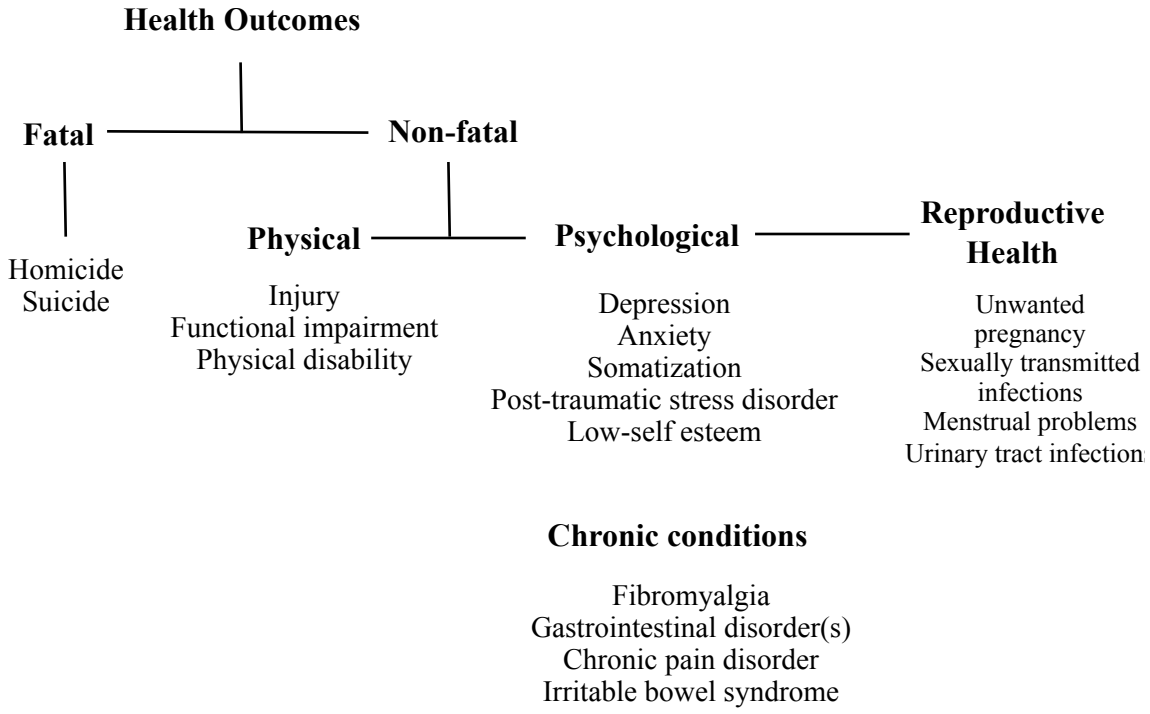

Figure 4 - Health consequences of IPV

Immediate and Direct Effects

Women who are abused are at an increased risk of death from IPV. Femicide studies have generally reported high rates of IPV prior to the murder. A 1998 study by Greenfeld, Rand, & Craven (1998) reported that, between 1976 and 1996, 30% of femicides committed in the US were by an intimate male partner (Greenfeld et al., 1998). Another study examining the murders committed in the year 2000 found similar results

(Plichta, 2004). A multi-city study conducted in the United States found that 66% of victims of female homicide had been abused by their partners and 70% were victims of stalking or harassing behaviours (Sharps, Koziol-McLain, Campbell & McFarlane, 2001).

Fire-related deaths have recently been the focus of studies conducted in South Asia. A 2009 study by Sanghavi, Bhalla & Das used multiple hospital databases across India to investigate fire-related deaths. The authors estimate that 106 000 of 163 000 fire-related deaths in India occurred in women between the ages of 15 and 34. The authors suggest domestic violence as a contributing factor to these deaths (Sanghavi, Bhalla & Das, 2009). Additionally, a victimiologic study conducted by Mohanty, Panigrahi, Mohanty & Das (2004) assessed 162 homicides, 39 of which were female victims. The authors found that the victims were most frequently killed by their spouses. Argument (33%) and dowry (31%) were the most frequent reasons behind the crime. Furthermore, a majority of victims (85%) were killed in their home. Fatal wound was most frequently seen in the head and defense wound was present only in 9 of the 39 cases (Mohanty, Panigrahi, Mohanty & Das, 2004).

Femicide is also the leading cause of pregnancy-associated deaths (Plichta, 2004). Studies conducted in the United States found between 13% and 24% of all pregnancy-associated deaths to be attributable to femicide. The issue of importance and concern is that women who are physically abused during pregnancy tend to be at a higher risk for femicide than other women (Shraps et al, 2001; Plichta, 2004).

While monitoring homicide related to IPV is difficult in developing countries because surveillance systems for homicide are rare and the ability to link these systems with domestic violence records is almost nonexistent (Campbell, Garcia-Moreno & Sharps, 2004), the few studies that have been conducted in an Indian setting mirror findings in industrialized countries. A study of maternal mortality explored 121 cases of maternal death and reported that the second largest cause of deaths in pregnancy (nearly 16%) was a result of complications associated with the experience of domestic violence (Ganatra, Coyaji, & Rao, 1998).

Injuries sustained by women who are victims of IPV vary from minor to life threatening. Data from the National Survey of Violence Against Women (NSVAW) in the United States indicates that minor injuries, such as scratches, bruises, welts, are very common, while lacerations, knife wounds, broken bones, head injuries, sore muscles, internal injuries, broken teeth, burns, and bullet wounds occur less commonly (Plitcha, 2004). Several clinical studies of IPV have characterized patterns of injuries that may be indicative of violence, but are not very strongly correlative (Plitcha, 2001; Wu, Huff & Bhandari, 2010). These studies have found that women who are abused are more likely to sustain injuries to the head, neck, and face. Conversely, extremity injuries are less likely to have been a result of IPV (Wu et al., 2010). Two studies report an increased prevalence of IPV in women presenting to emergency departments for facial trauma (Greene, Mass, Carvalho, & Raven, 1999; Huang, Moore, Bohrer, & Thaller, 1998). Furthermore, a meta-analysis found that the association between head, neck, or facial injuries and IPV was

higher among studies that excluded women with verifiable injuries such as witnessed falls or motor vehicle collisions (pooled odds ratio (OR) 24 (95% CI [15, 38]). The authors also reported thoracic, abdominal, or pelvic injuries as nonspecific for IPV (pooled OR 1.07 (95% CI [0.89, 1.29]). Injuries in the upper extremities were suggestive of non-IPV etiology (pooled OR 0.51 (95% CI [0.41, 0.54]), as were lower extremity injuries (pooled OR 0.15 (95% CI [0.04, 0.56]) (Wu et al., 2010). While these studies do find patterns of injuries that can be attributed to IPV, these patterns have low positive predictive value and low specificity (Plitcha, 2001).

Children are often incidental victims and tend to suffer from injuries intended for their mothers. In a study of 139 children injured in an IPV incident, the authors found that 39% of the children while they tried to intervene. A study conducted at a pediatric practice of 553 mothers found that children of IPV victims were 57 times (OR 57.3, 95% CI: 7.3-1232.4) more likely to be harmed than other children (Parkinson, Adams, & Emerling, 2001; Plitcha, 2001). Consequently, IPV not only harms the mother, but is also detrimental to the health of children in such relationships.

Long-term and Direct Effects

There is considerable evidence suggesting that abused women may be at a higher risk for Traumatic Brain Injury (TBI). A study of 51 IPV victims reports that 30% have experienced loss of consciousness at least on one occasion and that 67% have symptoms consistent with a head injury (Plitcha, 2001). Furthermore, two studies conducted in

domestic violence shelters found high rates of head trauma and TBI symptoms (Jackson, Philp, Nuttall, & Diller, 2002).

The injuries, fear, and stress associated with IPV can result in chronic pain conditions such as headaches, back-pain or recurring central nervous system symptoms, including fainting and seizures (Campbell, 2002). Women who are frequently abused report strangulation and blows to the head. These could result in loss of consciousness and medical complications such as neurological sequelae (Campbell, 2002). Population-based studies on chronic pain report a greater incidence of such in women who are abused compared to other women. A case-control study of enrollees in a multi-site metropolitan health maintenance organization sampled 2535 women between 21 to 55 years of age. The screen identified 201 cases of abuse. These were compared with 240 randomly selected controls. The study used the general health perceptions sub-scale of the Medical Outcomes Study 36- Item Short-Form Health Survey to measure general health and the Miller Abuse Physical Symptom and Injury Scale to measure abuse-specific health problems. Their results indicated that abused women had a higher prevalence of headaches, back pain, pelvic pain and abdominal pain compared to non-abused women (Campbell, Jones, et al., 2002).

Indirect Effects

There appears to be a consistent relationship between worsened general physical health and IPV. In a national study of women younger than age 65, the risk of rating one's

own heath as fair or poor increased significantly for women experiencing psychological or sexual IPV (Plitcha, 2004). Regional studies have also found an increased risk of poor self-rated health for women reporting any form of IPV. In one study, 1155 women were enrolled in a household survey conducted in California. The results indicated that women reporting previous-year physical or sexual IPV were more likely to report fair/poor overall health (OR, 1.9; CI 1.0–3.7), physical health (OR, 2.1; CI 1.2–3.9), and mental health (OR, 3.4; CI 1.9–6.1) (Lown & Vega, 2001).

Battered women display significantly increased self-reported gastrointestinal symptoms (Campbell, 2002). These include a loss of appetite and eating disorders. They also experience an increase in diagnosed functional gastrointestinal disorders that may arise during a violent relationship, as a result of chronic stress, and continue to last (Campbell, 2002). Additionally, an increase in self-reported cardiac symptoms have also been associated with IPV. Proposed mechanisms for this include interactions between genetic predisposition for hypertension, lifestyle behaviours, and stress from violent relationships or suppression of the immune system as a result of stress and mental health disorders (Campbell, 2002).

Gynecological problems are the most pertinent physical difference between abused and non-abused women. Such conditions include Sexually Transmitted Infections (STIs), vaginal bleeding or infections, fibroids, decreased libido, genital irritation, pain on intercourse, chronic pelvic pain, and Urinary Tract Infections (UTIs) (Plitcha, 2004). The increased incidence of STIs in abused women may be explained by patterns of condom

use and differences in sexual behaviour. Several studies have found that victims of IPV are less likely to negotiate condom use (Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998; Wingood & DiClemente, 1997; Plitcha, 2001) and also are less likely to use condoms (Plitcha, 2001; Wingood & DiClemente, 1997). Studies also suggest that women who are abused may have more partners and may engage in riskier sexual behaviours (Champion, Shain, Piper & Perdue, 2001). Lastly, vaginal, anal, and urethral trauma from forced sex can lead to an increased transmission of microorganisms through the direct transmission into the bloodstream or back flow of bacteria in the urethra (Campbell, 2002).

Victims of IPV are more likely than non-abused women to display worse health behaviour compared to other women. Several studies have indicated that women who are abused are more likely to smoke, use prescription drugs, and drink alcohol (Plitcha, 2001).

Evidence linking violence to mental ill-health in India is limited but studies from other parts of the world have suggested that perhaps the most long-lasting and persistent effects of violence are such mental health outcomes as depression and Post-Traumatic Stress Disorder (PTSD), as well as suicidal behaviour (Patel, Rodrigues & DeSouza, 2002). In a meta-analysis by Golding (1999), the prevalence of mental health problems among abused women was 48% in 18 studies of depression, 18% in 13 studies of suicidal behaviour, 64% in 11 studies of PTSD, 19% in 10 studies of alcohol abuse, and 9% in four studies of drug abuse. One study reports the prevalence of PTSD to have a weighted

odds ratio of 3 to 74 in non-abused women compared to those who are abused. Additionally, Ratner (1993) studied mental health in abused women and found a significantly increased prevalence of anxiety, insomnia, and social dysfunction in addition to depression in abused women (Ratner, 1993). While some instances of existing depression may be exacerbated by incidents of violence, studies have shown evidence that first episodes of depression can be triggered by such violence and evidence of depression lessening with decreased incidents of IPV (Campbell, 2002). Although some research has been conducted in mental health, additional initiatives investigating the relationship between mental health and IPV are warranted.

Overall, the long-term consequences of IPV include increased use of medical care (primary care visits) and prescription drugs. Victims of IPV are significantly more likely to have somatic complaints (headache, ulcers, irritable bowel syndrome), hypertension, are prone to depression, post-traumatic stress disorder, and are at increased risk for substance abuse as well as suicide (Davis, 2008).

Economic Burden

Due to discrepancies in methodology, response rate, study settings, as well as cultural differences, there is a wide range in prevalence of IPV. For this reason, it is difficult to ascertain a true estimate of the economic burden due to IPV. Furthermore, estimates vary considerably based on what types of costs that are accounted for. These could potentially include costs to individuals, governments, employers, and the medical,

legal, criminal, financial, housing, and social welfare sectors of society (Waters, Hyder, Rajkotia, Basu, Rehwinkel & Butchart, 2004). Not surprisingly, there is a considerable range in the reported estimates for the cost due to IPV. The results varied depending on the study, location and population, as well as categories of costs assessed.

In India, one incident of violence translates into women losing seven working days (Panday, Singh & Yadav, 2008). In the United States, IPV costs were estimated to be $5.8 billion annually. $4.1 billion of these were attributed to direct medical care and mental health services (Gunter, 2007; Plitcha, 2004). In Canada, Day (1995) calculated the costs of violence against women using data from the Statistics Canada Violence against Women Survey, the Quebec Health Survey, and the Canadian Urban Victimization Survey. These measures included information on legal fees, health care utilization costs, psychological costs, lost earnings, among others. The study estimated a $1.2 billion cost as a result of IPV (Day, 1995; Waters et al., 2004).

Response

There are many factors that play a role in escaping and/or resolving abusive relationships, such as feelings of shame, guilt, love, a low self-esteem, depression, social isolation, economic dependency, lack of support systems, and negative experiences with medical and legal professionals (Gunter, 2007). Qualitative studies have shown that most abused women are not passive victims but rather use active strategies to maximize their

safety and that of their children. Many of these strategies include resisting the violence, fleeing, and attempting to keep the peace by capitulating to their husband's demands (Ellsberg & Heise, 2005). Response to abuse is most often limited by the options available, such as lack of economic support, lack of support from family and friends, emotional dependence, and a concern for children. In some cultures, the stigma of being single or divorced may also deter women from leaving abusive relationships (Ellsberg & Heise, 2005).

With an increasing focus on IPV, laws, policies, and health programs in India have been modified to tackle health and social consequences of violence. The National Policy for the Empowerment of Women directly addresses IPV by making commitments to create institutions and mechanisms to assist women and increase their access to comprehensive, affordable and quality health care (National Institute of Health and Family Welfare, 2009). Several legal responses have also been initiated. Section 498 of the Indian Penal Code offers protection for women against cruelty in the home and against dowry demands (Deol, 2006). However, until recently, no separate civil law existed addressing the specific complexities associated with IPV, including embedded violence within familial networks, the need for protection and maintenance of abused women, and recognition of the fact that punishment and imprisonment of the husband may not be the best resolution in every case (IIPS & Marco International, 2007). Accordingly, a comprehensive law, known as the Protection of Women from Domestic Violence Act 2005**,** recently took effect. Key elements of the law include prohibition of

marital rape and the provision of protection and maintenance orders against partners who are abusive (IIPS & Marco International, 2007). Additionally, several women's groups have emerged and have been able to provide medical and legal services to women involved in IPV.

KEY POINTS FROM CHAPTER

- **IPV is understood as "any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship" (Ruiz-Perez et al., 2007)**
- **Prevalence of IPV is high in India and varies between states**
- **IPV is a impacted by various factors – it is a multi-model problem**
- **Health consequences as a result of IPV are severe for women and are discussed in detail within the chapter**
- **There has been some positive response from the government with regard to IPV in India**

CHAPTER TWO

SCREENING FOR IPV IN HEALTH CARE SETTINGS

Screening for IPV in medical settings remains a controversial topic, despite awareness of the negative health consequences associated with IPV and the potential for identification and intervention (Phelan, 2007). The debate among those who support screening is between universal screening and selective, symptom-based screening. Recently, both the Canadian and United States Preventive Services Task Force gave IPV screening a Grade *I* recommendation indicating that "insufficient evidence was found to recommend for or against routine screening for IPV" (Phelan, 2007). Additionally, in 2009, Dr. MacMillan and colleagues conducted a randomized control trial to evaluate whether there is a reduction in rates of IPV from screening in health care settings. Their results indicated 46% recurrence of IPV among screened group and 53% among non-screened women (modeled odds ratio, 0.82; 95% confidence interval, 0.32-2.12). Screened women also exhibited a 0.2-SD greater improvement in quality-of-life scores (modeled score difference at 18 months, 3.74; 95% confidence interval, 0.47-7.00). However, when accounted for the lost sample, differences between groups became insignificant. The authors found no reduction in IPV from screening. However, the authors did not discuss other potential benefits from screening aside from a reduction in IPV scores. Such benefits include a possibility of tracking prevalence in the population

and encouraging further research in the field (Phelan, 2007). Furthermore, while IPV is recognized as a public health problem in the industrialized countries, this is not the case in India. As such, India among other South Asian countries, would benefit from screening initiatives to highlight the disease prevalence and perhaps encourage a public health focus on this problem.

The next few sections will look at some benefits from screening, patient perceptions of screening including evidence in favour of screening in India, some barriers that exist in the health care settings which limit screening initiatives, as well as approaches taken and tools available for IPV screening. The last section will discuss the specific role of orthopaedic surgeons in screening for IPV and the potential benefit of encouraging screening initiatives in orthopaedic and trauma centres.

Benefits from Screening

There are several potential benefits from health care workers making routine inquiries of patients about IPV. Firstly, among these patients, awareness of IPV will be increased as an important health care issue. Furthermore, the idea that the medical setting is a resource for those experiencing IPV can be promoted (Phelan, 2007). Additionally, an opportunity for discussion and disclosure is also created (Phelan, 2007).

A study by Moscati, Brynes & Krasnoff (2000) investigated the impact of selective versus inclusive screening for IPV in Emergency Departments (EDs). Physicians selectively screened patients in an ED and identified 23 patients. A majority of these

patients were identified as a result of self-disclosure. On the other hand, research assistants screened all eligible women and identified 89 positive cases (Moscati et al., 2000). The results of this study indicates that selective screening could result in missed opportunities for identification, intervention, and prevention of possible negative health consequences.

Other benefits have been noted when screening is employed in a variety of health care settings. Studies by McFarlane et al (1998) and McFarlane et al (2000) demonstrated benefits in the prenatal setting. The authors found a statistically significant reduction in violence over time as well as statistically significant increase in safety behaviours following screening and referral. Another study by Kransoff and Moscati (2002) screened 528 women using the Partner Violence Screen (PVS). From these patients, 258 patients participated in an 6–10 week follow up period. A self-report of life free from violence was reported in 54%.

Therefore, evidence is inconclusive about the effects of screening. While MacMillan et al (2009) report no reduction in prevalence of IPV from screening, other studies, specifically Kransoff and Moscati (2002) as well as McFarlane et al (2000) have reported some improvement as a result of screening and subsequent counselling.

Patient Perceptions

Evidence from literature on IPV suggests that patients are not opposed to screening and a greater disclosure can be made through screening. However, few studies

have investigated this phenomena in an Indian setting. A 2004 study by Jain, Sanon, Sadowski and Hunter found that a significant proportion of women in rural Maharashtra had experienced IPV and were above the cut-off point for the Center for Epidemiologic Studies Depression Scale. In light of these results, the authors recommended that "health-care providers should screen for domestic violence in routine practice" (Jain, Sanon, Sadowski & Hunter, 2004). Panday, Singh & Yadav (2008) employed data from the NFHS to find indicators for domestic violence. In their report, they too recommended screening for IPV in health care settings and cited benefits gathered from studies conducted in Canada and the United States.

Because literature in India and South Asia is limited, particularly with respect to screening, we look to evidence gathered from other parts of the world to explore perceptions of screening.

With respect to patient perceptions, an American study found that 80-85% of patients screened report that if inquired by a physician, they would disclose whether they had been a victim or perpetrator of IPV (Phelan, 2007). Other studies have reported between 76 - 90% of ED patients approved screening by physicians (Glass, Dearwater, & Campbell, 2001). Additionally, 82% of the mothers at a pediatric clinic agreed with screening for IPV (Parkinson, Adams & Emerling, 2001).

Despite acceptance of IPV screening by patients, evidence from literature suggests that screening rates in health settings remain low (Rodriguez, Bauer, Mcloughlin & Grumbach, 1999). One study found that only 13% of IPV victims presenting to an ED

were asked by a physician or nurse about violence. Another study reported the percentage of patients screened at primary care clinics to be between 1.5% to 12%. Lastly, screening rates by obstetricians and gynecologists were found to be 10% (Waalen, Goodwin, Spitz, Peterson, & Saltzman, 2000).

In a systematic review, Ramsay et al. (2002) evaluated the acceptability and effectiveness of screening women for domestic violence in healthcare settings. The results indicated that a majority of respondents thought routine screening was acceptable and there was no significant differences between abused and non-abused respondents (Ramsay, Richardson, Carter, Davidson & Feder, 2002). With respect to health care professionals, one study found that only a minority of health professionals wished to screen for IPV. Among the reasons cited for not wishing to screen women were a lack of education or experience in screening, lack of effective interventions, non-disclosure by patients, and a lack of time during visits (Ramsay et al., 2002). The authors found that while screening increased the rates of women identified, there is insufficient evidence in literature to show whether screening and intervention lead to improved outcomes for abused women (Ramsay et al., 2002).

One area that requires more investigation is the relationship of patient disclosure to perceptions of IPV screening. Recent studies have explored the interactions between screener and victim. Gerbert et al. (1999) studied experiences of abused women and reported that many women perceived their health care providers to be disinterested or unsympathetic to their needs. Additionally, Thackeray, Stelzner, Downs & Miller (2007)

assessed the frequency with which caregivers screen for and provide referrals for victims of IPV, determined which specific traits of the screener or screening environment impact a victim's comfort when being screened for IPV, and explored the methods that victims prefer for caregivers to screen for IPV (Thackeray et al., 2007). One hundred forty self-reported female victims of IPV completed a survey regarding their experiences with screening and their comfort with certain traits of the screener and the screening environment. Women demonstrated a preference to be screened by a female caregiver or investigator, someone of the same race, someone between the ages of 30 to 50 years, and without anyone else, friends or family members, while they are screened (Thackeray et al., 2007).

Barriers to Screening

Several studies have attempted to assess barriers faced by health professionals in screening for IPV. In a review of published studies by Waalen et al (2000), it was found that the most frequently cited barriers by practicing physicians were the lack of effective interventions for IPV once patients were identified by the provider, followed by fear of offending patients, lack of provider education about IPV, and limited time to conduct screening. In several studies using self-administered questionnaires asking respondents to select from a list of potential barriers to IPV screening, the most commonly reported barriers were lack of provider education about IPV, patient nondisclosure, patient fear of repercussions, limited time, and lack of compliance by patients. Other barriers cited

included a notion that the patient population was not at risk, forgetting to ask, and screening not perceived to be a part of professional responsibility (Waalen et al., 2000).

Additionally, a Canadian study evaluating orthopaedic surgeons' perceptions found that a majority of orthopaedic surgeons (87%) believed that female victims of IPV accounted for less than 1% of patients in their care (Bhandari et al., 2008), when in fact the prevalence in this setting was found to be around 30% (Bhandari et al., 2011). These findings suggest a misperception in surgeons' beliefs about the prevalence of IPV in their fracture clinics and encourage the notion that health professionals in general, and orthopaedic surgeons in particular, should play an active role in the identification of IPV victims and their timely referral to local agencies (Bhandari et al., 2008).

Approaches to Screening

A study published by MacMillan et al (2006) attempted to determine the optimal method for screening in health care settings. A randomized control trial was conducted to explore three screening approaches: a face-to-face interviews, self-report questionnaires, and computer-based self-completed questionnaire. Additionally, three screening tools were used: PVS, Woman Abuse Screening Tool (WAST), and Composite Abuse Scale (CAS). Prevalence of IPV gathered from the different approaches as well as patient preference to either method were reported. No statistically significant difference in measures of prevalence was found for the method or screening instrument used. However,

the face-to-face approach was least preferred by patient and the written screens had the least missing data (MacMillan et al., 2006).

McCord-Duncan and colleagues (2006) explored three approaches to screening patients for IPV. These included the PVS, WAST and a patient centered (PC) approach that notes and explores some verbal and non-verbal clues to the possibility of IPV. The PC approach is also conducive to discussions with the care-provider. Using a video stimulus method, 97 women viewed a short videotape portraying an encounter between a female physician and a female patient. Participants evaluated three methods the physician used to detect IPV. The most preferred screening method was the PC approach, followed closely by questions from the WAST. The PVS was the least preferred method of IPV detection compared to the others (McCord-Duncan, Floyd, Kemp, Balley, & Lang, 2006).

Peralta & Fleming (2003) conducted a study to assess the validity of asking "do you feel safe at home?", a screening question commonly asked at primary care settings. The sensitivity and specificity of the question was measured against the Conflict Tactics Scale (CTS) used to identify IPV in 399 women visiting a family medicine clinic. The sensitivity of the question was found to be 8.8% and the specificity 91.2%. These results call into question the utility of using this single question in screening for IPV (Peralta & Fleming, 2003).

Screening Tools

A number of screening tools have been used in research to estimate the prevalence of IPV and in primary care settings to screen for IPV. However, in both situations, a screening tool with sound psychometric properties should be used. Rabin, Jennings, Campbell, and Bair-Merritt (2009) conducted a systematic review to study IPV screening tools. The authors also provided a discussion of the tools' psychometric properties and quality of the studies included (Rabin et al., 2009). A major limitation of the Rabin study, however, is that longer, established tools used in research were excluded from the review. These included the CTS 2, the Index of Spousal Abuse (ISA), the CAS, and the Abuse Behavior Inventory (ABI).

The most studied IPV screening tools for quick assessment were the Hurt, Insult, Threaten, and Scream (HITS), the WAST, the PVS, and the Abuse Assessment Screen (AAS). The following table gives background for some short screening tools as well as their psychometric properties (Rabin et al., 2009) (Table 1).

Table 1 - Common short IPV screening tools

Tool	Development	Group(s) tested	Sensitivity/ Specificity	Additional psychometric testing
HITS	- developed and tested by family physicians	- tested in diverse out-patient settings	- Sensitivity ranged between 30% and 100% (30% when tested in men) - Specificity ranged between 86% and 99%	- Cronbach's alpha between 0.61 and 0.80
WAST	- developed for use in family practices		- Compared to CAS: Sensitivity 47% and Specificity 96%	- Cronbach's alpha between 0.75 and 0.91
PVS	- developed for use in emergency settings		- Compared to CTS2, CAS, and ISA - Sensitivity ranged between 35% and 71% - Specificity ranged between 80% and 94%	
AAS	- created to detect abuse perpetrated against pregnant women	- tested predominantly with young, poor women	- Compared to ISA: Sensitivity: 93% - 94%, Specificity: 55% - 99%	

The CTS 2 was designed to measure the extent to which partners in a dating, cohabiting, or marital relationship engage in reasoning or negotiation and use their psychological and physical aggression with each other to deal with conflicts (Connelly, Newton & Aarons, 2005). The measure also examines sexual coercion and physical injury from assaults by a partner. Connelly et al (2005) tested the psychometric properties of this

scale and found Cronbach's alpha of 0.70 to 0.84. This scale has been used in a largely diverse population and within many different settings (Connelly et al., 2005).

The other commonly used tools in research include the 30-item ISA and ABI. Both tools have adequate psychometric properties and have been used in a variety of settings (Shepard & Campbell, 1992; Roberts, 2002). For the present study the WAST and CAS were used. Details of the questionnaires and an evaluation of psychometric properties is provided in the next chapter. The two tests were chosen as they both inquire into sexual abuse, which is often ignored by other tools.

Should We Screen?

Evidence from literature on reduced prevalence of violence as a result of screening is not conclusive. While some studies report a benefit and reduction in violence, others report no improvement. However, harm from screening for IPV has not been reported if adequate considerations are given to patient safety. Additionally, there is a potential benefit from screening and the subsequent counselling in health care settings (Krasnoff & Moscatti, 2002). A study by Sullivan and Bybee (1999) investigated the effectiveness of community services in reducing rates of IPV in women. They randomly assigned 278 battered women to an 10 week post-shelter intervention or control condition. The 10-week post-shelter intervention provided trained advocates to work with women, helping generate and access the community resources they needed to reduce their risk of future violence from their abusive partners. Women who worked with advocates experienced

less violence over time, reported higher quality of life and social support, and had less difficulty obtaining community resources. Therefore, while screening on its own does not reduce rates of IPV, referrals to community services that can result from screening, are able to reduce IPV rates. Lastly, screening initiatives have established IPV as a public health concern thereby influencing policy and program development. Therefore, in India, there may be some benefit from screening in health care settings, specially in highlighting the prevalence of IPV, encouraging physicians to play a role in counselling, and referring patients to community services that can lead to fewer episodes of violence.

Role of Orthopaedic Professionals in Screening for IPV

The discussion thus far has highlighted the need for attention toward screening for IPV in health care settings. An article on system response to domestic abuse by Randall (1991) published in JAMA suggested that in urban settings, health care providers may be the first and only professionals in a position to recognize violence in their patient's lives. Victims of domestic violence will interact with providers for both routine and abuse-related care. Intervention may be able to interrupt the cycle of violence by providing victims with needed support, information, and resource referrals (Hadley, 2002).

Practicing orthopaedic professionals come into contact with women experiencing IPV, particularly severe physical violence, in EDs as well as office settings. However, statistics show that a significant number of victims who go to clinics, medical offices, or hospitals are not being identified as victims of abuse, nor are they receiving help in the

form of advocacy services or resource referral (Hadley, 2002). Orthopaedic surgeons can thus act as a second point of intervention for IPV victims. Additionally, social and cultural norms in India have traditionally viewed IPV as a highly personal and sensitive aspect of family life. In this environment, the problem of IPV may be underemphasized among practitioners who care for musculoskeletal injuries (Bhandari et al, 2008).

KEY POINTS FROM CHAPTER

- **Screening for IPV in medical setting remains a controversial topic**
- **Evidence suggesting reduction in violence due to screening is inconsistent**
- **There are benefits from screening including tracking progression, determining the prevalence in a population, and encouraging further research in the field**
- **Most patients are not opposed to screening by health care professionals**
- **Some studies conducted in India have encouraged screening initiatives**
- **The greatest barrier to screening is hesitance on the part of physicians**
- **Orthopaedic surgeons can act as a secondary point of intervention in screening for IPV**

CHAPTER THREE

This chapter will outline the specific objectives of the present study, methodology used to address those objectives, key results, as well as strengths and limitations of the study.

SPECIFIC GOALS OF THE STUDY

The objectives of the current study are to evaluate the feasibility of conducting a large-scale study screening women for IPV at trauma centres in India. Feasibility will be determined by exploring the following: (1) prevalence of IPV at the Sancheti Institute for Orthopaedics and Rehabilitation (SIOR), (2) methods of questionnaire administration, (3) response rate, (4) adequacy of the environment of administration, (5) perceptions of health care professionals about screening women for IPV, and (6) availability of community services for IPV patients.

FEASIBILITY

This section discusses the criteria used to establish feasibility and outlines conditions under which a large scale study would be possible.

Estimating the Prevalence of IPV

Although no studies, to our knowledge, have estimated the prevalence of IPV in an Indian health care setting, estimates from research as well as from government censuses are available. The present study was conducted in Pune, Maharashtra. For this specific region, the prevalence of women who have experienced either physical or sexual violence, measured by the NFHS, was 29% (IIPS & Marco International, 2007). The NFHS used questions from a shortened CTS to measure this prevalence. Other studies have provided similar estimates for this region. Jain, Sanon, Sadowski & Hunter (2004) report that 38% of women interviewed had been verbally insulted by their husbands in the past 6 months and approximately 50% had been slapped, hit, kicked, or beaten. The study by Jain et al (2004) estimates prevalence only in rural Maharashtra. Evidence from literature indicates that prevalence in rural regions of India tend to be higher than urban regions (Koenig et al., 2003). For this reason, if our study finds a prevalence between 25% and 40%, we will deem it accurately reflective of violence in this region and proceed to conducting a large scale study.

Methods of Questionnaire Administration

Data on domestic violence has been collected using a variety of methods. These include face-to-face interviews, self-report screening tools, as well as a combination of the two. Our study used two screening tools to evaluate prevalence. Evidence from the

literature supports the use of self-report questionnaires in comparison with interview-administered questionnaires or semi-structured interviews. Webster and Holt (2004) investigated the effectiveness of a standard checklist compared with a set of direct questions identifying women who are experiencing domestic violence. They found that self-report checklist identified a greater number of cases. Nine hundred and thirty seven women visiting The Royal Brisbane and Women's Hospital were screened using a self-report questionnaire. Later, while the medical history was taken, their physicians inquired about IPV. One hundred and seven of 937 cases reported abuse on the self-report form but not when direct questions were used. Similar results have been reported in other studies (Canterino, VanHorn, Harrigan, Ananth & Vintzileos, 1999).

In light of this evidence, it can be concluded that self-report is the superior method of screening for IPV. As such, for the large-scale study, we will assess what proportion of patients are able to use self-report and whether there is a difference in prevalence between the two methods (self-report vs. interview administered). Lastly, if a difference is detected, appropriate measures will be taken to ensure that the method which most accurately reflects prevalence is used.

Response Rate

Cross-sectional studies to determine prevalence of IPV in primary and secondary medical care facilities have been conducted in various countries. These studies have

found response rates that vary from 60% to 85% (Richardson, Coid, Petruckevitch, Chung, Moorey & Feder, 2002; Bradley, Smith, Long & O'Dowd, 2002; McCauley, Kern, Kolodner, Dill, Schroeder, DeChant, Ryden, Bass & Derogatis, 2004). With consideration to the conservative culture in India, we anticipate that it may be difficult to get a high response rate. However, if we find a response rate lower than that found currently in literature (less than 60%), we do not believe a large-scale will be feasible in this setting. Ideally, as reported in a majority of IPV literature, the response rate should be around 80%. If this pilot finds a similar rate, we can certainly attest to the feasibility of conducting a large-scale study.

Environment of Administration

A commonly reported barrier in screening for IPV is lack of privacy. For research of this type, privacy and patient safety are a priority. Lack of privacy and confidentiality can expose women who have disclosed violence to additional harm by the perpetrator (Btoush & Campbell, 2002; Ellsberg, Heise, Pena, Agurto & Winkvist, 2001). Therefore, screening should only be conducted in private rooms, separated by walls and with doors that can be closed (Btoush & Campbell, 2002; Ellsberg et al., 2001). If we find that such an environment is not available, a large-scale study will not be feasible. Furthermore, if private rooms are present, they should be available for use in all cases of screening. If

such rooms are not available, women recruited to participate in the study should not be screened.

Perspectives of Health Professionals

Many studies have explored patient perceptions of and expectations from health professionals and have found that a closed and seemingly judgmental demeanor discourages patient disclosure (McCauley, Yurk, Jenckes & Ford, 1998). A meta-analysis of qualitative study evaluated two central questions: (1) how women positive for IPV perceive the response of health care professionals to be, and (2) how they would want their health care professionals to respond. The authors found major themes to include a desire for responses from health care professionals that were nonjudgmental, non-directive, and individually tailored (Feder, Huston, Ramsay & Taket, 2006). Therefore, we will assess perspectives of health professionals involved in screening. To ensure adequate disclosure in and feasibility for a large-scale study, we expect health professionals to be open to screening initiatives and willing to manage IPV-related care.

Community Services

Lastly, if women screen positive for IPV, they should have access to help and counselling either from physicians on-site or as a result of referrals to relevant community

services. Therefore, it is imperative that for this pilot study we investigate whether such services exist and whether they would be a useful resource for abused women.

Summary of Success Criteria for Feasibility

- Prevalence of IPV around 25% - 40%
- A majority of participants are able to use self-report (greater than 50%)
- Response rate around 80% (but no less than 60%)
- Availability of private rooms to administer questionnaires
- Health professionals are comfortable with screening for IPV
- Availability of community services the participants can access if they screen positive

METHODOLOGY

We conducted a cross sectional study at the SIOR in Pune, India. Approval was obtained from the Faculty of Health Sciences at McMaster University and the Sancheti Hospital Research Ethics Boards.

Eligibility Criteria

We took a convenient sample of female patients. Eligibility was determined using chart details. For inclusion in the study, the patient had (1) to present to the fracture clinic for her own appointment, (2) be of Indian nationality, (3) be at least 16 years of age, (4) be able to read or understand Marathi, Hindi, or English, (5) be able to separate herself from anyone who accompanied her to the fracture clinic, (6) provide written informed consent, and (7) either currently be in an intimate relationship or have been in one previously. We excluded patients who were too ill, injured, or cognitively impaired to participate in the study.

Recruitment and Questionnaire Administration

Eligible patients were approached by a female research coordinator in outpatient clinics between May and June 2011 while patients waited for their appointment. In total, approximately 7 clinics were used to recruit patients. Once patients were found to be eligible, they were escorted to a private room where they either completed the questionnaire if they were literate or were read the questionnaire by a female research coordinator who then recorded the results.

The research coordinators were familiar with the local culture and conditions and received brief training in interacting with patients that screened positive. Research coordinators directed patients who screened positive for IPV to the on-site psychiatrist if patients wished to discuss their results.

Data was collected in two groups. Group 1 had the project officer on site, directing the research efforts. Group 2 was conducted without direct supervision by the project officer.

Screening Questionnaires

Eligible women completed the Woman Abuse Screening Tool (WAST) and the Composite Abuse Scale (CAS). The CAS is widely used to self report behaviors that women describe as abusive by their partners, but can also be orally administered. It is an easily administered questionnaire that provides standardized sub-scale scores on four dimensions of intimate partner abuse: physical abuse, emotional abuse, severe combined abuse, and harassment. It consists of 30 items presented in a six point format requiring respondents to answer “never”, “only once”, “several times”, “monthly”, “weekly” or “daily” in a twelve month period. Each response is given a score from 0 to 5 depending on frequency. The scale has been validated on a sample of general practice patients (N=1896) and ED patients (N= 345). It is considered a gold standard in assessing IPV (Hegarty, Sheehan & Schonfeld, 1999) (Hegarty, Gunn, Chondros & Small, 2004). The WAST is an 8-item instrument that measures physical, sexual, and emotional abuse and has been recognized for its psychometric properties, reliability, and specificity in identifying partner abuse. It includes questions such as “Did arguments ever result in hitting, kicking or pushing?” Questions are scored as 1 (never), 2 (sometimes), and 3

(often). Based on data from an earlier trial, a score of between 13-24 or more on the WAST indicates exposure to IPV (Bhandari et al., 2011).

We chose to administer both questionnaires to each participant in an effort to identify all probable cases of IPV among women who attend orthopaedic clinics. Using both questionnaires gave us an opportunity to explore agreement of the WAST in comparison to the gold standard (the CAS) and the feasibility of using both or either questionnaires in the proposed setting. Our questionnaire also included items to capture age, income, education, marital status, length of relationship, and type and location of injury.

Safety of Recruited Women

Due to the nature of the research topic, care was exercised in recruiting individuals to participate in the study. At no point during the initial contact with the participant was there be any mention of the words “abuse” or “violence.” If the potential participant was able to come by herself to the private location, the study was explained, the informed consent process was carried out, and the study coordinator remained in the private location to ensure that the participant was not interrupted while she completed the questionnaire. Usually participants are given a copy of the consent form to take home, but an abused woman’s participation in the study, if known to the abuser, can compromise her safety. Therefore, the consent form was not given to the participants (Btoush & Campbell, 2009).

Perceptions of Intimate Partner Violence Screening

We interviewed four health professionals involved in conducting the study and in managing care for patients at the trauma center. The group included an attending trauma physician, a physiotherapist, and two research coordinators. They were asked the following open-ended questions to start the discussion:

(1) Do you think the questions are too personal to ask? Why? Would you feel uncomfortable asking such questions?

(2) How appropriate are the questions for Indian women?

(3) Do you think this research should be conducted in India (specifically SIOR)? Why or why not?

(4) Should the questionnaires be orally administered or in a self-report manner?

(5) What changes should be made to the study? Should both questionnaires (CAS or WAST) be used in the study? If one should be excluded, which one and why?

(6) Should physicians ask about IPV during visits?

Data from the interviews were recorded, categorized, and then analyzed by two independent assessors for themes and patterns in accordance with Taylor-Powell & Renner (2003). Additionally, the investigator kept a field log of observations, reflections, feelings and interpretations regarding the study. Wherever possible, the observations were recorded on the spot, during the event. This took the form of abbreviated notes which were then written as detailed notes (Ellsberg & Heise, 2005). Records denoted who was

present; any unusual details of the scene; verbatim comments; and incongruities. These observations were used to aid assessment of feasibility.

Statistical Analysis

Data are reported as the number of participants and as proportions, with corresponding confidence intervals to provide an estimate of precision. Continuous data are presented as means and standard deviation (SD). The answers and overall scores for both the CAS and the WAST are presented with use of descriptive data.

Incomplete questionnaires were not excluded. A reason was sought to account for incompletion. The results were totaled in the same manner as for completed questionnaires. For the WAST, if the total was greater than 13, the result was positive. If the total was less than 13, data were either imputed by finding a question with high correlation among the completed survey or if no such correlation existed, missing data were imputed using maximum likelihood ratio. Similarly, for the CAS, scores for completed questions were totaled. If the result is over 7, the questionnaire was taken to be positive if the result was less than 7, methods described above were used to impute data.

Additionally, we conducted sensitivity and specificity analyses. For this, CAS was taken as the gold standard (as described previously) to assess the performance of the WAST. We also calculated Cohen's kappa to compare the WAST and CAS. Cohen's kappa assumed neither to be the gold standard and compared positive and negative screens to determine agreement between the two tests. Statistical analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 19.

RESULTS

Participants

Forty-eight patients were screened for participation in the study, and 47 were found to be eligible, all of whom provided informed consent. Of the 47 women surveyed, 45 completed the CAS and all 47 women completed the WAST (Figure 5).

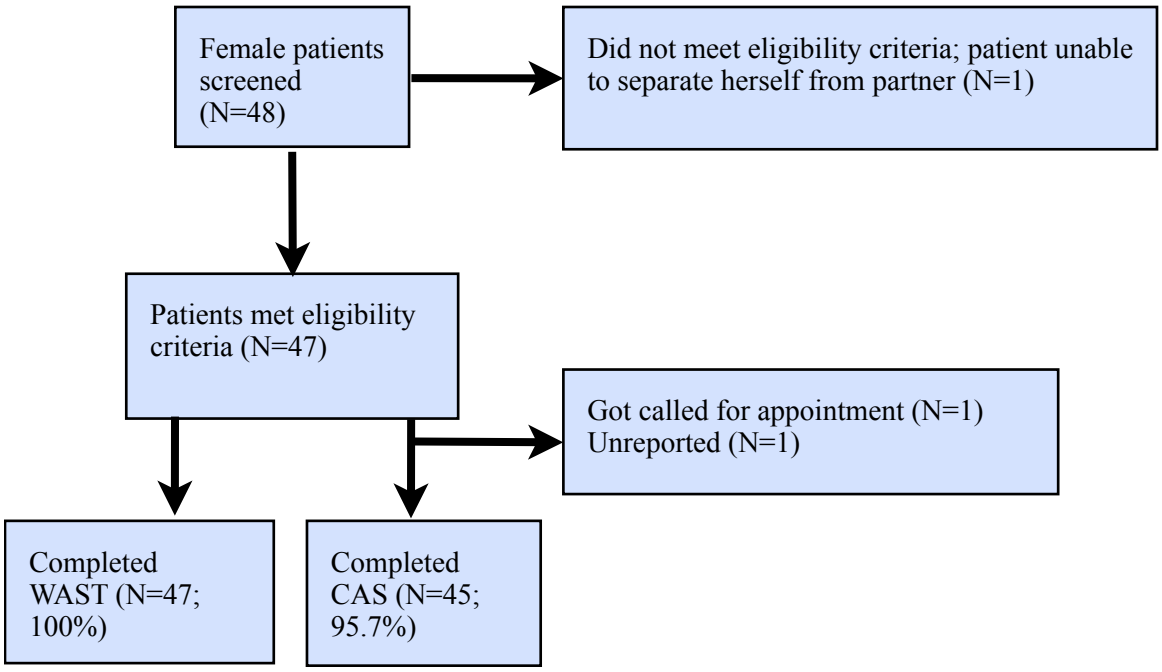

Figure 5 - Flow diagram of participant screening, enrollment, and completion of questionnaires

Characteristics of Included Women

All women were married with a mean age of 42.3 (SD=12.6) years. Of the women who reported the duration of their current relationship (N=28), the mean duration was

16.6 (SD=12.5) years. Twenty-six percent of women had some high school education, while 23% reported having no high school education. A majority of women (87%) had children. Other demographic information is included in Table 2 (Appendix 1).

Injury Characteristics

Fractures were the most common type of injury (39%; 18 of 47). The most commonly reported cause of injury was slip and fall and most injuries involved the spine and neck (28%; 13 of 47). Refer to Table 3 and 4 for the distributions of injuries (Appendix 1).

Issues of Feasibility

Results for the issues of feasibility highlighted in the objectives are outlined below. These results are discussed in detail both in the recommendations chapter and in the discussion section.

Estimating the Prevalence of IPV

Our findings indicated that the prevalence of IPV determined by the WAST was approximately 30% [CI 17%-45%]. The WAST reported physical violence to be 19% [CI 9%-33%], emotional violence to be 32% [CI 19%-47%], and sexual violence to be 11% [CI 4%-23%] (Table 5; Appendix 1). The 12 month prevalence of IPV determined by CAS was 40% [CI 26%-56%]. The distribution (Table 6a and 6b; Appendix 1) indicated emotional violence to be 36% [CI 22%-51%] and physical violence to be 18% [CI

8%-32%]. Therefore, because the prevalence falls in our specified range for feasibility, we believe a large-scale study should be conducted.

Proportion of Women with Positive Responses for the Two Groups

Proportion of women who screened positive for each of the two groups using the WAST and CAS are given in Table 7 (Appendix 1). Twenty seven percent screened positive using the WAST in Group 1 and 32% in Group 2. Similarly, with respect to the CAS, 23% screened positive in Group 1 and 52% screened positive in Group 2. Discrepancies between the two groups are explained in the discussion section.

Agreement of the CAS and WAST

Sensitivity of the WAST compared to the CAS was found to be 50% and the specificity 89%. A Cohen's kappa, used to calculate agreement between the two tools, was 0.412. Cohen's kappa in this range (between 0.41 to 0.60) depicts moderate agreement (Fleiss, 1981).

Method of Questionnaire Administration

Fifty three percent used self-report and 47% were interviewed by a research coordinator. Of the self-report group, 72% were identified as positive by the CAS and 64% by the WAST. From those who were interview-administered, 28% screened positive with CAS and 36% screened positive with WAST (Table 8; Appendix 1 and Table 9;

Appendix 1). With respect to our criteria for feasibility, we found that a larger proportion were identified positive using self-report and that a majority of participants were able to use this method. This finding attests to the feasibility of a larger study. Self-report will be encouraged in the large-scale study.

Response Rate

We had a 98% response rate. Ninety six percent of the women enrolled in the study completed both the questionnaires (47 of 47 for WAST, 45 of 47 for CAS). A high response rate (greater than 80% found in literature) attests to the feasibility of conducting a large-scale screening study in similar hospitals.

Environment

Private rooms were available at the OPD for questionnaire administration. Therefore, the environment was deemed appropriate for a larger study. Details are discussed in the next chapter.

Community Services

We found several non-governmental organizations and local groups with a mandate for helping victims of IPV. Participants also had the opportunity to discuss their results with an on-site psychiatrist, however, none of the participants chose to use this service. Availability of these services attest to the feasibility of conducting a larger study.

Perspectives of Health Professionals Involved in the Study

We explored perspectives of four health professionals involved in the implementation of the study and the care of IPV patients in a semi-structured interview. Following are the main ideas that emerged from the interviews.

1. IPV research should not be conducted in a private hospital setting, but should instead be conducted in a government hospital

A recurring theme in the discussions was a belief that IPV research should not be conducted in a private hospital setting. Several concerns were expressed when discussing research conducted in this setting. A physician interviewed expressed his concern over losing business due to the personal nature of the questions: “private hospitals are not the best place because the patients may not come back”. Another concern stemmed from a belief that private settings may yield too few cases and as such lead to an underpowered study. A physician claimed “if you want good quality data then the general hospital should be considered. If the study is conducted here, the sample size will be very small”. A research coordinator also suggested that “general hospitals will have more cases of IPV”.

Other reasons cited included a fear of offending affluent patients and a belief that patients in a government hospital setting are accustomed to social workers asking such questions: “In a government setting...they have social workers asking similar questions so

the patients may be used to these kinds of questions", "If they are rich patients, they may be offended and choose not to return", "Research should mostly be conducted in government hospitals because in private centres more affluent patients are present".

2. India is too conservative a society to directly ask personal and sex related questions

Another idea that emerged from the interviews was that sex related questions were inappropriate for an Indian society. A research coordinator involved in recruiting patients to the study expressed that "A few questions are personal. In India, the population isn't very open to answering the questions. Even the educated and affluent individuals wouldn't be comfortable answering the questions". Another research coordinator said, "it will be difficult to recruit patients because Indian women are shy when asked about intimate questions". In addition to the intrusive nature of the questions, many felt that inquiring about multiple partners was inappropriate and unnecessary in an Indian setting. "The first three questions of the CAS connote multiple partners and this is not appropriate for an Indian setting. The first question is about adult intimate relationship in the last 12 months, then currently. "Have you ever been afraid of any partner." This goes against social norms. Question 7 asks about "last" partner you've had - this may be confusing for an Indian woman. The multiple partners is something that is not expected for this environment". It was suggested that it may be more appropriate for IPV related questions to be asked by family physicians in a primary care setting: "If it is a family doctor that is

inquiring then it is better. If new doctor is asking, then it is too personal. If patient is going weekly to the doctor, not monthly, then it may be appropriate".

Recommendations to change the administered questionnaires primarily included either excluding sex-related questions altogether or making the questions much less direct. "Modifications to both [questionnaires] should be made. 8 and 9 should be taken out from the WAST", "Parts of the CAS, the questions which inquire too much into personal life, should be excluded", "The patients would rarely share this with family and probably not doctors either. If the sexual questions are asked, the patients may not be inclined even to answer the remaining questions. So if these are avoided then at least we can get answers to the rest of the questions". Other suggestions included, "The manner of asking may make the patient feel bad, it may be too personal..." "General questions such as "are you happy in your relationship" should be asked. With respect to sexual abuse, questions should be asked in a different way, such as happy with relationship, atmosphere in the home, do you fight ever? Sexual questions should be asked less directly".

3. New tools should be developed for and validated in an Indian setting for IPV research

An overall recommendation for conducting IPV research in India made was to develop and validate new tools specific to the setting: "Pre-established scales are not appropriate/applicable in India. Different scales should be created and validated in an Indian setting". Another interviewee claimed that research can be appropriately conducted if "a different scale or questionnaire which doesn't ask such personal questions should be

used". If questionnaires that delve into the personal life of a patient are used, they shouldn't "score so missing answers are not integral to determining abuse".

4. Women should not be screened for IPV; inquiries should only be made into suspected cases

A majority of the health professionals interviewed expressed that women should not be screened for IPV, rather inquiries should only be made if there is a reported history of abuse or if abuse is strongly suspected. A female physiotherapist stated, "the physician should ask if they suspect violence but not if there is no indication. Usually the patient wont answer until a few months later, after injury has healed if they were injured". Additionally, an attending physician claimed, "if a girl comes with a history of possible abuse, then there would be a police case. We should not get involved in a patient's intimate life. That is not our profession. It is an unusual situation for doctors, may be in the US where there are social services and such". There was also a prevalent belief that women would not be receiving care if they were abused: "the fact that the patient has come to Sancheti then this means that the husband has allowed her to get treatment and less likely that they are being abused. This questionnaire should be used for suspected cases only".

5. A combination of self-report and interview-based techniques should be used when investigating IPV

Differing views were expressed with regard to the method of questionnaire administration. Two of the four interviewee felt that self-report was the most appropriate way of delivering the questionnaire: “Self-report, because the questions are personal and the patients will be more comfortable answering it themselves”, “if it is interviewer administered, then she may not be comfortable in telling her situation. If she fills it out herself, then at least be more comfortable in answering it herself...with an interviewer, she may feel in a rush to provide an answer and may not have enough time to think it through”. A common reason for using interviews instead of self-report was an opportunity to comfort the patient and build rapport: “if asked orally, then full answers will be given. Patients will not be interested in answering the questionnaires themselves...conversation makes it easier to answer. Patients are comfortable sharing their stories with woman interviewers”, “orally administering questionnaires also show that we care”. Another reason against using written self-report questionnaires was a perception that such will lead to compromised privacy. To this end, a research coordinator said, “if we give them the questionnaire to mark, they may think it is documented and that their name is attached and it may go to the relatives who are accompanying them”. Lastly, it was also expressed that both methods may be needed in India as a significant portion of the population is illiterate: “in India, both ways are required. If the woman can’t read, then it should be orally administered, otherwise self-report”.

6. Consulting physicians should introduce the study and seek pre-consent from patients such that they are warned about the personal nature of the questions before they are enrolled

In redesigning the study, a notion of seeking pre-consent by consulting physicians in out-patient rounds was advocated. A female physiotherapist claimed, "When they meet the consultant, the patient should be briefed about the study. Some patients are in trauma and it is hard to get them to answer questions then. The patients come to meet the physicians and so if they are asked about the study by them, it would be better". With regards to the personal nature of the questions, it was stated, "pre-consenting whereby the physician first asks if the patient is ready to answer such questions and if they are then ask them about abuse" should be attained. Lastly, an attending physician said that "the consent form should contain a more detailed explanation of the kinds of questions that will be asked".

7. A benefit of conducting IPV research is that it makes the patients feel that they are cared for

While many of the health professionals interviewed felt that some changes should be made to the design of the study and the types of questions asked, it was also expressed that conducting IPV research provided holistic care and made the patients feel cared for: "if we conduct this research, the patient will feel the doctors are truly interested in their care and may lead to helping them with the matter".

These perspectives, seemingly closed to the idea of screening for IPV, pose a barrier to the feasibility of conducting a large scale screening study. The following section and the chapter on recommendations tackle this potential threat to feasibility.

DISCUSSION

Summary of Key Findings

We found prevalence of IPV in this setting to range between 30% and 40% depending on the screening instrument used. Furthermore, our findings indicate that prevalence was higher in the self-report group. With respect to perspective of health professionals, we found that most would be reluctant to screen for IPV and particularly hesitant in inquiring about sexual abuse. Lastly, comparing the WAST to CAS, we found poor sensitivity (50%) but excellent specificity (89%). Additionally, Cohen's kappa indicated a moderate agreement with respect to the results obtained from both tools.

Feasibility

We defined specific success criteria in accordance with which it would be feasible to conduct a large scale study. Our results indicate between 30% and 40% prevalence, a 98% response rate, majority use (53%) of self-report questionnaire, availability of private rooms for questionnaire administration, as well as availability of adequate community

services and resources for positively screened participants. These findings agree with our success criteria and will make it feasible to conduct a large-scale definitive study screening for IPV. However, we found that health professionals in this region are closed to the idea of screening. This is a potential threat that should be addressed prior to conducting a larger study.

Strengths and Limitations

This study has several important strengths. First of all, this endeavor is among the first to measure the burden of IPV in an Indian healthcare setting. Particularly, no such attempt has been made at orthopaedic and trauma centres. Other strengths of the study stem from the methodology used, including the broad eligibility criteria making results more generalizable to the population, using only female research coordinators to recruit and administer questionnaires and ensuring that questionnaires are completed in a private location. We also used multiple screening tools in order to thoroughly identify causes of intimate partner violence. For example, while the WAST only asks whether a patient "is abused sexually", the CAS delves into possible instances and examples in which sexual abuse could occur. This could catch those patients who may not have attributed specific actions to abuse and therefore reported "never" on the WAST, but were able to report specific instances and frequency when asked by the CAS.

A unique aspect of this study was that it allowed us to explore the perceptions of health professionals with regards to screening for IPV, the design and implementation of a

large scale study, and role of physicians in managing IPV related care. We found a high response rate and patients provided questionnaires with minimal missing information, which suggests that most patients did not object to being asked about IPV. It is perhaps hesitance on the part of healthcare professionals that makes screening and managing IPV care difficult. In a conservative society like India, it may be necessary to change the perspectives of health professionals in order to implement methodologically sound prevalence studies and widespread screening. Suggestions on how this can be accomplished are discussed in the recommendations chapter.

Some additional strengths included being able to compare the WAST and CAS in this setting. This has not previously been done and provided us with an opportunity to evaluate the use of WAST for the large-scale study. Additionally, we found that self-report questionnaires yielded a higher prevalence of IPV. While this has been found in other studies, no previous research has attempted to ascertain this in an Indian private hospital setting.

The present study also had several key limitations which should be addressed for a large-scale study. A major limitation stemmed from sampling methods and the presence of a selection bias. Patients were screened only from out-patient departments. In-patient departments were not used because these patients were frequently surrounded by family members. Furthermore, the IPD patients had more severe medical conditions and thus were not in a position to complete questionnaires. It is plausible that In-Patient Department (IPD) patients differed from OPD patients in terms of prevalence and severity

of abuse. The severe medical condition of IPD patients could have resulted from an episode of IPV. By excluding such patients, we are effectively reducing the generalizability. Another limitation of this study was not inquiring whether the injury for which patients presented to an orthopaedic clinic was a result of an episode of IPV. This information could encourage orthopaedic health professionals to screen for IPV at all patient visits and could potentially affect the training of orthopaedic surgeons to aid effective identification and referral of IPV patients.

There is also a possibility of admission bias since the study was exclusively performed in a hospital setting. In this case, the use of a private hospital where a majority of the population is affluent does not accurately reflect the Indian population at large. However, this is a service-based study which particularly attempts to analyze orthopaedic and trauma centres. Results should be interpreted in light of this fact. Lastly, there exists a possibility of interviewer bias through which the questionnaires could have been conservatively completed since a majority of health care professionals do not perceive IPV to be prevalent. Additionally, patients may have been more hesitant in disclosing their true status to an interviewer than they would have been if they had completed the questionnaire themselves. Our comparison of differences in disclosure by method of administration indicates that 47% of the questionnaires were completed by interviewers and 53% were self-report. There was a higher prevalence of IPV in the self-report group than the interview-administered group.

Interpretation

Our findings indicated that the WAST under-estimated IPV prevalence when compared to the CAS. This finding is discrepant with current literature that indicates the WAST to over-estimate prevalence (MacMillan et al., 2009). We believe that our estimates result from the broad nature of questions included on the WAST, such as "In general, how would you describe your current relationship?" as well as questions which inquire into abuse: "Has your partner ever abused you physically/emotionally/sexually?". In an Indian setting, where domestic violence and abuse is normalized, women may not recognize that they are being abused and may perceive the behavior to be common. As such they will not report this abuse on the WAST. On the other hand, the CAS asks very specific questions with examples, therefore leading women to reflect back upon their experiences and encouraging report of any abuse, thus resulting in more accurate estimates.

Generalizability

Our broad inclusion criteria and lack of restriction on a maximum age led to a very generalizable estimate which reflects prevalence in a private trauma center setting.

Funding

The trip to India for data collection was provided in kind by the Global Health Department at McMaster University.

CHAPTER FOUR

This chapter will highlight recommendations for the large scale study and discuss limitations and areas for improvement for the current study.

RECOMMENDATIONS

As discussed previously, we believe it will be feasible to conduct a large scale study in this area. However, some methodological changes should be made to the present design in order to ascertain rigor.

Screening Protocol

Several issues should be considered in developing a screening protocol for the large-scale study. Firstly, in order to screen all women that present to the orthopaedic trauma centre, all eligible patients at every OPD clinic should be approached by female research coordinators while patients are waiting to be seen by attending physicians. The patient should be introduced to the study as a woman's health survey and should be taken away from family members. At this point, the study objectives should be explained and patients should be given the letter of consent. If the patient refuses to participate in the study, the reason(s) should be noted. If patients provide informed consent, the questionnaire should be administered. To minimize missing data, research coordinators should look over the questionnaire and ask patients to complete any information they may

have missed. Additionally, at this point, the patient should also be provided with contacts to community services, if they desire it. Preference should be given to the self-report method and questionnaires should only be orally administered if the participant is illiterate.

Choice of Screening Questionnaires

In developing the questionnaire for a large-scale definitive study, two additions should be made. First, a question which inquires whether patients are presenting to the clinic directly as a result of an IPV-related injury. This will allow us to determine what proportion of women seek IPV-related care from trauma and lead to appropriate changes in the training of orthopaedic physicians. Secondly, a five-level Likert scale should be used to determine patient's comfort with answering IPV related questions. In the present study, we attempted to incorporate questions related to comfort but were unable to ensure compliance by research coordinators in asking the questions. Therefore, such questions should be included in the questionnaire. The questions would be as follows:

(1) Was the questionnaire easy?

(2) Did the questions make you feel uncomfortable?

(3) Was the environment private enough?

The responses should be scaled 1 ("not at all") to 5 ("very easy" or "a lot").

In the present study, both the CAS and WAST were used. The CAS is considered the criterion standard (MacMillan et al., 2006) and was used in addition to the WAST. We found that the WAST under-estimated the prevalence of IPV in comparison to the CAS. With consideration to the conservative Indian society, it would be easier to use the WAST as the questions do not ask for a lot of detail or inquire into the patient's sexual practices. However, because marginalization of women is normalized in the society, abuse, particularly emotional, may not be recognized and therefore would not be reported on the WAST. This is evident even within the questions on the WAST. While 30% reported being "hit, kicked, or pushed", only 19% reported having been abused physically. Furthermore, 66% reported "feeling bad about themselves" as a result of arguments with partners and 38% reported being frightened of their partners, but only 32% believed they were being abused emotionally. Therefore, for the large-scale study, with consideration to the society, the CAS is the ideal tool to use. The CAS gives specific examples of abuse and therefore would elicit a more accurate response from the participant. The CAS also has excellent internal reliability (Cronbach's alpha of 0.90 or more for each sub-scale, and all item-total score correlations of 0.6 or above). It has been validated with a large (1,836) sample of patients in general practice settings, previously used in South Asian population (Sohal, Eldridge & Feder, 2007), and is recommended as an IPV research assessment tool by the National Centre for Injury Prevention and Control. It has also demonstrated excellent reliability and validity for measuring self-reported incidence and prevalence of

IPV (Sohal et al., 2007). Lastly, the CAS has evidence of content, construct, criterion and factorial validity (Sohal et al., 2007).

Environment

Is there sufficient time and privacy to complete the questionnaires with participants? What factors hindered completion?

Women enrolled in the study reviewed and signed the informed consent and completed the questionnaire in a private room of the OPD. Below are pictures of the rooms used to administer the questionnaires. A female research coordinator was present while the questionnaire was being completed. The large-scale study should only use the private rooms at the OPD to administer questionnaires (Figure 6).

Figure 6 - Private rooms available for interview in the out-patient department at the SIOR

Additionally, the OPD also had cubicles that were being used for other research studies. However, these were deemed not private enough for use in the present study (Figure 7).

Figure 7 - Cubicles in the out-patient department at SIOR

A majority of the rooms in the IPD were not conducive to private administration of questionnaires and were therefore not used (Figure 8).

Figure 8 - Shared rooms in the in-patient department at the SIOR

Response Rate

Are women responsive? What changes can be made to facilitate their participation?

Our results indicate a 98% response rate and 96% of the women completed both the questionnaires. These numbers indicate that women in this population are responsive and do not object to being asked questions about IPV. However, the high response rate could also be a result of differences in consideration of the informed consent process in developing countries. Some literature has noted the challenges associated with obtaining informed consent from patients in developing countries. Key challenges include (Hulley, S.B., Cummings, S.R., Browner, W.S., Grady, D.G. & Newman, T.B., 2007):

- Lack of understanding of the research process
- Misconceived belief that health care is offered in return for taking part in research or is associated with the research
- Not adequately understanding the differences between clinical care and research
- Respect for health professionals, which may make it difficult to refuse participation

Critics generally cite two major problems with conducting research in developing countries. The first is understanding and the second is voluntariness. It has been argued that uneducated participants may not fully grasp the details of research (Campbell, 2009).

Furthermore, many critics believe most patients are not given sufficient choice of whether or not to participate in research studies. If they are given this choice, their inability to fully understand the concept of informed consent or their respect for health professionals may not make their decision completely autonomous. With respect to understanding the research process, Campbell (2009) found that while poor education can make it somewhat difficult for patients to fully grasp the research process, there is no significant difference in understanding of concepts such as 'randomization' between the developing and developed world settings (Campbell, 2009). The present study is far simpler than randomized placebo controlled trials cited by the authors and therefore it is likely that patients would be unable to understand the objectives and design of our study.

My observation of the present study in India leads me to believe that the research coordinators did indeed ask the patients whether they were able to and desired to answer questions of such sensitive nature. However, it is likely that patients believed the research to be a part of their care or they were hesitant to refuse participation because of their respect for health professionals. To remedy this situation for the large-scale study, it should be highlighted that the research coordinators are not involved in the patient's care and that refusing to participate in the study will in no way affect their care. I found that many research coordinators simply explained the intent of the study and patients who agreed to participate were asked to sign the consent form. For the large-scale study, this should be changed. While it is important to explain the intent and objectives of the study, patients should be encouraged to read the informed consent form thoroughly before being

asked to sign it. For patients who are illiterate, the consent form should be read to them in its entirety.

Additionally, to facilitate patient participation, the study design should be such that it is convenient for patients to take part in the study. For the pilot, we attempted to approach women as they were waiting for their appointments. In this manner, they are not allocating any additional time out of their busy schedules to complete the survey. The provision of their care was not interrupted as the research coordinators checked their waiting time beforehand. If their waiting time was short, they were not asked to participate. For the definitive study, a similar approach should be used. All eligible women should be approached as soon as they are signed in and while they wait for their appointment. Furthermore, the benefit of the study for all women experiencing abuse should be highlighted to increase response rate.

Perceptions of Health Professionals

What are the beliefs of health professionals involved in the delivery of care and the research study about IPV? How should the study be changed to address these perspectives and in line with their recommendations?

We found that health care professionals in India were hesitant to discuss IPV and were somewhat opposed to screening at trauma centres. These perceptions pose a threat to a large-scale study and can be resolved through training, discussed later. Overall, four key

points were raised in the discussions with health care professionals in India. These points may guide the design of the large-scale study.

1. Remove questions that inquire into the sexual life of the patients

Our results indicate that 11% of women screened have experienced sexual abuse (as reported on the WAST) and 62% of women screened have experienced severe combined abuse, of which sexual abuse is a component. To truly estimate the burden of IPV, it is important to address all three dimensions that lead to the debilitating nature of the condition. Because the prevalence is high for women who have experienced sexual abuse, it would be inappropriate to exclude this dimension from our query. Additionally, if 11% of the women reported being sexually abused, it is likely that they are not as uncomfortable answering questions related to sexual activity as perceived by practicing health care professionals.

2. Conduct the IPV study in public hospitals

The incentive behind this claim, presumably, is the potential for loss of business and a belief that there is a higher prevalence of IPV in lower socio-economic groups. Recently, the impact of socioeconomic circumstances on several health outcomes has been greatly investigated (Ackerson & Subramanian, 2008). The importance of

socioeconomic status has been documented in qualitative investigations and community-specific studies of IPV in India (Krishnan 2005b; Martin et al. 2002). Ackerson & Subramanian (2008) conducted a systematic analyses on the potential impact of socioeconomic status on IPV in India. The authors used data from a sample of 83,627 women in India to examine the socioeconomic and demographic patterning of the state- and neighborhood-level variation in, and the state- and/or neighborhood-level characteristics related to, IPV. The study found that social gradients in IPV in which women who are uneducated, from marginalized castes, and living in poor households have higher likelihood of reporting IPV than those living in advantaged circumstances (Ackerson & Subramanian, 2008). Although a higher prevalence of IPV is reported in lower socioeconomic status groups, there is still evidence of IPV in higher socio-economic groups. Women in the higher SES group may face different barriers to disclosing. Therefore, in order to increase generalizability from our research, the large-scale study should consider using both private hospitals and government hospitals. Furthermore, our pilot results indicate between 30-40% prevalence of IPV in a private hospital setting. This is evidence that while socioeconomic status does play a role in prevalence of IPV, private hospitals should not be excluded based on a belief that no significant prevalence in this setting exists.

Additionally, some studies have found association between demographic characteristics such as caste and age at marriage with IPV (Krishnan, 2005). Although initiatives to alleviate the historical discrimination experienced by castes have had some

impact, the majority of individuals in these groups have lower living standards, less access to education and employment (Ackerson & Subramanian, 2008). For an Indian woman, age at marriage can be seen as a combination of how much power she wields within a family (Nath et al. 1999), as well as how prepared she is to manage a household (Martin, Tsui et al. 1999). It would be interesting to explore this association in the definitive study by including caste and age at marriage in the demographic characteristics inquired as part of the questionnaire.

3. Validation of new tools appropriate for the Indian setting

Sohal et al (2007) conducted a study to estimate the sensitivity and specificity of four questions developed from the Abuse Assessment screen. The Humiliation Afraid Rape Kick (HARK) questions inquired briefly into physical, emotional, and sexual abuse. The sensitivity, using CAS as the gold standard in the population (18% Indian, Pakistani, and Bangladesh), was 81% and the specificity was 95%. It would be interesting to repeat a similar effort in an Indian only population as these questions do not invasively inquire into the patient's sexual relationships. Other commonly used short tests include the HITS and PVS, though both these tests exclude sexual abuse questions. It may therefore be valuable to compare the HARK with CAS. If the results indicate high sensitivity and specificity in the Indian population, than the HARK questions can be used to assess IPV at trauma centres for the larger study.

4. Ask physicians to introduce the study and seek pre-consent

A major finding was the belief that physicians should be approaching patients for participation in the present study in order to ensure patients are comfortable with the topic of study. The following recommendation was made: during the visit, the study should be introduced, the sensitive nature of the questions should be explained, and pre-consent should be attained. After this point, patients should be directed to research coordinators who will attain informed consent and administer the questionnaire.

While this study design would indeed ensure patient comfort and perhaps reduce coercion as they have already received their care, it would significantly reduce response rate. Particularly, patients, upon receiving their care, have daily chores and other tasks to attend to and it is unlikely that they will agree to spending more time to complete the survey. Additionally, escorting patients from the physician's room to another private room will be inconvenient and therefore impact compliance. Therefore, the original study design, discussed earlier, should be used for the large-scale study.

Method of Administration

What percent of participants used self-administration as the method to report IPV? Which group (self vs. orally administered) allowed for a higher reporting of IPV?

Our findings indicate that 47% of the questionnaires were interview-administered and 53% were self-report. For both questionnaires used, the self-report indicated a higher proportion of positive screens (self-report: 64% for WAST and 72% for CAS compared to interview-administered: 36% for WAST and 28% for CAS). This is consistent with the literature in the field. In a randomized controlled trial, Kataoka, Yaju, Eto & Horiuchi (2010) screened 328 women at three points in time at a prenatal clinic. They found the identification rate in all three screenings to be lower in the interview group than in the self-administered questionnaire group (Kataoka et al., 2010). Other studies have reported similar results (Canterino et al., 1999; Webster & Holt, 2004).

In light of our results and literature comparing prevalence of IPV between self-report and interview-administered questionnaires, we recommend the use of a self-report method for the large-scale study. The major reasons cited for the using interview-administered questionnaires were an inability to read and a perceived discomfort of the research coordinators with the sensitive nature of the questions. During my stay in India, I found that research coordinators insisted on orally administering the questionnaires because they believed this would increase the patient's comfort in answering such questions. In order to rectify this belief, training should be provided citing evidence-based literature highlighting higher reporting with self-administered questionnaires.

Domestic Violence Community Services in Pune

Are appropriate community services available for IPV victims?

Several experiments and systematic reviews have evaluated the benefits of counseling. One trial compared benefits from grief resolution counseling and feminist-orientated individual counseling for 8 weeks at battered women's program. The authors found that women in both groups improved based on pre–post evaluation with Hudson's index of self-esteem and a Self-efficacy scale (Mancoske, Standifer & Cauley, 1994). A controlled clinical trial compared group and individual couple counseling with no counseling. The trial found that group counseling significantly reduced reported rates of re-victimization (Stith, Rosen, McCollum & Thomsen, 2004). There is significant evidence to highlight the benefit of counseling for IPV. In Pune, there are two well-known community services that aim to counsel women who have experienced IPV. The two services are described below.

1. Chetna Mahila Vikas Kendra

   Chetna Mahila Vikas Kendra (CMVK) is a non-governmental organization located in Pune, dedicated to helping women from impoverished backgrounds. The organization, simply known as Chetna, was formed to give women who have experienced domestic violence or come from a marginalized background an opportunity to get legal advice and representation in courts. As the organization expanded, so did the scope of its practice. Currently, they are

able to offer counseling on many different issues faced by women in this society, of which, one is domestic violence, and offer educational opportunities and training to women leading to independence and self-sufficiency.

Following is a list of activities provided by Chetna to aid women experiencing IPV (Chetna Mahila Vikas Kendra, 2009):

- Offering counseling services for families to resolve their disputes
- Training in legal education, women's rights and women's status in society
- Legal education for adolescent women on marital law and healthy family life
- Facilitating mutual support groups for women in similar situations
- Educating men and women to recognize women as valued members of the community
- Increasing awareness of abuse through public forums, articles and street plays
- Filing cases and following through the legal process

2. Mahila Sarvangeen Utkarsh Mandal (MASUM)

MASUM, formed in 1987, evolved out of a commitment to women's rights within and outside the home. Some of MASUM's ongoing activities

include improving women's access to health, confronting violence against women as well as developing micro-credit programs to empower women in Pune.

With particular respect to violence against women, MASUM has counseling centres, called *Samvaad* which reach out to women who are currently experiencing IPV or have experienced it in the past. The center provides counseling, emotional support and legal aid by trained and experienced social workers as well as lawyers. *Samvaad* has strong linkages with village level programs of MASUM and networks with the free legal aid centre of the district court of Pune, crisis shelters and other women's organisations in Pune (Mahila Sarvangeen Utkarsh Mandal, 2011).

The large-scale study should seek to partner the private and public hospitals with organizations such as Chetna and MASUM in Pune, such that any woman screened positive for IPV can be directed to their services.

At other locations, similar women's empowerment organizations can also be contacted to enlist their support in the study and to ascertain that women experiencing IPV are able to access resources with ease.

3. Psychiatrist services at SIOR

As discussed in Chapter 1, financial and familial responsibilities among others often make it difficult for women to leave an abusive relationship. These circumstances can also deter women from seeking support and accessing community resources. As such, if possible, it is prudent that hospital facilities make available their on-site resources for women screened positive for IPV. The convenience of speaking to someone on-site may encourage women to seek help. SIOR has an on-site female psychiatrist, Dr. Susan Zachariah, who was available to counsel any woman screened positive for IPV.

Training

There is considerable evidence that training increases identification and management of IPV. Thompson et al (2000) tested the effectiveness of intervention to improve the way interviewers ask about IPV and how it is managed in primary care. The intervention included skill training for providers, environmental orchestration, such as posters in clinical areas, IPV questions on health questionnaires, and measurement and feedback. A randomized controlled trial in five clinics of a health maintenance organization was conducted. The authors found an improved provider self-efficacy, decreased fear of offense and safety concerns, and increased perceived asking about IPV as documented at 9 and 21 months. Documented asking about IPV was increased by 14.3% with a 3.9-fold relative increase at 9 months in intervention clinics compared to

controls. Case finding increased 1.3-fold (95%, confidence interval 0.67–2.7) (Thompson et al., 2000). Additionally, Wong, Wester, Mol, and Largo-Janssen (2006) conducted a randomized control trial comparing awareness of IPV after attending focus group and training or focus groups only. They found that training was the most significant determinant to improve awareness and identification of IPV. Active questioning increased, especially where there were non-obvious signs (Wong et al., 2006). Others have reported similar results (Thompson et al., 1998; Campbell et al., 2001).

It follows that training should be provided to the research coordinators and physicians involved in screening women for the large-scale study. Such training should highlight the burden of IPV, the negative health consequences, how to work with patients once they have disclosed IPV - perhaps some training on the stages of change such that they are able to facilitate the change process, how to assess the patient's safety needs, and how to refer the patient to social and mental health workers as well as community agencies and hotlines (Thompson et al., 2000; Thompson et al., 1998). Ultimately, training will improve the research coordinators' comfort in asking questions about IPV, increase awareness, begin a change in practice that can be sustained after completion of the study, and effectively addressing the victims once they have disclosed IPV.

CONCLUDING REMARKS

- **We found a high prevalence of IPV in an Indian trauma hospital**
- **An assessment of feasibility issues suggests that a large-scale study should be conducted with outlined modifications**
- **There is a need for increased awareness and participation of orthopaedic surgeons in screening for IPV in an Indian context**

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APPENDIX 1 – TABLES

Table 2 - Demographic characteristics of included participants

Item	Total
Education	
No high school education	11 (23%)
Some high school education	12 (26%)
High school diploma	9 (19%)
Graduated college	6 (13%)
Bachelor's degree	7 (15%)
Master's degree	1 (2%)
Doctorate	0 (0%)
Professional degree	1 (2%)
Marital Status	
Married	47 (100%)
Children	
Yes	41 (87%)
No	6 (13%)

Table 3 - Types of injury for included participants

Injury	N (%)
Fracture	18 (39%)
Dislocation	13 (28%)
Unsure	13 (28%)
Sprain/strain	0 (0%)
Other	3 (6%)

Table 4 - Location of injury for included participants

Location	N (%)
Head/face	0 (0%)
Shoulder	1 (2%)
Collar bone	1 (2%)
Pelvis	1 (2%)
Upper arm	3 (6%)
Lower arm	6 (13%)
Hand/wrist	0 (0%)
Ribs/chest	2 (4%)
Spine/neck	13 (28%)
Hip	1 (2%)
Upper leg	4 (9%)
Knee	7 (15%)
Lower leg	3 (6%)
Foot/ankle	5 (11%)

Table 5 - Results of the Woman Abuse Screening Tool

Item	Total [CI]
In general, how would you describe your current relationship?	
N value	47
No tension	29 (62%) [46%-75%]
Some tension	16 (34%) [21%-49%]
A lot of tension	2 (4%) [0.5%-15%]
Do you and your partner work out arguments with:	
N value	47
No difficulty	11 (23%) [12%-38%]
Some difficulty	36 (77%) [62%-88%]
Great difficulty	0 (0%) [0%-8%]
Do arguments ever result in you feeling put down or bad about yourself?	
N value	47
Never	16 (34%) [21%-49%]
Sometimes	27 (57%) [42%-71%]
Often	4 (9%) [2%-20%]

Do arguments ever result in hitting, kicking, or pushing?	
N value	47
Never	33 (70%) [55%-83%]
Sometimes	13 (28%) [16%-43%]
Often	1 (2%) [0.05%-11%]
Do you ever feel frightened by what your partner says or does?	
N value	47
Never	29 (62%) [46%-75%]
Sometimes	17 (36%) [23%-51%]
Often	1 (2%) [0.05%-11%]
Has your partner ever abused you physically?	
N value	47
Never	38 (81%) [67%-91%]
Sometimes	9 (19%) [9%-33%]
Often	0 (0%) [0%-8%]
Has your partner ever abused you emotionally?	
N value	47
Never	32 (68%) [53%-81%]
Sometimes	15 (32%) [19%-47%]
Often	0 (0%) [0%-8%]
Has your partner ever abused you sexually?	
N value	47
Never	42 (89%) [77%-96%]
Sometimes	5 (11%) [4%-23%]
Often	0 (0%) [0%-8%]
WAST screen for intimate partner violence	
N value	47
Negative (score 8 to 12)	33 (70%) [55%-83%]
Positive (score 13 to 24)	14 (30%) [17%-45%]

Table 6a - Results of the Composite Abuse Scale

	N	Never	Only once	Sometimes	Once/month	Once/week
Told me that I wasn't good enough	45	37 (82%) [68%-92%]	6 (13%) [5%-27%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	2 (4%) [0.5%-15%]
Kept me from medical care	45	32 (71%) [56%-84%]	11 (24%) [13%-40%]	2 (4%) [0.5%-15%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Followed me	45	36 (80%) [65%-90%]	5 (11%) [4%-24%]	4 (9%) [2%-21%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Tried to turn my family, friends and children against me	45	31 (69%) [53%-82%]	11 (24%) [13%-40%]	3 (7%) [1%-18%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Locked me in the bedroom	45	44 (98%) [88%-100%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Slapped me	45	41 (91%) [78%-98%]	3 (7%) [1%-18%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Forced me to have sex	45	42 (93%) [82%-99%]	2 (4%) [0.5%-15%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Told me that I was ugly	45	37 (82%) [68%-92%]	7 (16%) [6%-29%]	0 (0%) [0%-8%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]
Tried to keep me from seeing or talking to my family	45	28 (62%) [47%-76%]	15 (33%) [20%-49%]	2 (4%) [0.5%-15%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Threw me	45	44 (98%) [88%-100%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Hung around outside my house	45	41 (91%) [78%-98%]	4 (9%) [2%-21%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Blamed me for causing their violent behaviour	45	37 (82%) [68%-92%]	7 (16%) [6%-29%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Harassed me over the telephone	45	35 (78%) [63%-89%]	9 (20%) [10%-35%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Shook me	45	37 (82%) [68%-92%]	7 (16%) [6%-29%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Tried to force me to have sex	45	40 (89%) [76%-96%]	4 (9%) [2%-21%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]

Harassed me at work	45	41 (91%) [78%-98%]	4 (9%) [2%-21%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Pushed, grabbed or shoved me	45	40 (89%) [76%-96%]	5 (11%) [4%-24%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Used a knife or gun or other weapon	45	44 (98%) [88%-100%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Became upset if dinner/ housework was not done when they thought it should be	45	20 (44%) [30%-60%]	15 (33%) [20%-49%]	10 (22%) [11%-37%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Told me that I was crazy	45	38 (84%) [71%-94%]	6 (13%) [5%-27%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Told me that no one would ever want me	45	39 (87%) [73%-95%]	5 (11%) [4%-24%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Took my wallet and left me stranded	45	40 (89%) [76%-96%]	4 (9%) [2%-21%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Hit or tried to hit me with something	45	41 (91%) [78%-98%]	3 (7%) [1%-18%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Did not want me to socialize with my female friends	45	34 (76%) [60%-87%]	9 (20%) [10%-35%]	2 (4%) [0.5%-15%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Forced me into sexual activities I did not want or like	44	39 (89%) [75%-96%]	4 (9%) [2%-21%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Refused to let me work outside the home	44	24 (55%) [39%-70%]	15 (34%) [20%-50%]	5 (11%) [4%-25%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Kicked me, bit me or hit me with a fist	44	42 (96%) [85%-99%]	2 (5%) [0.6%-15%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Tried to convince my friends, family or children that I was crazy	44	36 (82%) [67%-92%]	8 (18%) [8%-33%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Told me that I was stupid	44	36 (82%) [67%-92%]	7 (16%) [7%-30%]	1 (2%) [0.1%-12%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]
Beat me up	44	40 (91%) [78%-97%]	4 (9%) [3%-22%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]	0 (0%) [0%-8%]

* all reported values for 'daily' were 0% [0%-8%]

Table 6b - Composite Abuse Scale Sub-Categories

	Positive	**Negative**
CAS Emotional	16 (36%) [22%-51%]	29 (64%) [49%-78%]
CAS Physical	8 (18%) [8%-32%]	37 (82%) [68%-92%]
CAS Harassment	9 (20%) [10%-35%]	36 (80%) [65%-90%]
CAS Severe combined abuse	28 (62%) [47%-76%]	17 (38%) [24%-53%]
CAS screen for intimate partner violence	18 (40%) [26%-56%]	27 (60%) [44%-74%]

Table 7 - Percent positives in the two groups

	Group 1	**Group 2**
WAST	27% (6 of 22) [11%-50%]	32% (8 of 25) [15%-54%]
CAS	23% (5 of 22) [8%-45%]	52% (13 of 25) [31%-72%]

Table 8 - Method of questionnaire administration

	Group 1	**Group 2**	**TOTAL**
Self-report	41% (9 of 22)	64% (16 of 25)	53% (25 of 47)
Interview-administered	59% (13 of 22)	36% (9 of 25)	47% (22 of 47)

Table 9 - Proportion of women screened positive for each method

	WAST	**CAS**
Self-report	64% (9 of 14) [35%-87%]	72% (13 of 18) [47%-90%]
Interview-administered	36% (5 of 14) [13%-65%]	28% (5 of 18) [10%-53%]

APPENDIX 2 – QUESTIONNAIRE

Women's Health Survey

Patient ID: _____
Date: _____

1. In general how would you describe your relationship?

A lot of tension Some tension No tension

2. Do you and your partner work out arguments with:

Great difficulty Some difficulty No difficulty

3. Do arguments ever result in you feeling put down or bad about yourself?

Often Sometimes Never

4. Do arguments ever result in hitting, kicking, or pushing?

Often Sometimes Never

5. Do you ever feel frightened by what your partner says or does?

Often Sometimes Never

6. Has your partner ever abused you physically?

Often Sometimes Never

7. Has your partner ever abused you emotionally?

Often Sometimes Never

8. Has your intimate partner ever made you do something sexually that you did not want to do or made you feel uncomfortable?

Often Sometimes Never

9. Has your partner ever abused you sexually?

Often Sometimes Never

Your relationships
In this section we ask about your relationships because it is an important part of your life that may influence your health. We ask you about your experiences in adult intimate relationships. By adult intimate relationship we mean husband/wife, partner or boy/girl friend for longer than 1 month.

1 Have you ever been in an adult intimate relationship?
(Since you were 16 years of age)

Yes	☐1	No	☐0	*(Go to next section)*

2 Have you been in an adult intimate relationship in the last twelve months?
(Since you were 16 years of age)

Yes	☐1	No	☐0	*(Go to question 6)*

3 Are you currently in an intimate relationship?

Yes	☐1	No	☐0	*(Go to question 5)*

4 Are you currently afraid of your partner?

Yes	☐1	No	☐0

5 Have you been afraid of any partner in the last 12 months?

Yes	☐1	No	☐0

6 Have you ever been afraid of any partner?

Yes	☐1	No	☐0

7. We would like to know if you experienced any of the actions listed below and how often it happened during the past twelve months. If you were not with a partner in the past twelve months, could you please answer for the last partner that you had. ***Please tick the appropriate box, which matches the frequency, over a twelve month period, that it happened to you.*** *(please tick one box on each line)*

Actions	**How often it happened**					
My Partner:	**Never**	**Only Once**	**Several Times**	**Once/ Month**	**Once/ Week**	**Daily**
Told me that I wasn't good enough	☐0	☐1	☐2	☐3	☐4	☐5
Kept me from medical care	☐0	☐1	☐2	☐3	☐4	☐5
Followed me	☐0	☐1	☐2	☐3	☐4	☐5
Tried to turn my family, friends and children against me	☐0	☐1	☐2	☐3	☐4	☐5
Locked me in the bedroom	☐0	☐1	☐2	☐3	☐4	☐5
Slapped me	☐0	☐1	☐2	☐3	☐4	☐5
Forced me to have sex	☐0	☐1	☐2	☐3	☐4	☐5
Told me that I was ugly	☐0	☐1	☐2	☐3	☐4	☐5
Tried to keep me from seeing or talking to my family	☐0	☐1	☐2	☐3	☐4	☐5
Threw me	☐0	☐1	☐2	☐3	☐4	☐5
Hung around outside my house	☐0	☐1	☐2	☐3	☐4	☐5
Blamed me for causing their violent behaviour	☐0	☐1	☐2	☐3	☐4	☐5
Harassed me over the telephone	☐0	☐1	☐2	☐3	☐4	☐5
Shook me	☐0	☐1	☐2	☐3	☐4	☐5

Actions	**How often it happened**					
My Partner:	**Never**	**Only Once**	**Several Times**	**Once/ Month**	**Once/ Week**	**Daily**
Tried to force me to have sex	☐0	☐1	☐2	☐3	☐4	☐5
Harassed me at work	☐0	☐1	☐2	☐3	☐4	☐5
Pushed, grabbed or shoved me	☐0	☐1	☐2	☐3	☐4	☐5
Used a knife or gun or other weapon	☐0	☐1	☐2	☐3	☐4	☐5
Became upset if dinner/housework was not done when they thought it should be.	☐0	☐1	☐2	☐3	☐4	☐5
Told me that I was crazy	☐0	☐1	☐2	☐3	☐4	☐5
Told me that no one would ever want me	☐0	☐1	☐2	☐3	☐4	☐5
Took my wallet and left me stranded	☐0	☐1	☐2	☐3	☐4	☐5
Hit or tried to hit me with something	☐0	☐1	☐2	☐3	☐4	☐5
Did not want me to socialise with my female friends	☐0	☐1	☐2	☐3	☐4	☐5
Forced me into sexual activities I did not want or like	☐0	☐1	☐2	☐3	☐4	☐5
Refused to let me work outside the home	☐0	☐1	☐2	☐3	☐4	☐5
Kicked me, bit me or hit me with a fist	☐0	☐1	☐2	☐3	☐4	☐5
Tried to convince my friends, family or children that I was crazy	☐0	☐1	☐2	☐3	☐4	☐5

Actions	**How often it happened**					
My Partner:	**Never**	**Only Once**	**Several Times**	**Once/ Month**	**Once/ Week**	**Daily**
Told me that I was stupid	☐0	☐1	☐2	☐3	☐4	☐5
Beat me up	☐0	☐1	☐2	☐3	☐4	☐5

APPENDIX 3 – SCREENING FORM

Please complete this form for all female patients who present to the Fracture Clinic. To be eligible for the Pilot Study, the questions 1 to 6 must be answered "yes" and question 7 to 9 must be answered "no". In addition, the summary questions 10 and 11 must be answered "yes".

INCLUSION CRITERIA

Is the patient presenting to the fracture clinic for her own appointment?

Yes No

Is the patient in an intimate relationship?

Yes No

Is the patient 16 years of age or older?

Yes No

Is the patient able to read or understand Marathi, Hindi, or English?

Yes No

Is the patient attending fracture clinic today for the treatment of an orthopaedic injury?

Yes No

Is the patient able to separate herself from anyone who accompanied her to complete the questionnaire?

Yes No – specify why:_____

EXCLUSION CRITERIA

Is the patient too ill or injured to participate in the study?

Yes No

Is the patient cognitively impaired and unable to participate in the study?

Yes No

Is there another reason that the patient should not be included in the study?

Yes – specify why: _____ No

SUMMARY

Is this patient eligible?

Yes No

Did the patient provide written informed consent?

Yes No

If 'NO' for Question 10, please specify if:

The patient declined to participate before the study was explained to them

The patient declined to participate after the study was explained to them

Comments: _____

APPENDIX 4 – CONSENT FORM

Patient Information and Data Release Consent Form

1. Introduction:

You are invited to participate in a research study because you are a woman who is 16 years of age or older. In order to decide whether or not, you want to be a part of this study, you should understand what is involved and the potential risks and benefits. This form gives detailed information about the research study, which will be discussed with you. Once you understand the study, you will be asked to sign this form if you wish to participate. Please take your time to make this decision.

2. Why is this research being done?

Intimate partner violence, also called domestic violence, refers to any behavior purposely inflicted by one person against another within an intimate relationship that causes physical, psychological or sexual harm. The aggressor can be a husband/wife, former husband/wife, and/or boyfriend/girlfriend. Research has shown that heterosexual women are most at risk to injury and death from their male partners. Studies have also reported that intimate partner violence is the most common cause of non-fatal injury among women today. We believe that the rate of intimate partner women against women within orthopaedic trauma clinics is underestimated, as it has been shown in gynecology clinics and emergency departments.

3. What is the purpose of this study?

Injuries requiring the need to see an orthopaedic surgeon have been found to account for about one-third of all cases of intimate partner violence, but intimate partner violence in underemphasized in this medical field. Hence, the purpose of this study is to estimate the prevalence of intimate partner among women who attend orthopaedic trauma clinics for treatment of orthopaedic injury. In addition, we want to promote awareness about the seriousness of this issue in the area of orthopaedic injury. It is important that women who have not been abused participate in this study as we want an accurate estimate of the prevalence of intimate partner violence at this clinic site.

4. What will my responsibilities be if I take part in the study?

If you decide to participate, we will ask you to fill out a survey before you finish your visit to the clinic today. This survey contains questions about whether you have experienced intimate partner violence and will ask you to provide some demographic information and information about your orthopaedic injury. You will not be asked to come back to answer any further questions after today.

5. What are the possible risks and discomforts?

Some of the questions may make you feel uncomfortable because they are asking personal questions relating to physical, emotional, or sexual abuse. If you do feel uncomfortable, please fill

out the survey as best as you can because your responses are important for us to better understand how to take care of women who have experienced abuse. If you have not been abused, some of the questions may seem irritating or unnecessary. Again, we ask that you please fill out all the questions on the survey.

6. How many people will be in this study?

Currently, we are aiming to enroll between 50-100 women from this clinic. Similar studies are being conducted in Canada, the United States, Denmark, the Netherlands, and Australia.

7. What are the possible benefits for me and/or for society?

By participating in this study, you will help healthcare workers better understand how prevalent intimate partner violence is in orthopaedic clinics. If you have never experienced intimate partner violence, you may only benefit from participating in this study by learning more about how serious this issue is in healthcare. If you are or have been a victim of intimate partner violence, psychologists and research personnel have been available for you should you wish to further discuss this issue in private.

8. If I do not want to take part in this study, are there other choices?

It is important for you to know that you can choose not to take part in the study. If you do not wish to participate, we respect your decision and it will in no way affect your care or treatment.

9. What information will be kept private?

Your data will not be shared with anyone except with your consent. All personal information such as your name, address, or phone number will not be kept as data. The data will be securely stored in a locked office or on a secure sever. The data for this study will be retained for ten years. If the results of the study are published, your name will not be used and no information that discloses your identity will be released or published without your specific consent to the disclosure.

10. Can participation in the study end early?

If you volunteer to be in this study, you may withdraw at any time. This will in no way affect the quality of care you receive at this clinic. You may also refuse to answer any questions that you do not want to answer and still remain in the study. However, your survey responses cannot be destroyed after you leave the clinic because no personal identifying information is to be kept on survey, so we will not know which one is yours. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

11. Will I be paid to participate in this study?

You will not be paid to participate in this study.

12. Will there be any costs?

Your participation in this research project does not involve additional costs to you.

13. Questions and contact information:
If you have any questions regarding the study, you should contact the Investigator,Dr. Parag Sancheti tel. +91-20-25511424, or Research Project Officer Ms. Zahra Sohani tel. + 001 (289) 700 2413 Mobile no. 9603408591.
If you have any questions regarding your rights as a study participant, you should contact the Independent Ethics Committee at SIOR.

Patient Information and Data Release Consent Form

Study Title: Assessing the Feasibility of Screening Women for IPV in an Orthopaedic Centre in Pune, India.

Patient's initials: |___|___|___| Patient's name: _____

Date of birth (dd/mm/yy)/Age: _____

		Please initial box (Subject)
(i)	I confirm that I have read and understood the Patient information and Data Release Consent Form dated 15th April 2011 for the above study and have had the opportunity to ask question and received photocopy of the Signed Informed Consent Form.	[ ]
(ii)	I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.	[ ]
(iii)	I understand that the Sponsor of the clinical trial, others working on the Sponsor's behalf, the Ethics Committee and the regulatory authorities will not need my permission to look at my health records both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the trial. I agree to this access. However, I understand that my identity will not be revealed in any information released to third parties or published.	[ ]
(iv)	I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purpose(s).	[ ]
(v)	I agree to take part in the above study.	[ ]

Signature (or Thumb impression) of the Subject or
Legally Acceptable
Representative:……
Date……./……/……
Signatory's Name:…….

Signature of the Investigator…….
Date……../……../……
Study Investigator's Name:……..……

Signature of the impartial Witness
(if applicable)……..
Date……../……./…….
Name of the Witness:…….

NB: *Participant must obtain copy of signed consent.*