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A Study of the Knowledge and Attitudes of Physicians Toward Victims of Spouse Abuse

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A STUDY OF THE KNOWLEDGE AND ATTITUDES OF PHYSICIANS TOWARD VICTIMS OF SPOUSE ABUSE

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ABSTRACT

A STUDY OF THE KNOWLEDGE AND ATTITUDES OF PHYSICIANS TOWARD VICTIMS OF SPOUSE ABUSE.

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Chairman: Dr. Stacey Plichta

The purpose of this study is to measure the knowledge and attitudes of physicians toward victims of spouse abuse. All 150 practitioners in the specialities of emergency medicine, family medicine, obstetrics-gynecology and psychiatry, in a large area general hospital are included in the sampling frame; 76 responded (RR = 51%). Knowledge and attitudes were measured using the Physician Survey on Spouse Abuse. Rosenberg's Tripartite Model of Attitude formed the theoretical basis for this study. Participants were 72% male, 90% white, 88% currently married, with a mean age of 44 years (SD = 7.99). Mean years in practice was 14.61 (SD = 7.71); 63% were in private practice, and 47% practiced in suburban areas. A minority, 21% had no course content on spouse abuse and majority, 81% were not trained in spouse abuse prevention following graduation.

Only 27% secured a pass on the knowledge quiz. 68% had positive summary attitude measure. 70% had a positive overall belief, 97% had positive beliefs about physician role, 65% had positive beliefs about victims, and 30% had positive beliefs about resources. 11% had a positive affect score. 84% had positive verbal statements of behavior, 22% had positive behaviors on frequency of suspecting abuse. 50% of the respondents identified 5 or less victims in the past year. Whites had significantly less positive summary attitude measure, beliefs about physician role, and affect scores. Older physicians had significantly less positive overall belief scores, beliefs about victims and identified fewer victims of abuse. Females

were significantly more likely to pass the knowledge quiz and they were also more likely to hold positive beliefs about victims of abuse. Married physicians were significantly less likely to pass the knowledge quiz and to have less positive affect scores. Family practitioners were least likely to behave positively toward victims of abuse. Physicians with fewer years in practice were more likely to have positive beliefs about victims. Speciality was the strongest predictor of attitudes.

Physicians seem to hold most positive beliefs, are less likely behave positively toward victims of abuse and are even less likely to feel positive about providing services to victims of abuse.

at the lotus feet of Bhagawan Sri Sathya Sai Baba

and

to my parents

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Introduction

> When physicians..... do nothing, even when the victim/patient *knows* they know, they magnify the victim's anxiety, hopelessness, fear and shame–her sense that she alone is responsible for her safety, that she alone is perhaps, after all, to blame (Jones, 1994, p. 148).

Negative attitudes held by physicians and other health care providers toward women victims of spouse abuse may be largely responsible for missing the opportunity to help women when they come in contact with the health center (Bowker & Maurer, 1987; Cullinane, Alpert, & Freund, 1997; Davis, 1984; Ferris, 1994; Friedman, Samet, Roberts, Hudlin & Hans, 1992; Parsons, Zaccaro, Wells, & Stovall, 1995; Reid & Glasser, 1997; Rodriguez, Quiroga, & Bauer, 1996; Saunders & Kindy, 1993; Sugg & Inui, 1992; Tilden et al., 1994). These negative attitudes may also be the reason for nonidentification of the victims of abuse in the health care system. The purpose of this study is to measure attitudes of physicians in a local general hospital. The Rosenberg's Tripartite Model of attitude is being used as the theoretical framework for this measurement (Rosenberg, Hovland, McGuire, Abelson, & Brehm, 1960). This chapter will begin with a discussion of the magnitude of the problem of spouse abuse, as well as its epidemiology, the health effects of spouse abuse, the utilization of health services by victims of abuse, and the current state of identification of victims of abuse in the health care settings. A discussion of the barriers to identification of victims of abuse and the deficiencies in the past literature is followed by a description of the study purpose and the questions the study proposes to answer.

Problem Statement

Health care professionals are frequently the first or only professionals from whom spouse abuse victims seek help (Bowker & Maurer, 1987; Buel, 1995; Hamilton & Coates, 1993). Since women most often seek help from the health care system, it is likely to be a crucial point of contact for identification, treatment, and secondary prevention of abuse. It is important for physicians to be able to detect and document the incidents of spouse abuse so that they can treat any health damage related to the abuse, refer those who require nonmedical assistance to other sources of help, and help patients reduce their risk of future incidents. Another reason for physician involvement may be the legal aspect. Courts have been more willing to hold hospitals liable for the acts or omissions of their staff, placing clear responsibility on the shoulders of physicians, nurses, and other hospital employees to identify and appropriately treat victims of spouse abuse (Buel, 1995). Unless there is a change in the attitudes of health care providers about identification of victims of spouse abuse very little can be done to make physicians feel a sense of responsibility about their role in alleviating the problem of spouse abuse.

Until 1985, little attention was paid to spouse abuse by the health care system. Research indicates that physicians are often insensitive to victims of spouse abuse and frequently provide little concrete help beyond physical care (AMA, 1992; Bowker & Maurer, 1987; Kurz, 1987; Randall, 1990; Stark, 1984; Warshaw, 1989). Treating only the injuries and symptoms of abuse is not likely to address the ongoing spouse abuse that is at the root of its victims' health problems. Failing to diagnose and appropriately treat abuse may also further the victim's sense of entrapment and thereby contribute to ongoing victimization.

Further, when abuse is undetected, it is most likely to continue and will often escalate (AMA, 1992). Even though many hospitals and professional associations (ACOG, 1989; AMA, 1992) have developed and have protocols in place, the identification rates are still very low (McFarlane, Greenberg, Weltge, & Watson, 1995). Most of the training programs aim at imparting knowledge and putting protocols and guidelines in place. Having protocols may help in identifying on record, but cannot change the attitudes of physicians toward the victims.

Epidemiology

Approximately 20% to 25% of the adult women in the United States are at risk of being abused by a male intimate during their lifetime. Each year an estimated 8% to 11% of all married women (4 - 6 million women) in the United States are physically abused by their current or former intimate partners (Plichta, 1996a; Schulman, 1979; Stark & Flitcraft, 1991; Straus & Gelles, 1986). Battering may be the single major cause of injury to women, more frequent than auto accidents, mugging and rape combined (Stark & Flitcraft, 1992). Annually, more than 1.5 million women nation-wide seek medical treatment for injuries related to abuse (AMA, 1992). Women are by far the most frequent victims of spouse abuse. Women are injured by abuse approximately 13 times as frequently as men (Stark & Flitcraft, 1991). Spouse abuse follows no clear demographic pattern and is distributed across all countries and all religions. No race or ethnic group is at a significantly greater risk. Some studies report that black women are more likely to be abused and more likely to seek medical care for abuse than white women. However when income and other factors were controlled for, this increased risk disappeared (Lockhart, 1987; Stark & Flitcraft, 1991). All socioeconomic classes are at similar risk, though the very poor (< 10,000 annual income) may be at an increased risk (N.

K. Sugg, personal communication, December, 1997). The couples at highest risk are those in which the woman's status is higher than her partner's (Stark & Flitcraft, 1992). Very few predisposing factors for victims, other than age (younger women), socioeconomic class (very poor women) and a history of child sex abuse, have been identified. Single, separated, and divorced women are more likely to be abused than married women. History of violence in the family of origin seems to be a significant risk factor for spouse abuse both for men and women (Hotaling & Sugarman, 1986).

Prior to abuse, most women who are victims of spouse abuse are indistinguishable psychologically from "normal" populations, and researchers have failed to identify a specific personality profile that makes people "violence or victim prone" (Stark, Flitcraft, & Frazier, 1979; Hotaling & Sugarman, 1986; Stark & Flitcraft, 1992). While alcohol and drug abuse have been associated with experiencing abuse, the research indicates that substance abuse is typically a consequence rather than the cause of violence for the women (Miller, Downs, & Gondoli, 1989; Stark & Flitcraft, 1992). Abuse of women is a problem with an extremely low spontaneous cure rate for the abuser (Stark & Flitcraft, 1991).

Male abusers may or may not be distinguishable in a pool of people (Stark & Flitcraft, 1992). They are similar to the general pool on many characteristics, though there are very few studies with either large or random samples (Walker, 1995). Most of the samples for studies on batterers come from treatment programs, and these men may not be representative of all batterers (Walker, 1995). In one controlled comparison study of male abusers and nonabusers there were no differences among the groups in racial composition, religious preference, or religious devoutness. Male abusers were less likely to be employed, to be in intact

relationships, and were less educated. They were more likely to have witnessed abuse or experienced abuse as children (Hastings & Hamberger, 1988). Though there is general consensus that drug abuse does not cause violence or that treating the abuse will not stop recurrence of violence, one longitudinal study of 187 substance abusing men found that among couples with a history of relationship violence, the likelihood of spousal violence increases dramatically on days when alcohol or other drugs are used versus days of no substance use (Fals-Stewart, 1998).

Health Effects of Spouse Abuse

A body of research is developing that establishes a strong relationship between experiencing violence and poor physical and mental health status. The physical and mental health effects may be either immediate or long term.

Physical Health

Injury is the most common and immediate effect of abuse. Bruises, lacerations, especially to the central areas such as breasts and abdomen, and broken bones are most frequent. Other immediate effects of injury may be fractured facial bones and hearing deficits following blows to the ears. Women who are victims of spouse abuse may also suffer from headaches, abdominal pains, back or neck pain and atypical chest pain. This syndrome is also described as "intra traumatic stress disorder" (Campbell, Pliska, Taylor, & Sheridan, 1994; Stark & Flitcraft, 1992).

Women who experienced spouse abuse are almost twice as likely as nonabused women to rate their own health as fair or poor. They are more likely to have a disability. Abused women also have poorer gynecological health, and report higher rates of urinary tract

infections and sexually transmitted diseases (Martin, Tsui, Maitra, & Marinshaw, 1997; Plichta, 1996a; Stark & Flitcraft, 1992). History of abuse is significantly related to chronic medical problems, particularly functional bowel disorders (Drossman, 1997), and chronic pain (Weinberg, 1995).

Effects on Pregnancy

Research has not yet confirmed whether pregnant women are at greater risk for spouse abuse initiated during pregnancy or whether the severity or frequency of violent incidents increases or decreases during pregnancy (Ballard et al., 1998). Abuse is likely to effect pregnancy outcomes and care received by the woman during pregnancy. Abused women were twice as likely not to begin prenatal care until the third trimester (Flitcraft, 1992). Women who were assaulted during pregnancy were 1.9 times more likely to experience preterm labor, compared with a control group (American Academy of Family Physicians, 1994). Abuse is a significant factor in miscarriages and abortions (Rodriguez, 1989; Stark & Flitcraft, 1992).

Mental Health

In addition to the effects on physical health there are multiple immediate and long term effects of spouse abuse on mental health. The immediate effects are fear, anxiety, and confusion (Campbell et al., 1994). Anger against either the perpetrator or fate is also common, though abused women may seldom express anger openly toward the perpetrator for fear of further abuse (Hendricks-Matthews, 1993). Shame, guilt and humiliation are frequently experienced by the victim and may further aggravate her sense of isolation (Flitcraft & Stark, 1995).

Long term effects include sleep disturbances, mood disorders and personality disorders (Campbell et al., 1994; McCauley et al., 1995; Stark & Flitcraft, 1991). Women exposed to spouse abuse are also much more likely to have low self-esteem (Campbell et al., 1994; Forte, Franks, Forte, & Rigsby, 1996; Hendricks-Matthews, 1993). In controlled studies from a variety of settings, victims of spouse abuse are consistently found to be depressed on a variety of instruments or receiving a diagnoses of depression (Bergman & Brismar, 1991; Campbell, Kub, & Rose, 1996; McCauley et al., 1995; Stark & Flitcraft, 1992; Plichta, 1996a; Walker & Browne, 1985). Data from a number of societies indicate that wife abuse may be one of the most significant precipitants of female suicide (Abbot, Johnson, Koziol-McLain, & Lowenstein, 1995; Bergman & Brismar, 1991, Chez, 1988; Stark & Flitcraft, 1992). It is estimated that about 25% of all women who attempt suicide are victims of abuse (AMA, 1992; Stark & Flitcraft, 1995; Bergman & Brismar, 1991). Abused women are also estimated to constitute more than half of all women over 30 who have been raped (AMA, 1992; Flitcraft & Stark, 1995).

Alcoholism and drug dependency are also likely consequences of abuse. The rates of alcoholism and drug abuse among victims of spouse abuse are significantly greater than among nonvictims of spouse abuse (Chez, 1988; Carmen, Riecker, & Mills, 1984; Stark & Flitcraft, 1992; Miller et al., 1989). One study estimated that about 45% of all female alcoholics are also likely to be victims of abuse (Flitcraft & Stark, 1995).

Utilization of Health Services

Victims of spouse abuse are much more likely to use health care facilities than nonvictims of spouse abuse. They may appear in many different settings other than emergency

departments. It is estimated that each year more than 1.5 million women nation-wide seek medical treatment for injuries related to abuse (AMA, 1992). In one study criminal victimization severity was the most powerful predictor of physician visits (Koss, Koss, & Woodruff, 1991).

The following are some estimates of the use of health services for which victims of spouse abuse may be accountable. The two main problems with the data presented are, with the definition and measurement of spouse abuse and the identification procedures in the hospitals, which might make the estimates much lower than the actual rates (Stark & Flitcraft, 1991). Victims of abuse use emergency rooms as most frequent source of care. About 17% to 30% of injured women seen in the emergency departments and 22% to 35% of women seeking care for any reason in emergency departments may be victims of abuse (Abbot et al., 1995; AMA, 1992; Roberts, O'Toole, Raphael, Lawrence, & Ashby, 1996; Kurz, 1987; Stark, 1979; Stark & Flitcraft, 1991). In addition to the trauma care and emergency care, it is estimated that up to a quarter of women in ambulatory care internal medicine clinics and family medicine clinics may be victims of spouse abuse (AMA, 1992; Gin, Rucker, Frayne, Cygan & Hubbell, 1991; Rath & Jarratt, 1990; Stark & Flitcraft, 1988). Pregnancy may be a high risk period for abuse, with abuse either beginning or escalating during pregnancy. Up to one-fourth of women seeking prenatal care may be victims of spouse abuse (AMA, 1992; Helton, McFarlane, & Anderson, 1987; McFarlane, Parker, Soeken, & Bullock, 1992; Stark & Flitcraft, 1992). Pediatricians should also be involved in identification of spouse abuse as more than half of mothers of abused children may themselves be victims of abuse (AMA, 1992; Flitcraft & Stark, 1995; McKibben, DeVos, & Newberger, 1989).

Due to the long-term effects of abuse on mental health, psychiatric services are also frequented by victims of abuse. It is likely that about 25% of women utilizing psychiatric emergency services and 60% of women hospitalized in psychiatric facilities are victims of abuse (AMA, 1992; Carmen et al., 1984).

In spite of these high rates of utilization of health services, at least one study suggests that there is still a significant unmet need in obtaining medical services among women abused by their spouses (Plichta & Weisman, 1995). Plichta and Weisman (1995) report that abused women are more likely than other women to say that they needed, but did not receive medical care in the past year. One national study reports that women who experience violent crimes report significantly more use of health care than other women, this use can be both immediate and long-term (Plichta & Weisman, 1995).

This greater use results in many direct and indirect costs. Estimating the costs associated with spouse abuse is very difficult, and may include emergency and long-term care for victims and their children. There are very few studies estimating the costs to the health care system of spouse abuse. A study employing National Crime Survey data of 1987 estimates the annual morbidity associated with domestic violence at 21,000 hospitalizations, 99,800 hospital days, 28,700 emergency department visits, and 39,900 physician visits. Total annual medical care costs were estimated at $44,393,700 in 1980 dollars (National Committee for Injury Prevention and Control, 1989). This figure is considered a gross underestimate (Goodman & Capps, 1997). According to Victim Services Agency in New York City, the annual emergency room costs in New York City alone total 77.5 million dollars for treatment of victims of domestic violence. In another study Blue Cross/ Blue Shield of Pennsylvania

estimates that at least 32 million dollars a year is spent in Pennsylvania to treat domestic violence injuries (Flitcraft, 1993). Note that these estimates do not measure or account for the pain and misery experienced by victims of spouse abuse or their children.

Current State of Identification of Victims of Spouse Abuse in Health Care Settings

Each year more than 1.5 million women nation-wide seek medical treatment for injuries related to abuse (AMA, 1992). A minority of these women are being recognized as victims of spouse abuse by the health services providers (Covington, Maxwell, Clancy, Churchill, & Ahrens, 1995). Despite the poorer health status and higher utilization of health care services by victims of spouse abuse, the vast majority of abused women are not detected by health care providers, even when the injury they presented with was directly due to abuse (Plichta, 1992). In fact, without active screening, fewer than 10% of victims of spouse abuse are identified in emergency rooms (Flitcraft, 1990; Freund, Bak, & Blackhall, 1996; Hamberger, Saunders, & Hovey, 1992; Kurz, 1987; McLeer & Anwar, 1987; Stark, et al., 1979; Warshaw, 1989). Once training protocols are put in place, identification rates rise dramatically (Currier, Barthauer, Begier, & Bruce, 1996; Kurz, 1987; McFarlane, et al., 1995; McLeer & Anwar, 1987; Olson et al., 1996; Tilden et al., 1994); however, when protocols are removed, identification rates decrease again (McLeer & Anwar,1989).

Women are unlikely to initiate a discussion on disclosure of abuse to a physician. A very small percent of women who were abused by their spouses had ever discussed the abuse with a physician (Gin et al., 1991; Plichta, Duncan, & Plichta, 1996c; Rath & Jarratt, 1990). Women who experience violence also reported consistently poorer quality communication with their physicians than other women, specifically reporting that their physician does not

listen well (Plichta et al., 1996c). In a survey that asked 1000 abused women to rate the effectiveness of various professionals in addressing their abuse, health care professionals had the lowest rating, ranking behind victims of spouse abuse's shelters, lawyers, social service workers, police, and clergy (Bowker & Maurer, 1987). Victims also often encounter blame, misinformed advice, and punitive responses when they seek help. A failure to identify victims of spouse abuse is likely to lead to a failure to refer appropriately. Neglect, denial, isolation, mistreatment and punitive interventions and referrals characterize the ongoing care of women who present with abusive injury (Stark & Flitcraft, 1992). The literature suggests that medical personnel are missing an opportunity to offer long-term intervention, when only the medical injuries are treated and the women medicated for the psychological effects rather than to address the violence that underlies her symptoms.

Possible Barriers to Physician Identification and Intervention

Available information suggests that physicians may not have knowledge regarding spouse abuse, that they may not be sensitive to issues of violence and that they may hold attitudes that prevent them from effectively treating victims of spouse abuse. Several studies have identified a lack of knowledge and training as the main barriers to diagnosing and treating family violence (AMA, 1992; Gremillion & Kanof, 1996; Warshaw, 1996). A survey of all U.S. medical schools found that 53% to 59% provided no instruction at all about domestic violence; another 5% had no required instruction, but provided information in electives (Hendricks-Matthews, 1991; Holtz, Hames, & Safran, 1989).

Many reasons have been identified as to why physicians may avoid asking about abuse or exploring spouse abuse in clinical setting and why it may seem difficult to do so initially,

these include both research findings and expert opinions (AMA, 1992; Burge, 1989; Cohen, DeVos, Newberger, 1997; Stark, & Flitcraft, 1992; Kurz, 1987; Sugg & Inui, 1992). The most important reasons found are summarized in the following paragraphs.

Physicians may be perceiving their role in assisting victims of abuse negatively, resulting in not assisting victims. Believing it is not a physician's place to intervene and that violence against women is not a health issue, may result in reluctance to assist victims (AMA, 1992; Burge, 1989). The belief that family matters are private and that the patients may be offended if asked about abuse, especially if they are not victims, may prevent many physicians from exploring the issue, even when they do suspect abuse (AMA, 1992; Burge, 1989; Sugg & Inui, 1992). Belief that spouse abuse occurs only in certain groups and they do not have "such" people in their practice deters the physicians from enquiry (Sugg & Inui, 1992).

Physicians may be holding negative beliefs toward the victims themselves, which makes it harder to reach out and help victims. Blaming the patient and believing that the woman must have provoked the abuse interferes with the need to intervene (AMA, 1992; Kurz, 1987). Disbelief about the cause of injuries, because the alleged assailant is present and seems very concerned and pleasant stops the physician from any further involvement in the issue of abuse (AMA, 1992).

Physicians may also be feeling (affect component) very negative toward providing services to victims of violence. Feeling of helplessness or inadequateness or powerlessness if he or she cannot "do something" to "fix" the situation also can hold the physicians' back from trying to help the victims. Some physicians find it difficult to deal with the feelings evoked by listening to a woman describe what has been done to her and prefer to distance

themselves from these issues. The feelings evoked may be too personal or uncomfortable especially for those who have experienced or witnessed abuse themselves (AMA, 1992; Sugg & Inui, 1992). The feeling that working with spouse abuse victims is a hopeless cause, and not professionally rewarding may also make it difficult for some physicians to become involved in a meaningful way in helping victims of abuse (Burge, 1989).

These negative beliefs can result in negative behaviors toward victims of violence. Believing that identification of abuse and referral for services is not a part of the physician's role may lead to nonidentification of victims. Feeling frustrated or angry if the woman does not leave her partner may thwart any further physical efforts to intervene or help in other ways (AMA, 1992; Burge, 1989). Subscription of physicians' to the general philosophy, of not looking for something they cannot fix or control immediately also can add to noninvolvement in cases of spouse abuse (Sugg & Inui, 1992). Feeling that discussing psychosocial issues will take an overwhelming amount of time, especially with emphasis on cost-effectiveness, need for higher turnover of patients and similar management issues, may prevent physicians from spending more time with patients (AMA, 1992; Sugg & Inui, 1992). These issues with time and monetary benefits being tied to the number of patients seen, makes it impossible to interview slowly and patiently to get to the root of the problem, and results in recommending "quick-fix" solutions.

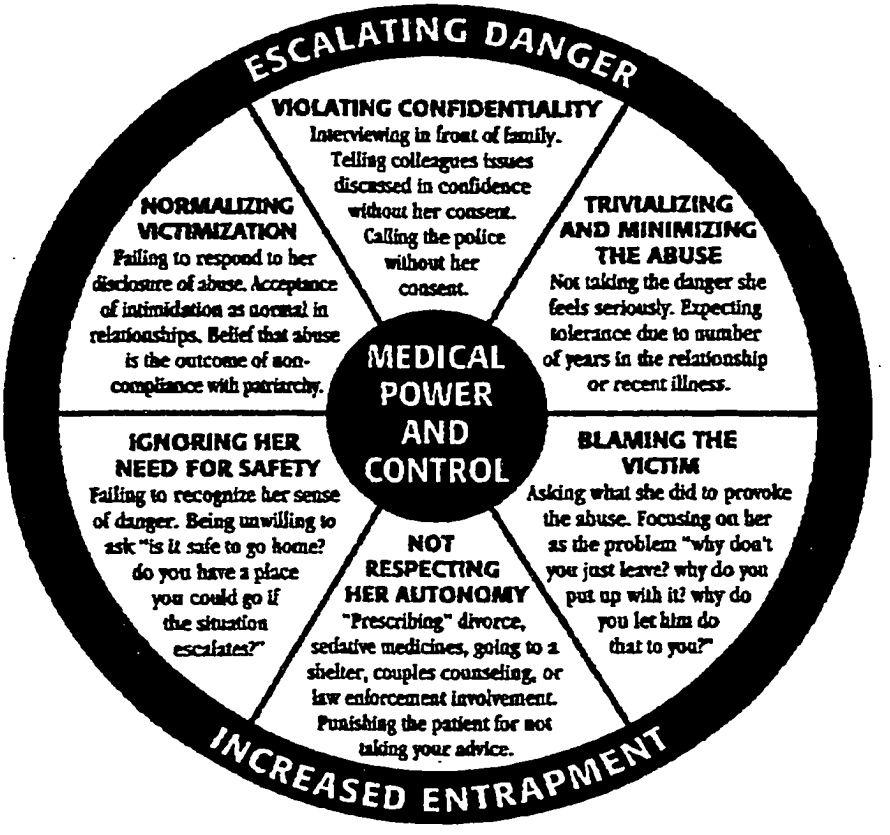
In addition to the negative attitudes, a lack of knowledge may also contribute to the problem of nonidentification of female victims of spouse abuse at health centers or in physicians' offices. A lack of awareness of the prevalence or severity of the problem may be a major reason. Further, these physicians do not know how to intervene, identify or help

effectively and are unlikely to offer effective assistance even if a woman is recognized as being battered (AMA, 1992). Lack of recognition of either economic, social, psychological, and/or physical costs of abuse, that is, trivializing the costs of spouse abuse also contribute to the poor state of current identification of female victims of spouse abuse.

The negative attitudes and the way it is escalating danger for the women and increasing their sense of entrapment in the relationship is summarized in "The Medical Power and Control Wheel" (Wilson, 1997; Figure 1). In general, these studies report that most health care providers hold negative attitudes toward victims of spouse abuse. Most of the physicians are not comfortable diagnosing and/or following up cases of spouse abuse. Few felt equipped to handle cases of spouse abuse, but were not prepared to learn more by participating in a spouse abuse forum. The majority of physicians do not routinely screen their patients for current or past abuse. The majority of them did not feel responsible for dealing with problems of family violence. In one study, 390 first year medical students were interviewed and most of the students felt that they lacked the knowledge and needed more training regarding handling victims of abuse (Cullinane et al., 1997). Most of the physicians felt that they did not receive adequate training in graduate school in handling victims of spouse abuse (AMA, 1992; Currier et al., 1996; Stark, & Flitcraft, 1996; Parsons et al., 1995; Sugg & Inui, 1992).

Figure 1

The Medical Power and Control Wheel



Limitations in the Previous Research

There is not much research that directly measures the knowledge and attitudes of physicians and other health care providers about female victims of spouse abuse. There are some studies estimating the numbers of unidentified cases of spouse abuse, number of victims visiting the physicians offices and other health care settings. Other studies have attempted to identify the likely reasons for the lack of identification in health care settings. On reviewing the literature, very few articles were found measuring knowledge and attitudes of physicians and other groups of health care providers about spouse abuse and other closely related topics (Brown, Lent, & Sas, 1993; Cullinane et al., 1997; Currier et al., 1996; Davis, 1984; Easteal & Easteal, 1992; Ferris, 1994; Friedman et al., 1992; McGrath et al., 1997; Parsons et al., 1995; Reid & Glasser, 1997; Saunders & Kindy, 1993; Sugg & Inui, 1992; Tilden et al., 1994).

The main limitation of these studies is that they are not based on any psychometrically valid instruments. No theoretical foundation underlies any of these studies. No use is made of any attitude measurement theory. Another limitation is that most of the samples are limited to just one group of physicians, such as either obstetricians-gynecologists, or family physicians or general practitioners or medical students from one school (Cullinane et al., 1997; Friedman et al., 1992; Parsons et al., 1995; Reid &Glasser, 1997; Sugg &Inui, 1992). Most of the samples were recruited by nonrandom and convenience methods (Cullinane et al., 1997; Davis, 1984; Friedman et al., 1992; Reid & Glasser, 1997; Saunders & Kindy, 1993; Sugg &Inui, 1992). Four of the studies collected data from one or two sites (Cullinane et al., 1997; Friedman et al., 1992; Saunders & Kindy, 1993; Sugg & Inui, 1992). The other

limitations were low response rates (as low as 14% in one study), very small sample size (five studies had less than 50 physicians) and limited control for extraneous factors (Davis, 1984; Friedman et al., 1992; Parsons et al., 1995; Saunders & Kindy, 1993; Sugg & Inui, 1992). Though one study did employ multivariate analysis, the sample was too small to draw any definitive conclusions (Saunders & Kindy, 1993). Earlier studies mostly concentrated on understanding the process of identification and response when a victim comes to the health center. The most common measure employed was behavioral response to victims of spouse abuse. Very few studies examined the thoughts of physicians about spouse abuse and the feelings evoked in the physicians when treating victims of spouse abuse, with the exception of Sugg and Inui. The present study seeks to address some of the limitations of the previous research.

Study Purpose

The purpose of this study is to assess the knowledge and attitudes of physicians about spouse abuse. It will do so employing the Physician Survey on Spouse Abuse, a questionnaire adapted from the Domestic Violence Survey of Health Care Providers (Group Health Cooperative of Puget Sound and Harborview Medical Center, 1997 see appendix A). Reliability and validity of this survey instrument have been established (Maiuro et al., 1997). This study seeks to measure attitude using the Rosenberg's Tripartite Model of Attitude (Rosenberg, et al., 1960). In addition to measuring thoughts, feelings and self reported behavior of physicians toward victims of spouse abuse, an attempt will be made to measure physicians attitudes toward and knowledge of the following: The cycle of spouse abuse, ways of helping those women who want to stay with the batterer, and the consequences of abuse

on the whole family. Attitude will be measured by a combined score from all the three subconcepts: affect, belief and behavior. A higher score would mean a more positive attitude toward the victims of spouse abuse, that is, a more sympathetic attitude. This study will also focus on measuring the knowledge. Knowledge will be defined as being reflected by the score received on the knowledge section of the survey. The higher the score, the higher the presumed knowledge about spouse abuse.

The relationship between knowledge and attitude will also be examined from the theoretical perspective. Using a theoretical framework is expected to improve the understanding of the measurement and also to help in predicting physician behavior with more confidence (Rosenberg et al., 1960).

One group of physicians from four specialities will constitute the sample. Physicians whose speciality is one of the following, either emergency medicine, family medicine, obstetrics-gynecology, or psychiatry, and who hold practice privileges at a large local General Hospital are included in the sample. There are 150 physicians in the above mentioned specialities at this hospital.

This study will examine the relationship of attitudes to demographic variables (age, gender, race/ethnicity, and marital status) training characteristics (training in public health, course content in graduate curriculum, CME training) and professional characteristics (length of service, speciality, practice setting and site of practice) and personal characteristics (any prior experience of being abused or having a close acquaintance who has been abused).

Theoretical Framework

This study is based on the "Tripartite Model of Attitude" (Rosenberg et al., 1960).

This theory forms a framework for understanding measurement of attitude. The construct of attitude is proposed as a complex sum of feeling (affect), thought (belief) and behavior towards an object. The development of attitude is influenced by a number of independent factors (variables) such as demographic variables (e.g., age, gender, etc.) professional characteristics (e.g., number of years of practice, site of practice, etc.) and any personal experience of abuse. The feelings, thoughts and behaviors are measured by responses to questions about the attitude object[1]. This theoretical framework is especially useful for measuring attitudes of physicians, as it does not require direct measurement of behavior. At the same time, the attitude measured by the Tripartite Model has been highly correlated with the behavior toward the attitude object (Bagozzi, 1978; Breckler, 1984; Breckler & Wiggins, 1989; Kothandapani, 1971; Ostrom, 1969; Rosenberg et al., 1960).

Significance of the Study and the Audience That Would Find the Study of Interest

The study results are likely to be of interest to various health care providers, to policy makers, victims of spouse abuse, to those who provide training to health care providers and to researchers with interest in women's issues and the understanding of spouse abuse. The results may help to sensitize health care providers (especially physicians) to the issue and to make them feel better equipped to handle victims in the future. Those with low levels of knowledge may develop a "felt" need for improved learning. Policy makers can decide on the need for curricular changes, and better protocols for identification and documentation of victims of spouse abuse in health centers. This survey may also provide an opportunity to

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1 Attitude objects are entities that yield stimuli that elicit evaluative responses that are regarded as following from the attitude (Eagly & Chaiken, 1993).

improve ways of disseminating the information to all groups concerned. Victims may be interested as it may ultimately translate into improved services for them. Researchers have a special interest in knowing what the knowledge levels and current attitudes of physicians are.

If scores on the survey are high, researchers may start looking at ways to improve identification rates which do not concentrate on imparting knowledge alone. Low scores on the survey could mean rethinking and searching for more effective ways of increasing the knowledge levels and changing attitudes. Hence, there are many ways in which the results from this survey can be used.

Most physicians and other health care providers may not be adequately equipped to handle a victim or survivor of spouse abuse. Studying current levels of knowledge and the attitudes of physicians toward victims of spouse abuse, can help in understanding the problem and designing better training programs for physicians. This survey will attempt to better understand and identify specific areas that need to be stressed both within the curricula and in special training programs for physicians. Physicians may be the first and only providers that the women see. Therefore, it is very important for health care providers in general and physicians in particular to improve the identification and assistance to victims of spouse abuse. It is important for physicians to detect and document the incidents of spouse abuse that they come across. This will help them treat any damage to physical and or mental health related to the violence, refer those who require nonmedical assistance to other sources of help, and help the patients reduce their risk of future incidents.

Assumptions

This study is based on certain assumptions:

1. The respondents will answer the questionnaire truthfully.
2. Responses referring to behaviors they would perform in a given situation are indicative of what they actually would do when interacting with patients.
3. A high score on knowledge and attitude questionnaire is indicative of better knowledge and more positive attitude toward victims of spouse abuse.
4. Better knowledge and more positive attitudes will translate into better services for the victims.

Definition of Terms

Physician A practitioner of medicine, licensed by the proper authorities (Stedman's Medical Dictionary, 1976).

Domestic Violence Domestic violence is an ongoing, debilitating experience of physical, psychological and/or sexual abuse in the home, associated with increased isolation from outside world and limited personal freedom and accessibility to resources (AMA, 1992).

Spouse Abuse Spouse abuse is violence between present or past sexual partners (hetero or homosexual).

Knowledge For the purposes of this study knowledge will be measured by a score obtained on the items relating to knowledge on the Physician Survey on Spouse Abuse. The higher the score, the better the knowledge about spouse abuse.

Attitude Behavior representative of feeling or conviction (Websters' Third New International Dictionary). For the purposes of this study, it will be measured by the score obtained on the three measures (affect, belief and behavior) of attitude on the Physician Survey on Spouse Abuse. The higher the score the more positive the attitude toward female victims of spouse

abuse, that is, a more sympathetic disposition.

Performance Level Measured by the score obtained on either the knowledge or attitude portion of the Physician Survey on Spouse Abuse.

Victim A woman living in an abusive relationship.

Measurement A standard by which something intangible is determined; a directly observable quantity from which value another related quantity may be obtained (Websters' Third New International Dictionary).

Questions

Main Research Question

Can the attitude of physicians toward female victims of spouse abuse be modeled using Rosenberg's Tripartite model of attitude. Further, are the knowledge level and attitudes of physicians toward female victims of spouse abuse related to any factors, such as demographic characteristics, practice characteristics, training characteristics and personal experience of abuse?

Other Questions

1. Is there any difference in the knowledge and attitudes of physicians about identification of female victims of spouse abuse by demographic characteristics?

    1a. Is there any difference in the knowledge and attitudes of physicians by gender?

    1b. Is there any difference in the knowledge and attitudes of physicians by age?

    1c. Is there any difference in the knowledge and attitudes of physicians by race?

    1d. Is there any difference in the knowledge and attitudes of physicians by marital status?

2. Is there any difference in the knowledge and attitudes of physicians about identification of female victims of spouse abuse by practice characteristics?

2a. Is there any difference in the score by the type of speciality? For example, emergency medicine, obstetrics-gynecology, family practice, and psychiatrist.

2b. Is there any difference in the score on questionnaire by years of service?

2c. Is there any difference in the knowledge and attitude levels by the area of practice, such as urban or rural?

2d. Is there any difference in the knowledge and attitude levels by the type of work setting, such as general hospital, private hospital, or teaching hospital?

3. Is there any difference in the knowledge and attitudes of physicians about identification of female victims of spouse abuse by personal experience of abuse?

3a. Does personally experiencing abuse, change the knowledge and attitude levels?

3b. Is there any difference in the knowledge and attitude levels by being close to someone being abused ?

4. Is there any difference in the knowledge and attitudes of physicians about identification of female victims of spouse abuse by education and training characteristics?

4a. Is there any difference in the knowledge and attitudes of physicians by the amount of course content in graduate curriculum on spouse abuse?

4b. Is there any difference in the knowledge and attitude levels by prior training in spouse abuse?

5. Are the constructs related to one another?

Limitations of this Study

This is a cross-sectional, observational survey study design. The results may be skewed depending on how the sample is selected. The sample size and selection, relatively small of only four specialities may limit the external validity (generalizability) of the study. Participation is voluntary, hence may not be reflective of all providers, as those more concerned about the issue may be more likely to respond than those who do not care about the issue (self-selection bias). The potential low response rate may make generalizability of the results to all physicians more difficult. Another limitation is the physical absence of a victim of spouse abuse (attitude object) while the physician is completing the questionnaire which may affect the attitude measurement. Absence of use of nonverbal measures of the three components, such as actual observation of the behavior, or pupillary reaction, is a further limitation of this study.

CHAPTER 2

Literature Review

This study is built upon the theory of "Tripartite Model of Attitude" (Rosenberg et al., 1960). Social scientists assume that attitudes can be used to explain human action since they view attitudes as behavioral dispositions and believe that measuring attitudes can help in predicting behaviors. In short, attitudes are believed to be structured in such a manner that they guide action and are behaviorally charged (Ajzen & Fishbein, 1980). In this chapter, the historical development of attitudes, description of the theory and the constructs, and results of earlier testing of this theory will be examined. This will be followed by a discussion of the application of this theory to measuring the attitudes of physicians toward adult female victims of spouse abuse.

Theoretical Framework

The selection of a theoretical model for this study was limited by two considerations. The first, behavior was not measured directly, making it not possible to use any theory that measured a behavioral component directly (e.g., The Theory of Reasoned Action, Fishbein, 1967). The second, attitude was measured only once. That is, the change of attitudes over a period of time could not be observed. This made it impossible to use any theory that included multiple measurements (e.g., Information-Processing Paradigm, McGuire, 1968). Upon research, the Tripartite Model seemed the best theoretical fit for this study.

The purpose of this study is to measure the knowledge and attitudes of physicians toward adult female victims of spouse abuse within the framework of the Tripartite Model of Attitude (Rosenberg et al., 1960). An attitude is an individual's disposition to react with

a certain degree of favorableness or unfavorableness to an object, behavior, person, institution, or event -- or to any other discriminable aspect of the individual's world. Although formal definitions of attitude vary, most contemporary theorists agree that the characteristic attribute of attitude is its evaluative dimension (Ajzen, 1988). The Tripartite Model of attitude states that attitude is composed of three components: affect, belief and behavior. This theory also proposes that the attitude is affected by different antecedent factors.

Historical Development

The measurement of the construct attitude in three categories of affect, belief and behavior has a very long history, that extends as far back as classical Greek and Hindu philosophers (McGuire, 1985). The tradition has a long history in social psychological discussions of attitude where the three categories of responses are referred to as the three components of attitudes. In the 1930s, attitude was measured as an unidimensional construct by some psychologists like Thurstone (1928), who was the first to apply psychometric methods to the measurement of attitudes. He measured attitudes on a specified continuum that ranged from positive to negative. He defined attitude as "the affect for or against a psychological object."

Attitudes, when measured unidimensionally, were poor predictors of behavior, prompting more research on the measurement of attitude (Eagly & Chaiken, 1993). The Tripartite view was reformulated in research originating in the 1960s. Rosenberg and colleagues (1960) formally proposed the Tripartite Model of attitude. Even within this model, some attitudes can be fully measured by just one component. For example, attitude toward legalization of abortion can be assessed by measuring only the affective component (e.g. the

feeling evoked by the thought of abortion). Self reported health status can be measured by just one question, an index[1] measure of the individual's self assessment of health and the answer would be a summary of the person's feelings, beliefs and behavior. Though some attitudes can be measured fully by just one component, most attitudes are more complex and can be measured only by measuring all three components (Rosenberg et al.). For example, attitudes toward gender equity or racial prejudice may be fully assessed only by measuring each of the components separately. Even though these issues may evoke negative feelings, the individuals may behave neutrally or even positively if they are worried about their image and rewards associated with the behavior. Finally, the decision to measure an attitude as either unidimensional or multidimensional may depend not only on the attitude object, but also on the researcher.

By the late 1960s, this Tripartite Model of Attitude was adopted almost universally (Eagly & Chaiken, 1993). Attitudes came, once again, to be viewed as complex systems comprising the person's beliefs about the object, feelings toward the object, and action tendencies with respect to the object. When all three components of the attitude were measured, prediction of behavior was greater (Ajzen & Fishbein, 1980).

Tripartite Model of Attitude Applied Toward Measuring Physician Attitudes

The Tripartite Model (Fig. 1), is a theory for measurement of attitude (Rosenberg et al., 1960). The Tripartite Model provides a useful framework and theoretical perspective for measuring attitudes and knowledge of physicians toward female victims of spouse abuse. The

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1Index is a type of composite measure that summarizes several specific observations and represents some more general dimension (Babbie, 1997).

authors of this theory propose that all responses to an object are mediated by the person's attitude toward that object. Attitude conceptualizes a summary measure of thinking, feeling and behavioral response to an object. The different responses are classified into three categories: the cognitive, affective and behavior. Largely, these response classes are themselves abstractions or constructs, and are typically inferred from the specific types of measurable responses (indicated at the extreme right of Fig. 1). Corresponding to each of these response classes is one component of attitude. The three constructs measured are:

1. The **cognitive** category (perceptual responses and verbal statements of belief). This category contains thoughts and beliefs that people have about the attitude object[2], that is, how the object is perceived. Operationally, it is measured by the beliefs and evaluative responses. For example, cognition will be the most important component in the measurement of attitude toward environmental pollution, as most people are likely to think about the pros and cons from the information that they have gathered from various sources. In spouse abuse, beliefs about physician role or beliefs about victims may be some of the examples of cognitive component of attitude.
2. The **affective** category, (sympathetic nervous responses-like blood pressure, galvanic skin reflex, pupillary response and facial electromyogram and verbal statements of affect). This category consists of positive-negative relationship or feelings that people have in relation to the attitude object and refers to liking or disliking the object.

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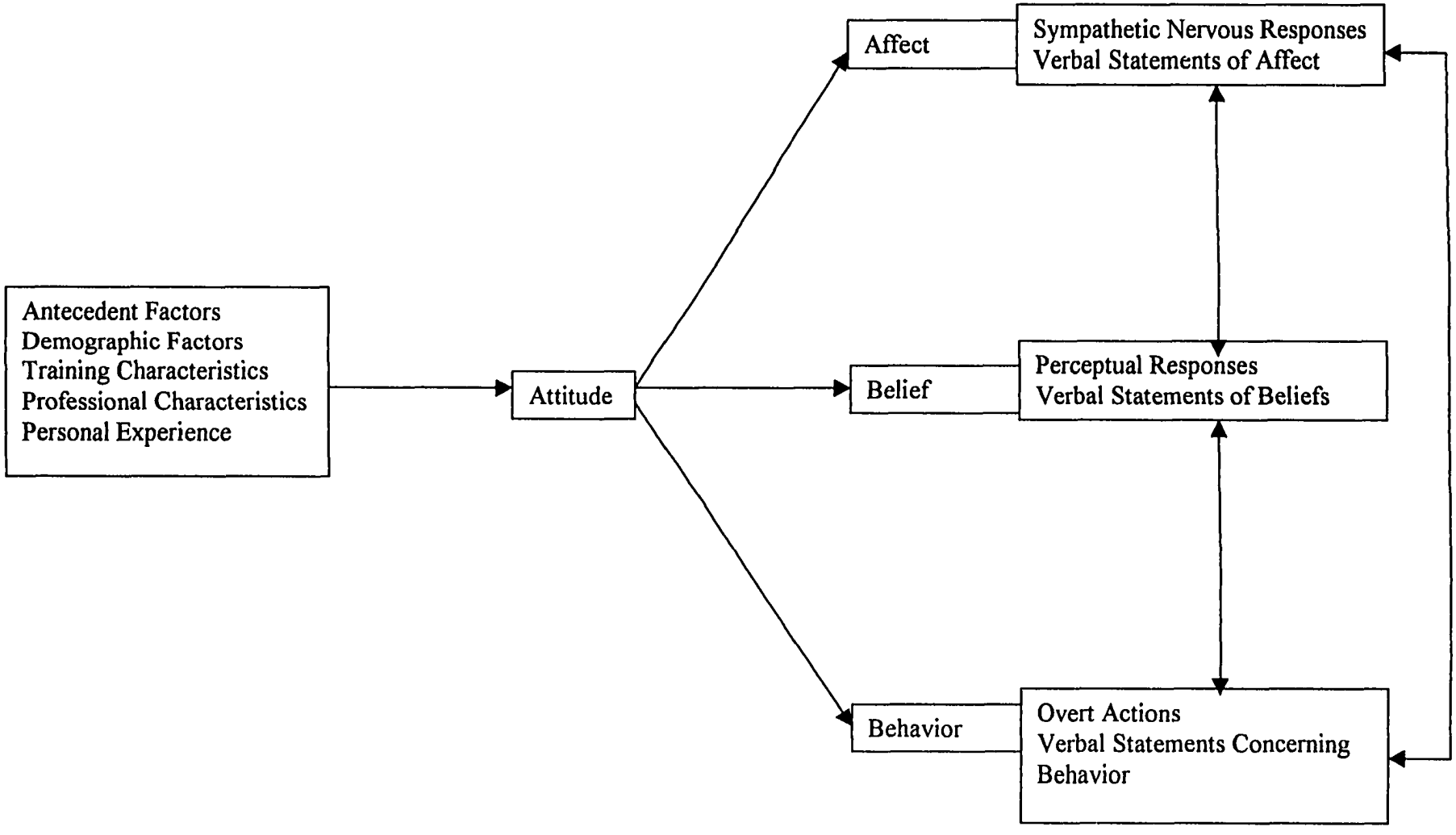
2 in social psychology, entities that are evaluated are known as attitude objects in general, anything that is discriminated or that becomes in some sense an object of thought can serve as an attitude object (Eagly & Chaiken, 1993).

Operationally, it can be measured by verbal affective responses. Some of the examples of affect driven attitudes are food preferences in children, legalization of abortion, and capital punishment. The attitude towards these issues is more likely to be a gut feeling response rather than an assessment of various advantages or disadvantages. In spouse abuse feelings about providing services such as exciting, easy, calm, or stressful may be some of the examples of affective component.

3. The **behavior** category (overt actions and verbal statements concerning behavior). This depicts the action tendencies one has to approach or avoid an object or perform some response. Operationally, this category can be defined by the verbal responses of behavior. Some examples of behavior driven attitudes are attitudes toward affirmative action. These attitudes may be tied more to the rewards and punishments in the system rather than feeling right about the issue. Even though a person may not personally subscribe to the views, they may be forced to by the system (e.g. an employer may not personally feel affirmative action is right but has to fill a certain quota as it is mandated by law). Reported frequency of suspecting abuse, and number of victims identified may be examples of behavioral component of attitude for spouse abuse.

Fig. 2
Tripartite Model of Attitude (Rosenberg et. al., 1960)



This classification into components is further strengthened by each component's distinguishing antecedents[3]. Action tendencies may develop through processes of instrumental learning or rewards and punishment for responses to an attitude object. For example, since reporting child abuse is mandatory, most physicians are forced to comply as lack of compliance may mean liability. Cognition can develop through previous exposure to communications or educational materials. Information about an object may be gained either by direct experience as tasting a new soft drink to form an opinion, or by indirect experience as watching a commercial or asking a friend about her opinion about the new soft drink. Affect or emotion may be the product of classical conditioning--that is, the past pairing of an attitude object with an affective stimulus (Breckler, 1984). Preferences are based primarily on affective responses which are often quite immediate and are not mediated by thinking about the attributes of attitude objects. There generally tends to be some amount of positive correlation among all the three components since they are representative of a single person's experience. Prior work indicates that though there is correlation between the various components and they share a common variance[4], each component also has a unique variance (Bagozzi, 1978).

Results of Earlier Testing of this Model

Many studies have tested the unique variance of each component and the construct

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3 Antecedents are the processes by which the attitudes are derived (Eagly & Chaiken, 1993).

4 Common variance is a statistical way of looking at the variability scores of difference.

(convergent validity[5] and discriminant validity[6]) validity[7] of measurement of attitudes by this framework. These studies attempt to justify the measurement of cognitive, affective, and behavioral components of attitudes with mixed results. Overall there is much support for this theory (Bagozzi, 1978; Breckler, 1984; Breckler & Wiggins, 1989; Kothandapani, 1971; Ostrom, 1969).

The Tripartite Model has been used to measure attitudes toward a variety of objects in the past literature. Some of the findings of the past research are discussed in the following prargraphs. Ostrom (1969), measured attitudes towards church to test the construct validity of the Tripartite Model. Kothandapani (1971), examined attitudes towards birth control. Both have demonstrated that the Tripartite Model has construct validity. Kothandapani used the multitrait-multimethod matrix[8] to measure the validity of the Tripartite Model. The mean correlations for feeling, belief, and intention-to-act components were .55, .46, and .50, respectively and each correlation was significantly different from zero at $p > .01$. The discriminant validity was significant at $p > .001$. The three components shared a variance of

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5 Convergent validity: a particular construct should correlate highly with other measures of that construct (Eagly & Chaiken, 1993).

6 Discriminant validity: a particular concept should not correlate too highly with measures of different constructs (Eagly & Chaiken, 1993).

7 Construct validity is the extent to which a concept conforms to theoretical predictions across a broad range of theories and measuring modalities (Class notes Plichta, 1996).

8 Multitrait-multimethod matrix is a method for examining the convergent and discriminant validity of various measures (Eagly & Chaiken, 1993).

58% and had a unique variance of 21%, which means that each component though correlating with other components still has 21% variability of its own. Since each component has at least a certain amount of unique variance, the three component measurement had been justified.

Reanalyses of the data used by Ostrom (1969) and Kothandapani (1971) yielded different results. The same data that was utilized by Ostrom and Kothandapani was reanalyzed using more modern statistical methods and the results were interesting. Bagozzi (1978) and Breckler (1984) have reanalyzed the same data using more formal statistical techniques. Convergent and discriminant validity were achieved on reanalysis of Ostrom's data examining attitudes toward church, while convergent but not discriminant validity was attained for the reanalysis of Kothandapani's data investigating attitudes toward birth control. The type of object, church and birth control are very different attitude objects. Well-reasoned antecedent stimuli can be identified in the formation of attitudes toward the church, for example, family and parental socialization, peer influence, and cultural norms. These determinants operate from an early age and considerable thought, reflection, and discussion occur throughout life in their regard. These conditioned stimuli insure that relatively significant instrumental and cognitive learning processes and affective and moral conditioning have occurred. Hence church as an attitude object is well suited for measurement by the Tripartite Model, with well formed affect, belief and behavioral components. In contrast, birth control has considerably fewer antecedents that may be identified and these are often applied later in life with less consistency and frequency. Discussion of the attitude object -- birth control may have been inhibited at that time, early 1970s. These ill-formed antecedents may result in overlapping of the three components. The ill-formed antecedent stimuli were used to explain the inconsistent

findings on reanalyses.

The presence or absence of an attitude object may be important for the Tripartite Model testing. Breckler (1984) measured the attitudes toward snakes with and without snakes in two different studies. In the first, student subjects provided measures of affect, cognition and behavior in the presence of a live snake. Although only verbal measures were used for the cognitive component, indices of affect included measures of heart rate, and subjects' actual approach behaviors as well as their stated intentions were recorded. This study showed that the three-component model provided a very good statistical fit to the data. The intercorrelations between the three components were moderate, 0.38 for affect/cognition, 0.50 for affect/behavior and 0.70 for cognition/behavior. In his second study, no live snake was present and only verbal measures were used for all three components. Although the fit of the model was still relatively good, the three components were less easily distinguishable, and the intercorrelations between them were 0.81 or above. These findings emphasize the danger of assuming that different dependent variables necessarily reflect distinct psychological processes, particularly when all involve verbal behavior of one form or another.

A number of criteria were proposed as required by Breckler (1984) for appropriate testing of the Tripartite Model. The most important criteria are:

1. Both verbal and nonverbal measures of affect and behavior should be used.
2. Dependent measures of affect, cognition and behavior should take the form of responses to a physically present attitude object. If people have to report their affective and behavioral reactions only in the abstract, it is possible that all their reactions might be mainly mediated by the cognitive system. This could result in

spurious inflation of the intercorrelations between the three components.

The Tripartite Model seems to provide a good theoretical model for studying physician attitudes and knowledge about spouse abuse. The absence of the attitude object (female victim of spouse abuse) may not be a problem for this study as it may be assumed that most of the physicians have been exposed directly or indirectly to victims of spouse abuse. Hence, it may be a topic that has well reasoned antecedent factors in physicians. Domestic violence is very prevalent in all societies and is discussed frequently in our society. Currently there is a lot of media attention on the topic and a lot of pressure from all sides on physicians and health care to play a more proactive role in identifying and assisting women who are victims of spouse abuse (Buel, 1995). It is likely that most physicians have seen and thought about victims of violence in general, and spouse abuse in particular. Further, it is not unreasonable to assume that they would have well developed affect, belief and behavioral components about this topic, which may not be true for students and snakes.

None of the earlier studies have used a theoretical framework for studying physicians attitude toward victims of spouse abuse. But, various components of attitude, such as either affect, belief or behavior or a combination of some or all of them, have been studied. This study proposes to explore attitudes toward victims of spouse abuse in the context of the Tripartite Model. The affect, belief and behavior components will form the dependent variables from which the main dependent variable- attitude will be derived. The independent variables studied have also included almost all conceivable antecedent factors (independent variables). The past research does include the study of these and similar constructs though not all of them in the same study. A discussion about the past literature and the relationship

between independent and dependent variables in the literature is also included.

Attitudes and Knowledge of Physicians Toward Adult Female Victims of Spouse Abuse

What is Known?

Knowledge

The amount of stored knowledge that is available and accessible to people moderates their attitude. The amount of knowledge may also affect attitude-behavior correspondence, though the mechanism by which this occurs is not clear. A possibility is that the stability of an attitude is based on the amount of information a person possesses about the attitude object. The less information possessed by an individual, the greater the change induced by any new piece of information, that is, the attitude is unstable. Because behavior is presumably under the control of the attitudes held at the time of the decision to behave, unstable attitudes are less predictive of later behavior (Eagly & Chaiken, 1993).

Knowledge of physicians about spouse abuse has been very low. There seems to be a general feeling among practicing physicians and medical graduates that their graduate curriculum is not adequately preparing them in helping women who are victims of abuse (Cullinane et al., 1997; Currier et al., 1996; Hendricks-Matthews, 1991; McGrath et al., 1997; Parsons et al., 1995; Reid & Glasser, 1997; Sugg & Inui, 1992; Tilden et al., 1994). A number of empirical studies confirm this feeling. On a knowledge quiz of domestic violence with 16 questions posed to undergraduate medical students, the scores for the spouse abuse quiz were in the range of 70 - 80%, which was lower than scores on child abuse quiz (ranging from 80 - 96%; Cullinane et al.). More than 50% of physicians in another study felt that their medical education had inadequately prepared them to deal with domestic violence situations

(Davis, 1984; Reid & Glasser).

Gender also seemed to affect the perception of the role of knowledge and training for better preparation to deal with victims of abuse. Women physicians felt a stronger need for more education on domestic violence than do male physicians (Cullinane et al., 1997).

It may be important to see how knowledge affects attitude and whether knowledge and attitude are related. That is, does better knowledge mean more sympathetic attitude? This study will attempt to explore the relationship between knowledge and attitude and explore the relationship between knowledge and various independent variables.

In one study that measured knowledge of practitioners toward domestic violence, the physicians felt they were inadequately prepared to handle victims of violence (Reid & Glasser, 1997). Reid and Glasser studied 83 primary care physicians in three Midwestern counties. The response rate was 63% (n = 52). A seven page questionnaire was used and had items about demographics and practice characteristics, as well as questions regarding domestic violence with respect to knowledge, importance and prevalence in their practice, attitudes toward responsibility, current practices and protocols used, level of education received about domestic violence, and opinions on how best to distribute information and/or education concerning domestic violence. The main limitation of this study is a very small sample size of just one type of practitioner, which might limit the generalizability of the findings.

Attitude

1. Affect: The negative affect or feelings evoked by working with victims of abuse have been considered as the major block to improving care given to women by physicians. Several empirical studies have pointed out that physicians feelings of helplessness, tyranny of

time, close identification with victims as a barrier to identification and assisting victims of violence (McGrath et al., 1997; Parsons et al., 1995; Sugg & Inui, 1992).

A landmark study of physician attitudes toward victims of violence by Sugg and Inui (1992) identified very important themes. This ethnographic study explored 38 family practitioners' experiences with domestic violence victims and attempted to determine the perceived barriers in problem recognition and intervention of victims of abuse in a primary care setting. This study provided the basis for many other studies, as well as for the development of the questionnaire being used in this study. The main construct measured in this study was "verbal statements of affect." The most frequent theme that came up was, identifying victims of domestic violence was like opening the "Pandoras' Box." Tyranny of time was another barrier, as busy practice schedules were seen as a major deterrent for asking about domestic violence. White middle class physicians, especially women physicians, identified themselves too closely with the patients, which precluded them from asking these women about domestic violence. The other main barriers identified included fear of offending the patients, especially if they were middle class or educated, and feelings of powerlessness in not being able to alleviate the problem. The study has the usual limitation of qualitative research, that is, a small and nonrandom sample, and no assurance of reliability of the findings.

A few other studies have also identified perception of similar barriers by physicians toward assisting victims of domestic violence. These studies include a study of 962 obstetricians-gynecologists (Parsons et al., 1995), and another study of 116 physicians in various specialities (McGrath et al., 1997), which also found similar barriers being expressed

in the care of victims of spouse abuse.

2. Cognition or Belief: Limited data indicates that at least some physicians believe that they have a role to play in the identification and referral of victims of spouse abuse. However, there is evidence that the actual behaviors of physicians does not reflect this belief. Very few physicians' preferred routine enquiry about abuse in their patient populations. Further, data indicates that they generally believed that it was "mutual combat" rather than one spouse abusing the other. Studies also indicate that physician's also felt that the woman could leave the relationship and end the abuse. In one study, approximately only one-third of the physicians believed that inquiry about physical and sexual abuse should occur routinely at annual visits (Friedman et al., 1992). Almost half of all the physicians in one study felt that domestic violence was a significant problem in their own patient population (Reid & Glasser, 1997). Medical students also felt a strong need for the role of advocacy for physicians in domestic violence (Cullinane et al., 1997).

The Friedman et al. (1992), was conducted with 27 primary care physicians at two hospitals in Boston. In a two page multiple choice questionnaire, physicians were asked about their current interviewing practices in regard to physical and sexual abuse. They were also asked to comment on their perceived ability to assist patients who had been victimized. The main limitations of this study are the very small, nonrandom sample of only one type of practitioners. Only questions related to behavior were included in this study.

In one study, the beliefs of physicians about women presenting to emergency rooms in differing socioeconomic situations was elicited (Davis, 1984). Davis studied various professionals in 24 different organizations. Forty one physicians were included in this sample.

The sample was constituted by people who are likely to provide services to victims of domestic violence in a three-county, moderate sized, metropolitan area. The other professionals included in the sample were hospital social workers, public welfare workers, family service social workers, probation department workers, nurses, police officers, domestic violence shelter and emergency hot-line workers and family court judges. Each respondent read one of four scenarios depicting a woman coming to the emergency room of a hospital for treatment of injuries which she reluctantly admitted were inflicted by her husband. The four scenarios systematically varied the socioeconomic status of the family (lower or middle class) and the severity of the injuries the woman had received (mild or moderate). After reading the scenario, respondents completed a brief questionnaire. The questionnaire included items related to major difficulties wives experience in preventing subsequent abuse, what should the wives do after the abuse has occurred, difficulties that impede husbands from preventing subsequent abuse and the actions husbands could take after the abuse. The sample was nonrandom and the only independent variables used in the study were respondents' professional experience, personal experience, training and gender.

The findings of this study are interesting. Davis (1984) asked respondents to list difficulties that impede wife and husband from preventing future incidents of abuse and the actions recommended for each spouse once a violent episode had occurred. Fears were listed as the most frequent reason (24%) why wives cannot prevent subsequent abuse. The other reasons listed included habit (22%); helplessness, lack of resources (15% each); lack of services, personality problems of husband, communication dynamics, lack of control, and family disruption (10% each). Five percent of the physicians felt it was the women's fault.

Some form of counseling was the most frequent (> 50%) course of action recommended by physicians in this group. Physicians are also more likely than any other group of professionals to indicate that the most appropriate action was for the woman to seek shelter.

3. Behavior: The verbal statements of behavior were the most frequently measured construct of attitude in domestic violence attitude measurement literature (Currier et al., 1996; Davis, 1984; Friedman, 1992; Parsons et al., 1995; Reid & Glasser, 1997; Saunders & Kindy, 1993; Tilden et al., 1994). The most frequently asked questions related to the likely course of action or behavior when the physician comes in contact with a victim or suspected victim of abuse.

The majority of the physicians never inquire routinely about physical or sexual abuse (Currier et al., 1996; Friedman et al., 1992). However, there were very wide variations in the physicians' perceived and self reported competence at diagnosing and treating victims of domestic violence. Reid & Glasser (1997) reported that only 14% of their sample felt incapable of diagnosing and treating domestic violence victims; other studies have estimated that about 50% (Parsons et al., 1995) of the physicians felt that they could not diagnose or treat victims of domestic violence effectively. This vast difference in the self reported competence levels may be explained by the site from where the sample was chosen and the design of the studies.

The reason for these vast differences in results may be because of the way the question was worded as "incapable" versus "cannot diagnose." The word "incapable" may be carrying a very negative connotation and may have prevented the selection of that option, the word "cannot diagnose" seems to be more "nonjudgmental." Another reason may also be that

domestic violence as an issue has been gaining importance lately in the U.S., and the last couple of years have seen more awareness and a push toward having protocols in place in hospitals. Protocols for identifying victims of domestic violence in the U.S. are also being mandated by Joint Commission on Accreditation for Healthcare Organizations.

The second most frequently measured question in the previous literature was the most usual intervention upon seeing a victim of violence (Davis, 1984; Friedman et al., 1992; Parsons et al., 1995; Reid & Glasser, 1997; Saunders & Kindy, 1993; Tilden et al., 1994). In a study of 221 physicians, discussing the observations with the patient was the most common intervention by 75% of the sample (Tilden et al.). The purpose of the survey was to measure the factors that influenced decision making in the treatment of victims of domestic violence. Tilden et al. surveyed 1521 clinicians of various specialities by mail, of which 221 were physicians. It was a random sample of health care professionals with licenses to practice in a northwestern state. Response rates ranged from 83% for dental hygienists to 69% for physicians. It was a four page survey and included demographic items and attitude items. The attitude items tapped subjects' recall of the amount of educational content they received in their professional training programs about family violence, frequency with which subjects suspect that their patients have been abused, subjects' typical responses or interventions when abuse is suspected and attitude items regarding both their extent of responsibility in dealing with domestic violence and mandated reporting. Less than a quarter of the physicians reported commonly suspecting abuse. Formal educational content was not related to reporting of abuse. This is one of the few studies with random selection and a reasonable response rate (69%). The main limitation of this study is the absence of information regarding speciality of

the respondents. The measure of attitude was also very limited by addressing only the behavior component. The generalizability to other groups and physicians' in other geographic regions needs to be established. The validity and reliability of the survey instrument was also not discussed.

In another study screening behaviors and barriers to screening were discussed. Parsons et al. (1995) surveyed 6568 (962 returned the surveys - response rate 14.6%) American College of Obstetricians and Gynecologists members, by a mail-in questionnaire. The screening behaviors and barriers to screening were the main response variables measured. The main limitation of this study was a very low response rate (14.6%) which may have resulted in self-selection bias of this group. Only obstetricians and gynecologists were included in the study (only one speciality). More than 50% of the respondents of this study when asked about their screening practices identified lack of training as the most important barrier to screening (Parsons et al.).

Only one study (that the researcher identified) measured the actual behavior of physicians when women suspected to be victims of abuse come to their practice sites. Saunders and Kindy (1993) studied a sample of 39 physicians from two specialities, general internal medicine and family practice. The participants belonged to two teaching clinics of a medical school. A standardized patient was used to rate the physician's speed of detection, history taking, planning and focus on psychosocial issues (outcome measures). The standardized patient was instructed to offer no clue about the problem of abuse in the first part of the encounter, to give subtle cues in the middle, and, if the abuse had not yet been detected, to finally reveal that she was a battered woman. The independent variables studied

included gender, impact of brief training, and the possible influence of prior professional and personal exposure to the problem of spouse abuse. Gender, number of victims known and prior exposure to the problem of woman abuse were the strongest predictors in the regression equation in this study. The main limitations of the study were nonrandom assignment into groups, small sample size and a subjective outcome measure. Another limitation may be, the physicians in a teaching institution (affiliated to a medical school) may not be representative of all physicians, hence the findings have to be generalized with caution. This may be a reason why many of the findings in this study differ from those of other studies.

Independent Variables

Independent variables that may be related to physician attitudes about spouse abuse victims are reviewed in this section. All the measurable independent variables shown to be related to the development of attitudes in the literature are included in this study. Some of the variables not included in previous physician attitude literature, such as race, marital status and speciality, are also included as it is felt that theoretically they may influence the development of attitudes.

Gender. Gender may be the variable most strongly related to attitudes toward female victims of spouse abuse. Women physicians are more likely to talk about domestic violence and screen all their women patients for any history of abuse. They are also more likely to identify an abuse victim earlier in an interview, even if the abuse is not voluntarily disclosed by the woman. Women physicians are also more likely to help in making a safety plan and making referrals (Cullinane et al., 1997; Ferris, 1994; Parsons et al., 1995; Reid & Glasser, 1997; Saunders & Kindy, 1993). Gender also influenced the recommendations made to

battered women. Women are more likely to recommend counseling and less likely to recommend legal action than men (Davis, 1984). Women are more likely to consult with other professionals when dealing with cases of domestic violence. Women physicians are more likely to regard wife battering as a medical problem. Women physicians are significantly more likely to believe that a victim could leave a domestic violence situation (Ernst, Houry, Nick, & Weiss, 1998). Only one U.S. study reported that gender was not correlated with increased case identification rate (Currier et al., 1996).

In this study, psychiatric residents constituted the sample and may have been the reason for the difference (Currier et al., 1996). The sample of this study may be the reason for the difference in the findings from some of the other studies. Currier et al. studied 221 psychiatry residents (66% response rate) at four U.S. medical schools. They collected information about training and clinical experience in recognizing domestic violence and providing referrals and treatment experiences of these residents. The instrument had 27 multiple choice questions and was a mail survey. The main limitation was that the sample consisted of only one speciality. The instrument has very few items and the sample consisted of residents in psychiatry. The sample may not be representative of practicing physicians as residents and may not be similar to practicing physicians. This sample may be the reason for differences in the findings of this study from those of other studies. Since multivariate statistics were not used other confounding variables could not be controlled for, and may have effected the results.

Though gender was significantly related to attitudes, it did not seem to be associated with knowledge (Cullinane et al., 1997). In the only study of medical students (identified by

the researcher), 390 first year medical students in the New England area were administered a 70 item questionnaire (Cullinane et al.). The questionnaire included demographic information, knowledge of and attitudes toward family violence, personal history of violence and history of suicidal thoughts. The definition of family violence for the purposes of this study also included sexual assault and child abuse. The main limitation of this study is the definition of domestic violence, which is different from the definition used in most of the other studies. The other limitation may be that, the first year students attitudes' may not be comparable to practicing physicians' attitudes as they are not yet practicing and may have very little exposure to providing direct patient care.

Age. Age is inversely related to attitudes toward female victims of domestic violence. Younger physicians are more likely to screen for abuse among all patients. Younger physicians were also more likely to feel that they have a role to play in the identification and documentation of the female victims of domestic violence. Younger physicians also felt that they have a role in the prevention of spouse abuse (Parsons et al., 1995; Reid & Glasser, 1997).

Speciality. None of the studies have examined the relationship of the type of speciality to attitudes toward identification of victims of domestic violence, although one author did mention that surgeons were less likely than other specialists to explore abuse (Parsons et al., 1995). One study did include different specialists in the sample such as, emergency medicine, pediatric emergency medicine, obstetrics and gynecology, pediatrics and internal medicine, but there was no comparison of findings by speciality (McGrath et al., 1997). Most studies were restricted to one or two types of practitioners (Friedman et al., 1992; Parsons et al.,

1995; Sugg & Inui, 1992) or included various specialists but did not report any findings by speciality (Tilden et al., 1994). Some of the studies have not collected information about the speciality of the physician (Davis, 1984). Hypothetically, it is be likely that speciality could affect attitudes. Reid and Glasser (1997) reported that family physicians identified more cases and tended to feel more qualified in handling a domestic violence situation than internists. Research on the influence of speciality on attitude and knowledge is almost non existent and this study aims to explore this relationship.

Years of experience. The influence of years of service while controlling for age has not been explored in the literature. So it is not clear whether years of experience makes a difference or not, the findings in the literature have been equivocal. The number of years in the profession was not significantly associated with the attitudes in most of the studies (Davis, 1984; Parsons et al., 1995; Sugg & Inui, 1992). One U.S. study did find a relationship between years of experience and attitude toward victims of abuse (Reid & Glasser, 1997). This study reports that physicians with fewer years of experience were more likely to have more positive attitudes toward victims and were more willing to play a role in identification and assistance of victims. In one study, only the number of victims seen in the past and not years of experience seem to be related to more positive attitudes towards identification of victims of domestic violence (Saunders & Kindy, 1993).

Race/ethnicity and marital status. Race/ethnicity and marital status have not been discussed in the previous literature (though Parsons et al., 1995, did collect information on ethnicity, it was reported that the numbers were too small for analyses by ethnic groups). This study examines the effect of these variables on the attitudes, since social situations,

upbringing and relationships do influence the development of attitudes (Ajzen & Fishbein, 1975; Kothandapani, 1971). Sugg and Inui (1992) have noted that women physicians felt less comfortable talking about abuse to other women of similar racial and economic background.

Work setting. No study was found which compared the various practice settings such as, teaching hospital, general hospital, public clinic or private practice. If a hospital is more oriented toward teaching, training and putting more protocols in place, it is more likely that the physicians in such hospitals may be more current on practice protocols. This study will explore the relationship between work setting and attitudes and knowledge.

Practice site. Tilden et al. (1994) reported no differences in either suspecting abuse or choice of intervention between urban and rural practitioners.

Course content and training in domestic violence. Most literature suggests that those with more educational content in curriculum and Continuing Medical Education (CME) programs are more likely to identify more victims of domestic violence, than those with little or no curricular content and no further training in CME programs. Physicians with training in domestic violence are also more likely to routinely screen for abuse and make appropriate referrals. They are also more likely to suspect abuse even when the patient does not disclose it voluntarily. However, few physicians have had current (in the past two years) training in spouse abuse (Currier et al., 1996; Davis, 1984; McGrath et al., 1997; Parsons et al., 1995; Tilden et al., 1994).

Only two studies did not find a relationship between training and rate of identification (Davis, 1984; Saunders & Kindy, 1993). This may be because of the small sample sizes used in these studies. Saunders and Kindy did not find any statistically significant relationship

between training and rate of detection of abuse. They did mention that, though there was no statistically significant relationship, there was anecdotal evidence of effectiveness of training. The very small sample size and the measurement of behavior directly rather than verbal statements of behavior may have contributed to this difference (all the other studies used verbal statements of behavior).

Another study found that providers trained in domestic violence prevention were more likely to screen for domestic violence (McGrath et al., 1997). McGrath et al. studied providers' screening for domestic violence, prior training in domestic violence, knowledge of available protocols for domestic violence and perception of barriers to intervention by providers. The sample was from a New England, middle class, multicultural city. The sites for sample recruitment included a level - 1 trauma center, an affiliated tertiary care center and a women's urgent care unit. Sample included physicians, nurses, nurse midwives, and social workers. The instrument was a self-administered survey consisting of 49 multiple response questions. Response rate for physicians was 59% (n = 116). No other demographic information besides speciality was collected. Generalizability of this information may be limited because of these reasons and as the sample was nonrandom.

Personal experience. The literature about the relationship between past experience of abuse or closely knowing someone who has been a victim of abuse is equivocal. Parsons et al. (1995) found no significant association between personal history of abuse and current screening practices of physicians toward victims of domestic violence. Sugg and Inui (1992) reported that there is no difference in the barriers to identifying female victims of domestic violence by physicians' personal experience of abuse. Saunders and Kindy (1993) found a

significant relationship between number of victims known, prior professional exposure and earlier detection of abuse victims. One study of medical undergraduates found that those with a history of abuse are more likely to be more sympathetic toward domestic violence victims than the subjects who did not have any past history (Cullinane et al., 1997). And theoretically looking at the development of attitudes, personal experience is more likely to make a person sensitive to the issue and effect both the development and change in attitudes (Bagozzi, 1978; Breckler, 1984; Eagly & Chaiken, 1993; Fishbein & Ajzen, 1975; Rosenberg et al., 1960).

A few others studies were identified, that were based in Canada (Brown et al., 1993; Ferris, 1994; Ferris & Tudiver, 1994) and Australia (Easteal & Easteal, 1992). The findings of these study were different in certain aspects and similar in others to studies based in the U.S. They found that most physicians felt incapable of diagnosing abuse (Ferris), which was different from U.S. physicians. Female physicians were less likely to be sympathetic to victims of violence which was also different from the findings based in the U.S. (Easteal & Easteal). In a qualitative study of the feelings associated with providing services to victims of abuse, feelings expressed were similar to the feelings of American physicians (Brown et al.).

This study has been designed by taking the limitations of the past research into consideration. A theoretical framework is being used to predict attitudes better. More independent variables are being included to explore their relationship with attitudes.

Application of the Theoretical Framework

The various "stimuli" or measurable independent variables in this study would be the individual demographic characteristics such as, age, gender, marital status and race/ethnicity. The professional characteristics are measured by the speciality, number of years of experience,

type of hospital and area of practice. Training characteristics are measured by any public health degree, the amount of curricular training and the number of sessions of CME training attended on spouse abuse. Questions regarding personal history of abuse or personally knowing anyone who is a victim of abuse are also included in the survey. Items in the survey include verbal statements about all the three components, affect, belief and behavior, of the construct attitude. A detailed chart of independent and dependent variables in this study is included as appendix D.

Hypotheses tested by the theory. Different antecedent "stimuli" (measurable independent variables) influence development of different attitudes as measured by the verbal statements of all three components, namely affect, belief and behavior. A complete list of all the hypotheses generated for this study are included in chapter 3.

CHAPTER 3

Method

Design

The purpose of this study is to measure the knowledge and attitudes of physicians toward female victims of spouse abuse and to see if these attitudes follow theoretical expectations. The theoretical basis for this study is provided by Rosenberg's Tripartite Model of Attitude (Rosenberg et al., 1960). This theory proposes that measurement of affect, belief and behavioral components is a complete measure of attitude. Attitude will be measured both as a single score (weighted average of scores on all of the three components) and by its separate components.

Attitudes are expected to be influenced by various antecedent stimuli or independent variables which are included in the study (Rosenberg et al., 1960). Knowledge and attitude will be measured by a Physician Survey on Spouse Abuse which was developed as part of this study (Appendix C). This survey instrument is a modified version of the instrument developed by the Group Health Cooperative and Harborview Injury Prevention and Research Center, Seattle (Group Health Cooperative of Puget Sound, Personal Communication, January, 1998). This study will explore the relationship of demographic characteristics (age, gender, race/ethnicity, & marital status), practice characteristics (speciality, number of years in the profession, work setting, & the site of practice), training characteristics (having a degree in public health, amount of course content on spouse abuse in graduate curricula, & training in spouse abuse), and personal characteristics (personal experience of spouse abuse or knowing a victim of spouse abuse closely) and the attitudes and knowledge about spouse abuse.

Study Hypotheses

Main Hypothesis

Different antecedent "stimuli" (measurable independent variables) influence development of different attitudes as measured by the verbal statements of all three components, namely: affect, belief and behavior.

Hypotheses Generated From the Main Hypothesis

Hypotheses for Attitude

Bivariate hypotheses.

1. Demographic characteristics will influence attitudes about spouse abuse.
   - 1a. Female physicians will be significantly more likely than male physicians to have positive attitudes toward female victims of spouse abuse.
   - 1b. Younger physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse than older physicians.
   - 1c. Physicians' race will not significantly affect the attitudes toward female victims of spouse abuse.
   - 1d. Married physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse than single or divorced/ separated physicians.
2. Practice characteristics will influence attitudes about spouse abuse.
   - 2a. There will be no significant difference in the attitudes toward victims of spouse abuse by physician speciality.
   - 2b. Physicians with fewer years of practice will be significantly more likely to have

positive attitudes toward female victims of spouse abuse than physicians with more years of practice.

2c. Physicians associated with a teaching hospital will be significantly more likely to have positive attitudes toward female victims of spouse abuse than physicians at other hospitals (general hospital, private practice or others).

2d. Physicians practicing in the urban setting will be significantly more likely to have positive attitudes toward female victims of spouse abuse than physicians practicing in other areas (rural, suburban or mixed).

3. Training characteristics will influence attitudes about spouse abuse.

3a. Physicians with training in public health (those who have MPH degrees) will be significantly more likely to have positive attitudes toward female victims of spouse abuse than physicians with no training in public health.

3b. Physicians with greater course content on spouse abuse in graduate curricula will be significantly more likely to have positive attitudes toward female victims of spouse abuse than those with lesser or no content in graduate curricula.

3c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have positive attitudes toward female victims of spouse abuse than those not trained in abuse.

4. Personal experience of abuse will influence attitudes about spouse abuse.

4a. Physicians who have personally experienced abuse will be significantly more likely to have positive attitudes toward female victims of spouse abuse than

those who have not personally experienced abuse.

4b. Physicians who have had a personal acquaintance that was a victim of spouse abuse, will be significantly more likely to have positive attitudes toward female victims of spouse abuse, than those who have not personally known a victim of violence.

Multivariate hypothesis for attitude.

5. Age, gender and past training in spouse abuse prevention will be the strongest predictors of attitude toward victims of spouse abuse.

Hypotheses for Knowledge

Bivariate hypotheses.

6. Demographic characteristics will effect knowledge levels about spouse abuse.

6a. Female physicians will be significantly more likely than male physicians to have greater knowledge about female victims of spouse abuse physicians.

6b. Younger physicians will be significantly more likely than older physicians to have greater knowledge about female victims of spouse abuse physicians.

6c. Physicians' race will not be significantly related to their knowledge about female victims of spouse abuse.

6d. Married physicians will be significantly more likely than single and separated/ divorced physicians to have greater knowledge about female victims of spouse abuse.

7. Practice characteristics will effect knowledge levels about spouse abuse.

7a. There will be no significant difference in knowledge about female victims of

domestic violence by physician speciality.

7b. Physicians with fewer years in practice will be significantly more likely to have greater knowledge about female victims of spouse abuse than those with more years of service.

7c. Physicians associated with a teaching hospital will be significantly more likely to have higher knowledge than physicians associated with other hospitals (general hospital, private practice or other).

7d. Physicians practicing in the urban setting will be significantly more likely to have greater knowledge about female victims of spouse abuse than those in other areas (rural, suburban, & mixed).

8. Training characteristics will effect knowledge levels about spouse abuse.

8a. Physicians with training in public health (have MPH degrees) will be significantly more likely to have greater knowledge about female victims of spouse abuse than those with no training in spouse abuse.

8b. Physicians with greater course content on spouse abuse in graduate curricula will be significantly more likely to have greater knowledge about female victims of spouse abuse than those with lesser or no course content in graduate curricula.

8c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have greater knowledge about female victims of spouse abuse than those with no training in spouse abuse.

9. Personal experience will have an effect on knowledge levels of spouse abuse.

9a. Physicians who have personally experienced abuse will be significantly more likely to have greater knowledge about female victims of spouse abuse than those who have not personally experienced abuse.

9b. Physicians who have had a close acquaintance that has been a victim of spouse abuse will be significantly more likely to have greater knowledge about female victims of spouse abuse, than those who do not know a victim personally.

Multivariate hypothesis for knowledge.

10. Age, curriculum in the graduate school on spouse abuse and training in spouse abuse prevention will be the strongest predictors of knowledge on spouse abuse.

Hypothesis for Attitude and Knowledge

11. There will be a positive correlation between knowledge and attitude of physicians toward female victims of spouse abuse.

Hypothesis for Constructs of Attitude

12. The items within a single construct such as affect, belief or behavior will be more strongly correlated with each other than with items in other constructs.

Research Method

A cross-sectional survey design has been selected for this study as it is especially appropriate for making descriptive studies of large populations. It also ensures a rapid turnover of data, and is the most economical method to explore the relationships between variables in a large population (Babbie, 1998).

Population, Sampling Frame, and Sample

All the physicians in the four chosen specialities in the area of Hampton Roads

constitute the population for this study. The sampling frame and the sample for this study is constituted by all physicians in the following specialities, emergency medicine, family practice, gynecology-obstetrics, and psychiatry at a large local general hospital. Initially, pediatricians were also included in the sample, but had to be dropped because of the lack of interest and adequate responses from the group. The hospital has provided a list of their physicians, all the physicians who have practice privileges in the hospital in the above mentioned specialities are included in the list and constitute the sample. All the physicians included in the sample will be phoned to make sure that they are currently practicing in the area. Only physicians currently practicing in the area will be included (inclusion criteria) in the study to minimize nonresponse. There are about 150 practitioners currently practicing in these specialities in this hospital, they constitute about 20% to 30% of all the providers in these specialities in this area.

This procedure of selecting only four specialities is done for a number of reasons. The main reason being that these specialists are most likely to see female victims of spouse abuse. The other reason is limited resources, this may be a more efficient use of time to study a smaller group more likely to provide services to women than a larger group who may not directly provide services to victims. When restricted number of individuals are studied, it is possible to follow-up each of them more thoroughly and make greater efforts to ensure that information is in fact obtained from each individual. This increased follow-up may also minimize nonresponse (Abramson, 1979). The hospital has 150 currently practicing providers in the above mentioned specialities.

Survey Instrument

The instrument used in this survey is adapted from the Healthcare Provider Survey on Domestic Violence developed by the Group Health Cooperative of Puget Sound, and Harborview Injury Prevention and Research Center, this instrument is included as appendix A. This instrument was developed to measure the health care providers' knowledge of and attitudes toward domestic violence. The term domestic violence has been currently replaced by the term "partner violence," in the later editions of the survey instrument (Personal Communication, L. Fleming, December 31, 1997). For the purposes of this study the term domestic violence in the survey has been replaced by the term "spouse abuse." This was done to place more emphasis on female victims and not use gender neutral terms, which tend to project a false sense of both genders being equally affected by the violence (Stark & Flitcraft, 1991). More questions have also been added on background and demographic information.

The initial survey questionnaire was not designed by taking any theoretical framework into consideration. However, the questions match fairly well to the various theoretical constructs of the Tripartite model of attitude. Some items have been added to this instrument to measure those constructs not adequately addressed by this instrument. The questions added by the researcher are about affect [Q28 (a - i)], Q42a, knowledge quiz (Q43 - Q55), and all (14) of the demographic items.

Since the constructs were not identified by the designers of the survey, validation of the constructs was done by the following process: Four experts (professors of psychology) were provided with a coding sheet and definition of each of the constructs (this questionnaire is included as appendix B). They were asked to identify the constructs being measured by

each question in the questionnaire, and mark it on the coding sheet. The researcher had also identified the constructs without consulting the judges decision (before contacting the judges). All of the five opinions were tabulated and analyzed. Where at least three members identified the same construct the decision was accepted, but for the items for which the responses were mixed, the decision was made by the researcher in consultation with the chair of the dissertation committee. For details on the decision about each question see Table 1. On 15 questions all five judges agreed on the construct being measured. On another 13 questions at least four judges agreed on the construct being measured. Three judges agreed on the construct being measured for another five questions. On only one question (Q37) was there no agreement and a decision had to be made by the researcher in consultation with the chair of the dissertation committee. The decision made was to drop the question from analysis as it was related to attitudes towards batterers and not within the scope of this study. For the same reason all of the questions (Q30 - Q40) in a section related to attitudes towards batterers were dropped from the final questionnaire.

This questionnaire is expected to measure affect, belief and behavioral components of attitude, as proposed by Rosenberg and others (1960). A few questions about batterers (that are within a section), resource availability and other issues are being grouped separately The new questionnaire, modified to measure all constructs, is included as appendix C. The questionnaire consists of a total of 55 attitude and knowledge items and 14 items on background information. The background information includes items about demographic characteristics, practice characteristics, training characteristics and personal characteristics of the respondent. Table 2 includes a list of the constructs and the questions measuring them.

Table 1

Expert Review On Initial Questions[1] And The Constructs Being Measured

Question Number	Decision of the judges	Final Decision
Q1	4 Belief; 1 Knowledge	**Belief**
Q2	Dropped from analysis	
Q3	5 Belief	**Belief**
Q4	5 Belief	**Belief**
Q5	3 Belief, 1 Affect, 1 Behavior	**Belief**
Q6	4 Behavior, 1 Belief	**Behavior**
Q7	4 Behavior, 1 Affect	**Behavior**
Q8	3 Behavior, 1 Belief, 1 Knowledge	**Behavior**
Q9	4 Belief, 1 Knowledge	**Belief**
Q10	5 Belief	**Belief**
Q11	4 Belief, 1 Affect	**Belief**
Q12	5 Belief	**Belief**
Q13	4 Belief, 1 Affect	**Belief**
Q14	5 Belief	**Belief**
Q15	4 Belief, 1 Affect	**Belief**
Q16	5 Belief	**Belief**
Q17	5 Belief	**Belief**
Q18	5 Belief	**Belief**
Q19	4 Behavior, 1 Knowledge	**Behavior**
Q20	5 Belief	**Belief**
Q21	5 Belief	**Belief**
Q22	3 Belief, 2 Knowledge	**Belief**

Question Number	Decision of the judges	Final Decision
Q23	5 Belief	**Belief**
Q24	4 Belief, 1 Knowledge	**Belief**
Q25	4 Belief, 1 Affect	**Belief**
Q26	Not a measure of any construct	
Q27	Not a measure of any construct	
Q28 (a-i)	5 Affect	**Affect**
Q29	Open-ended	
Q30	Dropped from questionnaire	
Q31	Dropped from questionnaire	
Q32	Dropped from questionnaire	
Q33	Dropped from questionnaire	
Q34	Dropped from questionnaire	
Q35	Dropped from questionnaire	
Q36	Dropped from questionnaire	
Q37	Dropped from questionnaire	
Q38	Dropped from questionnaire	
Q39	Dropped from questionnaire	
Q40	Dropped from questionnaire	
Q41 (a-f)	5 Behavior	**Behavior**
Q42	5 Behavior	**Behavior**
Q43	5 Behavior	**Behavior**
Q44	4 Knowledge, 1 Belief	**Knowledge**
Q45	4 Behavior, 1 Belief	**Behavior**
Q46	3 Belief, 1 Behavior, 1 Knowledge	**Belief**
Q47	Dropped from analysis	

Question Number	Decision of the judges	Final Decision
Q48	3 Knowledge, 2 Behavior	**Knowledge**
Q49	2 Belief, 2 behavior, 1 Knowledge	**Belief**
Q50	Resource availability	
Q51	4 Belief, 1 Knowledge	**Belief**
Q52	Resource availability	
Q53	Resource availability	
Q54	3 Belief, 1 Knowledge, 1 nonresponse	**Belief**
Q55	Analyzed separately	

[1] Initial questionnaire is included as appendix B

Table 2

List Of Constructs And The Questions By Which They Are Measured

#	Constructs	Statements used to measure each construct
1	Affective component of attitude	(Q28a - i) ÷ 9
2	Belief component of attitude	Beliefs about physician role (Q3® + Q5® + Q9® + Q10 ® + Q11® + Q12® + Q13® + Q14® + Q24) ÷ 9 Beliefs about victims (Q4® + Q15® + Q16® + Q17® + Q18® + Q20® + Q21®) ÷ 7 Beliefs about resources (Q34 + Q36 + Q37 + Q39) ÷ 4
3	Behavioral component of attitude	Verbal statements of behavior (Q6® + Q7® +Q8® + Q19®) ÷ 4 Suspecting a possibility of abuse with different symptoms (Q29 (6)*) ÷ 6 Number of victims identified in the past year (Q33)
4	Knowledge	(Q44® + Q45 + Q46 + Q47 + Q48® + Q50 ®+ Q51 + Q52 + Q53® + Q54®)
5	Batterer related items	Q2®+ Q31 + Q35
6	Resource availability	Q38 + Q40 + Q41
7	Items not in any category	Q1; Q22; Q23; Q25; Q26; Q27; Q32; Q42; Q43; Q55

® indicates negatively worded questions and will be reverse coded for analyses.

Description of Variable Construction

Summary measure of attitude is measured by an average of affect, overall belief and verbal statements of behavior. Overall belief is an average of beliefs about physician role, beliefs about victims and beliefs about resources available to assist victims of spouse abuse.

The construct affect is measured by nine items, belief is measured by 20 items, and behavior is measured by 11 items (Table 2). Knowledge is measured by 11 items. A list of constructs being measured by each question is included as appendix D. A higher score on the combined or individual attitude scale indicates a more positive attitude, that is a more sympathetic disposition toward victims of spouse abuse. A higher score on the knowledge quiz indicates greater knowledge about the issue of spouse abuse.

Most of the items (Q1 - Q25) are Likert Scale measures, and the responses range from strongly disagree to strongly agree on a 5 - point scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). The rest of the questions (Q26 - Q55) have different response categories depending on the appropriateness of the responses to the questions asked. The questions 26 and 27 refer to the perceived prevalence of spouse abuse in the practice setting of the respondents and the response categories are 1 = 1/1000; 2 = 10/1000; 3 = 50/1000; 4 = 100/1000; 5 = 150/1000. The question 28 is measured on a 5 - point semantic differential scale, and measures feelings of the respondents toward providing services to victims of abuse. The question 29 is a measure of the behavior of the respondents in suspecting a possibility of abuse when women patients appear with various symptoms, and the response categories are, 1 = never; 2 = seldom; 3 = sometimes; 4 = nearly always; 5 = always. Those who do not play a role in seeing a particular condition have an option of

choosing not applicable (6 = NA). The next set of three questions (Q30 - Q32) are measured as 1 = yes; 2 = no; 3 = unsure; and relates to identification of victims and batterers. The question 33 asks the respondent to select the category which best describes the number of victims of spouse abuse that they have identified, where 1 = 0; 2 = 1 - 5; 3 = 6 - 10; 4 = 11 - 20; 5 ≥ 20. The Q34 - Q42 are measured on a 5 - point scale as 1 = not at all, 2 = only slightly, 3 = moderately, 4 = quite a bit and 5 = extremely. One question (Q43) is included to identify the areas of spouse abuse which the respondents feel most ill-equipped to handle. The main areas included are, identification, documentation, treatment, and providing support. The knowledge quiz, that is Q44 - Q54 are measured as true/false. One open-ended question is included as Q55 and provides an opportunity for defining "success" in helping a victim of domestic violence. The instrument used in this survey is included as appendix C.

Reliability and Validity of the Survey

The reliability and validity of this instrument have been tested in two pilot studies conducted by the researcher. The instrument was initially piloted by a sample of 129 primary care providers for purposes of item reduction and regeneration. Exploratory principal component analyses were then performed on an additional sample of 246 primary care providers. The original instrument's alpha was .88, using principal component analyses (Maiuro, 1997). The six separable domains related to the provider's perceived efficacy in addressing the problem; degree of system support; tendency to blame the victim; fear of offending the patient and role resistance; concerns regarding personal and victim safety; and experience in asking patients about domestic violence across a number of clinical presentations. The item domain alphas ranged from .70 to .91. The survey instrument has

been very recently developed and is not yet published. Hence this instrument has not been tested any further.

Scoring of the Survey Instrument

For the purpose of scoring, the survey instrument is divided into seven sections (Table 2). Three sections measuring the three constructs of attitude (affect, belief and behavior); a fourth section measuring knowledge; a fifth section about batterer related items; a sixth section about resource availability and a seventh section consisting of all items not falling under any of the other sections. Most of the questions are measured on a 5 - point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). A 5 - point Likert scale with a neutral option has been designed on purpose, since to measuring the number of people who are taking no stance (marking neutral option) seemed to make more sense than a forced choice option for this research question. The questions which are scored differently will be explained in the specific sections. Negatively worded items will be reverse coded to keep higher score as consistently more positive. A more positive or higher score (greater than 3.5) means a more positive attitude, that is, they are likely to be more sympathetic toward victims of spouse abuse. The negatively worded items in this questionnaire are Q2 - Q21, Q44, Q48, Q50, Q53 and Q54. The scores for each construct are measured by adding the scores on individual items and then dividing by the number of items to get the average score on that construct of attitude (Table 2).

Measurement of affect. The affective component of attitude is measured by nine items (Q28 a - i). This question was added by the researcher to measure the component "affect," as none of the items in the earlier questionnaire were measuring affect. A 5 - point

semantic differential scale is being used for these questions as it is a good way to measure affect (Kothandapani, 1971). Possible scores on each item range from one to five. The score on each item will be added and divided by nine to get the average score on the "affect" component. The average scores will range from one to five, with higher scores indicating more positive feelings about working with victims of spouse abuse.

Measurement of belief. There are a total of 20 items for measuring the construct "belief." Of these 20 items, 16 are scored on a 5 - point Likert scale where 1 = strongly disagree to 5 = strongly agree (Q3, Q4, Q5, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q20, Q21, Q24). These items are grouped together into beliefs about physician role and beliefs about victims. Nine items (Q3, Q5, Q9, Q10, Q11, Q12, Q13, Q14, Q24) measure belief about the physician role toward victims of spouse abuse. The average scores on this measure will range from one to five. Higher score indicating more positive attitude toward physician role. Seven items measure beliefs toward the victims of spouse abuse (Q4, Q15, Q16, Q17, Q18, Q20, Q21). The average scores on this measure will range from one to five, higher scores indicating more positive beliefs toward victims of spouse abuse. The other four questions (Q34, 36, Q37, Q39) are measured on a 5 - point scale where 1 = not at all and 5 = extremely. These items measure the beliefs toward resource availability to assist victims of spouse abuse. The scores on the individual items will be added and divided by four to get the average. The average score will range from one to five, higher scores mean more positive beliefs toward resources available to assist victims of spouse abuse. The average of these three measures (beliefs about physician role, beliefs about victims and beliefs about resource availability) will be referred as overall belief and will be used in the computation of summary

measure of attitude.

Measurement of behavior. Behavior is assessed by three different measures. The first measure will be an average of the scores on Q6, Q7, Q8, and Q19, and includes verbal statements of behavior. These four questions are measured on the 5 - point Likert scale. The average scores will range from one to five. A higher score will mean more positive behavior. The second measure of behavior will be an average of the score received on the six items Q29a - Q29f. This is a measure of frequency of suspecting abuse when seeing patients who present with various different symptoms. This item has six response categories (1 = never; 2 = seldom; 3 = sometimes; 4 = nearly always; 5 = always; 6 = not applicable). The average scores will range from one to five. The response category "six" will be treated as missing, as it reflects that the respondent does not treat or work with patients with that particular symptom. This will be recoded as missing data. A higher score on this measure will mean that the respondent will be more likely to suspect abuse. A score of three or more than three is considered as positive on this measure. The third measure, is the number of victims identified in the past year. The score received will depend on answer to Q33. The score received for this may range from one to five, depending on the number of victims identified (1 = 0; 2 = 1 - 5; 3 = 6 - 10; 4 = 11 - 20; 5 ≥ 20). The higher the score, the more number of victims identified, and will mean a more positive score. Item Q30 was also designed to give information about behavior, but since all the respondents have identified a victim at some point this item has been excluded from further analyses.

Summary measure of attitude. The total score on attitude is measured from the scores on affect, overall belief, and verbal statements of behavior components. The raw scores

on these measures ranged from one to five and have been dichotomized into positive and negative (positive ≥ 3.5 & negative < 3.5). Each positive component will fetch one point and negative component will fetch zero points. These points on individual scores have been added together. Only similar measures (5 - point scale) will be added and averaged. This is done instead of adding all individual items together and dividing by the total number of items, to give equal weight to each of the constructs as there are unequal number of questions for each construct. The score on summary measure of attitude can range from 0 - 3, and will be interpreted as positive if the score is equal to or greater than two and negative if less than two. That is, a respondent with two or more positive constructs will be considered as positive on summary attitude. The other measures, namely, frequency of suspecting abuse upon seeing various symptoms and the number of victims identified in the past year will be treated individually for the purpose of analyses. A detailed chart of questions and the construct being measured by each question is included as appendix D. It also lists the independent variables being measured.

Measurement of knowledge. Knowledge is measured by a knowledge quiz. The knowledge quiz has been added by the researcher as it was felt by the experts (psychology professors) who reviewed the constructs being measured by the questionnaire, that none of the questions were clearly based on factual knowledge. This quiz initially included 11 "true/ false" items (Q44 - Q54). Every correct response will be counted as one point and no points for a wrong answer. So the initial minimum score possible on the knowledge quiz was zero and the maximum score was 11. All the respondents answered the question (Q49) "children may be seriously affected by abuse even if they are not directly abused," correctly and so it

has been excluded from further analyses. Hence, the total number of questions on the quiz is only 10. Knowledge is considered as pass if the score on the quiz is eight or more than eight. Less than eight on knowledge will mean failing on the knowledge quiz.

The whole separate section on batterers (Q30 - Q40 in appendix B) was removed as it is beyond the scope of this research. Only the questions related to batterers which are within other sections are included in the survey to retain the reliability and validity of the instrument. These items will not be included in analyses. The questions on resource availability (Q38, Q40, Q41), the items related to prevalence of spouse abuse (Q26, Q27) and guidelines related items (Q32, Q42, Q42a) are also retained for the same reason and will be analyzed separately. The analyses of these questions is made particularly difficult by the fact, that these practitioners, though holding privileges at the area hospital, mostly have private practices either as groups or individuals. Hence, they may not be bound by the hospital guidelines for majority of their practice.

A description of questions being measured differently.

Q26 & Q27: measures perceived prevalence of spouse abuse in their respective patient populations, but may not be included in the calculation of knowledge score, as the exact site of practice or the true prevalence of spouse abuse in that group is not known to the researcher.

Q32: The hospital does have guidelines.

Q42: Rating the usefulness of the guidelines has the same problem as Q32.

Q43: This is a question about feeling ill-equipped to handle some aspects of spouse abuse and will be discussed separately.

Q55: This is an open ended question to measure the respondent's definition of success for a victim of spouse abuse. The open ended questions will be coded and the main (most frequent) response categories will be identified and discussed.

Operational Definitions

Independent Variables

1. Gender	Nominal (Female/ Male)/ demographic characteristic.
2. Age	Ratio/ demographic characteristic. Will also be treated as a dichotomous variable as younger (≤ 35 years of age) and older (> 35).
3. Race/ethnicity	Nominal (African-American/ Asian/ Native American/ White)/ demographic characteristic. Will be treated as whites versus others based on frequency.
4. Marital status	Nominal (married/ divorced/separated/ single)/ demographic characteristic. Will be dichotomized as married versus all other categories. That is, all other categories will be recoded into one category.
5. Medical speciality	Nominal (emergency medicine/ family practice/ obstetrics-gynecology/ psychiatry)/ practice characteristic.
6. Years in the profession	Ratio/ practice characteristic. Will be treated as a dichotomous variable as new/ recent practitioners (≤ 10 years in practice) and older practitioners (> 10 years in practice).

7. Work setting	Nominal (general hospital/ private practice/ teaching hospital/ others)/ practice characteristic. Will be treated as dichotomous, teaching versus others.
8. Site of practice	Nominal (urban/ rural/ suburban/ mixed/ others)/ practice characteristic. Will be treated as dichotomous, urban versus others.
9. Highest academic degree	Nominal (MD/ MD; MPH/ others)/ training characteristic. This variable could not be used as only one respondent had a degree in public health.
10. Course content	Ordinal (none/ little/ moderate amount/ great deal)/ training characteristic. Will be dichotomized as no training (none) versus any training (little, moderate or great deal).
11. Ever trained	Nominal (yes/ no)/ training characteristic.
12. Victim of spouse abuse	Nominal (yes/no)/ personal characteristic. Removed from analyses as only four respondents identified themselves as victims of abuse.
13. Known a victim	Nominal (yes/ no) personal characteristic.
14. Type of patients	Nominal (Privately insured/ HMO/ medicare/ medicaid/ others). Could not be used as more than 50% did not respond.

Dependent Variables

1. Attitude	Ratio. Dichotomized as positive and negative.
Beliefs	

Beliefs about physician role: Ratio. Dichotomized as positive and negative.

Beliefs about victims: Ratio. Dichotomized as positive and negative.

Beliefs about resources available to assist victims of abuse: Ratio. Dichotomized as positive and negative.

Affect Ratio. Dichotomized as positive and negative.

Behavior

Verbal statements of behavior: Ratio. Dichotomized as positive and negative.

Frequency of suspecting abuse: Ratio. Dichotomized as positive and negative.

Number of victims identified: Ordinal. Dichotomized as positive and negative.

2. Knowledge Ratio. Dichotomized as pass or fail.

Survey Administration

A pilot test was done and the results are included as an appendix E. A mail survey with telephone follow-up will be used for this study. The initial packet will include a cover letter (appendix F) explaining the purpose of the study, a copy of the survey, a self addressed stamped postcard with the respondents name and address and a self addressed stamped envelope for return of the completed survey. The surveys will be confidential; no identifiers will be used, in order to protect individual rights, and also make sure that the respondents feel more comfortable answering the survey truthfully. Respondents are likely to answer surveys frankly only if they are anonymous. Anonymity will also help in minimizing social desirability bias (Babbie, 1997). In order to ensure that only nonresponders are followed up on, a stamped self addressed post card will be included with the survey packet with the address of the respondent which may be returned separately. This will help to remove those who have

returned the survey from future follow-up list. It will be indicated in the cover letter that the post card should be returned separately and will be used only to remove their names from future mailing lists. If the post card is sent back along with the survey, it will be separated immediately upon arrival. In order to provide an incentive to complete and return the surveys, the returned postcards will be included in a drawing for a gift certificate at a local restaurant, and the individuals will be informed of this in the cover letter.

A follow-up protocol has been set up to ensure a reasonable response rate. The initial mailing will be followed one week later by a postcard reminder with a thank you note to all the survey participants. This is hoped to help those who have just put the survey away to send it in as soon as possible and to show appreciation to those who have sent it in earlier (Dillman, 1978). This note will also include a "ready reckoner" for identification of victims of spouse abuse (RADAR cards, provided by New York City Office for the Prevention of Domestic Violence, New York, included as appendix G). This will be followed one week later by a telephone call. The purpose of the telephone call will be two fold, one to request the physicians' to send in a response or offer to interview over the telephone or fax a new copy if the previous one cannot be found. The telephone interview can be conducted right away if they are willing, or an appointment can be made to set up a time at a later date. This method is a modified version of the Dillman technique. Follow-up and reminders tend to improve the response rates (Dillman, 1978). The telephone follow-up will be continued until at least a 50% response rate is achieved.

A step by step procedure of the survey implementation plan.

Step 1: June 7 Initial mailing, will include cover letter, a survey, a self (researcher's

address) addressed stamped postcard which will also have the name of the respondent, and a self addressed stamped envelope for the return of the survey.

Step 2: June 21 — A letter will be mailed to all the participants. The message will include a thank you note to those who may have sent in the survey and a reminder to those who have not sent it yet, to send it as soon as possible. This will include RADAR cards as a token of appreciation.

Step 3: July 5 — Begin telephone follow-up of nonrespondents with an offer of telephone survey.

Protection of Human Rights

This study carries minimal risks to the respondents, essentially about 15 to 20 minutes of their time. Survey is the least invasive method for gathering peoples' opinions (Babbie, 1997). The survey may remind some people of a negative experience that they have had. The information and insights gained from the study can be used to improve services for victims of spouse abuse. It provides an opportunity for physicians to express their concerns about the issue of spouse abuse. It also helps in understanding their reasons for dealing with or not being able to deal with the issue of spouse abuse or providing appropriate services to victims of spouse abuse. Participation in this study is voluntary and nonparticipation does not affect the physicians in any way. Participant's completion of the survey indicates consent to participate in the survey. All returned surveys will be handled as sensitive data and will always be under lock and key. The surveys will be destroyed upon completion of the dissertation. Anonymity will be guaranteed as no identifiers are being used and the results will be reported

only in an aggregate form. The results of the study will be available to the participants upon requesting the researcher. The faculty advisor's and the researcher's phone numbers and E-mail addresses will be available to the respondents for any further questions or concerns about the survey. This survey has been approved by the Human Subjects Review Board of College of Health Sciences, Old Dominion University.

Proposed Statistical Analyses

Data will be entered by the researcher. Statistical Package for Social Sciences (SPSS) will be used for statistical analysis.

Steps in Data Analysis

Data will be cleaned and decisions will be made about handling missing data. If there are very few questionnaires with missing items the questionnaires will be removed from analysis after making sure that they are similar to the rest of the respondents in all other characteristics. If there are many questionnaires with a few items missing in each of them, either the mean for the items that have been answered will be used in scale construction, or a neutral response will be assumed depending on the items for which responses are available (Babbie, 1997).

The characteristics of the groups will be described with frequencies distributions for all independent variables. For nominal and ordinal level independent variables the frequencies and the modal classes will be reported. For ratio level independent variables the mean with standard deviation, and median, with interquartile ranges will be described. Distributions of the variables will be examined for normality.

Hypotheses have been generated to test the relationships among various independent

and dependent variables. Each hypothesis will be tested by the appropriate test statistic (Daniel, 1995). Bivariate statistics will be used to examine the relationship between two variables and multivariate statistics will be used to examine the relationship between more than two variables. If the independent variable has two levels, example gender, and the dependent variable is normally distributed, an independent two sample t-test will be used. If the dependent variable is nonnormally distributed, Mann-Whitney U test will be performed. If both the variables are categorical, a Chi-square test will be performed. If the independent variable has more than two levels and the dependent variables are normally distributed one way ANOVA models will be used to test the hypotheses. If the dependent variables are not normally distributed Kruskal-Wallis test will be used.

Multivariate models will be used to explore the relationship between one dependent variable and multiple independent variables. The multivariate models can explore the relationship between each pair (dependent and independent) while controlling for the other variables (Daniel, 1995). For the mulitivariate models the dependent variable will be dichotomized as positive and negative attitude and pass or fail on knowledge and will be entered in to a logistic regression model. Only the independent variables which are significantly related at a minimum $p \leq .25$ in the bivariate level will be included in the multivariate model.

Correlation will be examined between attitude and knowledge, depending on the distribution, either a Pearson's correlation (if normal) or Spearman's correlation (if not normal) will be used. Cronbach's alpha will be used to assess the reliability of each subscale. A detailed list of hypotheses and statistical tests to be performed are included as Table 3.

Table 3

List Of Hypotheses And The Statistical Tests To Be Performed For Testing

#	Hypotheses	Test
1	Demographic characteristics will influence attitudes about spouse abuse.	
	1a. Female physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
	1b. Younger physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
	1c. Physicians' race will not significantly effect the attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
	1d. Married physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
2	Practice characteristics will influence attitudes about spouse abuse.	
	2a. There will be no significant difference in the attitudes toward victims of spouse abuse by physician speciality.	Oneway Anova/ Kruska-Wallis
	2b. Physicians with fewer years of service will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
	2c. Physicians practicing in teaching hospitals will be significantly more likely to have positive attitudes than physicians practicing in other hospitals.	T-test/ M-W[a]/ Chi-square
	2d. Physicians practicing in the urban setting will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square

#	Hypotheses	Test
3.	Training will influence attitudes about spouse abuse.	
	3a. Physicians with training in public health (those who have MPH degrees) will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	Not tested
	3b. Physicians with greater course content on domestic violence in graduate curriculum will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
	3c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
4.	Personal experience of abuse will influence attitudes about spouse abuse.	
	4a. Physicians who have personally experienced abuse will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	Not tested
	4b. Physicians who have had a personal acquaintance that was a victim of spouse abuse, will be significantly more likely to have positive attitudes toward female victims of spouse abuse.	T-test/ M-W[a]/ Chi-square
5.	Age, gender and past training in spouse abuse prevention will be the strongest predictors of attitude toward victims of spouse abuse.	Logistic regression

#	Hypotheses	Test
6.	Demographic characteristics will effect knowledge levels about spouse abuse.	
	6a. Female physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	6b. Younger physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	6c. Physicians' race will not be significantly related to their knowledge about female victims of spouse abuse.	Chi-square
	6d. Married physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
7.	Practice characteristics will effect knowledge levels about spouse abuse.	
	7a. There will be no significant difference in knowledge about female victims of domestic violence by physician speciality.	Chi-square
	7b. Physicians with fewer years in practice will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	7c. Physicians practicing at a teaching hospital will be significantly more likely to have more knowledge than physicians practicing at other hospitals.	Chi-square
	7d. Physicians practicing in the urban setting will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square

#	Hypotheses	Test
8.	Prior training will effect knowledge levels about spouse abuse.	
	8a. Physicians with training in public health (have MPH degrees) will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	8b. Physicians with greater course content on spouse abuse in graduate curricula will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	8c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
9.	Personal experience will have an effect on knowledge levels of spouse abuse.	
	9a. Physicians who have personally experienced abuse will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
	9b. Physicians who have had a close acquaintance that has been a victim of spouse abuse, will be significantly more likely to have greater knowledge about female victims of spouse abuse.	Chi-square
10.	Age, curriculum in the graduate school on domestic violence and training in spouse abuse prevention will be the strongest predictors of knowledge on spouse abuse.	Logistic regression
11.	There will be a positive correlation between knowledge and attitude of physicians toward female victims of spouse abuse. That is, an increase in knowledge score will mean an increase in attitude score and vice versa.	Spearman correlation
12.	The items within a single construct such as affect, belief or behavior will be more strongly correlated with each other than with items in other constructs.	Spearman correlation & Cronbach's Alpha

Mann-Whitney U test

Description of the Sample (Independent Variables)

The sampling frame for this study is constituted by all 150 physicians in the specialities of emergency medicine, family medicine, obstetrics-gynecology, and psychiatry at a large local general hospital. The respondents for this study are constituted by 76 physicians from the sample (51% response rate). Female physicians were significantly more likely to respond than male physicians ($p < .01$, Table 4). There were also significant differences among the response rates for various specialists ($p < .001$). Psychiatrists were most likely to respond, 71% responded, and family practitioners where least likely to respond, 39% responded (Table 4). The responses were received over a period of 12 weeks, but the early and late responders (first six weeks vs. later six weeks) were not significantly different on any of the measures (summary attitude, belief, affect or behavior).

The demographic characteristics are summarized in Table 5. The sample is 72% male ($n = 55$). The mean age is 43.72 ($SD = 7.99$); range is 30 - 60 years. For the purpose of statistical analyses this variable has been dichotomized into ≤ 35 (18%) and > 35 (82%) years of age. The majority were Whites (90%), other ethnic groups included four African Americans (5%), three Asian Americans (4%) and one Native American (1%). Most of the physicians constituting the sample were married (88%), there were four (5%) divorced and five (7%) single respondents.

Table 4

Response Bias Analysis

Gender *	Respondents % (n)	Nonrespondents % (n)	Totals
Female	60 (21)	40 (14)	35
Male	48 (55)	52 (61)	115
Total	76	74	150
Speciality **			
Emergency Room Physicians	51 (23)	49 (22)	45
Family Practitioners	39 (18)	61 (28)	46
Gynecology-Obstetricians	56 (25)	44 (20)	45
Psychiatrists	71 (10)	29 (04)	14
Total	76	74	150

* Differences significant at $p < .01$

** Differences significant at $p < .001$

Table 5

Demographic Characteristics of Respondents

Characteristic	Percentage (*n*)
Gender	
Female	28 (21)
Male	72 (55)
Age	Mean 43.72 (*SD* = 7.99) 82% > 35 years
Race	
African American	05 (04)
Asian	04 (03)
Native American	01 (01)
White	90 (68)
Marital Status	
Married	88 (67)
Divorced/separated	05 (04)
Single	07 (05)

Practice and training characteristics are displayed in Table 6. Physician specialities represented included 30% emergency medicine, 24% family practice, 33% obstetrician-gynecologists and 13% psychiatrists. The mean number of years in the profession is 14.61 years (*SD* = 7.71, and range is 2 - 30 years, IQR[1] = 9 - 20 years). This variable has been dichotomized into ≤ 10 years of practice (29%) and > 10 years of practice (71%). It is not clear if these were years in the profession post residency or include residency training, and this may be a limitation of the information. Private practice was the most usual work setting (63%), teaching hospital being the next common site (24%), only 13% were with a general hospital. All but one of the practitioners associated with a teaching hospital were associated with emergency medicine. Hence this variable has been removed from further analyses. Almost half the respondents' most usual site of practice was suburban (47%), urban was the next most common (34%), followed by mixed (16%), and rural (3%). This variable has also been excluded from further analyses as the practice sites were within a couple of geographically proximal zip codes, and may have been misinterpreted.

About 80% of the sample described the amount of course content in graduate curricula as none or little. About 20% described it as a moderate amount. More than 80% (61) have said that they have never been trained (following graduation/ CME) in spouse abuse prevention. Only 19% (14) said that they had ever been trained in treating spouse abuse. Only one respondent had an MPH degree, all the rest had only MD degrees, hence this variable has been excluded from further analyses.

1

IQR is inter quartile range and indicates the 25th - 75th percentile; median is 50th percentile.

Four physicians (three male and one female) described themselves as having been victims of abuse. Since the main focus of this study is "male to female" violence, this variable has been excluded from further analyses. More than a quarter of the respondents (40%; n = 30) said that they personally knew someone who was a victim of abuse.

Table 6

Practice and Training Characteristics of Respondents

Characteristic	Percentage (*n*)
Speciality	
Emergency Medicine	30 (23)
Family Practice	24 (18)
Obstetrics-Gynecology	33 (25)
Psychiatry	13 (10)
Years in the Profession	Mean 14.61 (SD = 7.71)
	71 % > 10 years
Work Setting	
General Hospital	13 (10)
Private Practice	63 (48)
Teaching Hospital	24 (18)
Most Usual Site of Practice	
Urban	34 (26)
Rural	03 (02)
Suburban	47 (36)
Mixed	16 (12)
Amount of Course Content in Graduate Curricula	
None	21 (16)
Little	59 (44)
Moderate Amount	20 (15)
Great Deal	0 (0)
Ever Been Trained in Spouse Abuse	
Yes	19 (14)
No	81 (61)

CHAPTER 4

Results

The Physician Survey on Spouse Abuse contains 54 closed ended response questions and one open ended response question about attitude and knowledge. Fourteen items on background information were also included. The 54 closed ended questions include items measuring all the three components of attitude, namely, affect, belief and behavior, and also knowledge. The survey instrument is included as appendix C.

Results of the data analyses are presented in this chapter. The alpha level for all the hypotheses was set at the .05 level of significance for this study, due to the small (76) sample size. The Tripartite Model for Attitude Measurement was used as the theoretical framework. This theory proposes that the three components (affect, belief and behavior) will share a common variance but do retain a unique variance. It also proposes that different antecedent variables influence different attitudes. The theory was partially supported by this study, as statistically significant differences were noted among certain attributes of antecedent variables.

In this chapter, a description of the dependent variables will be followed by a description of the scores attained on the individual constructs and mean scores on various individual items. Detailed bivariate relationships between the independent variables and the summary measures, individual constructs, and each individual item will be explored. The correlation between items within a construct will be measured. The correlation between knowledge and attitude will also be assessed. Relationships between independent variables and the summary score on the knowledge portion of the questionnaire will be explored. Cross

tabulations (chi-square) will be done for passing the knowledge test, as well as individual knowledge items. Chi-square is being used as knowledge items had only two responses as true/false. The independent variables that have a significant relationship at $p \leq .25$ at the bivariate level will be included in the multivariate model for multiple logistic regression, as well as those with strong theoretical reasons to be in the model.

Description of the Dependent Variables

Attitude Items

Attitude was measured by one summary measure, as well as by separate sub-scales that examine its three components: affect, belief and behavior. Affect measures the "feelings" associated with providing services to victims of spouse abuse, and has one scale measuring it. Belief was assessed by three different scales: beliefs about physician role, beliefs about the victims, and beliefs about resources available to physicians to assist victims of abuse. Behavior was measured by two scales and one item: verbal statements about likely behavior upon seeing a victim of abuse, frequency of suspecting abuse when women present with various symptoms, and the number of spouse abuse victims identified by the physician in the past year. The belief measures were averaged into overall belief score. A summary attitude measure was calculated. Mean scores on each of these measures, and the percent that were positive (scoring more than 3.5) on these scores are summarized in Table 7.

Summary attitude measure. Sixty eight percent of the respondents scored positively on the summary measure of attitude (positive ≥2; Table 7), frequency distribution for this measure is included as Table 8.

Affect. Affect was measured by nine items, and it measures the feelings of physicians

toward providing services to victims of spouse abuse. Only 11% had overall positive feelings about working with spouse abuse victims. The mean summary score for affect was 2.96 (*SD* = .48) and range was from 1.75 to 4.50 (Table 7). Scores were most negative for items which indicated physician saw this as low paying, stressful, risky and boring as opposed to high paying, pleasant, safe and exciting. The mean scores for the individual items on the "affect" component of attitude range from 2.2 (personally find providing professional services to victims of abuse difficult and stressful) to 4.1 (personally find providing professional services to victims of abuse significant). The scores of the individual "affect" items are included in appendix H1.

Overall belief and individual belief measures. The mean score of overall belief was 3.74 (*SD* = .40; Table 1) the range was from 2.85 - 4.83. Seventy percent of the sample was positive on this measure. The scores on individual belief scales range from 3.30 - 4.16. The mean score for beliefs toward the physicians' role was 4.16 (*SD* = .40) and the range was from 3.27 - 5.00. Ninety seven percent were positive on this measure. Note that only two items had less than 85% of the respondents answering positively. The items were, "role of the health care provider was limited in being able to help victims of spouse abuse," and "if I asked non-abused patients about spouse abuse, they will get very angry" (Table H2).

The mean score for beliefs about victims of spouse abuse was 3.76 (*SD* = .62) range was from 2.57 - 5.00. Sixty five percent were positive on this measure. Only 30% held positive beliefs about resources available to them to assist victims of abuse. Mean scores for beliefs about resources available to help victims of abuse was 3.30 (*SD* = .64) and range was from 2.00 - 4.75. The mean Scores of each of the components and percentage of respondents

with positive scores is included as Table 7.

The mean scores for the individual items on belief component of attitude range from 2.8 - 4.7. The mean scores of each item, the standard deviation and the percentage with positive scores are included as tables (H2; H3; H4) in the appendix H.

Behavior: Behavior of physicians was measured by 11 items, which were summarized into three scales. Eighty four percent made positive verbal statements regarding their behaviors toward victims of spouse abuse. The mean score for this measure was 4.11 (*SD* = .54; Table 7) and range was from 2.50 to 5.00. The mean scores for individual items on this measure of behavior are summarized in table H5 in appendix H.

Another six items measure the frequency of suspecting abuse when patients present with various symptoms. This was measured on a 5 - point Likert scale (1 = never to 5 = always). Only 22% suspect abuse at least sometimes with various presenting symptoms. The mean score on this measure of behavior was 2.46 (*SD* = .80) and range was from 1.00 - 4.33. The percentage of respondents and the frequency of suspecting abuse is summarized in Table H6 in appendix H. Sixteen percent of the sample (n = 12) has never or seldom asked a patient about abuse, even when they present with injuries (Table H7 in appendix H). A large percentage of respondents never, or seldom ask patients about the possibility of abuse when they present with chronic pelvic pain (57%), irritable bowel syndrome (62%), headaches (60%), depression/anxiety (33%) and hypertension/coronary heart disease (87%). Seven percent of the respondents do not ask about abuse with any of the symptoms discussed above including injuries and 28% do not ask about abuse in any condition other than injuries.

The third measure of behavior was the number of victims identified in the past year.

The frequency distribution of the number of victims identified by the respondents in the past one year is included as Table H8 in the appendix H. The information for this question was collected as an ordinal variable (1 = 0; 2 = 1 - 5; 3 = 6 - 10; 4 = 11 - 20; 5 ≥ 20). Over 50% of the respondents identified five or less than five victims of abuse in the past year.

Table 7

Mean Scores on Summary Score of Attitude & Each of the Constructs

Construct	Mean (*SD*) or Median	% Positive
Summary Attitude[a]	2 (Median, IQR 1-2)	68
Overall Belief[b]	3.74 (.40)	70
Beliefs about physician role[b]	4.16 (.40)	97
Beliefs about victims[b]	3.76 (.62)	65
Beliefs about resources available[b]	3.30 (.64)	30
Affect[b]	2.96 (.48)	11
Verbal statements about behavior[b]	4.11 (.54)	84
Frequency of suspecting abuse[c]	2.46 (.80)	22
Number of victims identified in the past year	2 (median, IQR 2-3)[d]	41[e]

[a] summary attitude score ranges from 0-3, any score 2 or greater is considered as positive.

[b] a score ≥3.5 is considered as positive for these items.

[c] a score of ≥ 3 or more is considered as positive, meaning that the physicians are likely to suspect abuse at sometimes, when women present with various different symptoms.

[d] 2 & 3 are classes and do not refer to the number of victims identified (2 = 1 - 5; 3 = 6 - 10).

[e] > 2 = positive

Table 8

Frequency Distribution of Summary Measure of Attitude (median 2; IQR 1 - 2)

Summary Measure of Attitude [a]	% (*N*)
0	11.8 (8)
1	20.6 (14)
2	60.3 (41)
3	7.4 (5)

[a] summary attitude score ranges from 0 - 3, any score 2 or greater is considered as positive. Summary measure of attitude is an average of overall belief, affect and verbal statements of behavior.

Knowledge Items

Knowledge was measured by sum of the score on 10 factual items about spouse abuse. The summary scores for knowledge range from five to nine ($M = 6.87$; $SD = .99$). Only 27% of the sample scored eight or more on the knowledge quiz, which was considered as the passing score for this study. The percentage of physicians answering each item correctly is summarized in table H9 in the appendix H. The percentage who answered each of the items correctly ranged from 3% (alcoholism and substance abuse are major causes of spouse abuse) to 97% (spouse abuse and child abuse often occur together in the same family).

Testing of Hypotheses

Bivariate Hypotheses of Attitude

1. Demographic characteristics will influence attitudes about spouse abuse.

1a. Female physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

This hypothesis is accepted in part and rejected in part. Female and male physicians do not differ significantly on the summary measure of attitude (Table 9). There was no difference between the groups on either the mean or percent positive, on the overall belief measure, beliefs about physician role, beliefs about resources available, verbal statements about behavior, frequency of suspecting abuse, number of victims identified in the past year, or affect (Tables 10 - 14). However, female physicians were significantly more likely to have more positive beliefs about victims than male physicians (Tables 12 & 13). Some differences were also detected among the individual items. Women were less likely to feel that mental health services at their institute can meet the needs of spouse abuse victims. Women

physicians rate the institution's guidelines as being much less useful than do men.

1b. Younger physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

Age has been measured as a continuous variable and dichotomized into younger physicians (≤ 35 years of age) and older physicians (> 35 years of age). This hypothesis is accepted in part and rejected in part. The two groups did not differ on the summary measure of attitude (Table 9). Younger physicians had significantly more positive mean and percent positive scores on overall beliefs compared to older physicians (Tables 10 & 11). Younger physicians had significantly more positive beliefs about victims than older physicians (Tables 12 & 13). Younger physicians were also more likely to identify more victims of abuse (Table 14). The two groups did not differ on other measures of attitude such as beliefs about physician role, beliefs about resources available, verbal statements about behavior, frequency of suspecting abuse, or affect (Tables 10 - 14). Certain differences were noticed on individual items. Older physicians were more likely to find providing services to victims of spouse abuse as "low paying" and were also more likely to ask about a possibility of spouse abuse when seeing a female patient with headaches and hypertension.

1c. Physicians' race will not significantly affect the attitudes toward female victims of spouse abuse.

Race was recoded into two categories as whites and others. Whites had significantly less positive scores on summary attitude measure than others (63% vs. 100%; $p = .02$; Table 9). Whites had significantly more negative feelings (affect scores) about providing services to victims of abuse (Tables 10 & 11). Whites also had significantly less mean positive beliefs

about physician role than others (Table 12). This difference disappears between the groups when comparing percent with positive scores (Table 13). The difference between groups was not significant on overall belief, or any other measures of belief or behavior (Tables 10 - 14). Some differences have been noticed on the individual items. Whites were more likely to find providing professional services to victims of spouse abuse difficult and risky.

1d. Married physicians will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

Marital status has been recoded into two categories as currently married and other categories (divorced, separated, single and single living with an intimate). The two groups did not differ significantly on the summary measure of attitude (Table 9). Married physicians have a more negative "affect" component than other physicians. Mean score on affect for married physicians was 2.90 and for others was 3.30 ($p = .05$; Tables 10 & 11). Married physicians had significantly lower scores on beliefs about victims (M 3.70 vs. 4.10; $p = .04$; Tables 12 & 13). The two groups did not differ on overall belief measure, or any other measure of belief or behavior (Tables 10 - 14). Few differences on individual items exist between the two groups. Married physicians were significantly more likely to agree with the statement, "when it comes to spouse abuse, it usually 'takes two to tango'"($p = .03$). Married physicians were less likely to ask for the possibility of spouse abuse when treating a case of chronic pelvic pain ($p = .05$), irritable bowel syndrome ($p = .02$), or headaches ($p = .05$).

Table 9

Differences in the Percentage of Positive Summary Attitude Scores Among Various Groups by Demographic Characteristics

Variable	Summary Attitude Score [a] % Positive
Gender	
Female	80
Male	63
Age	
≤ 35 years	87
> 35 years	62
Race	
Whites	63*
Others	100
Marital Status	
Married	66
Others	78

[a] summary attitude score ranges from 0 - 3, any score 2 or greater is considered as positive.

* difference significant at $p \leq .05$

Table 10

Differences in the Mean Scores On the Three Constructs of Attitude[1] Across Various Demographic Groups

Variable	Overall Belief Mean (*SD*)	Verbal statements of behavior Mean (*SD*)	Affect Mean (*SD*)
Gender			
Female	3.83 (.38)	4.07 (.57)	3.02 (.44)
Male	3.70 (.41)	4.13 (.54)	2.94 (.49)
Age			
≤ 35 years	3.93 (.38)*	4.07 (.46)	3.00 (.33)
> 35 years	3.69 (.40)	4.12 (.56)	2.95 (.51)
Race			
Whites	3.72 (.41)	4.09 (.55)	2.91 (.44)*
Others	3.87 (.37)	4.28 (.45)	3.33 (.63)
Marital Status			
Married	3.72 (.40)	4.10 (.53)	2.90 (.45)*
Others	3.83 (.40)	4.15 (.61)	3.30 (.52)

[1] summary attitude measure is the sum of these scores (≥ 3.5 = positive = 1; < 3.5 = negative = 0)

* difference significant at p ≤.05

Table 11

Differences in the Percent Positive On The Three Constructs of Attitude[a] Across Various Demographic Groups

Variable	Overall Belief % positive	Verbal statements of behavior % positive	Affect % Positive
Gender			
Female	81	86	5
Male	65	83	13
Age			
≤ 35 years	93*	87	7
> 35 years	64	83	12
Race			
Whites	68	82	6*
Others	88	100	50
Marital Status			
Married	67	85	8*
Others	89	80	30

[a] summary attitude measure is the sum of these scores (≥ 3.5 = positive = 1; < 3.5 = negative = 0)

* difference significant at p ≤.05

Table 12

Differences in Mean Scores On Subconstructs of Belief[a] by Various Demographic Groups

Variable	Beliefs about physician role Mean (SD)	Beliefs about victims Mean (SD)	Beliefs about resources available Mean (SD)
Gender			
Female	4.10 (.37)	4.16 (.53)*	3.23 (.64)
Male	4.19 (.42)	3.60 (.58)	3.33 (.65)
Age			
≤ 35 years	4.33 (.41)	4.21 (.52)*	3.23 (.53)
> 35 years	4.12 (.39)	3.64 (.59)	3.13 (.67)
Race			
Whites	4.13 (.39)*	3.73 (.59)	3.31 (.65)
Others	4.43 (.38)	3.95 (.85)	3.22 (.65)
Marital Status			
Married	4.15 (.39)	3.70 (.60)	3.30 (.66)
Others	4.26 (.46)	4.10 (.66)	3.25 (.50)

[a] overall belief is an average of the subconstructs

* difference significant at $p \leq .05$

Table 13

Differences in the Percent Positive Scores on Subconstructs of Beliefs by Various Demographic Groups

Variable	Beliefs about physician role % Positive	Beliefs about victims % Positive	Beliefs about resources available % positive
Gender			
Female	95	91*	19
Male	98	57	34
Age			
≤ 35 years	100	93*	20
> 35 years	97	58	32
Race			
Whites	97	64	30
Others	100	75	25
Marital Status			
Married	97	62	32
Others	100	90	11

* difference significant at $p \leq .05$

Table 14

Differences in the Mean and Percent Positive Scores on Other Measures[a] of Behavior by Various Demographic Groups

Variable	Frequency of suspecting abuse[b] Mean (SD)	Frequency of suspecting abuse[b] % Positive[c]	Number of victims identified in the past year[d] Mean (SD)	Number of victims identified in the past year[d] % Positive[e]
Gender				
Female	2.75 (.83)	38	2.67 (1.02)	48
Male	2.37 (.77)	23	2.73 (1.22)	38
Age				
≤35 years	2.28 (.60)	8	3.20(1.15)*	67*
>35 years	2.51 (.84)	31	2.59 (1.15)	34
Race				
Whites	2.45 (.83)	28	2.72 (1.17)	43
Others	2.55 (.60)	14	2.63 (1.19)	25
Marital Status				
Married	2.44 (.82)	25	2.70 (1.19)	39
Others	2.62 (.66)	43	2.80 (1.03)	50

[a]Behavior is measured by three variables, verbal statements about behavior (included in Table 7), frequency of suspecting abuse and number of victims identified.

[b] The conditions included, injuries, chronic pelvic pain, irritable bowel syndrome, headaches, depression/anxiety, and hypertension/coronary artery disease. The options were 1 = never, 2 = seldom, 3 = sometimes, 4 = nearly always, 5 = always)

[c] More than 2 is considered positive

[d] Information for number of victims identified, was in intervals as 1 = 0, 2 = 1 - 5, 3 = 6 - 10, 4 = 11 - 20, 5 = >20.

[e]More than 2 is equal to positive

* difference significant at p ≤.05

2. Practice characteristics will influence attitudes about spouse abuse.

2a. There will be no significant difference in the attitudes toward victims of spouse abuse by physician speciality.

This hypothesis is accepted in part and rejected in part. The groups are not significantly different on the summary attitude measure (Table 15). Family practitioners had significantly lower scores than other practitioners on overall belief measure (Tables 16 & 17). Family practitioners also had significantly lower scores on beliefs about resources available when compared to other groups, only 12% had positive scores ($p = .01$; Tables 18 & 19). The groups did not differ from one another on affect, or beliefs about physician role (Tables 16 - 19). Psychiatrists had significantly lower percent positive scores beliefs about victims, there was no significant difference in the mean scores (Tables 18 & 19).

The groups were significantly different on all measures of behavior (verbal statements about behavior, frequency of suspecting abuse and the number of victims identified in the past year; Tables 16, 17, 20 & 21). Psychiatrists were significantly more positive than either family practitioners or obstetrician-gynecologists on verbal statements about behavior, this difference disappeared when the percent positives were compared across groups ($p = .00$). On the measure frequency of suspecting abuse psychiatrists and obstetrician-gynecologists were significantly more positive than family practitioners ($p = .00$; Tables 20 & 21).

There were also some differences noted among various groups on individual items. The family practitioners' mean score for the item "I think that investigating the underlying cause of a patient's injury is not part of medical care" was significantly lower than

psychiatrists scores (p = .04). Family practitioners were more likely to say that they do not have time to ask about spouse abuse in their practice. Psychiatrists were least likely to feel that way (p = .02). Family practitioners and obstetrician-gynecologists were more likely to say that they do not know what to do if they find a patient who is a victim of spouse abuse in their practice (p = .00). Family practitioners were significantly more likely than psychiatrists to say that they do not know how to ask about the possibility of spouse abuse (p = .05). Emergency room physicians' estimate of the prevalence of spouse abuse in their practice was significantly greater than that of family practitioners. Emergency room physicians also estimate that they have identified a significantly larger number of victims in the past year than other practitioners (p = .00). Family practitioners were significantly less likely than any other practitioners to ask about spouse abuse when seeing patients with injuries, chronic pelvic pain, irritable bowel syndrome, or headaches at p = .00 or depression at p = .01. Psychiatrists were most likely to ask about spouse abuse while treating a patient with hypertension or coronary heart disease (p = .00).

Psychiatrists were more likely to say that they have strategies to help victims of spouse abuse change their situation than family practitioners (p = .02). They were also more likely to say that they have ready access to medico social workers as compared to family practitioners (p = .03). Psychiatrists were also more likely to say that mental health services at their institute can meet needs of spouse abuse victims compared to obstetrician-gynecologists (p = .05). They were also more likely than family practitioners to say that they have ready access to mental health services should their patients need referrals (p = .04).

Obstetrician-gynecologists were more likely to say that they have ready access to

information detailing management of spouse abuse than family practitioners (p = .04). Obstetrician-gynecologists were also more likely than emergency room physicians to say that they feel ill-equipped to identify victims of spouse abuse.

2b. Physicians with fewer years of service will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

The two groups did not differ significantly on the summary measure of attitude (Table 15). Physicians with fewer years in the profession were significantly more likely to have more positive beliefs about victims (M = 4.04 vs. 3.63; $p < .00$; Tables 18 & 19). The two groups did not differ significantly on any other measure (affect, overall belief, beliefs about physician role, beliefs about resources available, verbal statements about behavior, suspecting a possibility of abuse, and number of victims identified in the past year or affect; Tables 16 - 21).

The only individual item on which the two groups differed was, that physicians with longer practice (>10 years) were more likely to rate the usefulness of their institution's guidelines as better than those with lesser number of years in practice (M = 2.74 vs. 1.78, p = .03).

2c. Physicians practicing in urban sites will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

Physicians practicing in urban areas had significantly more positive beliefs about physician role, there was no difference between groups when percent positive were compared (Tables 18 & 19). They did not differ on the summary attitude, affect, overall belief, beliefs

about victims, beliefs about resources available, verbal statements about behavior, frequency of suspecting of abuse or number of victims identified in the past year components of attitude (Tables 15 - 21).

Table 15

Differences in the Percentage of Positive Summary Attitude Scores Among Various Groups by Practice and Training Characteristics

Variable	Summary Attitude Score [a] % Positive
Speciality	
Emergency Physicians	74
Family Practitioners	44
Obstetricians-gynecologists	73
Psychiatrists	86
Years experience	
≤10 years	78
>10 years	62
Work Site	
Urban	79
Other	61
Course Content	
None	71
Any	66
Trained in spouse abuse	
Yes	82
No	65

[a] summary attitude score ranges from 0 - 3, any score 2 or greater is considered as positive.

* difference significant at $p \leq .05$

Table 16

Differences in the Mean Scores on the Three Constructs of Attitude Across Various Groups by Practice and Training Characteristics

Variable	Overall Belief Mean (*SD*)	Verbal statements of behavior Mean (*SD*)	Affect Mean (*SD*)
Speciality			
Emergency Physicians	3.78 (.35)*	4.20 (.51)*	2.97 (.34)
Family Practitioners	3.50 (.39)	3.79 (.61)	2.80 (.49)
Obstetricians-gynecologists	3.83 (.39)	4.07 (.41)	3.07 (.48)
Psychiatrists	3.89 (.48)	4.64 (.36)	2.98 (.70)
Years experience			
≤ 10 years	3.86 (.41)	4.10 (.44)	2.99 (.38)
>10 years	3.68 (.39)	4.12 (.58)	2.95 (.52)
Work Site			
Urban	3.79 (.34)	4.25 (.54)	3.06 (.55)
Other	3.71 (.43)	4.03 (.53)	2.90 (.42)
Course Content			
None	3.75 (.39)	4.12 (.57)	2.97 (.47)
Any	3.63 (.35)	4.03 (.43)	2.85 (.46)
Trained in spouse abuse			
Yes	3.80 (.33)	4.18 (.44)	2.94 (.49)
No	3.73 (.42)	4.07 (.56)	2.94 (.46)

* difference significant at $p \leq .05$

Table 17

Differences in the Percent Positive Scores on the Three Constructs of Attitude Across Various Groups by Practice and Training Characteristics

Variable	Overall Belief % positive	Verbal statements about behavior % positive	Affect % positive
Speciality			
Emergency Physicians	78*	91	4
Family Practitioners	38	67	6
Obstetricians-gynecologists	79	84	17
Psychiatrists	86	100	22
Years experience			
≤ 10 years	83	87	9
>10 years	64	83	12
Work Site			
Urban	79	93	22
Other	65	79	4
Course Content			
None	67	81	0
Any	70	85	12
Trained in spouse abuse			
Yes	91	93	14
No	66	82	9

* difference significant at $p \leq .05$

Table 18

Differences in Mean Scores on Subconstructs of Belief by Various Groups by Training and Practice Characteristics

Variable	Beliefs about physician role Mean (SD)	Beliefs about victims Mean (SD)	Beliefs about resources available Mean (SD)
Speciality			
Emergency Physicians	4.18 (.34)	3.76 (.59)	3.39 (.55)*
Family Practitioners	4.08 (.45)	3.54 (.53)	2.87 (.61)
Obstetricians-gynecologists	4.15 (.44)	3.92 (.58)	3.39 (.63)
Psychiatrists	4.32 (.34)	3.71 (.87)	3.61 (.66)
Years experience			
≤ 10 years	4.27 (.41)	4.04 (.63)*	3.26 (.64)
>10 years	4.11 (.39)	3.63 (.57)	3.31 (.65)
Work Site			
Urban	4.32 (.40)*	3.69 (.54)	3.38 (.61)
Other	4.08 (.38)	3.79 (.66)	3.26 (.66)
Course Content			
None	4.17 (.40)	3.71 (.63)	3.36 (.61)
Any	4.07 (.35)	3.83 (.51)	3.00 (.65)
Trained in spouse abuse			
Yes	4.14 (.38)	3.81 (.60)	3.34 (.50)
No	4.16 (.41)	3.73 (.61)	3.30 (.67)

* difference significant at $p \leq .05$

Table 19

Differences in Percent Positive Scores on Subconstructs of Belief by Various Groups by Training and Practice Characteristics

Variable	Beliefs about physician role % positive	Beliefs about victims % positive	Beliefs about resources available % positive
Speciality			
Emergency Physicians	100	57*	26*
Family Practitioners	94	56	12
Obstetricians-gynecologists	96	88	32
Psychiatrists	100	44	67
Years experience			
≤10 years	100	83*	22
>10 years	96	58	33
Work Site			
Urban	100	63	39
Other	96	67	25
Course Content			
None	94	75	13
Any	98	62	33
Trained in spouse abuse			
Yes	100	79	36
No	97	62	28

* difference significant at $p \leq .05$

Table 20

Differences in the Mean Scores of Other Measures[a] of Behavior by Various Groups by Training and Practice Characteristics

Variable	Frequency of suspecting abuse [b] Mean (SD)	Number of victims identified in the past year [c] Mean (SD)
Speciality		
Emergency Physicians	2.40 (.77)*	3.65 (1.23)*
Family Practitioners	1.95 (.68)	1.94 (.64)
Obstetricians-gynecologists	2.80 (.68)	2.40 (.91)
Psychiatrists	3.00 (.95)	2.70 (.95)
Years experience		
≤10 years	2.34 (.58)	2.91 (1.16)
>10 years	2.51 (.88)	2.62 (1.16)
Work Site		
Urban	2.45 (.75)	2.70 (1.17)
Other	2.47 (.84)	2.71 (1.17)
Course Content		
None	2.51 (.79)	2.31 (.95)
Any	2.27 (.86)	2.81 (1.21)
Trained in spouse abuse		
Yes	2.56 (.87)	2.14 (.53)
No	2.45 (.80)	2.82 (1.21)

[a] Behavior is measured by three variables, verbal statements about behavior (included in Tables 10 & 11), frequency of suspecting abuse and number of victims identified.

[b] The conditions included, injuries, chronic pelvic pain, irritable bowel syndrome, headaches, depression/anxiety, and hypertension/coronary artery disease. The options were 1 = never, 2 = seldom, 3 = sometimes, 4 = nearly always, 5 = always

[c] Information for number of victims identified, was in intervals as 1 = 0, 2 = 1 - 5, 3 = 6 - 10, 4 = 11 - 20, 5 = >20.

* difference significant at $p \leq .05$

Table 21

Differences in the Other Measures[a] of Behavior by Various Groups by Training and Practice Characteristics

Variable	Suspecting a possibility of abuse [b] % Positive	Number of victims identified in the past year [c] % positive
Speciality		
Emergency Physicians	20*	78*
Family Practitioners	6	6
Obstetricians-gynecologists	46	32
Psychiatrists	40	40
Years experience		
≤ 10 years	11	52
>10 years	33	36
Work Site		
Urban	22	37
Other	29	43
Course Content		
None	29	42
Any	27	31
Trained in spouse abuse		
Yes	33	21
No	25	46

[a] Behavior is measured by three variables, verbal statements about behavior (included in Table 7), frequency of suspecting abuse and number of victims identified.

[b] The conditions included, injuries, chronic pelvic pain, irritable bowel syndrome, headaches, depression/anxiety, and hypertension/coronary artery disease. The options were 1 = never, 2 = seldom, 3 = sometimes, 4 = nearly always, 5 = always; score > 2 = positive)

[c] Information for number of victims identified, was in intervals as 1 = 0, 2 = 1 - 5, 3 = 6 - 10, 4 = 11 - 20, 5 ≥20; score > 2 = positive).

* difference significant at $p \leq .05$

3. Training will influence attitudes about spouse abuse.

3a. Physicians with training in public health (those who have MPH degrees) will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

This hypothesis could not be tested since there was only one physician with an MPH degree.

3b. Physicians with greater course content on spouse abuse in graduate curricula will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

There were no significant differences between the groups on either the summary measure of attitude, or any other measure of affect, belief, or behavior (Tables 15 - 21). Differences were noted between the groups on certain individual items. Those without any course content on spouse abuse in graduate curricula were significantly more likely to agree with the statement "the victim's passive-dependent personality often leads to abuse"($p = .04$). Those with any course content were more likely to believe "there are strategies I can use to help victims of spouse abuse change their situation" ($p = .03$). They are also more likely to believe "I have ready access to information detailing management of spouse abuse" ($p = .01$).

3c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

There was no significant difference between those trained and those who were not trained on the summary measure of attitude or any other measure of affect, belief or behavior (Tables 15 - 21).

4. Personal experience of abuse will influence attitudes about spouse abuse.

4a. Physicians who have personally experienced abuse will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

This hypothesis could not be tested since only four physicians in the group were victims of abuse. Of the four victims, three were male, and one was female.

4b. Physicians who have had a personal acquaintance that was a victim of spouse abuse, will be significantly more likely to have positive attitudes toward female victims of spouse abuse.

The two groups did not differ significantly on the summary measure of attitude or any other measure of attitude. The two groups did differ on a few individuals items. The physicians who knew someone who is a victim of abuse were more likely to disagree with the statement "there is nothing I can do to help the victim because she is unlikely to leave the relationship" ($p = .03$). They were also more likely to feel "good" about providing services to victims of abuse ($p = .05$). Physicians who have known a victim of abuse were less likely to look for a possibility of abuse when seeing a case of hypertension/ coronary heart disease (1.64 vs. 2.33; $p = .03$).

Multivariate Hypothesis for Attitude

5a. Age, gender and past training in spouse abuse prevention will be the strongest predictors of attitude toward victims of spouse abuse.

Six independent variables (gender, age, speciality, graduate curriculum, training and knowing a victim personally) were regressed on the dependent variable, summary measure of attitude. The same independent variables were also regressed on the constructs of attitude

(overall belief, affect, and verbal statements of behavior), components of the belief construct (beliefs toward victims of spouse abuse, and beliefs toward resources available), and number of victims identified. Beliefs about physician role could not be used as the split between positive and negative was less than 95:5.

Logistic regression model was used for multivariate analyses, as it was felt that identification of predictor variables is more important than explanation of the dependent variable. The dependent variables have been dichotomized into positive and negative for the logistic regression model. The independent variables included in the logistic regression model were built on the bivariate analyses. Although not significant in the bivariate analyses, some variables, such as knowing a victim personally and training in spouse abuse were included in the model as theoretically they may influence attitudes. The independent variables which were continuous (age), or have more than two categories (graduate curriculum) have been dichotomized. The variable speciality was recoded into three categories with dummy variables, psychiatrists were used as a reference group. Prior to multiple regression analysis, assessment of all the independent variables for multicollinearity was performed using Spearman correlation. Number of years in practice was significantly correlated to age and was removed from the multivariate model. Practice site (teaching vs. other) was significantly correlated to speciality (17 of the 18 practitioners in the teaching hospitals belonged to emergency medicine speciality) and was removed from the multivariate model.

This logistic regression model was not significant for summary attitude, overall belief, verbal statements of behavior, or affect. It was significant for beliefs about victims, and beliefs about resource availability. Tables 22 and 23 list the variables included in the multivariate

model and the odds ratios with the 95% confidence intervals, and B with standard errors.

Speciality was the strongest predictor of beliefs about victims, beliefs about resource availability and number of victims identified. Age was the only other variable that significantly predicted the dependent variable, beliefs about victims. Family practitioners were .05 (confidence interval CI = .00 - .83) times likely to identify less than five victims of abuse and .07 (CI = .01 - .59) times less likely to have positive beliefs about resource availability. Obstetrician-gynecologists were 20 (CI = 1.91 - 217) times more likely to have positive beliefs about victims of abuse. Younger physicians were 14 (CI = 1.48 - 139) times more likely to have positive beliefs about victims of abuse.

Table 22

Logistic Regression Models for the Summary Measure of Attitude, and Components of the Summary Measure

Dependent Variable[a]	Independent Variables	*B*	*SE* of B	Odds Ratio	CI for OR
Model 1 Summary attitude measure	Gender[b]	.6283	.7757	1.87	.41 - 8.57
	Age[c]	1.4117	.9176	4.10	.68 - 24.78
	Speciality (FP)[d]	-1.9340	1.2573	0.14	.01 - 1.70
	Graduate curriculum[e]	-.3130	.7538	0.73	.17 - 3.20
	Training	.6469	.9504	1.91	.30 - 12.30
	Knowing a victim	.3039	.6127	1.36	.41 - 4.50
Model 2 Feelings evoked while working with victims of abuse	Gender	-.8679	1.2828	0.42	.03 - 5.19
	Age	-.0027	1.3254	0.10	.07 - 13.40
	Speciality (FP)	7.3567	60.2022	1566.65	.00 - 2.749E+54
	Graduate curriculum	8.2302	40.2745	3752.44	00 - 7.178E+37
	Training	.1122	1.1222	1.12	.12 - 10.09
	Knowing a victim	.0399	.9753	1.04	.15 - 7.04
Model 3 Overall Belief	Gender	.4893	.8166	1.6312	.33 - 8.08
	Age	2.2810	1.2063	9.79	.92 - 104.08
	Speciality (FP)	-2.3893	1.3179	0.09	.01 - 1.21
	Graduate curriculum	.1823	.7717	1.20	.26 - 5.45
	Training	1.0846	1.1849	2.96	.29 - 30.17
	Knowing a victim	.5921	.6611	1.81	.49 - 6.60
Model 4 Verbal statements of behavior	Gender	.2630	.8583	1.30	.24 - 6.70
	Age	-.0727	.9989	0.93	.13 - 6.59
	Speciality (FP)	-8.2994	37.1573	0.00	.00 - .057E+28
	Graduate curriculum	.1578	.8095	1.17	.24 - 5.72
	Training	1.0707	1.1622	2.92	.30 - 28.47
	Knowing a victim	.3729	.7702	1.45	.32 - 6.57

[a] Dependent variables have been dichotomized into positive and negative (positive = 1; negative = 0)

[b] Gender is coded as females = 1; and males = 0

[c] Age has been dichotomized into ≤ 35 (1) and > 35 (0)

[d] Speciality has been recoded into three dummy variables. The speciality equals 1, others equal 0. Psychiatry used as reference category

[e] Graduate curriculum recoded into none (0) verses any (1)

* significant at $p \leq .05$

Table 23

Logistic Regression Model for the Subconstructs of Belief and Behavior

Dependent Variable[a]	Independent Variables	*B*	*SE* of B	Odds Ratio	CI for OR
Model 1 Number of victims identified in the past year[f]	Gender[b]	-.0730	.7656	0.93	.21 - 4.17
	Age[c]	1.6211	.9531	5.06	.78 - 32.76
	Speciality (FP)[d]	-2.9292	1.3976	0.05*	.00 -.83
	Graduate curriculum[e]	.6896	.7804	1.99	.43 - 9.2
	Training	-1.3848	.8824	0.25	.04 - 1.41
	Knowing a victim	.2010	.6376	1.22	.35 - 4.27
Model 2 Beliefs about the victims	Gender	1.8346	.9451	6.26	.98 - 39.93
	Age	2.6625	1.1588	14.33*	1.48 - 138.89
	Speciality (Ob)	3.0130	1.2069	20.35*	1.91 - 216.70
	Graduate curriculum	-.6689	.7939	0.51	.11 - 2.43
	Training	.9154	.9085	2.50	.42 - 14.82
	Knowing a victim	.9907	.7273	2.69	.65 - 11.20
Model 3 Beliefs about resource availability	Gender	-.7973	.7511	0.45	.10 - 1.96
	Age	-.2155	.8280	0.81	.16 - 4.09
	Speciality (FP)	-2.7101	1.1110	0.07 *	.01 - .59
	Graduate curriculum	1.2776	.8607	3.59	.66 - 19.39
	Training	-.4107	.7909	0.66	.14 - 3.13
	Knowing a victim	-.6836	.6237	0.50	.15 - 1.71

[a] dependent variables have been dichotomized into positive and negative (positive = 1; negative = 0)

[b] Gender is coded as females = 1; and males = 0

[c] age has been dichotomized into ≤ 35 (1) and > 35 (0)

[d] Speciality has been recoded into three dummy variables. The speciality = 1, others = 0. Psychiatry used as reference category

[e] Graduate curriculum recoded into none (0) verses any (1)

[f] Recoded as ≤2 = 0; > 2 = 1

* significant at $p \leq .05$

Bivariate Hypotheses of Knowledge

6. Demographic characteristics will effect knowledge levels about spouse abuse.

6a. Female physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.

Females were significantly more likely to pass in the knowledge quiz than males (Table 24).

6b. Younger physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.

There was no significant difference between the younger and older physicians on knowledge using chi-square (Table 24). Differences were found on a few items on the knowledge quiz. Older physicians were significantly more likely to believe that abused women can end the violence by divorcing or leaving their abuser. Older physicians were also more likely to believe that external factors like financial difficulties, moving, having a baby, or on-the-job problems or alcoholism and substance abuse are major causes of abuse ($p > .00$).

6c. Physicians' race will not be significantly related to their knowledge about female victims of spouse abuse.

There was no significant difference in knowledge levels by race, testing for the differences between the means using chi-square (Table 24). On individual knowledge items, whites were more likely to feel that women can learn not to provoke violence in an abusive relationship.

6d. Married physicians will be significantly more likely to have greater knowledge about female victims of spouse abuse.

Married respondents were significantly less likely to pass in the knowledge quiz than other respondents (Table 24). Some differences were found on individual items. Married physicians were more likely to feel that abused women can end the violence by divorcing or leaving their abuser ($p = .02$).

Table 24

Percent "Pass[a]" in Knowledge by various Demographic Groups

Variable	Knowledge Percent Pass	Knowledge Mean Scores
Gender		
Female	47*	7.11 (1.20)
Male	19	6.79 (.91)
Age		
≤ 35	33	7.27 (1.16)
> 35	25	6.77 (.93)
Race		
Whites	25	6.84 (1.02)
Others	38	7.13 (.83)
Marital Status		
Married	23*	6.79 (6.79)
Others	56	7.44 (.73)

[a] Pass on the knowledge is a score ≥ 80% on the quiz

* difference significant at p ≤.05

7. Practice characteristics will affect knowledge levels about spouse abuse.

7a. There will be no significant difference in knowledge about female victims of spouse abuse by physician speciality.

There was no difference in the percent pass on knowledge quiz of various different specialists (Table 25). Certain differences were noted on individual items, such as emergency room physicians were significantly more likely than either obstetrician-gynecologists or family practitioners to agree with the statement "statistics show that only a very small number of victims of spouse abuse will present to hospital emergency rooms," ($p = .00$). Obstetrician-gynecologists were more likely than other specialists to disagree with the statement that women can end violence by either divorcing or leaving their abuser ($p = .01$).

7b. Physicians with fewer years in practice will be significantly more likely to have greater knowledge about female victims of spouse abuse.

There were no differences between the percent pass between physicians with fewer years or more years of service (Table 25). The differences on individual knowledge items are discussed. Physicians with more years in service were more likely to agree to the statement "abused women can end the violence by divorcing or leaving their abuser" ($p = .01$), which was a false statement. They were also more likely to agree with "statistics show that only a very small number of victims of spouse abuse will present to hospital emergency rooms" ($p = .01$), which was true. They were also more likely to agree that external stress factors like financial difficulties, moving, having a baby, or on-job problems cause a person to batter ($p = .01$) and alcoholism and substance abuse are major causes of spouse abuse ($p = .03$).

7c. Physicians practicing in urban sites will be significantly more likely to have greater knowledge about female victims of spouse abuse.

There was no significant difference between the knowledge levels of the practitioners in urban areas compared to those in other areas (Table 25).

8. Prior training will effect knowledge levels about spouse abuse.

8a. Physicians with training in public health (have MPH degrees) will be significantly more likely to have greater knowledge about female victims of spouse abuse.

This hypothesis could not be tested as there was only one physician with an MPH degree.

8b. Physicians with greater course content on spouse abuse in graduate curricula will be significantly more likely to have greater knowledge about female victims of spouse abuse.

There was no significant difference in the knowledge level between the two groups (Table 25).

8c. Physicians who have been trained in spouse abuse prevention will be significantly more likely to have greater knowledge about female victims of spouse abuse.

There was no significant difference between the knowledge levels of the two groups (Table 25).

9. Personal experience will have an effect on knowledge levels of spouse abuse.

9a. Physicians who have personally experienced abuse will be significantly more likely to

have greater knowledge about female victims of spouse abuse.

This hypothesis could not be tested as there only four victims of abuse, of which three were men.

9b. Physicians who have had a close acquaintance that has been a victim of spouse abuse, will be significantly more likely to have greater knowledge about female victims of spouse abuse.

Physician's who have had a close friend or acquaintance that has been a victim of abuse have significantly higher scores on the knowledge quiz (39% pass vs. 19% pass; p = .02).

Table 25

Percent "Pass[a]" in Knowledge by Various Groups by Training and Practice Characteristics

Variable	Knowledge Percent Pass	Knowledge Mean (SD)
Speciality		
Emergency Physicians	27	6.68 (1.09)
Family Practitioners	12	6.76 (1.03)
Obstetricians-gynecologists	36	7.23 (.69)
Psychiatrists	30	6.70 (1.25)
Years experience		
≤ 10	23	7.05 (1.05)
> 10	29	6.80 (.98)
Work Site		
Urban	16	6.64 (.95)
Other	33	7.00 (1.01)
Course Content		
None	13	6.89 (1.05)
Any	29	6.73 (.80)
Trained in spouse abuse		
Yes	23	7.00 (.91)
No	28	6.86 (1.03)

[a] Pass on the knowledge is a score > 80% on the quiz

* difference significant at $p \leq .05$

Multivariate Hypothesis for Knowledge

10. Age, curriculum in the graduate school on spouse abuse and training in spouse abuse prevention will be the strongest predictors of knowledge on spouse abuse.

Six independent variables (gender, age, speciality, graduate curriculum, training, and personally knowing a victim) were regressed on the dependent variable knowledge. Knowledge has been dichotomized as pass/fail (≥ 80% vs. < 80%). This logistic regression model has identified three significant predictors (gender, course content in graduate curriculum and knowing a victim personally). This logistic regression model was built upon the variables used in the bivariate analyses. The hypotheses about age and training in spouse abuse were rejected and the hypothesis about graduate curriculum was accepted. The detailed B with standard errors and odds ratios with confidence intervals are included as Table 27. Female physicians were almost eight (CI = 1.52 - 39.26) times more likely to pass the knowledge quiz than males. Those with any content of spouse abuse in the graduate curriculum are nine times (CI = 1.03 - 84.63) more likely to pass the knowledge quiz than those with no course content. Knowing a victim increased the odds of passing the knowledge quiz by four times (CI = 1.09 - 17.91).

Table 26

Logistic Regression Model for Knowledge

Dependent Variable[a]	Independent Variables	*B*	*SE*	Odds Ratio	CI
Knowledge	Gender[b]	2.0446	0.8294	7.73*	1.52 - 39.26
	Age[c]	0.4637	0.8337	0.63	0.12 - 3.22
	Speciality (FP)[d]	-.9769	1.1973	0.38	0.04 - 3.93
	Graduate curriculum[e]	02.23	1.1247	9.34*	1.03 - 84.63
	Training	1.4866	0.7137	0.79	0.14 - 4.50
	Knowing a victim	1.4866	0.7137	4.42*	1.09 - 17.91

[a] dependent variables have been dichotomized into positive and negative (positive = 1; negative = 0)

[b] Gender is coded as females = 1; and males = 0

[c] age has been dichotomized into ≤ 35 (1) and > 35 (0)

[d] Speciality has been recoded into three dummy variables. The speciality = 1, others = 0.

[e] Graduate curriculum recoded into none (0) verses any (1)

* significant at $p \leq .05$

Hypothesis for Attitude and Knowledge

11. There will be a positive correlation between knowledge and attitude of physicians toward female victims of spouse abuse. That is, an increase in knowledge score will mean a more positive attitude and vice versa.

This hypothesis is rejected for most part. There was no significant correlation between knowledge and summary measure of attitude, or constructs of attitude such as overall belief, affect or behavior or any of the sub-constructs of behavior. The only significant correlation was between knowledge and beliefs about victims ($p = .001$).

Hypothesis for Constructs of Attitude

12. The items within a single construct such as affect, belief or behavior will be more strongly correlated with each other than with items in other constructs.

Cronbach's alpha was used as a measure of inter item correlation. The number of scales used, the alphas for each scale are included as Table 27. The reliability of the constructs was fairly good, ranging from .7568 - .6093 (beliefs about physician role - beliefs about resources).

The correlations between various components of attitude have been plotted. Certain correlations between various components of attitude were significant, but the correlations coefficients were low to medium. The relationship between various components are included as Table 28. Affect was significantly correlated to frequency of suspecting abuse and beliefs about victims. Verbal statements of behavior are significantly correlated to frequency of suspecting abuse, number of victims identified, beliefs about physician role, and beliefs about

resources available. Frequency of suspecting abuse is significantly correlated to affect, verbal statements of behavior, and beliefs about resources available. Number of victims identified is significantly correlated to verbal statements of behavior and beliefs about physician role. Beliefs about physician role is significantly correlated to verbal statements of behavior, number of victims identified, beliefs about victims, and beliefs about resources available. Beliefs about victims are correlated affect and beliefs about physician role. Beliefs about resources available are significantly correlated to verbal statements of behavior, frequency of suspecting abuse, and beliefs about physician role.

Table 27

Inter Item Correlation (Cronbach's Alpha) for Various Scales of Constructs of Attitude

Scale	Alpha	N of Items
Affect	.7353	9
Beliefs about physician role	.7568	8
Beliefs about victims	.7565	7
Beliefs about resources	.6093	4
Verbal statements of behavior	.6475	4

Table 28

Correlation Between Various Components of Attitude

Component	Affect	Verbal statements of behavior	Frequency of suspecting abuse	Number of victims identified	Beliefs about physician role	Beliefs about victims	Beliefs about resources available
Affect			*			*	
Verbal statements of behavior			*	*	*		*
Frequency of suspecting abuse	*	*					*
Number of victims identified		*			*		
Beliefs about physician role		*		*		*	*
Beliefs about victims	*				*		
Beliefs about resources available		*	*		*		

* significantly correlated at $p \leq .05$

Summary of Findings

The results show that 68% of the respondents had a positive summary attitude measure. Beliefs about physician role was the most positive construct with 97% feeling positive about their role. Feelings elicited while providing services to victims (affect) were least positive with only 11% feeling positively. The other constructs received the following percentage of positive scores: beliefs about victims 65% positive, beliefs about resources available 30% positive, verbal statements of behavior 84% positive, and frequency of suspecting abuse 22% positive. Only 27% received a "pass" score on a 10-item knowledge quiz. The results of most of the bivariate analysis demonstrate that speciality was the most significantly related independent variable. The multivariate logistic regression model identified significant predictors only for beliefs about victims, beliefs about resource availability and number of victims identified in the past year.

CHAPTER 5

Summary, Recommendations and Conclusions

Summary

The purpose of this study was to measure the physician's attitudes toward and knowledge of spouse abuse, using the Tripartite Model of Attitude as a theoretical framework. Attitude was measured by its three constructs: belief, affect and behavior. The results show that 68% of the respondents had a positive overall attitude toward victims of spouse abuse. Beliefs about physician role was the most positive construct with 97% believing that helping victims is part of their professional role. That is, they believe that they have a role to play in helping victims of spouse abuse, they believe that they can interfere in the way couples choose to resolve conflicts, they can help even if the victim chooses to stay in the abusive relationship, and other similar beliefs. Feelings elicited about providing services to victims (affect) were least positive, with only 11% feeling positively. Sixty five percent of the sample had positive beliefs about victims (that is, they do not believe that victim must be getting something out of the abusive relationship, people are victims only if they choose to be, it takes two to tango, and other similar negative beliefs about victims). Thirty percent of the sample had positive beliefs about resources available to assist victims of abuse (these were items related to having strategies to help victims of abuse, having access to information detailing management of cases of abuse, ability to make appropriate referrals for abuse victims and have other providers on staff who can help manage the spouse abuse patients). On verbal statements of behavior 84% of the sample was positive (included items related to behaviors such as, knowing what to do if I find a patient who is a victim of abuse). Twenty two percent

were positive on the measure frequency of suspecting abuse (this related to the actual frequency of suspecting abuse when women present with various symptoms such as injuries, chronic pelvic pain, irritable bowel syndrome, headaches, depression, and hypertension). Only 27% received a "pass" score on a 10 - item knowledge quiz.

The results of most of the bivariate analysis indicate that physician speciality is the most significantly related independent variable. In particular, family practitioners had significantly more negative attitudes when compared with other practitioners. The multivariate logistic regression model identified significant predictors only for beliefs about victims, beliefs about resource availability and number of victims identified in the past year. Being a family practitioner was predictive of being less likely to identify victims of abuse and less likely to believe they have resources to assist victims of abuse, while controlling for gender, age, graduate curriculum, training in spouse abuse and knowing a victim of abuse. Being an obstetrician-gynecologist, and being younger was predictive of having positive beliefs about victims.

The findings of this study are very interesting and can be summarized thus: of the three constructs of attitude: belief, affect and behavior, physicians are most likely to hold positive beliefs about their role in spouse abuse, and least likely to feel positive about providing services to victims of abuse. They are more likely to be positive about verbal statements about behavior than actual identification of abuse or suspecting abuse. Within the belief construct, physicians were most likely to believe that they have a role to play in assisting victims of spouse abuse, they were less likely to hold positive beliefs about the victims, and least likely to believe that they have resources to assist victims of abuse. That is,

in summary, they almost universally believe that they have a role to play, would identify victims of spouse abuse to a certain extent, but were much less likely to feel positive about providing services.

The Tripartite Model of attitude measurement (Rosenberg et al., 1960), which proposes that attitude is best measured as a combination of affect, belief and behavior is partially accepted. The theory proposes that each of the constructs will have internal consistency, and that various different antecedent factors will influence the development of these attitudes. The various constructs: belief, affect and behavior do have internal consistency (Cronbach's alpha for each scale is over .60). Further, the items within a construct are more strongly related with each other than with items in the other constructs; which can be interpreted that there are actually three different measurable constructs of attitude. The items within a construct also have higher correlation to each other than to items in other constructs. These findings support the theory of Tripartite Model. However, since only a few independent variables (antecedent factors) have influenced the attitudes, this theory is accepted only partially. Perhaps the antecedent factors identified in this study did not fully explain the development of attitudes. Information about spouse abusers among friends, or the actual time spent with victims may have provided additional insights.

As predicted by the theoretical framework certain demographic characteristics, practice characteristics, training characteristics and personal characteristics have affected some constructs and sub-constructs, but have not affected the summary measure of attitude (this is the average of the three constructs). Non-whites and urban practitioners were more likely to have positive beliefs about their role in assisting victims of spouse abuse. Females,

younger, non-married, and practitioners with fewer years in practice had more positive beliefs about victims. Family practitioners had identified fewer victims of abuse, and suspected abuse less frequently than other practitioners. All these differences in the constructs do not appear in the summary measure. This makes the case stronger for measuring attitude toward victims of abuse using the Tripartite Model.

As predicted by the theoretical framework, it is seen that the constructs easiest to change (beliefs) are more positive than the constructs harder to change (affect or emotional responses). The beliefs, which are likely to develop through previous exposure or communication or educational materials, are most positive. The behaviors, which are likely to develop through instrumental learning or reward systems, are still negative, (as there are few tangible risks or benefits associated with identifying and assisting victims of spouse abuse). Classical conditioning forms the basis for affect or emotional responses. Emotional responses may be the most negative construct, as positive reinforcement between treating spouse abuse and success may not have happened.

Discussion

The findings of this study were in agreement with some of the past research findings and in disagreement with some others, and these similarities and differences will be discussed in the next few paragraphs. Table 29 includes a list of all independent variables, dependent variables (constructs and sub-constructs) and any correlations which were significant were identified by an asterisk.

Table 29

Summary of the independent variables and significant relationship with dependent variables

Variable	Attitude	Overall Belief	Beliefs about physician role	Beliefs about victims	Beliefs about resources available	Verbal statements of behavior	Frequency of suspecting abuse	Number of victims identified	Affect	Knowledge
Gender				*						*
Age		*		*				*		
Race	*		*						*	
Marital Status									*	*
Speciality		*			*	*	*	*		
Years of experience				*						
Work site			*							
Course content										
Known a victim										*
Trained in spouse abuse										
Knowledge				*						

*difference significant at $p \leq .05$

Summary measure of attitude. Race was the only variable significantly related to the summary measure of attitude (weighted average of all the three constructs). Whites were significantly less likely to have a positive summary measure of attitude than non-whites. None of the other variables were significantly related to summary attitude measure. On the multivariate model none of the variables were significantly related to the summary attitude measure.

The reasons for the independent variables not being significantly related to the summary measure may be because of the measure itself or because of some unidentified independent variables. The summary measure may have lost some of the differences identified in the sub-constructs, as it is an average. The concept of attitudes toward victims of spouse abuse may be too broad a concept to measure effectively. The measure was used as it was predicted to be related by the theoretical framework and also made conceptual sense. None of the variables included in this research had a significant relationship in the multivariate model with summary measure of attitude. Race was significant in the bivariate model, and non-whites had significantly more positive summary attitude measure. Race was not included in the multivariate model as it was felt that whites versus other groups ($n = 8$) was not a large enough division to employ in a multivariate model. It was also not included because of the sample size. Because of the small sample size, the number of independent variables being added to the model had to be selected carefully.

It was of greatest interest to note, that contrary to the theoretical expectations, neither demographic characteristics nor training characteristics played a significant role in the summary attitude measure. Summary attitude measure had not been employed in the past

literature and hence it is not possible to compare these finding with other research findings. Summary attitude measure, may not be a good measure of attitude toward victims of spouse abuse, as this attitude seems to be best measured separately by the three components of the Tripartite Model.

Overall belief measure. This measure is an average of all the three measures of belief, that is beliefs toward physician's role, beliefs toward victims and beliefs toward resources available to assist victims of abuse. Seventy percent of the sample had overall positive beliefs in this study. Age and speciality were significantly related to this variable. Younger physicians (≤ 35) were significantly more likely to have positive overall belief than older physicians (> 35). Family practitioners were significantly less likely than other practitioners to have positive overall belief. None of the other variables were significantly related to this measure. In the multivariate model, none of the variables were significantly related to overall belief measure.

Speciality seems to be the most significantly related independent variable to belief, as well as behavior components of attitude. These differences may stem from the training during residency or due to the nature of the practice itself. In this study, it was found that family practitioners were least likely to hold positive beliefs, and were least likely to suspect or identify victims of abuse. These negative beliefs may also be because of the relationship of the family practitioners to the whole family. Family practitioners, due to the nature of the long term relationship with the whole family, may be less likely to believe the victim, or may be more reluctant to identify the perpetrator. These beliefs may also be a result of seeing the woman after the abuse has begun. Once the woman is in an abusive relationship she may be more stressed and anxious. This personality may seem as "psychotic" to the provider. This

behavior of the victims contrasts sharply with the perpetrator, who may come across as very reasonable and balanced.

Younger practitioners had more positive beliefs. This may be both because of a changing social system and the changing face of medical education. Women can be seen in more roles outside the home now than two or three decades back. There is more emphasis on equality and more sensitivity both in educational institutions and work places about gender issues. The younger physicians may also be the first generation to be brought up largely by working women. The female enrollment in the medical schools is also on the increase. All these issues may have affected the perception of gender roles. The battered women's movement in the past 25 years has also changed how society views domestic violence.

Findings regarding overall belief are difficult to compare with past literature. Only one study which referred to the term "beliefs" without being specific about what was exactly measured, found no relationship between beliefs and age, and beliefs and training (Davis, 1984). Since it is not clear what were the actual measures used for beliefs, the findings are not being compared to the findings in the present study.

Sub-constructs of belief. Beliefs about physician role is the first measure of belief. Race and work site were significantly related to beliefs about physician role. Whites had significantly lower mean score on beliefs about their role in assisting victims of abuse compared to non-whites (there was no difference between the groups on percent positive on this measure). This may be because non-whites are more likely to have experienced abuses of power and may have more empathy toward a victim's role than whites. Practitioners in

urban areas were significantly more likely to have positive beliefs about their role in assisting victims of abuse than practitioners in other areas. This may be because there are more resources, and more information available about resources in the region in the urban areas than rural areas. The higher number of practitioners in urban areas may facilitate more communication between the practitioners. This may result in peer support, discussion, exchange of information and help in developing a more positive belief about their role. This variable could not be dichotomized to be used in the multivariate logistic regression analyses as more than 95% had positive beliefs about their role.

Past literature has indicated that beliefs about physician role are significantly related to age (Reid & Glasser, 1997). Females and younger physicians were more likely to believe spouse abuse is a medical problem than were males or older physicians. In the current study there was a significant relationship between race and work site and beliefs about physician role in spouse abuse. Though the difference in age groups and genders did not reach statistical significance in this study, the younger and female physicians did achieve a higher mean score on beliefs about physician role. This finding may be interpreted as similar.

Overall, 65% had positive beliefs about victims. The second measure of belief, beliefs about victims, had the maximum number of significant relationships with independent variables. Gender, age, marital status, and years in the profession were all significantly related to this measure. Being female, younger, non-married, with fewer years in the profession significantly increased the likelihood of holding positive beliefs about victims. In the multivariate model, being younger and practicing obstetrics-gynecology were predictive of more positive beliefs about victims of abuse, while controlling for gender, graduate

curriculum, training in spouse abuse and knowing a victim of spouse abuse personally.

Beliefs about victims varied most significantly by different demographic characteristics. Females had significantly more positive beliefs about victims of abuse than males. This finding is similar to the findings of Ernst et al. (1998). Females may have more positive beliefs toward victims, since they could empathize with the women more easily. They may have had some friends or family members who were in a similar situation, they may also be more sensitive to the issue.

Younger physicians had significantly more positive beliefs about victims of abuse. This may be a result of changing training practices in medical schools, but it may also be a product of the changing social environment in the country. The last couple of decades has seen a revolution in feminist movement and a radical change in the perceived roles of women in society. The increasing number of women in medical schools may have also contributed to this change. This change in demographics in medical school environment may be affecting a change in the beliefs about victims. This difference was also significant at the multivariate level. Physicians with fewer years of service had significantly more positive beliefs about victims of abuse than physicians with longer years of service. It is not clear if the physicians after practicing for a while get disillusioned with the system and turn negative or whether their beliefs when they started practicing were different from those of the younger physicians. A longitudinal study with the same group of physicians (cohort) over a period of time may provide more information about this.

Though the number of non-whites in the study is small, non-whites seemed to have

more positive beliefs about victims than whites. This may be a product of the social fabric too, and the minority groups may be more sympathetic to the "victim" role than the majority culture. Because of the very small numbers and grouping of the non-whites together, it may be difficult to interpret this any further. This variable (race) was not discussed in the previous literature, hence could not be compared. The small number (only eight non-whites) make it difficult to reliably interpret the findings in this study, but may be viewed as suggestive.

The third measure of belief is belief about resources available to assist victims of spouse abuse This was significantly related only to speciality. Family practitioners had significantly less positive beliefs about resources available to assist victims of spouse abuse. In the multivariate model, speciality was still significantly related. Practicing family medicine was predictive of less positive beliefs about resources available to them, while controlling for age, gender, graduate curriculum in spouse abuse, training in spouse abuse, and knowing a victim of abuse personally. This finding could not be compared with past literature as beliefs about resources available has not been discussed in the past literature.

Affect. This variable was defined as the feeling elicited by providing services to victims of spouse abuse; 11% of the sample was positive on this construct. Race and marital status were significantly related to affect. Whites had significantly more negative affect scores than non-whites. Married physicians had significantly more negative feelings about working with victims of abuse than non-married physicians. None of the other variables were significantly related to affect in bivariate analysis. In the multivariate model, none of the variables were significantly related to affect.

This was the least positive of all constructs of attitude. Changing the affective component may hold the key to change in the overall attitudes of physicians toward victims of abuse. Some of the items included in this construct were based on the ideas generated from a qualitative study (Sugg & Inui, 1992). This study included the "affect" or "feelings" component, feelings were described in detail but no relationships between feelings and various independent variables were explored.

Behavior. Behavior was assessed by three different measures: verbal statements of behavior, reported frequency of suspecting abuse and the reported number of victims identified in the past year. Eighty four percent of the sample had positive scores on verbal statements of behavior. Twenty two percent of the respondents had suspected abuse at least sometime, when the women presented with various symptoms. Fifty percent of the sample had identified five or fewer victims in the past one year. This is of special concern as it is known that 25% to 50% of women attending ambulatory care clinics, obstetrics-gynecology clinics, emergency room and psychiatry out patients may be victims of abuse (Abbot et al., 1995; Gin et al., 1991; Helton et al., 1987; Kurz, 1987; McFarlane et al., 1992; Rath & Jarratt, 1990). All the three sub-constructs of behavior were related significantly at the bivariate level only with speciality. Family practitioners were less likely to suspect or identify abuse compared to other specialists. Younger physicians were significantly more likely to identify more victims than older physicians. None of the variables were significantly related at the multivariate level to verbal statements of behavior. Family practitioners identified significantly fewer victims in the past year than did those in other specialities.

Relationship of Speciality and Training to Attitudes

Speciality seems to be the most significantly related variable to all the sub-constructs of behavior (verbal statements of behavior, frequency of suspecting abuse, number of victims identified). It is especially intriguing that family practitioners had significantly less positive behaviors (on all measures) than other practitioners. It may be that, the family practitioners have an ongoing relationship with the family and may be seeing both the batterer and the battered and may have difficulty believing the victim. Also, they may not want to jeopardize their relationship with the family and may fear that addressing the issue of abuse, would cause them to lose the patient.

These findings are especially significant taking into consideration that greater emphasis is being placed on domestic violence in the residency curriculum for family practitioners than either psychiatrists or obstetrician-gynecologists. It may also be very important in that family practitioners will be "gate keepers" for women in the heath care system. In many cases family practitioners are also the primary care providers for the women.

Behaviors may also be influenced by the practice situations. Emergency physicians may be in a position to be more candid about their findings, and identification of abuse. They may be in a position to talk and discuss issues more freely, since they are not worried about 'losing' the patient. They may also see more obvious signs of abuse, like physical injuries. Obstetrician-gynecologists see only women and may be more willing to talk to the women and explore the issue. The women may be more willing to talk to the psychiatrists and this may be a reason they have the most positive behaviors. Psychiatrists may also be spending more

time with each patient, therefore, having a better opportunity to explore the problems than other practitioners. Psychiatrists may also be receiving more training on dealing with abuse victims than other specialists.

This finding about speciality and behaviors could not be compared with past literature as none of the studies compared family practitioners with obstetrician-gynecologists, emergency physicians or psychiatrists. In the only study that included speciality, family practitioners were compared with internists, and family practitioners had more positive behaviors than internists (Reid & Glasser, 1997). Internists were not included in this study and hence cannot be compared.

Graduate curriculum and training did not seem to influence behaviors in this study. Davis (1984) also found that training did not influence behaviors. It is especially interesting to note that the results of this study were similar to that of the study by Saunders and Kindy (1993), who employed a direct measure of behavior, and did not find any relationship between training and behaviors. There are other studies that have found that training (CME) does impact behaviors (Currier et al., 1996; McGrath et al., 1997; Parsons et al., 1995; Tilden et al., 1994). The reasons for these findings may be because of the measure of behavior. These studies have used different measures of behavior, such as actual behaviors, verbal statements about most likely intervention on seeing a victim of abuse, and actions performed on identification of a victim. The wording and type of research may have affected the results. The findings may have also been different due the fact that the sample populations are really different.

Much has been written about the adequacy of physician training regarding spouse abuse. The majority of the physicians feel like their training has not adequately prepared them to address the issue of abuse nor equipped them adequately to handle victims of abuse (AMA, 1992; Gremillion & Kanof, 1996; Warshaw, 1996). Even the CME training programs seem unable to bridge this gap. The training is either too little or is not addressing the issues that equip physicians to deal better with the victims of spouse abuse.

Knowledge. Females were significantly more likely to pass the knowledge quiz than were males. Married physicians were significantly less likely to pass the knowledge quiz than those who were not married. Knowing a victim of abuse also significantly increased the probability of passing the quiz. Being female, having any course content on spouse abuse and knowing a victim of abuse were significant predictors for scoring a pass on the knowledge quiz in this survey.

Knowledge was measured in only one study identified by the researcher. Cullinane et al., (1997), in a previous study, explored the relationship between gender and training on scores on a knowledge quiz. Females and those with training had significantly higher knowledge scores, but knowing a victim did not increase knowledge (Cullinane et al.). This study differed from the Cullinane et al., study in that training did not improve knowledge scores, however the findings on gender were similar in both the studies. The findings may be different because of the sample, which was constituted by students and not practitioners as found in the Cullinane et al. study.

Theoretical Framework and Findings

Using a theoretical framework and developing a comprehensive measure for quantifying the attitudes of physicians toward victims of abuse has been done for the first time in this study. Speciality has been identified as the strongest predictor of attitudes. Especially the behaviors seem to be driven by speciality. Graduate curriculum and training do not seem to significantly influence attitudes. Demographic characteristics are only weak predictors of certain components of attitude and do not seem to influence attitudes especially the behavioral component in a significant manner.

It may be easier to change the beliefs, than feelings or behaviors. It seems to be especially hard to change the way physicians feel about providing services to victims of abuse. The affect component had the least positive percentage of practitioners. Until all the constructs are more positive, it may not really convert into better attitudes toward the victims of abuse.

Training programs may have to take special note of these findings. This may be one of the reasons, that the training is not changing attitudes. Training programs may be only aiming to improve the cognitive component but may not be addressing other constructs. They may be addressing only factual aspects, which may be hard to retain in the long run, and may not be changing attitudes.

Recommendations

Some of the recommendations made from this research are as follows:

Recommendations for Graduate Education

Curricula in medical schools should be expanded to include more hours on spouse abuse. The curricula should also be redesigned to address various constructs of attitude and not just present facts. It may be especially important to deal with the affect component and beliefs about victims in graduate curricula. This may be done by providing opportunities for medical students to interact with some victims. Student involvement with various facilities for victims can also be tried. It may be useful to meet some victims who have successfully changed their situation or have had positive experiences with the health care system. These victims may come in and share their experiences with the students. This may leave a positive impression about the physician's role in the whole process. Since affect is a product of classical conditioning– that is, past pairing of an attitude object with an affective stimulus, changing the pairing or efforts in that direction may be more productive in changing the attitudes (Breckler, 1984). Since knowing a victim personally also improved knowledge about the issue, this interaction may also work for improvement of knowledge.

Spouse abuse may also be taught using public health three level intervention for chronic diseases (Stark & Flitcraft, 1996). Primary level of prevention would include preventing violence even before it begins, it can include messages against violence, asking all patients routinely about abuse so they may be able to identify the problem or help others in identification. Secondary prevention will include early detection and treatment. This may include talking to all patients abuse, helping victims make safety plans and help them understand their choices and referral sources in the area. The tertiary level of prevention aims to rehabilitate and includes information such as resources available in the area and a network

with legal, social and other services. Inclusion of materials related to spouse abuse in licensure exams may also make understanding them seem more essential.

Recommendations for Training Programs

CME training programs should be redesigned to address all the constructs of attitude, and not just the factual information. It may be useful to interact with victims during trainings. It may also be the right place for providing an opportunity for physicians and victims to interact for longer periods, maybe in a group discussion.

The training programs should also make special provision for giving information about the resources available for the physicians in the local area to help victims of violence. It is very important that the physicians are aware of the resources locally available to them to assist victims of abuse, and CME training may be one of the important avenues available to disseminate this information.

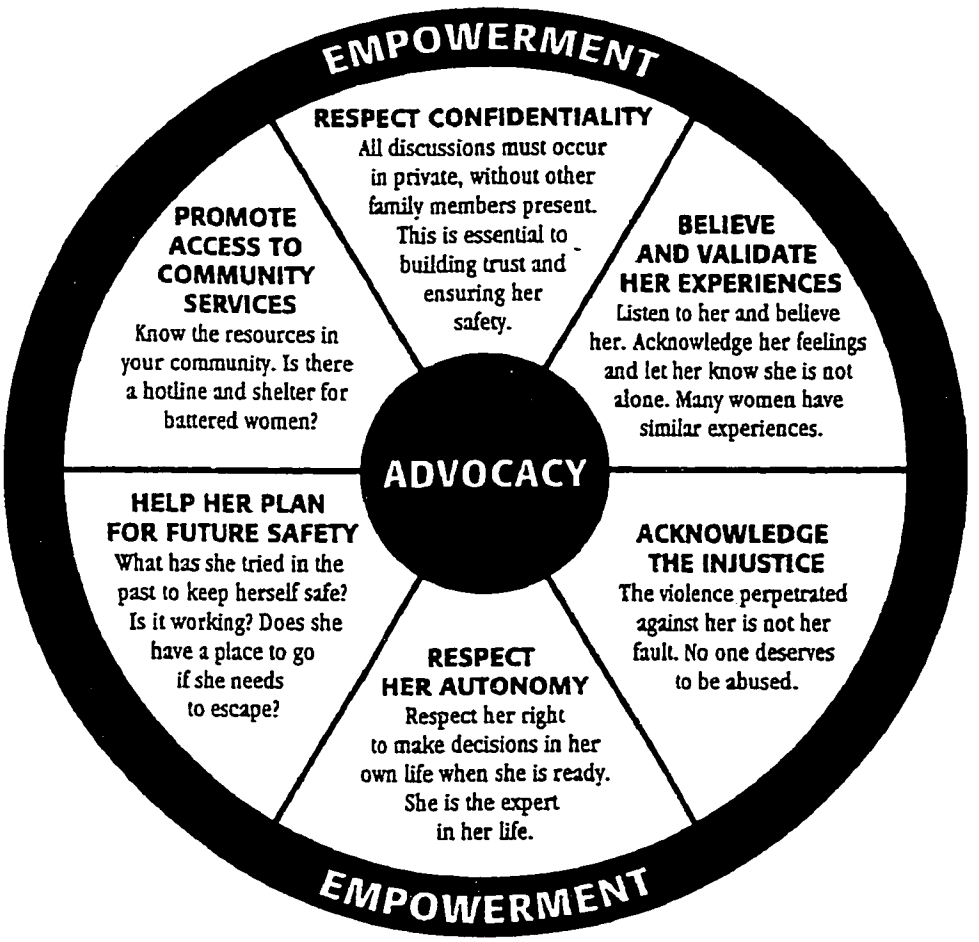
Training should also address issues about the definition of "success" for a victim of abuse. It is important for the physicians to realize that success is not only leaving the abuser. All the little steps taken in the direction of keeping oneself and children if present, safe is also a success. Making a "safety plan," understanding the resources available, even talking about the issue and identifying that there is a problem are all small steps, and important for the victim. Realizing this may help the physicians feel more positive, rather than helpless every time an abused woman goes back to the abuser.

Training is not significantly related to knowledge in this study. This may point to the fact that even factual information needs to be presented in a more imaginative format to

improve retention. Some more innovative styles of teaching, like small group discussions, video presentations (frequently used currently), field trips to shelters or courts where cases are being discussed, can help to provide better exposure than just lecture format. The role of the physicians as advocates needs to be emphasized. This has been represented as "The Advocacy Wheel" and is included as Figure 3 (Wilson, 1997).

Figure 3

The Advocacy Wheel



Recommendations for Hospitals

There seems to be a gap between hospital policies and physician practices. Though the hospital used in this study had written guidelines on domestic violence, only a very small percentage of physicians surveyed knew about it. This may be due to a gap between what is on paper and what is practiced. It may also be due to the fact that these are private practitioners and are not bound by the hospital guidelines in many areas of their practice. It might be very helpful if hospitals could install a referral procedure to be used whenever a victim of abuse is even suspected. This may involve some additional resources. If each hospital cannot have the whole gamut of services needed, hospitals within a geographic area may team up and set up a coordinated group to help victims. A whole team of workers, can take the load off a physician, and improve the quality of assistance available to the victims.

It can be very isolating and frustrating to work for a cause without immediate tangible benefits. There are some ways in which physicians can try to overcome these feelings. The physicians may be invited to form informal support groups to get ideas on how to assist victims, and share mutual concerns or frustrations. This may prevent isolation and sense of a "defeated cause."

The hospital system may also try to include some reward system that may be monetary or non-monetary to encourage physicians to be involved in the identification and assisting of victims of abuse. The non-monetary rewards can be like a certificate or plaque of recognition. It may also be in the form of an honors meeting or awards by the local chapters of

professional associations. Even the domestic violence shelters or other centers can invite them over and have a meeting to honor the committed members. This may help improve the morale of physicians and help build their faith in the job, and prevent feeling like working with victims is not a worthy cause.

The physicians may also try other non-traditional methods to address the issue. The physicians can train a worker, not necessarily a health professional, but even a receptionist or front-desk personnel to take spouse abuse history information and provide referral information. Physician may also join clinical interest groups to help them with the intervening in the issue of spouse abuse.

In addition to efforts from the side of the practitioners and hospitals even the shelters for victims can try some methods to improve their visibility in the community. The domestic violence prevention programs and facilities should market their programs. These marketing strategies can aim to improve the levels of awareness about the programs in the community and especially among the practitioners in the area.

Limitations and Future Research Recommendations

This research effort, though providing many useful insights into the issue of physicians attitudes, toward and knowledge about spouse abuse, has certain limitations and can be improved. Some ideas for future research include:

Sample Related

This study included physicians associated with only one hospital. It may be more informative if a bigger sample from a wider sampling frame could be included. The sample for

this study was constituted by only 150 physicians in four specialities. Increasing the number of practitioners and the various specialities included may also provide more useful insights. Replicating the study in different hospitals (such as big metropolitan hospitals as well as small rural hospitals), with larger physician samples may also be useful in gaining important information.

Method Related

This study has the usual limitations of a survey. Though many independent variables have been included in the study, they do not adequately explain the dependent variables. A more qualitative research technique such as in-depth interviewing or focus groups may throw more light on these issues and may provide better explanation of the negative attitudes. Perhaps use of a direct measure of behavior, such as using simulated patients, may also help in reducing bias in the responses. Some of the questions in the survey could not be used as the responses were very homogeneous or the answers did not provide any meaningful information. If these items could be pruned out resulting in a shorter questionnaire, perhaps the response rate may be improved. This may result in decreasing self-selection bias.

Survey Instrument Related

The instrument used in this study was tested on only one other group, and may still have certain reliability and validity issues to be resolved. Use of the same survey instrument by different researchers, so that its reliability and validity may be better established, would be a useful contribution. Some of the items in the questionnaire may have prompted a response which could have been different with other wording. For example, the questions about beliefs

about victims may have been related to what was taught in the medical schools in the past. The questions about resources could be interpreted as "what they can actually provide or find" or "what they can refer to," which may have been understood differently by various practitioners. The wording of a few questions may have given an advantage to certain specialists. For example, the question "mental health services at my institute can meet the needs of spouse abuse victims," could have been answered more positively by psychiatrists than others, as they provide the mental health services. Wording of the survey may have been more familiar to the younger physicians as they may have seen similar surveys, or may be more familiar with the language used. Whereas, some older physicians may not have had much exposure to similar literature.

The items on the knowledge quiz, especially the word "cause" may have been interpreted differently by the researcher and the respondents, and may have been the reason for a very low percentage getting it right.

Some of the independent measures could have also been measured more thoroughly. It is not clear whether "years in the profession" reflected years inclusive of residency or of only post residency training. The information on training could have been quantified better. A dichotomous (yes/no) may not be a very valid measure, as the amount of training may have varied from a few hours to a couple of days.

Though, many independent variables have been included in the study, they have not significantly explained the dependent variables. There may be other variables that play a significant role which have not been identified. Information regarding prior experience with

victims of violence, including items such as hours spent with victims, number of victims seen and the kinds of services provided to them, may have been useful.

Conclusions

The results of this study are somewhat congruent with the Tripartite Model of attitudes, as the items within a construct are more significantly correlated than with items in other constructs. A few differences in attitudes were noticed by various antecedent factors, such as gender, age, race, marital status, speciality, years of experience, work setting, work site, course content in graduate curricula, and knowing a victim. It is noted that although in the multivariate analyses none of the variables were significantly predictive of summary measure of attitude, certain constructs were significantly predicted by speciality.

The description of the variables has found that beliefs are more likely to be positive than behavior, which in turn is more positive than feelings. Speciality seems to be the independent variable most significantly driving attitude and its various components. It is recommended that future research pertaining to physician attitudes use a theoretical foundation and a single instrument so that the reliability and validity of the instrument can be established. It is also recommended that more multivariate analyses be done to explore and explain the relationship between attitudes and various independent variables.

Since physicians may be the first contact point for women victims of violence, it may be critical for them to have positive attitudes toward the victims. In addition it may be important that all the components of the construct attitude are positive as it may be the most critical aspect for the translation into better services for victims of violence. With current

emphasis on reducing costs and getting the patients out of the health care system faster, it may be critical to identify the victims early and help them stay out of the system. Using referral services may help the victims heal completely and also keep health care costs down.

One author seems to have summed up the role to be played by the medical community very appropriately. Although the comments were made almost decade ago, they still seem relevant today,

> Clearly violence against women is not merely a health issue; it is a social issue, a personal issue, a legal issue, etc., and physicians are solely not responsible for alleviating this problem. However, the medical community, particularly family practice, is an important resource for women who are victims of violence, and has the power to make an impact on this problem. If efforts of medical, social service, and legal agencies are coordinated to recognize and support victims of violence, women who are victimized will have more choices about eliminating fear from their lives (Burge, 1989, p.372).

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Appendix A
Heath Care Provider Survey on Domestic Violence

For this survey, we define **DOMESTIC VIOLENCE (DV)** as violence between present or past sexual partners (hetero-or homosexual), between adult members of a household, or between parent and an adult child. Some of the items in this questionnaire refer to DV in general while other items refer specifically to those who are abused (victims) or to the abusers (batterers). Please complete all items of the questionnaire.

How strongly do you agree with the following statements? Circle the number that best represents your opinion:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	DV tends to become more frequent and severe over time.	1	2	3	4	5
2.	Treatment programs for batterers just aren't effective when it comes to stopping physical abuse.	1	2	3	4	5

How strongly do you agree or disagree with the following statements? Circle the number that best represents your opinion:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3.	The role of the health care provider is limited in being able to help victims of DV.	1	2	3	4	5
4.	A victim must be getting something out of the abusive relationship, or else he/she would leave.	1	2	3	4	5
5.	It is not my place to interfere with how a couple chooses to resolve conflicts.	1	2	3	4	5
6.	I don't have the time to ask about DV in my practice	1	2	3	4	5
7.	I am afraid of offending the patient if I ask about DV.	1	2	3	4	5
8.	If I find a patient who is a victim, I don't know what to do.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.	There is nothing I can do to help the victim because he/she is unlikely to leave the relationship	1	2	3	4	5
10.	Asking patients about DV is an invasion of their privacy.	1	2	3	4	5
11.	I think that investigating the underlying cause of a patient's injury is not part of medical care.	1	2	3	4	5
12.	If patients do not reveal abuse to me, then they feel it is none of my business.	1	2	3	4	5
13.	It is demeaning to patients to question them about abuse.	1	2	3	4	5
14.	If I ask non-abused patients about DV, they will get very angry.	1	2	3	4	5
15.	People are only victims if they choose to be.	1	2	3	4	5
16.	When it comes to domestic violence, it usually "takes two to tango."	1	2	3	4	5
17.	I have patients whose personalities cause them to be abused.	1	2	3	4	5
18.	Women who choose to step out of traditional roles are a major cause of DV.	1	2	3	4	5
19.	I don't know how to ask about the possibility of DV.	1	2	3	4	5
20.	The victim's passive-dependent personality often leads to abuse.	1	2	3	4	5
21.	The victim has often done something to bring about violence in the relationship.	1	2	3	4	5
22.	DV prevalence in my practice is	1/1000	10/1000	50/1000	100/1000	150/1000
23.	DV prevalence in my institution is	1/1000	10/1000	50/1000	100/1000	150/1000

The next series of questions refer to people who are the BATTERERS. How strongly do you agree or disagree with the following statements?

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
24.	I am reluctant to ask batterers about their abusive behavior out of concern for my personal safety.	1	2	3	4	5
25.	There is not enough security at my work place to safely permit discussion of DV with batterers.	1	2	3	4	5
26.	I am afraid of offending patients if I ask about their abusive behavior.	1	2	3	4	5
27.	There is no way to ask batterers about their behaviors without putting the victims in more danger.	1	2	3	4	5
28.	When challenged, batterers frequently direct their anger toward health care providers.	1	2	3	4	5
29.	I am afraid if I talk to the batterer, I will increase risk for the victim.	1	2	3	4	5
30.	In many cases, the battering would stop if the batterer would quit abusing alcohol.	1	2	3	4	5
31.	I feel there are ways of asking about battering behavior without placing myself at risk.	1	2	3	4	5
32.	I feel I can effectively discuss issues of battering and abuse with a battering patient.	1	2	3	4	5
33.	There are strategies I can use to encourage batterers to seek help.	1	2	3	4	5
34.	There are ways I can ask batterers about their behavior that will minimize risk to the potential victim.	1	2	3	4	5

Circle the number that best represents your opinion about these issues:

35. In the past 3 months, when seeing someone with the following conditions, how often have you asked the patient about the possibility of DV? (Please check NA if this is not part of your role/responsibilities or you haven't seen the condition listed below within the last 3 months).

		Never	Seldom	Some times	Nearly Always	Always	NA
a.	Injuries (bruises, lacerations, etc.)	1	2	3	4	5	6
b.	Chronic pelvic pain	1	2	3	4	5	6
c.	Irritable bowel syndrome	1	2	3	4	5	6
d.	Headaches	1	2	3	4	5	6
e.	Depression/anxiety	1	2	3	4	5	6
f.	Hypertension/coronary artery disease	1	2	3	4	5	6

		Yes	No	Unsure
36.	Have you ever identified a patient who was a victim of DV?	1	2	3
37.	Have you ever identified a patient who physically abused their spouse or partner?	1	2	3
38.	To your knowledge, does your institution have any written guidelines for detection and management of DV?	1	2	3

		0	1-5	6-10	11-20	>20
39.	How many victims of domestic violence have you identified in the past year?	1	2	3	4	5

		Not at all	Only slightly	Moderately	Quite a bit	Extremely
40.	There are strategies I can use to help victims of DV change their situation.	1	2	3	4	5
41.	I feel confident that I can make appropriate referrals for batterers.	1	2	3	4	5

		Not at all	Only slightly	Moderately	Quite a bit	Extremely
42.	I have ready access to information detailing management of DV.	1	2	3	4	5
43.	I feel confident that I can make appropriate referrals for abused patients.	1	2	3	4	5
44.	I have ready access to medical social workers to assist in the management of DV cases.	1	2	3	4	5
45.	I feel that medical social work personnel can help manage DV patients.	1	2	3	4	5
46.	I feel that the mental health services at my institute can meet the needs of DV victims.	1	2	3	4	5
47.	I have ready access to mental health services should my patients need referrals.	1	2	3	4	5
48.	Rate the usefulness of your institution's written guidelines for detection and management of DV.	1	2	3	4	5

Demographics:

Appendix B
Questionnaire to Judges
Physician Survey on Spouse Abuse

For this survey, we define **Spouse Abuse** as violence between present or past sexual partners (hetero-or homosexual). Some of the items in this questionnaire refer to spouse abuse in general while other items refer specifically to those who are abused (victims) or to the abusers (batterers). Please complete all items of the questionnaire.

How strongly do you agree with the following statements? Please circle the number that best represents your opinion:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Spouse abuse tends to become more frequent and severe over time.	1	2	3	4	5
2.	Treatment programs for batterers just aren't effective when it comes to stopping physical abuse.	1	2	3	4	5
3.	The role of the health care provider is limited in being able to help victims of spouse abuse.	1	2	3	4	5
4.	A victim must be getting something out of the abusive relationship, or else he/she would leave.	1	2	3	4	5
5.	It is not my place to interfere with how a couple chooses to resolve conflicts.	1	2	3	4	5
6.	I don't have the time to ask about spouse abuse in my practice.	1	2	3	4	5
7.	I am afraid of offending the patient if I ask about Spouse abuse.	1	2	3	4	5
8.	If I find a patient who is a victim, I don't know what to do.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.	There is nothing I can do to help the victim because he/she is unlikely to leave the relationship.	1	2	3	4	5
10.	Asking patients about spouse abuse is an invasion of their privacy.	1	2	3	4	5
11.	I think that investigating the underlying cause of a patient's injury is not part of medical care.	1	2	3	4	5
12.	If patients do not reveal abuse to me, then they feel it is none of my business.	1	2	3	4	5
13.	It is demeaning to patients to question them about abuse.	1	2	3	4	5
14.	If I ask non-abused patients about spouse abuse, they will get very angry.	1	2	3	4	5
15.	People are only victims if they choose to be.	1	2	3	4	5
16.	When it comes to spouse abuse, it usually "takes two to tango."	1	2	3	4	5
17.	I have patients whose personalities cause them to be abused.	1	2	3	4	5
18.	Women who choose to step out of traditional roles are a major cause of spouse abuse.	1	2	3	4	5
19.	I don't know how to ask about the possibility of spouse abuse.	1	2	3	4	5
20.	The victim's passive-dependent personality often leads to abuse.	1	2	3	4	5
21.	The victim has often done something to bring about violence in the relationship.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
22.	Children may be seriously affected by spouse abuse even if they are not directly abused.	1	2	3	4	5
23.	All the other personnel in this facility are able to identify most victims of spouse abuse.	1	2	3	4	5
24.	Every hospital needs a protocol to handle victims of domestic violence.	1	2	3	4	5
25.	There should be a mandatory reporting law for spouse abuse.	1	2	3	4	5

26. Spouse abuse prevalence in my practice is **1/1000** **10/1000** **50/1000** **100/1000** **150/1000**

27. Spouse abuse prevalence in my institution is **1/1000** **10/1000** **50/1000** **100/1000** **150/1000**

28. How do you find personally providing professional services to victims of spouse abuse? Circle the number that best represents your opinion. "4" is "neutral."

Boring	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Exciting
Difficult	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Easy
Insignificant	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Significant
Angry	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Calm
Low paying	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	High paying
Good	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Bad
Risky	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Safe
Stressful	**1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7**	Pleasant

29. Briefly explain how you would define "success" in helping a victim of domestic violence.

The next series of questions refer to people who are the BATTERERS. How strongly do you agree or disagree with the following statements?

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
30.	I am reluctant to ask batterers about their abusive behavior out of concern for my personal safety.	1	2	3	4	5
31.	There is not enough security at my work place to safely permit discussion of spouse abuse with batterers.	1	2	3	4	5
32.	I am afraid of offending patients if I ask about their abusive behavior.	1	2	3	4	5
33.	There is no way to ask batterers about their behaviors without putting the victims in more danger.	1	2	3	4	5
34.	When challenged, batterers frequently direct their anger toward health care providers.	1	2	3	4	5
35.	I am afraid if I talk to the batterer, I will increase risk for the victim.	1	2	3	4	5
36.	In many cases, the battering would stop if the batterer would quit abusing alcohol.	1	2	3	4	5
37.	I feel there are ways of asking about battering behavior without placing myself at risk.	1	2	3	4	5
38.	I feel I can effectively discuss issues of battering and abuse with a battering patient.	1	2	3	4	5
39.	There are strategies I can use to encourage batterers to seek help.	1	2	3	4	5
40.	There are ways I can ask batterers about their behavior that will minimize risk to the potential victim.	1	2	3	4	5

Please circle the number that best represents your opinion about these issues:

41. In the past 3 months, when seeing someone with the following conditions, how often have you asked the patient about the possibility of spouse abuse? (Please check NA if this is not part of your role/responsibilities or you haven't seen the condition listed below within the last 3 months).

		Never	Seldom	sometimes	Nearly Always	Always	NA
a.	Injuries (bruises, lacerations, etc.)	1	2	3	4	5	6
b.	Chronic pelvic pain	1	2	3	4	5	6
c.	Irritable bowel syndrome	1	2	3	4	5	6
d.	Headaches	1	2	3	4	5	6
e.	Depression/anxiety	1	2	3	4	5	6
f.	Hypertension/coronary artery disease	1	2	3	4	5	6

		Yes	No	Unsure
42.	Have you ever identified a patient who was a victim of spouse abuse?	1	2	3
43.	Have you ever identified a patient who physically abused their spouse or partner?	1	2	3
44.	To your knowledge, does your institution have any written guidelines for detection and management of spouse abuse?	1	2	3

		0	1-5	6-10	11-20	>20
45.	How many victims of spouse abuse have you identified in the past year?	1	2	3	4	5

Please circle the number that best represents your opinion.

		Not at all	Only slightly	Moderately	Quite a bit	Extremely
46.	There are strategies I can use to help victims of Spouse abuse change their situation.	1	2	3	4	5
47.	I feel confident that I can make appropriate referrals for batterers.	1	2	3	4	5
48.	I have ready access to information detailing management of spouse abuse.	1	2	3	4	5
49.	I feel confident that I can make appropriate referrals for abused patients.	1	2	3	4	5
50.	I have ready access to medical social workers to assist in the management of spouse abuse cases.	1	2	3	4	5
51.	I feel that medical social work personnel can help manage spouse abuse patients.	1	2	3	4	5
52.	I feel that the mental health services at my institute can meet the needs of spouse abuse victims.	1	2	3	4	5
53.	I have ready access to mental health services should my patients need referrals.	1	2	3	4	5
54.	Rate the usefulness of your institution's written guidelines for detection and management of spouse abuse.	1	2	3	4	5

54) a. ☐ Check here if your institute does not have any written guidelines for detection and management of spouse abuse

.

54) b. ☐ Check here if you have not read the guidelines.

55. What aspects of spouse abuse do you feel most ill-equipped to handle? (Circle all that apply):
1. Identification 2. Documentation 3. Treatment
4. Providing Support 5. Others (please explain):_____

Demographics:

1. Gender: 1. Female 2. Male

2. Age:_____

3. Race/Ethnicity: 1. African-American 2. Asian 3. Native American 4. White
5. Others (specify):_____

4. Marital Status: 1. Married 2. Divorced/separated 3. Single
4. Single, living with an intimate

5. In what medical speciality do you work:_____

6. For how many years have you worked in this profession: _____

7. What is your work setting?
1. General hospital 2. Private practice 3. Teaching hospital 4. Others:_____

8. Most usual site of your practice: 1. Urban 2. Rural 3. Semi-urban 4. Mixed
5. Others:_____

9. What is your highest academic degree? _____

10. How much course content did you have on spouse abuse in your graduate curriculum?
1.None 2. Little 3. Moderate amount 4. Great deal

11. Have you ever been a victim of spouse abuse?: 1. Yes 2. No

12. Has anyone (family/friend) close to you ever been a victim of spouse abuse? 1. Yes 2. No

13. Have you ever been trained in spouse abuse prevention?
1. Yes 2. No

13) a. If yes, how many times in the past two years:_____

13) b. If no, do you feel a need to be trained? 1. Yes 2. No 3. Not sure

15. Please share your "suggestions" or "improvements" for this questionnaire.

Appendix C
Physician Survey on Spouse Abuse

For this survey, we define **Spouse Abuse** as violence between present or past sexual partners (hetero or homosexual). Some of the items in this questionnaire refer to spouse abuse in general while other items refer specifically to those who are abused (victims) or to the abusers (batterers). Please complete all items of the questionnaire.

How strongly do you agree with the following statements? Please circle the number that best represents your opinion:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Spouse abuse tends to become more frequent and severe over time.	1	2	3	4	5
2.	Treatment programs for batterers just aren't effective when it comes to stopping physical abuse.	1	2	3	4	5
3.	The role of the health care provider is limited in being able to help victims of spouse abuse.	1	2	3	4	5
4.	A victim must be getting something out of the abusive relationship, or else she would leave.	1	2	3	4	5
5.	It is not my place to interfere with how a couple chooses to resolve conflicts.	1	2	3	4	5
6.	I don't have the time to ask about spouse abuse in my practice.	1	2	3	4	5
7.	I am afraid of offending the patient if I ask about spouse abuse.	1	2	3	4	5
8.	If I find a patient who is a victim, I don't know what to do.	1	2	3	4	5
9.	There is nothing I can do to help the victim because she is unlikely to leave the relationship.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.	Asking patients about spouse abuse is an invasion of their privacy.	1	2	3	4	5
11.	I think that investigating the underlying cause of a patient's injury is not part of medical care.	1	2	3	4	5
12.	If patients do not reveal abuse to me, then they feel it is none of my business.	1	2	3	4	5
13.	It is demeaning to patients to question them about abuse.	1	2	3	4	5
14.	If I ask non-abused patients about spouse abuse, they will get very angry.	1	2	3	4	5
15.	People are only victims if they choose to be.	1	2	3	4	5
16.	When it comes to spouse abuse, it usually "takes two to tango."	1	2	3	4	5
17.	I have patients whose personalities cause them to be abused.	1	2	3	4	5
18.	Women who choose to step out of traditional roles are a major cause of spouse abuse.	1	2	3	4	5
19.	I don't know how to ask about the possibility of spouse abuse.	1	2	3	4	5
20.	The victim's passive-dependent personality often leads to abuse.	1	2	3	4	5
21.	The victim has often done something to bring about violence in the relationship.	1	2	3	4	5
22.	Children may be seriously affected by spouse abuse even if they are not directly abused.	1	2	3	4	5
23.	All the other personnel in this facility are able to identify most victims of spouse abuse.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
24.	Every hospital needs a protocol to handle victims of spouse abuse.	1	2	3	4	5
25.	There should be a mandatory reporting law for spouse abuse.	1	2	3	4	5

26. Spouse abuse prevalence in my practice is **1/1000** **10/1000** **50/1000** **100/1000** **150/1000**

27. Spouse abuse prevalence in my institution is **1/1000** **10/1000** **50/1000** **100/1000** **150/1000**

28. How do you personally find providing professional services to victims of spouse abuse? Circle the number that best represents your opinion. "3" is "neutral."

28.a.	Boring	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Exciting
28.b.	Difficult	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Easy
28.c.	Insignificant	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Significant
28.d.	Angry	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Calm
28.e.	Low paying	**1 ----- 2 ----- 3 ----- 4 ----- 5**	High paying
28.f.	Bad	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Good
28.g.	Risky	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Safe
28.h.	Stressful	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Pleasant
28.i.	Unsatisfying	**1 ----- 2 ----- 3 ----- 4 ----- 5**	Satisfying

Please circle the number that best represents your opinion about these issues:

29. In the past 3 months, when seeing someone with the following conditions, how often have you asked the patient about the possibility of spouse abuse? (Please check NA if this is not part of your role/responsibilities or you haven't seen the condition listed below within the last 3 months).

		Never	Seldom	Sometimes	Nearly Always	Always	NA
29. a.	Injuries (bruises, lacerations, etc.)	1	2	3	4	5	6
29. b.	Chronic pelvic pain	1	2	3	4	5	6
29. c.	Irritable bowel syndrome	1	2	3	4	5	6

		Never	Seldom	Sometimes	Nearly Always	Always	NA
29. d.	Headaches	1	2	3	4	5	6
29. e.	Depression/anxiety	1	2	3	4	5	6
29. f.	Hypertension/coronary artery disease	1	2	3	4	5	6

		Yes	No	Unsure
30.	Have you ever identified a patient who was a victim of spouse abuse?	1	2	3
31.	Have you ever identified a patient who physically abused their spouse or partner?	1	2	3
32.	To your knowledge, does your institution have any written guidelines for detection and management of spouse abuse?	1	2	3

		0	1-5	6-10	11-20	>20
33.	How many victims of spouse abuse have you identified in the past year?	1	2	3	4	5

Please circle the number that best represents your opinion.

		Not at all	Only slightly	Moderately	Quite a bit	Extremely
34.	There are strategies I can use to help victims of spouse abuse change their situation.	1	2	3	4	5
35.	I feel confident that I can make appropriate referrals for batterers.	1	2	3	4	5
36.	I have ready access to information detailing management of spouse abuse.	1	2	3	4	5
37.	I feel confident that I can make appropriate referrals for abused patients.	1	2	3	4	5

		Not at all	Only slightly	Moderately	Quite a bit	Extremely
38.	I have ready access to medical social workers to assist in the management of spouse abuse cases.	1	2	3	4	5
39.	I feel that medical social work personnel can help manage spouse abuse patients.	1	2	3	4	5
40.	I feel that the mental health services at my institute can meet the needs of spouse abuse victims.	1	2	3	4	5
41.	I have ready access to mental health services should my patients need referrals.	1	2	3	4	5
42.	Rate the usefulness of your institution's written guidelines for detection and management of spouse abuse. 42) a. □ Check here if you have not read the guidelines.	1	2	3	4	5

43. What aspects of spouse abuse do you feel most ill-equipped to handle? (Circle all that apply):
1. Identification 2. Documentation 3. Treatment
4. Providing Support 5. Others (please explain):_____

Please circle one of the responses for the following questions:

44.	If a patient is abused by her husband or boyfriend and wants the physician to know she will tell without prompting.	True/false
45.	Spouse abuse and child abuse often occur together in the same family.	True/false
46.	Violence is not uncommon among young dating partners.	True/false
47.	Women who are battered get socially isolated.	True/false
48.	Abused women can end the violence by divorcing or leaving their abuser.	True/false

49.	Children may be seriously affected by abuse even if they are not directly abused.	True/false
50.	Women can learn not to provoke violence in an abusive relationship.	True/false
51.	Statistics show that only a very small number of victims of spouse abuse will present to hospital emergency rooms.	True/false
52.	A woman who is being battered can be helped even if the woman does not want to leave the batterer.	True/false
53.	External stress factors like financial difficulties, moving, having a baby, or on-the-job problems cause a person to batter.	True/false
54.	Alcoholism and substance abuse are major causes of spouse abuse.	True/false

55. Briefly explain how you would define "success" in helping a victim of domestic violence.

Demographics: Please circle the option that best describes you:

1. Gender: 1. Female 2. Male

2. Age:_____

3. Race/Ethnicity: 1. African-American 2. Asian 3. Native American 4. White
5. Others (specify):_____

4. Marital Status: 1. Married 2. Divorced/separated 3. Single
4. Single, living with an intimate

5. In what medical speciality do you work: 1. Emergency Medicine 2. Family Practice
3. Ob-Gyn 4. Pediatrics 5. Psychiatry 6. Others:_____

6. For how many years have you worked in this profession: _____

7. What is your work setting?
1. General hospital 2. Private practice 3. Teaching hospital
4. Others:_____

8. Most usual site of your practice: 1. Urban 2. Rural 3. Suburban
4. Mixed 5. Others (specify) :_____

9. What is your highest academic degree? 1. MD 2. MD; MPH 3. Others (specify):

10. How much course content did you have on spouse abuse in your graduate curriculum?
1. None 2. Little 3. Moderate amount 4. Great deal

11. Have you ever been a victim of spouse abuse?: 1. Yes 2. No

12. Has anyone (family/friend) close to you ever been a victim of spouse abuse?
1. Yes 2. No

13. Have you ever been trained in spouse abuse prevention?
1. Yes 2. No

13) a. If yes, how many times in the past two years:_____

13) b. If no, do you feel a need to be trained? 1. Yes 2. No 3. Not sure

14. What portion of your patients are: 1. Privately insured_____% 2. HMO____%
3. Medicare _____% 4. Medicaid_____% 5. Others (specify):_____%

Thank you for participating in this survey and sharing your valuable opinions.

Appendix D

Linking of Questions to Theoretical Framework

1.	Spouse abuse tends to become more frequent and severe over time.	**Not in any category**
2.	Treatment programs for batterers just aren't effective when it comes to stopping physical abuse.	**Batterer related item**
3.	The role of the health care provider is limited in being able to help victims of spouse abuse.	**Beliefs about physician 1**
4.	A victim must be getting something out of the abusive relationship, or else she would leave.	**Beliefs about victims 1**
5.	It is not my place to interfere with how a couple chooses to resolve conflicts.	**Beliefs about physician 2**
6.	I don't have the time to ask about spouse abuse in my practice.	**Verbal statements about behavior 1**
7.	I am afraid of offending the patient if I ask about spouse abuse.	**Verbal statements about behavior 2**
8.	If I find a patient who is a victim, I don't know what to do.	**Verbal statements about behavior 3**
9.	There is nothing I can do to help the victim because she is unlikely to leave the relationship.	**Beliefs about physician 3**
10.	Asking patients about spouse abuse is an invasion of their privacy.	**Beliefs about physician 4**
11.	I think that investigating the underlying cause of a patient's injury is not part of medical care.	**Beliefs about physician 5**
12.	If patients do not reveal abuse to me, then they feel it is none of my business.	**Beliefs about physician 6**

13.	It is demeaning to patients to question them about abuse.	**Beliefs about physician 7**
14.	If I ask non-abused patients about spouse abuse, they will get very angry.	**Beliefs about physician 8**
15.	People are only victims if they choose to be.	**Beliefs about victims 2**
16.	When it comes to spouse abuse, it usually "takes two to tango."	**Beliefs about victims 3**
17.	I have patients whose personalities cause them to be abused.	**Beliefs about victims 4**
18.	Women who choose to step out of traditional roles are a major cause of spouse abuse.	**Beliefs about victims 5**
19.	I don't know how to ask about the possibility of spouse abuse.	**Verbal statements about behavior 4**
20.	The victim's passive-dependent personality often leads to abuse.	**Beliefs about victims 6**
21.	The victim has often done something to bring about violence in the relationship.	**Beliefs about victims 7**
22.	Children may be seriously affected by spouse abuse even if they are not directly abused.	**Not in any category**
23.	All the other personnel in this facility are able to identify most victims of spouse abuse.	**Not in any category**
24.	Every hospital needs a protocol to handle victims of spouse abuse.	**Beliefs about physician 9**
25.	There should be a mandatory reporting law for spouse abuse.	**Not in any category**
26.	Spouse abuse prevalence in my practice is	**Not in any category**

27. Spouse abuse prevalence in my institution is **Not in any category**

28. 28.a. - 28.i. **Affect 1 - 9**

28.a.	Boring	1 ----- 2 ----- 3 ----- 4 ----- 5 Exciting
28.b.	Difficult	1 ----- 2 ----- 3 ----- 4 ----- 5 Easy
28.c.	Insignificant	1 ----- 2 ----- 3 ----- 4 ----- 5 Significant
28.d.	Angry	1 ----- 2 ----- 3 ----- 4 ----- 5 Calm
28.e.	Low paying	1 ----- 2 ----- 3 ----- 4 ----- 5 High paying
28.f.	Bad	1 ----- 2 ----- 3 ----- 4 ----- 5 Good
28.g.	Risky	1 ----- 2 ----- 3 ----- 4 ----- 5 Safe
28.h.	Stressful	1 ----- 2 ----- 3 ----- 4 ----- 5 Pleasant
28.i.	Unsatisfying	1 ----- 2 ----- 3 ----- 4 ----- 5 Satisfying

29. **Frequency of suspecting abuse 1 - 6**

In the past 3 months, when seeing someone with the following conditions, how often have you asked the patient about the possibility of spouse abuse? (Please check NA if this is not part of your role/responsibilities or you haven't seen the condition listed below within the last 3 months).

29. a. Injuries (bruises, lacerations, etc.)

29. b. Chronic pelvic pain

29. c. Irritable bowel syndrome

29. d. Headaches

29. e. Depression/anxiety

29. f. Hypertension/coronary artery disease

30.	Have you ever identified a patient who was a victim of spouse abuse?	**Dropped from analysis**
31.	Have you ever identified a patient who physically abused their spouse or partner?	**Batterer related item**
32.	To your knowledge, does your institution have any written guidelines for detection and management of spouse abuse?	**Not in any category**

33.	How many victims of spouse abuse have you identified in the past year?	**Number of victims identified**

Please circle the number that best represents your opinion.

34.	There are strategies I can use to help victims of spouse abuse change their situation.	**Beliefs about resources 1**
35.	I feel confident that I can make appropriate referrals for batterers.	**Batterer related item**
36.	I have ready access to information detailing management of spouse abuse.	**Beliefs about resources 2**
37.	I feel confident that I can make appropriate referrals for abused patients.	**Beliefs about resources 3**
38.	I have ready access to medical social workers to assist in the management of spouse abuse cases.	**Resource availability**
39.	I feel that medical social work personnel can help manage spouse abuse patients.	**Beliefs about resources 4**
40.	I feel that the mental health services at my institute can meet the needs of spouse abuse victims.	**Resource availability**
41.	I have ready access to mental health services should my patients need referrals.	**Resource availability**
42.	Rate the usefulness of your institution's written guidelines for detection and management of spouse abuse.	**Not in any category**

43. **Not in any category**

What aspects of spouse abuse do you feel most ill-equipped to handle? (Circle all that apply):

1. Identification 2. Documentation 3. Treatment
4. Providing Support 5.Others (please explain):_____

Please circle one of the responses for the following questions: **Knowledge 1 - 11**

44.	If a patient is abused by her husband or boyfriend and wants the physician to know she will tell without prompting.	True/false
45.	Spouse abuse and child abuse often occur together in the same family.	True/false
46.	Violence is not uncommon among young dating partners.	True/false
47.	Women who are battered get socially isolated.	True/false
48.	Abused women can end the violence by divorcing or leaving their abuser.	True/false
49.	Children may be seriously affected by abuse even if they are not directly abused.	True/false
50.	Women can learn not to provoke violence in an abusive relationship.	True/false
51.	Statistics show that only a very small number of victims of spouse abuse will present to hospital emergency rooms.	True/false
52.	A woman who is being battered can be helped even if the woman does not want to leave the batterer.	True/false
53.	External stress factors like financial difficulties, moving, having a baby, or on-the-job problems cause a person to batter.	True/false
54.	Alcoholism and substance abuse are major causes of spouse abuse.	True/false

55. **Not in any category**

Briefly explain how you would define "success" in helping a victim of domestic violence

1. Gender: **Independent variable 1**

2. Age: **Independent variable 2**

3. Race/Ethnicity: **Independent variable 3**

4. Marital Status: **Independent variable 4**

5. In what medical speciality do you work: **Independent variable 5**

6. For how many years have you worked in this profession: **Independent variable 6**

7. What is your work setting? **Independent variable 7**

8. Most usual site of your practice: **Independent variable 8**

9. What is your highest academic degree? **Independent variable 9**

10. How much course content did you have on

spouse abuse in your graduate curriculum? **Independent variable 10**

11. Have you ever been a victim of spouse abuse?: **Independent variable 11**

12. Has anyone (family/friend) close to you ever

been a victim of spouse abuse? **Independent variable 12**

13. Have you ever been trained in spouse abuse prevention? **Independent variable 13**

Beliefs are measured by:

Beliefs toward physician role.
Beliefs toward victims
Beliefs toward resources available to assist victims of abuse

Behaviors are measured by:

Verbal statements of behavior
Frequency of suspecting abuse
Number of victims identified in the past year

Affect is measured by nine items

Appendix E

Pilot

The pilot for this survey was conducted at a Local Family Practice Clinic. This group did not practice at the other hospital chosen for the main study. The clinic has about 20 full-time physicians and 20 residents. The residents were not included in the sample as they are present for a very short time (1-2 months) and are difficult to follow-up. The main lessons learnt from the pilot include, the need to follow-up more proactively than just mailing out follow-up surveys. The initial response to the survey was only 25%, this was followed by no additional returns at the second mail follow-up. The response rate was increased to 50% by a personal presentation by the researcher. Hence in the main survey, the second and following mail follow-ups have been exchanged for a more intensive telephone follow-up. It is one of the reasons for choosing a smaller group in the main survey. The smaller group will be more aggressively followed to improve the response rate. Many of the physicians felt that the survey was too long. All the questions had to be retained to preserve the reliability and validity of the instrument and measure all the theoretical constructs. The encouraging feature, though, was that once the physicians did start the survey they answered all the questions. Very few missing responses or skipped items were noticed in the returned surveys. The questions seem to be well understood. There were no suggestions or feedback from the respondents except for comments on the length of the survey. The questions, including the ones added by the researcher had reasonable variability. No changes have been made to the questionnaire following the pilot, except for the inclusion of the knowledge quiz.

Appendix F

April/May 1998

Dear Physician,

I am a physician currently pursuing a Ph.D. degree in the field of Urban Services-Health Services concentration program at Old Dominion University in Norfolk, Virginia. Spouse abuse has been recognized as a very important health problem and lot has been said about the role of physicians in identification and documentation of victims of abuse. I have decided to do this study to improve understanding of physicians attitudes and perspectives on this matter.

Participation in this study is voluntary. Your completion of this survey denotes your consent to participate in this study. You will not be adversely affected if you do not participate in this study. No identifier (no numbers or codes on the questionnaire) are used for identification of who completes the survey. Your individual responses are entirely confidential. All results are reported as a group only. Your involvement in this study may provide insight into the perceptions of physicians toward spouse abuse. Finding out such information may have significance for policy making and/or training of physicians and other health care providers.

Completion of the questionnaire should take about 15-20 minutes of your time. Please return your completed questionnaire in the stamped and self-addressed envelope provided, as soon as possible.

If you have any questions about the study, please feel free to contact me or my dissertation chair, Dr. Stacey Plichta, at Old Dominion University at 683-4989 or via E-mail splichta@odu.edu. I can be reached at the address below. When the study is completed, the results will be available upon request to me.

Sincerely,

Ramani Garimella, M.D.
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Appendix G

RADAR

Appendix H

Summary Statistics of Individual Items

Table H1

Mean Scores on the Individual Affect Items ($M = 2.96$, $SD = .48$)

Q28 Affect Item	Mean Score	% Positive (>3)
Q28.a. Boring-----exciting	3.2 (.57)	22
Q28.b. Difficult-----easy	2.2 (.97)	13
Q28.c. Insignificant-----significant	4.1 (.81)	85
Q28.d. Angry-----calm	3.0 (.85)	30
Q28.e. Low paying-----high paying	2.3 (.81)	4
Q28.f. Bad-----good	3.6 (.96)	54
Q28.g. Risky-----safe	2.9 (.84)	22
Q28.h. Stressful-----pleasant	2.1 (.78)	8
Q28.i. Unsatisfying-----satisfying	3.3 (.94)	54

Table H2

Mean Score on Individual Beliefs about physician role Items ($M = 4.16$, $SD = .40$)

Item	Mean Score (*SD*)	% Positive >3
Q3. The role of the health care provider is limited in being able to help victims of spouse abuse.	3.4 (1.1)	62
Q5. It is not my place to interfere with how a couple chooses to resolve conflicts.	4.3 (.56)	95
Q9. There is nothing I can do to help the victim because she is unlikely to leave the relationship.	4.2 (.57)	92
Q10. Asking patients about spouse abuse is an invasion of their privacy.	4.4 (.65)	97
Q11. I think that investigating the underlying cause of a patient's injury is not part of medical care.	4.5 (.55)	97
Q12. If patients do not reveal abuse to me, then they feel it is none of my business.	4.1 (.69)	88
Q13. It is demeaning to patients to question them about abuse.	4.2 (.67)	93
Q14. If I ask non-abused patients about spouse abuse, they will get very angry.	3.9 (.76)	77
Q24. Every hospital needs a protocol to handle victims of spouse abuse.	4.3 (.86)	92

Table H3

Mean Score on Individual Beliefs about victims Items ($M = 3.76$, $SD = .62$)

Item	Mean Score (*SD*)	% Positive (>3)
Q4. A victim must be getting something out of the abusive relationship, or else she would leave.	3.6 (1.12)	66
Q15. People are victims only if they choose to be.	3.9 (.95)	77
Q16. When it comes to spouse abuse, it usually "takes two to tango."	3.8 (.96)	75
Q17. I have patients whose personalities cause them to be abused.	3.2 (1.1)	45
Q18. Women who choose to step out of traditional roles are a major cause of spouse abuse.	4.5 (.58)	96
Q20. The victim's passive-dependent personality often leads to abuse.	3.3 (1.10)	51
Q21. The victim has often done something to bring about violence in the relationship.	4.1 (.79)	84

Table H4

Mean Scores on Individual Beliefs about resources available Items ($M = 3.30$, $SD = .64$)

Belief Items	Mean (*SD*)	% Positive (>3)
Q34. There are strategies I can use to help victims of spouse abuse change their situation.	3.1 (.84)	33
Q36. I have ready access to information detailing management of spouse abuse.	2.9 (1.0)	30
Q37. I feel confident that I can make appropriate referrals for abused patients.	3.5 (.98)	51
Q39. I feel that medical social work personnel can help manage spouse abuse patients.	3.7 (.89)	67

Table H5

Mean Scores on Individual Verbal statements about behavior Items ($M = 4.11$; $SD = .54$)

Item	*M (SD)*	% positive (>3)
Q6. I don't have the time to ask about spouse abuse in my practice.	4.0 (.79)	80
Q7. I am afraid of offending the patient if I ask about spouse abuse in my practice.	4.1 (.83)	87
Q8. If I find a patient who is a victim, I don't know what to do.	4.1 (.83)	87
Q19. I don't know how to ask about the possibility of spouse abuse.	4.2 (.61)	92

Table H6

Percentage of physicians enquiring about the possibility of spouse abuse when seeing someone with the following conditions

Q29. Condition	Never *n* (%)	Seldom *n* (%)	Sometimes *n* (%)	Nearly Always *n* (%)	Always *n* (%)
Q29.a. Injuries	3 (4)	9 (12)	24 (32)	23 (31)	15 (20)
Q29.b. Chronic pelvic pain	14 (20)	25 (36)	18 (26)	8 (12)	4 (6)
Q29.c. Irritable bowel syndrome	20 (29)	23 (33)	20 (29)	5 (7)	1 (1)
Q29.d. Headaches	17 (23)	27 (37)	22 (30)	7 (10)	1 (1)
Q29.e. Depression/ anxiety	11 (15)	14 (18)	27 (36)	19 (25)	5 (7)
Q29.f. Hypertension/ coronary artery disease	38 (55)	22 (32)	5 (7)	4 (6)	0 (0)

Table H7

Percentage who never suspect abuse with various presenting symptoms

Condition	Percentage (*N*)
Never ask about abuse with any presenting symptom	1 (1)
Never or seldom ask about abuse with any presenting symptom	7 (5)
Never ask about abuse with presenting symptoms other than injury	11 (8)
Never or seldom ask when presenting symptom other than injury	28 (21)

Table H8

Number of victims of abuse identified by the physicians (Actual number of victims identified in the past year; median 2, IQR 2-3)

Number of victims identified	Percentage (*N*)
0	6.6 (5)
1 - 5	52.6 (40)
6 - 10	17.1 (13)
11 - 20	10.5 (8)
> 20	13.2 (10)

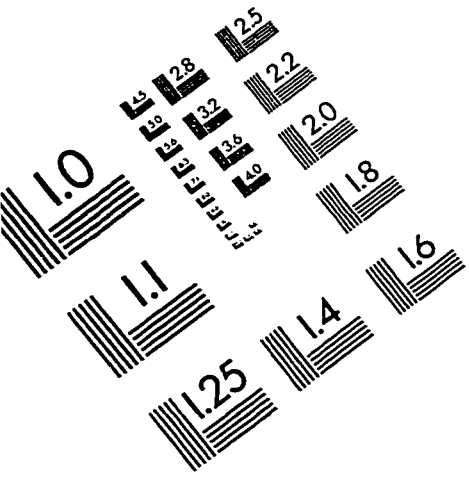
Table H9

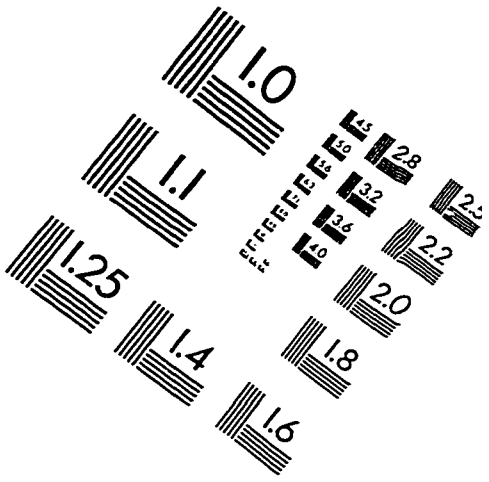
Percentage of Respondents Answering Each Item Correctly on the Knowledge Quiz. 27% scored more than 80% on the quiz.

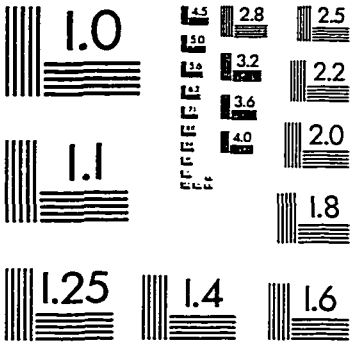
Knowledge Items	Answered Correctly % (*N*)
Overall Mean Score	6.87 (1.00)
Q44. If a patient is abused by her husband or boyfriend and wants the physician to know she will tell without prompting.	94 (71)
Q45. Spouse abuse and child abuse often occur together in the same family.	97 (74)
Q46. Violence is not uncommon among young dating partners.	79 (60)
Q47. Women who are battered get socially isolated.	96 (72)
Q48. Abused women can end the violence by divorcing or leaving their abuser.	68 (50)
*Q49. Children may be seriously affected by abuse even if they are not directly abused.	100 (76)
Q50. Woman can learn not to provoke violence in an abusive relationship.	76 (57)
Q51. Statistics show that only a very small number of victims of spouse abuse will present to hospital emergency rooms.	70 (53)
Q52. A woman who is being battered can be helped even if the woman does not want to leave the batterer.	95 (71)
Q53. External factors like financial difficulties, moving, having a baby, or on-the-job- problems cause a person to batter.	15 (11)
Q54. Alcoholism and substance abuse are major causes of spouse abuse.	3 (2)

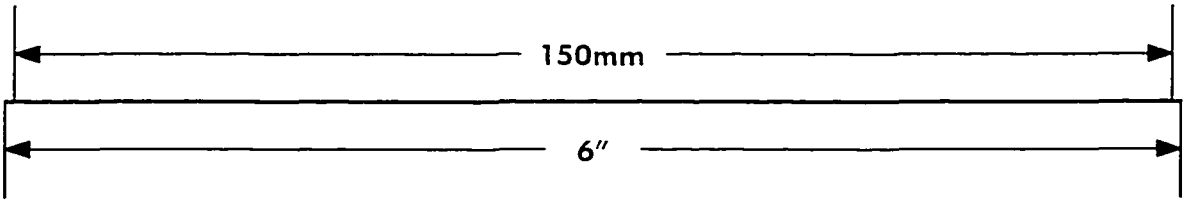
* has been removed from analyses as all answered correctly. Hence, the highest score possible was 10.

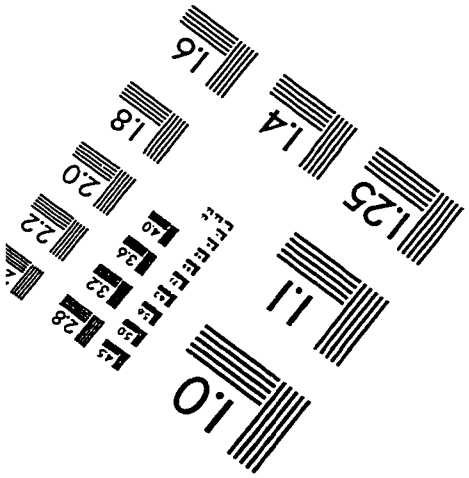
IMAGE EVALUATION TEST TARGET (QA-3)











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