AN ASSOCIATION BETWEEN INTIMATE PARTNER VIOLENCE AND UNINTENDED PREGNANCY: EVIDENCE FROM THAILAND

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ABSTRACT

Previous studies suggest that intimate partner violence (IPV) is positively associated with a number of reproductive health problems. However there is a lack of knowledge about the association between IPV and control over fertility among Thai women. Also the prevalence of physical and sexual violence that leads women to experience an unintended pregnancy is high in Thailand.

This study aims to examine the association between unintended pregnancy and the level of IPV, and to explore the factors affecting unintended pregnancy among Thai women aged 15-49, using secondary data from the 2000 WHO Multi-country Study on Women's Health and Domestic Violence against Women, Thailand. A total of 531 women who had their last pregnancy within the last five years and had a single life partner preceding the survey were chosen for this study.

One-third of the respondents reported that their last pregnancy was unintended. About 40.5 percent of the participants reported IPV in their life course, 13 percent reported only physical violence, 16.6 percent reported only sexual violence and another 10.9 percent reported both physical and sexual violence. Women who experienced unintended pregnancy were more likely to be younger, unmarried, have (more) several children, be not financially autonomous, and of lower socio-economic status. Also, women who engaged in risk behavior such as using alcohol, smoking, having a partner who had sexual relations with other women, and who had experienced any form of violence were more likely to report that their pregnancy was unintended. Finally, results of logistic regression showed the odds of unintended pregnancy for (1) women who experienced both sexual and non-sexual violence was 2.4 times higher, (2) only sexual violence was 2.7 times higher, and (3) only physical violence was 1.5 times higher, compared to non-abused women.

These findings strongly indicate the need for the development of appropriate IPV prevention and intervention programs to improve health of Thai women through social and political response.

KEY WORDS: THAILAND / UNINTENDED PREGNANCY / VIOLENCE / GENDER ROLES / BATTERING / FINANCIAL AUTONOMY / SEXUAL AUTONOMY / SEXUALITY.

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CONTENTS

CONTENTS (continued)

CONTENTS (continued)

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF FIGURES

CHAPTER I
INTRODUCTION

1.1 Statement of the Problem

Each year throughout the world, approximately 210 million women become pregnant; 80 million of these pregnancies are unplanned; 130 million result in live births. Many of these pregnancies are terminated through unsafe practices. Estimates indicate that out of 46 million abortions that occur each year, roughly 20 million are unsafe and approximately 80,000 women die from complications of unsafe abortions, which accounts for at least 13 percent of global maternal mortality (AGI, 1997, cited in Planned Parenthood, 2005). So in recent years unintended pregnancy has become an emerging issue for policy makers. All over the world, almost half a million women die each year due to pregnancy-related complications, and 99 percent of these deaths occur in developing countries (UNFPA, 1998). Unplanned pregnancy occurs for a number of reasons; the behavior of one's sexual partner is one of them. Unintended pregnancy may be mistimed, a pregnancy that occurs earlier than desired, or unwanted, which occurs when no children or no more children are desired (Jain, 1999; Santelli et al., 2003). In every society, across all religious, cultural, and economic differences, women face unintended pregnancies due to failure to negotiate the sexual relations with the partner and choosing whether and when to have children.

Violence against women (VAW) is related to the health of women and girls. A recent study conducted in Colombia shows that more than half of the women had had at least one unintended pregnancy during five years (1995-2000). Among the women who had recently given birth and experienced physical or sexual abuse 63 percent of the pregnancies were unintended (Pallito & O'Campo[a], 2004). There are various forms of VAW which are endemic in communities and countries around the world, irrespective of social, cultural, economic, racial, age, religious, and national boundaries. Most often the abuser is a member of her own family, usually her sexual partner. In 48 population-based surveys from around the world, 10-69 percent of women reported being physically assaulted by an intimate partner at some point in

their lives (Population Report, 1999; WHO, 2002). Increasingly, gender-based violence is recognized as a major public health concern and a violation of human rights. In recent years the problem of domestic violence, its causes and consequences on health has become an emerging issue. Since violence is a leading worldwide public health problem, an international conference, The Fourth World Conference on Women in Beijing in 1995, has recommended that the problem of violence against women and girls be addressed and that its health consequences be examined (WHO, 2002). But the progress is still slow because the men's attitudes have not yet changed and effective strategies to address domestic violence are still being defined. So women worldwide are suffering from domestic violence, which is estimated to range from 20 to 50 percent from country to country (UNICEF, 2000). Also world health summary report on violence claims that from different surveys around the world, 10 to 69 percent women report being physically assaulted by an intimate partner at some point in their lives (WHO, 2002).

In view of the importance given by the UN Fourth World Conference on Women, Governments have increasingly called for an end to violence against women, recognizing it as a violation of human rights. Evidence exists to show that one form of violence against women, domestic violence, occurs in all societies. The World Health Organization (WHO) defines violence as: "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation. This study will focus only the violence occurred by the intimate partner (WHO, 2002)."

1.2 Justification of the Study

In every society, each woman of reproductive age who is involved in a sexual act is at risk for unintended pregnancy irrespective of religious, cultural and economic differences. It affects women, their families, the society, and the nation. A complex combination of social and psychological factors put women at risk for unintended pregnancy. Abortion is a frequent consequence of unintended pregnancy and, in developing countries can result in serious long-term negative health effects including infertility and maternal death (Klima, 1998). Several studies provide evidence that the

women who had experienced intimate partner violence during pregnancy were more likely than non-abused women to report that the pregnancy was unplanned or closely spaced, or that they had had unhappy feelings about it (Amaro et al., 1990).

There are many forms of intimate partner violence against women. Physical, sexual, and psychological violence committed by the intimate partner, especially rape and sexual abuse, are widely existent phenomena in the world. For example, 16 percent of Cambodian women are physically abused annually by their spouse and in the UK 30 percent of women were physically assaulted by a partner or ex-partner (WHO, 2000). Another study conducted in four states of the USA among 12,612 mothers explains that women whose pregnancy was unwanted or mistimed are four times more likely to have been physically hurt by their husband or partner (Gazmararian et al., 1995). In addition, many women are directly forced or coerced to have sex. Young girls and women are the most vulnerable groups. Available study shows that many girls reported their first sex was unwanted or forced. A study of 548 women in New Zealand aged 20-22 provides the evidence that 25 percent of women who had sexual experience before age 13 did so as a result of forced sex (Dickson et al, 1998; cited in WHO, 2000).

Very few studies have explored the relationship between intimate partner violence and unintended pregnancy. One study conducted in Colombia found that women who had experienced intimate partner violence during pregnancy are more likely than non abused women to report that their pregnancy was unplanned. Fifty five percent of respondents had had at least one unintended pregnancy and 38 percent had been physically or sexually abused by their current or most recent partner (Pallito & O'Campo[a], 2004). Domestic violence is not a new issue in Thailand. It has had a great impact on women's health. A study conducted in Pattani Hospital, Thailand shows that 16 percent of women reported experience of past physical abuse (during a prior pregnancy or during the preceding year), 4 percent reported that they had experienced physical abuse during a current pregnancy and 10 percent reported having experienced abuse both in the past and during their current pregnancy. This study also shows that prevalence rates of physical abuse were highest among women who had an unintended pregnancy (Kuning et al., 2004). Also the extent, nature, and frequency of violence against women in Thailand were explored in a WHO Multi-country Study on

Women's Health and Domestic Violence against Women. The preliminary result showed 44 percent of women who had ever been married had experienced either physical or sexual violence committed by their partner. Among them 15 percent had experienced physical violence only, 16 percent sexual violence only and 13 percent both physical and sexual violence in their lifetime (Archavanitkul et al., 2001). Kuning (2004) cited that a World Bank-funded study that reported that up to 20 percent of Thai husbands had beaten their wives at least once in their lifetimes. Domestic violence against women has come to the forefront only since the last decade, particularly after the Beijing Conference on Women in 1995.

The Platform for Action adopted at the Fourth World Conference on Women encourages governments, research institutions, and non-governmental and other organizations to promote research on the prevalence of domestic violence and its causes and consequences, and to assess the effectiveness of preventive measures. Since research into domestic violence is in its early stage in Thailand, there are few studies to examine the relationship between intimate partner violence and unintended pregnancy. So to make appropriate policy to improve reproductive health, an intensive study on this issue is very important.

1.3 Research Question

Are there any associations between intimate partner violence (IPV) and unintended pregnancy? If they are, what are the determining factors?

1.4 Objectives of the Study

The main objective of this study is to investigate the association between intimate partner violence and unintended pregnancy.

The specific objectives of the study are:

1. To examine the determining factors affecting unintended pregnancy
2. To explore the risk or probability of intimate partner violence on unintended pregnancy after controlling socio-demographic factors.

CHAPTER II
LITERATURE REVIEW

Unintended pregnancy is an essential event for demographers as it is related to fertility. Also public health practitioners are concerned with this issue. So this is an urgent issue for both groups in promoting a woman's ability to determine whether and when to have children (Santelli et al., 2003). Several studies provide evidence that women who had experienced intimate partner violence during pregnancy were more likely than non-abused women to report that the pregnancy was unplanned or closely spaced (Amaro et al., 1990).

From the available published literature, there are very few studies on intimate partner violence and its effects on unintended pregnancy in Thailand. However, there are a few studies conducted in different countries and in different contexts, which provide evidence of the relationship between intimate partner violence and unintended pregnancy. This chapter reviews the existing literature from different previous studies in order to understand the relationship between unintended pregnancy and other factors such as demographic characteristics, socio-economic characteristics, contraceptive behavior, psycho-socio characteristics, risk behavior, and intimate partner abuse.

2.1 Prevalence of Intimate Partner Violence

Violence against women, especially by intimate partners, is a serious public health problem that is associated with physical, reproductive and mental health consequences (Campbell et al., 2002). Study results from Colombia showed that 38 percent of recently pregnant women experienced physical or sexual violence, 29 percent experienced physical abuse only, 1 percent sexual abuse only and 7 percent both physical and sexual abuse (Pallitto & O'Campo[a], 2004). Gazmararian and others (1995) found that the prevalence of physical violence during pregnancy ranged from 3 percent of unintended pregnancies to 12 percent with intended pregnancies. Overall,

70 percent of women with unwanted or mistimed pregnancies reported physical violence during pregnancy. Another study provides the evidence that the women who had experienced intimate partner violence during pregnancy were more likely than non-abused women to report that the pregnancy was unplanned or closely spaced (Amaro et al., 1990). Again Gazmararian assessed the effect of covariates on the association between pregnancy intendedness and physical violence. For every level of all covariates, the prevalence of physical violence was highest among women with unwanted pregnancy, lowest among women with intended pregnancies; women having mistimed pregnancies were in the middle (Gazmararian et al., 1995).

A recent study conducted in Colombia shows that more than half (55%) of the women had had at least one unintended pregnancy during the five year period 1995-2000. Among the women who had faced physical or sexual violence and had recently given birth or were currently pregnant, 63 percent reported that the pregnancy was unintended, but there was basically no difference among the non-abused women (Pallitto & O'Campo[a], 2004). A study based on matched husband and wife data from two surveys undertaken in the state of Uttar Pradesh in India examined the effect of physical abuse of women at the time of pregnancy. The findings showed that almost one in five women experienced domestic violence around the period of their last pregnancy. Also perinatal and neonatal mortality rates were almost two times higher among women who experienced domestic violence compared to non violated women (Ahmed et. al., 2005). In addition, it was found that women who had been coerced by a non-partner were 1.5 times more likely to have experienced an unintended pregnancy. This study also shows statistically significant odds of 1.6 between unintended pregnancy and partner violence (Pallitto & O'Campo[a], 2004). According to another study of more than 12,000 mothers in four states of the USA, women whose pregnancy is unwanted or mistimed are four times more likely to be physically hurt by their husband or partner (Gazmararian et al., 1995).

A study conducted in Pattani Hospital, Thailand, to study the prevalence and predictors of physical abuse among pregnant women found that 16.2 percent of women reported experience of past physical abuse (during a prior pregnancy or the preceding year), 3.9 percent reported the experience of physical abuse during their current pregnancy and 9.5 percent reported experiencing physical abuse both in the

past and during their current pregnancy. The prevalence rates of physical violence were highest for women who had an unwanted pregnancy (12.1±1.8%) and lowest for women who had an intended pregnancy (3.2±0.4%) (Kuning et al., 2004). Also a recent WHO Multi-country study conducted in two Provinces in Thailand shows 28 percent of ever-partnered women had experienced physical violence. It also found that one-fourth of women in Bangkok and one-third of women in Nakornsawan had experienced violence at the hands of a partner at least once in their lifetime. The study also shows that among 1,863 women in both provinces who had ever been pregnant, 74 (about 4%) had been physically hurt by their partners during their pregnancy (Archavanitkul et al., 2001). So from the reviews, it can be generalized that women who experience intimate partner violence are more likely to experience unintended pregnancy.

2.2 Demographic Characteristics

2.2.1 Marital Status

It is evident that marital status is an important risk factor for unintended pregnancy. Marital status and unintended pregnancy are linked as 88 percent of unintended pregnancies occurred among never married women, whereas 66 percent of unintended pregnancies occurred among formerly married women (Forrest, 1994; cited in Klima, 1998). This study also reports that fifty percent of women who were previously married and 75 percent who were never married had undergone abortion whereas only 25 percent of currently married women had undergone abortion to end the pregnancy. Thus, marital status was more likely to be divorced, widowed, or single in cases of mistimed and unwanted pregnancies compared to intended pregnancy (Goto et al., 2002). Study results from West Virginia showed that 11 percent of unmarried women experienced violence while pregnant compared to 3 percent of married women (Donovan, 1995). Single women were more likely than women in union to say their pregnancy had been unwanted (25% vs. 20%), while women in union were more likely than single women to have experienced a mistimed pregnancy (19% vs. 12%) (Eggleston, 1999). Also data from the North Carolina Pregnancy Risk

Assessment System (PRAMS) shows that women who were unmarried were more likely to report an unintended pregnancy (Gross, 2002). A study conducted in the City of Boston among English and Spanish speaking women shows that single women were more likely to experience violence than married women (Amaro, 1990). In another study, conducted in Canada of 12,300 adult women, 29 percent of women who had ever been married or involved in common-law relationships reported that they had been assaulted by their partners; women whose marriages lasted less than two years reported even higher rates of abuse (Statistics Canada, 1993; cited in Lent, 2000). Thus it would seem that marital status is related to unintended pregnancy and intimate partner violence, with single/co-habiting women the most vulnerable to unintended pregnancy and IPV.

2.2.2 Age of Women

Several studies provide evidence that women's age is significantly associated with unintended pregnancy. Older women are less likely to have experienced unintended pregnancy than younger women. Logistic regression analysis from the study shows when age at first birth increases, then the chance of having had an unintended pregnancy will decrease (odds ratio, 0.9) and the odds increase with each additional child (Pallitto & O'Campo[a], 2004). Older women (aged 30-49) were more likely than younger women to say their pregnancy had been unwanted, but women in their 20s were more likely than both younger and older to have classified their pregnancy as mistimed (Eggleston, 1999). Data from North Carolina shows that younger women were more likely to report an unintended pregnancy (Gross, 2002). Teenage mothers were far more likely than older women to have a mistimed rather than a planned pregnancy (Kost and Forrest, 1995).

On the other hand a study conducted in Nigeria showed that higher ages of women are more likely to report the pregnancy as unwanted (Okonofua et al., 1999). Study results from Japan, on the other hand, showed age of women was not significantly associated with pregnancy intention (Goto et al., 2002). The reason mentioned is that the age of marriage is high and the young mothers are not ready to bear children at an early age. A study conducted in the United States showed that

births to women aged 30 or older were far more likely to have been unwanted than were births to younger women (Williams, 1991).

Violence affects women of all ages, but the highest rates occur among women aged 16-34 years, which are the prime childbearing years (Johnson et al., 2002). A study conducted in Pattani Hospital, Thailand, shows that women aged less than 25 years were more likely than older women to suffer abuse before pregnancy (Kuning et al., 2004). Adolescents with a history of abuse are at greater risk for becoming pregnant than other girls who did not experience abuse. A study shows that female adolescents who reported experience of sexual abuse were three times as likely as other young women to become pregnant (Moore, 1999). From the review, it can be concluded that younger women are at risk of unintended pregnancy and violence, as compared to older women. So this study is needed to explore the effect of women's age on unintended pregnancy to clarify an understanding of this phenomenon among Thai women.

2.2.3 Age of Partner

There is no available study which can explain how a women's partner's age may relate to an unintended pregnancy. One study conducted among cervical and breast cancer screening participants aged 35-49 years in Yamagata in Japan suggested that the proportion of women whose husbands were four years or more older was significantly higher in the age group with experience of unintended pregnancy (55.0%) compared to that in the group without the experience (38.7%) (Or=1.83, 95% CI=1.19-2.82) (Goto et al., 2002). Another study, conducted by Charoenyooth and colleagues (1999), shows that women whose husbands' ages ranged from 20-39 years, experienced any form of violence by their husband (cited in Nanthana, 2004). Since there is a lack of studies examining the association among the partner's age, abuse, and unintended pregnancy, the present study will try to explore this association.

2.2.4 Number of Living Children

The potential unintended pregnancy rate tends to be low in societies where large families are desired. So when the number of children desired is decreased,

women are potentially at risk to experience an unintended pregnancy. One study shows that when age at first birth and socio-economic status increase, then the chances to have had an unintended pregnancy will get lower and the odds increase with each additional child (Pallitto & O'Campo[a], 2004). Women with parity greater than two were more likely to have been abused before becoming pregnant again (Kuning et al., 2004). Study results from Ecuador show that women whose pregnancy was unwanted had an average of 3.7 births already and that women whose pregnancy were planned had average of 1.7 births before that pregnancy (Eggleston, 1999). So unintended pregnancy and intimate partner violence rate increases with the increase in the number of children.

2.3 Socio-Economic Characteristics

2.3.1 Women's Education

Perhaps the most significant variable for women in determining when and how many children to have (and when and whether to use contraceptives) is education. This is because educated women are better able to negotiate with their partner. The relationship between level of education and unintended pregnancy has been explored in a couple of studies. Women with no formal education or who had not completed primary school were more likely to have had an unwanted pregnancy than women with primary schooling (Eggleston, 1999). A study conducted among African American women reported that women with lower levels of education were more likely to report experience of unintended pregnancy than more highly educated women (Orr, 1997). Data from the North Carolina Pregnancy Risk Assessment System (PRAMS) shows that women who had high school education or less were more likely to report an unintended pregnancy (Gross, 2002).

Also, women with a lower education level were significantly more likely to suffer abuse before pregnancy (Kuning et al., 2004). But another study provides evidence that women's education level was not significantly associated with women's risk of unintended pregnancy (Pallitto & O'Campo[a], 2004). A study conducted in four States in the USA shows that women with more than 12 years of education and with

an unintended pregnancy were eight times more likely to have experienced violence than women with intended pregnancy. On the other hand, women with fewer than 12 years of education with unintended pregnancy were three times as likely to have experienced violence as those who experienced intended pregnancy (Gazmararian et al., 1995). It can be easily concluded that women with lower educated are more likely to have experienced unintended pregnancy and intimate partner violence than more highly educated women. This is especially evident for developing countries.

2.3.2 Partner's Education

One study conducted by Charoenyooth and colleagues (1999) shows that women whose husband had only primary education or less, experienced violence (cited in Nanthana, 2004). From the available literature, there are few studies that try to gauge the effect of a partner's education on unintended pregnancy. This study will try to explore this association. There is available evidence that partner's education is an important factor affecting decision-making in issues such as contraceptive use. Since higher education can change partner's behavior on sexual and reproductive health issues, it is better to explore this variable for possible associations with unintended pregnancy and intimate partner violence.

2.3.3 Socio-Economic Status

Many theories suggest that higher socio-economic status can change women's behavior on reproductive health issues. When socio-economic status of a household increases, then the chances of a woman having had an unintended pregnancy will decrease. Regarding socio-economic status, Pallitto (2004) found that if the socio-economic status is increased, the odds of unintended pregnancy will decrease. Also this study found that socio-economic status in urban settings is an important protective factor against unintended pregnancy (Pallitto & O'Campo[a], 2004). Conversely, Forrest (1994) found that poverty plays a major role in unintended pregnancy. The findings showed that among women with income below 100 percent of federal poverty level, 75 percent experienced unintended pregnancy (Forrest, 1994; cited in Klima, 1998). By socio-economic status, women living in relatively poor households were most

likely to report their pregnancy as unwanted (26%), while those in the highest income households were least likely to do so (14%). Women in middle-income households were more likely than those of other socio-economic backgrounds classify their most recent pregnancy as mistimed (Eggleston, 1999). Poverty also affected the likelihood of mistimed pregnancy; the odds that a birth was mistimed (versus planned) decreased as poverty status improved, but only among married women (Kost & Forrest, 1995).

One study based on three rounds of data from the National Survey of Family Growth (NSFG), shows that in 1982 household income below the poverty level was no longer a statistically significant predictor of the likelihood of having an unwanted birth, either for white women or for black women. But a change has occurred over time, black women who achieved higher income levels have become increasingly able to avoid an unwanted pregnancy, but progress is almost stagnant among women living below the poverty line (both black and white) (Williams, 1991).

Some research shows that in societies where women's status is improving there is evidence of higher intimate partner violence than in societies where gender roles are static (Koenig et al., 2003; Schuler et al., 1996). Another study reveals that less socially advantaged women reported higher rates of violence (Donovan, 1995). The prevalence of physical violence was lowest for women with more social advantage, regardless of pregnancy intendedness. But the ratio of the prevalence of physical violence was the greatest among those with more social advantage and multiple regression analysis shows the odds for violence were greater among women with more social advantage (Gazmararian et al., 1995). So there are some contradictory findings from the study results of different countries. But in general it is clear that if women gain better socio-economic status, then chances of both unintended pregnancy and IPV decrease.

2.4 Contraceptive Behavior

2.4.1 Contraceptive Use

Some feminist scholars argue that women's fertility control does not simply depend on women's control, but on societal norms of gender relations. Therefore, according to the feminist perspective, in areas of more pronounced male dominance,

women would be expected to lack adequate control over fertility (Pallitto & O'Campo[b], 2004). Another explanation, the Theory of Reasoned Action, suggests that a person's behavior is determined by his/her intention to perform the behavior and that this intention is, in turn, a function of his/her attitude toward the behavior and his/her subjective norm (Ajzan & Fishbein, 1980). Thus people's intentions, perceptions, social pressure, and beliefs are all factors affecting contraceptive use. Use is also associated, of course, with availability and accessibility of family planning information and services that can change people's knowledge, attitudes, and behavior.

However, non-use of contraception is the major reason for unintended pregnancy. Study results from Japan showed that over half of the mistimed pregnancies (51.2%) occurred when no contraceptives were used. As for unwanted pregnancy, 25.9% occurred with no contraceptive use and 21.1% of the rest with traditional contraceptive methods, such as withdrawal (Goto et. al, 2002). The study conducted in Ecuador showed that both unwanted and mistimed pregnancy were more common among women who had used a modern method of family planning (25% and 20% respectively) than those who had not used a method before their most recent pregnancy (18% and 17% respectively) (Eggleston, 1999). Proper use of contraception is one of the important factors to control unintended pregnancy as contraceptive failure results in about 50 percent of all unintended pregnancy in the United States (Forrest, 1994; cited in Klima, 1998). Another study conducted in Iran showed that one third of women did not use any contraceptive prior to unintended pregnancy. The study also showed that withdrawal resulted in a high percentage of unintended pregnancy in urban areas. In rural areas, low quality of birth control pills caused an increased rate of unintended pregnancy (Shavazi et al., 2004).

Other research on intimate partner violence and fertility control shows that in general women do not use contraception due to fear of violence (Bawah et al., 1999). Due to physical violence, the women are scared or unable to negotiate condom use (Wingood et al., 1997). A recent study conducted in Colombia shows that current contraceptive use was a protective factor against unintended pregnancy (odds ratio, 0.9) (Pallitto & O'Campo[a], 2004). It can be concluded, if women have control over their fertility and sexuality, they can get rid of from unprotected sex and as a result of less unintended pregnancy.

2.5 Psycho-Socio Characteristics

2.5.1 Women's Financial Autonomy

Almost everywhere in the world, which is still largely patriarchal, women are facing economic discrimination, lack of educational opportunities as well as lack of government and policy makers initiatives to improve their situations. Usually women's financial autonomy is defined as women's control over resources, their earning capacity, their decision-making power to spend money and their ability to utilize resources and make decisions. A study conducted in Harare and Zimbabwe reported that the low self-income of women significantly increased the risk of unplanned pregnancy (Mbizvo, 1997; cited in Goto et. al., 2002). Although three rounds of data from the National Survey of Family Growth (NSFG) showed that household income below the poverty level was not significant predictor of the likelihood of having an unwanted birth, either for white women or for black women, over time, black women at higher income levels have become increasingly able to avoid an unwanted pregnancy, but there was no progress among women living below the poverty line for either black or white women (Williams, 1991). Data from the North Carolina Pregnancy Risk Assessment System (PRAMS) shows that women who had income below $14,000 were more likely to report an unintended pregnancy (Gross, 2002). The study findings from Nigerian women indicate that women's employment level is significant predictor of unwanted pregnancy and induced abortion. Women working in formal sector were significantly more likely to report having experienced unwanted pregnancy and induced abortion as compared with women who were unemployed or working outside (Okonofua et al., 1999).

In another study, after stratifying two main geographic regions in Bangladesh that differ culturally, Koenig (2003) found that in the more conservative region women's credit group membership was significantly related to greater risk of violence. In the less conservative region, however, higher percentage of credit group membership was associated with a decreased risk of violence. These findings show that regions with less rigid gender roles might be more accepting of women's ability to generate income, while in more conservative areas income generation and economic control could be a cause for conflict and violence (Koenig et. al., 2003). So,

unintended pregnancy and IPV rate are lower among women who are financially autonomous and have control over their money.

2.5.2 Women's Attitude toward Gender Roles

A study from African American women explains that unintended and unwanted pregnancies are more likely than those with intended pregnancies to experience high levels of exposure to psycho-social stressors and depressive symptoms (Orr, 1997). Study results from five regions of Uttar Pradesh in India show that couples in which the husband held more conservative attitudes towards gender roles and behavior were significantly less likely to adopt a modern method of contraception (HR 0.793, p=0.032). Similarly, a significant association was found between community-level gender role norms and contraceptive adoption (Stephenson et al., 2005). Overall, unintended pregnancy is high and significantly associated with women living in a highly patriarchal community and the community where rate of intimate partner violence is high (Pallitto & O'Campo[b], 2004).

Much research on intimate partner violence and women's reproductive health is based in feminist theory, which explains that within societies which are dominated by patriarchal institutions and have unequal power relations between the genders women lack status and power (Smith, 1990). According to the feminist argument, women who live in patriarchal societies are more vulnerable to violence and might have less control over their health and fertility. Smith (1990) in his study hypothesized that wife abuse at the individual level was associated with certain beliefs characteristic of patriarchal societies. His patriarchal belief scale was based on three questions and showed that wives who held strong patriarchal beliefs experienced more abuse as individuals. In societies in which gender norms are often changing, women experience even more abuse. For example, a study conducted in Bangladesh found that women in a more traditional society might actually show a lower rate of abuse than the women who have higher status in the society (Koenig, 2003). Also, findings show though women are more vulnerable to abuse in a society where gender inequality is high, in some societies where a high level of patriarchal ideology exists, most men do not physically abuse their partners (Heise, 1998).

2.5.3 Women's Attitude toward Battering

From the available literature, there is evidently no study that attempts to gauge the effect of women's attitude toward battering on unintended pregnancy. This study will try to explore this association. However, at the societal level, studies around the world have found that violence against women is most common in societies where gender roles are rigid (Heise, 1998). And, again, mentioned above, according to the feminist argument, women who live in the patriarchal societies are more vulnerable to violence and might have less control over their health and fertility (Smith, 1990). Thai society is a male dominated society and gained power and control over women. What is more, Thai women have been taught to keep family problems within the family. So many battered women may feel that IPV is her own fault for not being a good wife and mother or a good person (Nanthana, 2004).

2.5.4 Women's Attitude toward Sexual Autonomy

There is no available study on the effect of attitudes towards sexual autonomy on unintended pregnancy. However, one study has measured women's autonomy by considering decision-making power in three domains: household, women's own lives and sexual. The result showed that living in municipalities, where women exhibit higher autonomy or status, increases one's odds of experiencing an unintended pregnancy. But the lack of control over sexual decision-making can lead to unintended pregnancy (Pallitto & O'Campo[b], 2004). Some coercive or non-consensual intercourse deprives women of the right to negotiate contraceptive choices, and sexually abused women are more likely to engage in risky sexual behavior than other women. So, unintended pregnancy results directly from sexual abuse (Moore, 1999).

2.6 Risk Behaviors

2.6.1 Women's Use of Alcohol

A review of the literature reveals little about the consequences of various forms of risky behavior of women with unintended pregnancies. However, it is clear that engaging in deleterious health behaviors, such as smoking and alcohol use, is harmful

to women. Study findings show that the women with unintended pregnancies are more likely to use alcohol and cigarettes during pregnancy than the women with intended pregnancies (Weller et al., 1987). Data from the North Carolina Pregnancy Risk Assessment System (PRAMS) show that women who reported a drinking habit during the last three months of pregnancy were less likely to report that their pregnancy was unintended, though this difference was not statistically significant. The reason is that only about 3.5 percent of mothers reported drinking during the last three months of pregnancy, and the reliability of the reporting of drinking on the PRAMS survey is questionable (Gross, 2002). However, women who have habit of alcohol use are at risk in terms of controlling their fertility.

2.6.2 Women's Use of Tobacco

Women who become pregnant unintentionally may engage in risky behaviors before realizing their conception. Whenever they are sure about their conception, they may try to cease or even compensate for past behaviors. Research shows the proportion of heavy smokers among women with unwanted pregnancies is 5.9 percentage points greater than among mothers with intended pregnancies ($p<001$) and the difference for mistimed pregnancies is small (2.7%) ($p<0.05$) (Joyce, 2000). Another study shows women with unintended pregnancies are more likely to use cigarettes during pregnancy than are women with intended pregnancies (Weller et al., 1987). Data collected in the Missouri Maternal and Infant Health Survey (MMIHS) showed that women who delivered moderate low birth weight infants were more likely than mothers of normal birth-weight-infants to have smoked during pregnancy (Sable et al., 1997). Kullander and Kallen (1971), in a prospective study of 4,843 Swedish women with normal live births in 1963-1964, reported that 52.4 percent of those with unwanted pregnancies were smokers compared to 41.5 percent among those reporting wanted pregnancies (cited in Weller et al., 1987). Again, data from the North Carolina shows that women who smoked during last three months of pregnancy were much more likely to have had an unintended pregnancy (Gross, 2002).

2.6.3 Partner's Use of Alcohol

There is no available study to profile the relationship between partner's drinking habits and unintended pregnancy. However, an important risk marker for partner violence that appears especially consistent across different settings is alcohol use by men (Kyriacou et al., 1998). Population-based surveys from different countries found a relationship between a women's risk of suffering violence and her partner's drinking habits (WHO, 2004). The risk associated with past abuse was higher for women whose partner had a drinking problem (OR 2.3, 95% CI 1.3-3.5) and the same study showed that the risk associated with current abuse was also high for women whose partner had a drinking problem (OR 2.3, 95%CI 1.4-3.8) (Kuning et al., 2004). One study conducted by Charoenyooth and colleagues (1999) shows that women whose husbands had a drinking problem, experienced more violence (cited in Nanthana, 2004). Women who live with heavy drinkers are at high risk of physical partner violence. According to the survey of violence against women in Canada, the women who lived with heavy drinkers were five times more likely to be assaulted by their partners than those who lived with non-drinkers (WHO, 2004).

2.6.4 Partner's Sexual Relations outside the Relationship

Little information was obtained about the effect of partner's extramural relations on unintended pregnancy. But a male's having multiple partners may be a marker for increased risk of unintended pregnancy as such a man may not care about contraception use. But a study conducted in Northern California among women aged 15 to 24 years old shows that women who thought that their partner had sexual relations outside their relationship were more likely to require their partners to use condoms (Raine, 2003). A study that used a cognitive-behavioral approach, which focused on key elements of the information, motivation, and behavioral skills model (IMB) as an intervention, showed that most women who were engaged in risky sexual activity with multiple partners used condoms inconsistently and experienced unintended pregnancy, whereas after the intervention the results reversed (Boyer, 2005).

2.7 Conceptual Framework

In the present study, conclusions have been derived from activities of evidence that show the relationship among different causal factors and unintended pregnancy. This framework has been designed to shed light on the influence of independent and intervening variables on unintended pregnancy. The study will focus on how a dependent variable is affected by the independent variables through an intervening variable. This framework consists of five domains of independent variables and one domain of intervening variable. The five independent domains are the demographic characteristics, socio-economic characteristics, contraceptive behavior, psycho-socio characteristics and risk behavior. And the intervening variable is intimate partner violence.

Demographic domain includes marital status, woman's age, partner's age and number of living children. Socio-economic variables include woman's education, partner's education and socio-economic status. Contraceptive behavior domain includes contraceptive use. Psycho-socio domain includes women's financial autonomy, attitude toward gender roles, attitude toward battering and attitude toward sexual autonomy. Risk behavior domain includes women's use of alcohol, women's use of tobacco, partner's use of alcohol, and partner's sexual relations outside the relationship. Based on review, the assumption is that risk behavior and abuse lead unintended pregnancy.

Here a composite score will be created to measure socio-economic status, attitude toward gender roles, and attitude toward battering. Financial autonomy and sexual autonomy are treated as binary categories through the combination of several questions. And, finally, abuse domain intervening variable comprises: no violence, only physical violence, only sexual violence, and both physical and sexual violence by the intimate partner.

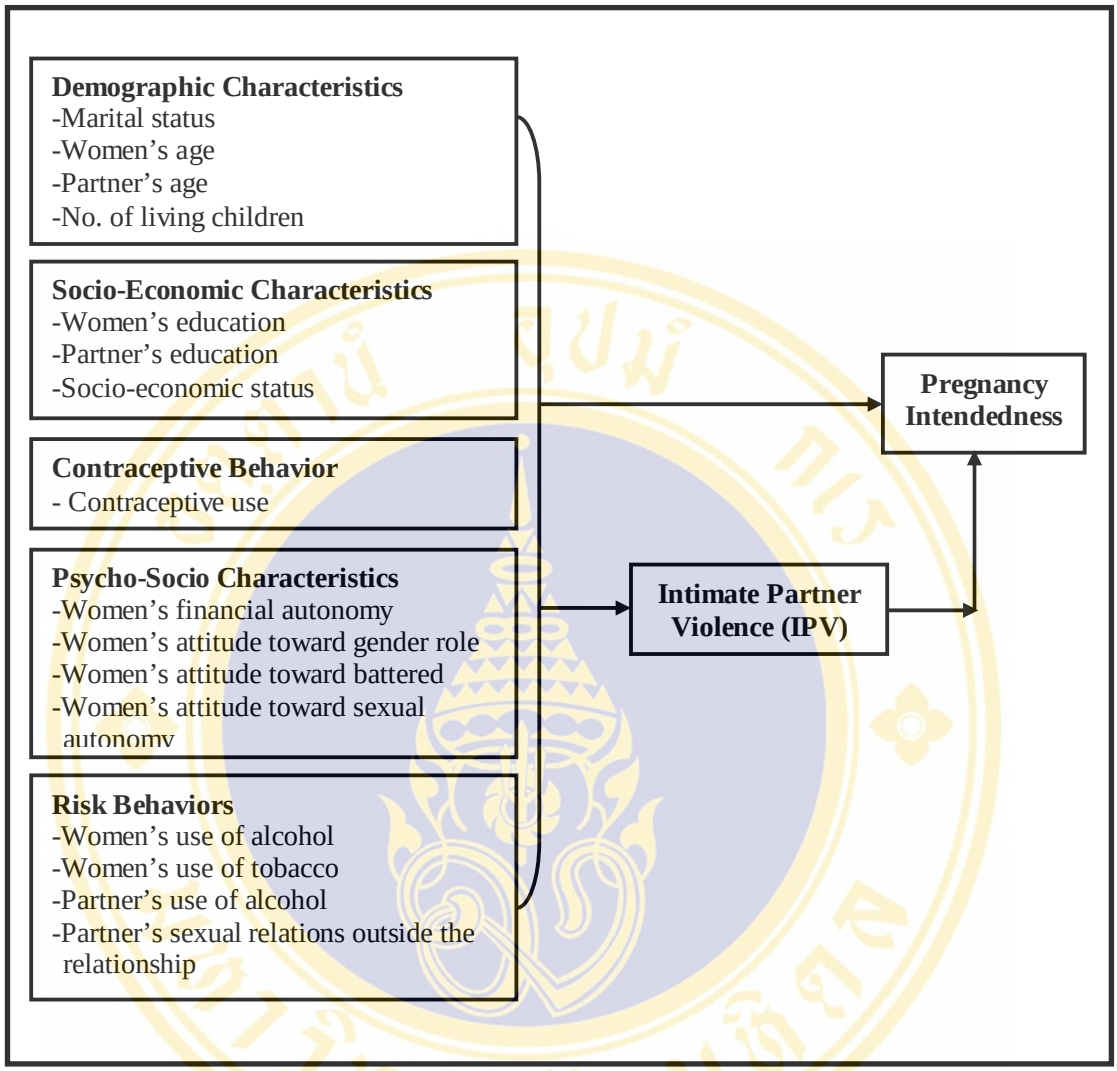

Figure1: Conceptual Framework

2.8 Research Hypothesis

H_1: Women who are physically or sexually abused have a greater chance to experience unintended pregnancy than non-abused women.

H_2**:** Co-habiting women are more likely to experience unintended pregnancy than married women.

H_3: Older women are more likely to experience unintended pregnancy than younger women.

H_4: When the number of children increase then the chance of unintended pregnancy increases.

H_5: Lower educated women experience more unintended pregnancy as compared with educated women.

H_6: Higher socio-economic status of household leads to a lower rate of unintended pregnancy.

H_7: If women use any contraceptive method they face less unintended pregnancy.

H_8: Women who exhibit financial autonomy experience less unintended pregnancy.

H_9: Women with a strong attitude toward gender roles, an attitude toward battering, and an attitude on sexual autonomy experience less unintended pregnancy.

H_{10}: Women's use of alcohol and tobacco increases the chance of unintended pregnancy.

H_{11}: Partner's use of alcohol and sexual relations outside the relationship increases the risk of unintended pregnancy.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Sources of Data and Sample Design

The data was obtained from the WHO Multi-country Study on Women's Health and Domestic Violence against Women, conducted in Thailand in 2000. The survey was conducted under the guidance of Institute for Population and Social Research (IPSR), Mahidol University and the Foundation for Women, Thailand.

The original study was conducted to identify the prevalence of intimate partner violence against women by population-based survey and aimed to analyze the health impact of intimate partner violence on women victims. The study also explored the risk and the protection factors against conjugal violence, to identify the coping strategies of women facing marital violence and to use research findings as guidelines for a public campaign against violence against women towards appropriate solutions and action (Archavanitkul et al., 2001).

The study employed a multi-stage probability design. The sample was selected from villages and urban wards, and thereafter households and women were selected proportional to size. A total of 2,817 women aged 15-49 from the two sites (Bangkok & Nakornsawan) were interviewed. In each selected household, only one woman was randomly selected for the interview. If the selected woman was not at home when the interviewer arrived, the interviewer would make an appointment to revisit her; up to three such call-back visits were made, and the substitution of other women from the same household was not permitted.

3.2 Unit of Analysis

This study aims to deal with the last pregnancy of women at the time of interview. Out of 2,817 interviewed women aged 15-49 years 531 (18.8%) had a history of a pregnancy within the five years preceding the survey and all of them had had only one partner in their life course. So the total population of the study was 531.

Last pregnancy history of women was selected to minimize under reporting of unintended pregnancies. In addition, this helped to minimize recall error because questions were related to the last pregnancy during the previous five years and thus it was for the respondent to recall facts. Again only women who had single partner in their life course were selected. This was in order to confirm the partner's effects on unintended pregnancy.

3.3 Operational Definitions

In this study the dependent variable is pregnancy intendedness. The independent variables are demographic characteristics, socio-economic characteristics, contraceptive behavior, psycho-socio characteristics, and risk behavior. The intervening variable is intimate partner violence. The following are the operational definitions of each variable.

3.3.1 Dependent Variable

The question was: *"I would like to ask you about your last pregnancy that occurred within the last five years. At the time you became pregnant, did you want to become pregnant then, did you want to wait until later, did you want no (more) children, or did you not mind either way?"*

There were four categories of response: become pregnant then (wanted), wait until later (mistimed), children not wanted (unwanted), and not mind either way (wanted). The responses mistimed and unwanted were merged together and considered as unintended pregnancy and other responses are treated as intended pregnancy. So this variable is categorized into two categories: intended and unintended.

3.3.2 Independent Variables

3.3.2.1 Demographic Characteristics

Marital Status

This variable refers to four categories; 1) currently married, 2) co-habitating, 3) non-cohabitating intimate partner, and 4) separate/divorced/widowed. Category 1 and

4 are considered as having been married at one time and other categories as never married.

Age of Women

The variable refers to the respondent's completed age at the time of survey. This variable was categorized into three categories: 1) below 25 years, 2) 25-34 years, and 3) 35 years or more. Three categories have developed to concentrate on adolescents, young adults, and older women.

Age of Partners

The variable refers to partner's completed age at the time of the survey. This variable was also categorized, into three categories: 1) below 25 years, 2) 25-34 years, and 3) 35 years or more. Three categories have developed to concentrate on adolescents, young adults, and older men.

Number of Living Children

This variable refers to the respondent's number of children who are alive. It has been categorized as one, two, and three or more for bivariate and multivariate analysis.

3.3.2.2 Socio-Economic Characteristics

Women's Education

This variable measures the level of highest education that the respondent achieved. It is categorized into 3 categories: 1) no education or primary education only, 2) secondary, and 3) higher education for bivariate and multivariate analysis.

Partner's Education

This variable refers to the level of highest education that the respondent's partner achieved. It is categorized into 3 categories: 1) primary, 2) secondary, and 3) higher education for bivariate and multivariate analysis.

Socio-Economic Status Score

The question was *"Does your household have: 1) A source of pure drinking water? 2) A Flush toilet facility? 3) A radio? 4) A television? 5) A telephone? 6) A refrigerator? 7) A bicycle? 8) A motorcycle? 9) A car? and 10) Any land?*" If the answer is YES then each variable was given a value of one, otherwise zero. Adding all the values gives the socio-economic status score. The socio-economic status score then determines placement into one of three categories: 1) one to four (considered as lower status), 2) five to seven (medium), and 3) eight to ten (considered as higher socio-economic status).

3.3.2.3 Contraceptive Behavior

Ever Used Contraceptive

This variable refers to whether or not women have ever used any contraceptive.

Current Contraceptive Use

This variable refers to whether or not women were currently using a contraceptive.

Type of Method Used

This variable refers to whether or not women were currently using modern methods.

Ever Used Postinor

This variable refers to whether or not women used Postinor.

3.3.2.4 Psycho-Socio Characteristics

Women's Financial Autonomy

Here women's financial autonomy is measured from four variables. Variables are: land ownership (*"Do you have land of your own?")*, home ownership *("Do you*

have a house of your own?"), business ownership *("Do you have business or company of your own?")*, and employment/independent income *("Do you earn money?")*. Here YES to any answer was considered to mean that as women have financial autonomy, otherwise it has considered that women do not have financial autonomy. So this variable has two categories; yes and no.

Women's Attitude toward Gender Role

Attitude with regard to gender role was determined by asking the following set of questions:

"Please tell me, do you agree or not? 1) A good wife obeys her husband even if she disagrees with his thoughts or his actions, 2) Family problems should only be discussed with people in the family, 3) It is important for a man to show his wife/partner who is the boss, 4) A woman should be able to choose her own friends even if her husband disapproves, 5) It's a wife's obligation to have sex with her husband even if she doesn't feel like it, 6) If a man mistreats his wife, others outside of the family should intervene."

Each statement was given a value of one if the answer shows a positive attitude on gender role. Here if the respondent disagreed with statements 1, 2, 3 and 5 and agreed with statement 4 and 6 then each statement was given a score of one. Adding up all the values gives the "score" on attitude toward gender role. Then gender role score was recoded into three categories: two or below has considered as a lower attitude, three to four as medium, and five to six as a higher attitude toward gender role.

Women's Attitude toward Battering

Attitude with regard to battering was determined by asking the following set of questions:

"Does a man have a good reason to hit his wife if: 1) she does not complete her household work to his satisfaction, 2) she disobeys him, 3) she refuses to have sexual relations with him, 4) she asks him whether he has other girl friends, 5) he suspects that she is unfaithful, and 6) he finds out that she has been unfaithful."

If the answer is NO then each variable was given a value of one, otherwise zero. Adding all values gives a score for attitude toward battering. Then the attitude toward battering score was recoded into three categories; zero to two was considered as lower attitude toward battering, three to four as medium, and five to six has considered as higher attitude toward battering.

Women's Attitude toward Sexual Autonomy

Attitude with regard to sexual autonomy was determined by asking the following set of questions:

"*In your opinion, can a married woman refuse to have sex with her husband if: 1) she doesn't want to, 2) he is drunk, 3) she is sick, 4) he mistreats her, and 5) when wife wants her partner to use a condom and her partner doesn't want to.*"

Here, if all the answers are YES then women were considered to have a positive and strong attitude on sexual autonomy. Otherwise they were considered to have a lower or negative attitude toward sexual autonomy. So this variable is categorical.

3.3.2.5 Risk Behavior

Women's Use of Alcohol during Pregnancy

This variable refers to whether or not women had a habit of alcohol consumption during their last pregnancy.

Women's Use of Tobacco during Pregnancy

This variable refers to whether or not women smoked during their last pregnancy.

Partner's Use of Alcohol

This variable refers to whether or not woman's partner had a habit of alcohol use.

Partner's Sexual Relationship outside the Relationship

This variable refers to whether or not a woman's partner had sexual relations outside the relationship.

3.3.2.6 Intervening Variable

Intimate Partner Violence

The question related to physical violence was:

"Has your current or past partner ever: 1) slapped you or threw something at you that could hurt you?, 2) pushed you or shoved you?, 3) hit you with his fist or with something else that could hurt you?, 4) kicked you, dragged you or beat you up?, 5) choked or burnt you on purpose?, 6) threatened to use or actually used a gun, knife or other weapon against you?"

An answer of YES to any one of the above questions was considered as acknowledgement physical violence. If all questions were answered as "No", no experience of physical violence was assumed. So this variable was categorized as: having experienced physical violence and not having experienced physical violence.

The question related to sexual violence was

"Has your current or past partner ever: 1) physically forced you to have sexual intercourse when you did not want to?, 2) Did coerce you to have sexual intercourse you did not want because you were afraid of what he might do?, 3) Did force you to do something sexual that you found degrading or humiliating?"

An answer of YES to any one of the above questions was considered as evidence of sexual violence and all NO answers as evidence of not having experienced sexual violence. So this variable was categorized as: having experienced sexual violence or not having experienced sexual violence.

Finally from these two variables the study came up with one variable with four categories so as to avoid the overlap of physical and sexual violence. The categories are: 1) no violence, 2) both physical and sexual violence, 3) only physical violence, and 4) only sexual violence.

3.4 Operationalization of the Dependent and Independent Variables

Variables	Operational Definition	Type of measure
Dependent Variable		
Pregnancy intendedness	last pregnancy was intended or unintended a) i) intended ii) unintended	a) Nominal
Independent Variables- Demographic Characteristics		
a) Marital status	a) i) married ii) unmarried	a) Categorical
b) Women's age	b) i) below 25 ii) 25-34 iii) 35 years or above	b) Categorical
c) Partner's age	c) i) below 25 ii) 25-34 iii) 35 years or above	c) Categorical
d) Number of children	d) i) one ii) two iii) three or more	d) Categorical
Independent Variables- Socio-economic Characteristics		
a) Women's education	a) i) illiterate & primary ii) secondary iii) higher education	a) Ordinal
b) Partner's education	b) i) primary ii) secondary iii) higher education	b) Ordinal
c) Socio-economic status	c) i) high ii) moderate iii) low	c) Ordinal
Independent Variables- Contraceptive Behavior		
a) Previous use of contraceptive	a) i) yes ii) no	a) Nominal
b) Current contraceptive use	b) i) yes ii) no	b) Nominal
c) Type of methods used	c) i) modern ii) traditional	c) Categorical
d) Use of Postinor	d) i) yes ii) no	d) Nominal
Independent Variables- Psycho-socio Characteristics		
a) Women's financial autonomy	a) i) yes ii) no	a) Nominal
b) Attitude regarding gender role	b) i) lower ii) moderate iii) higher	b) Ordinal
c) Attitude regarding battering	c) i) lower ii) moderate iii) higher	c) Ordinal
d) Attitude regarding sexual autonomy	d) i) lower/negative ii) higher/positive	d) Ordinal
Independent Variables-Risk Behavior		
a) Women's use of alcohol	a) i) yes ii) no	a) Nominal
b) Women's use of tobacco	b) i) yes ii) no	b) Nominal
c) Partner's use of alcohol	c) i) yes ii) no	c) Nominal
d) Partner's sexual relations outside the relationship	d) i) yes ii) no	d) Nominal
Intervening Variable-Intimate Partner Violence		
a) Intimate partner violence	a) i) no violence ii) both physical and sexual violence iii) only physical iv) only sexual	a) Categorical

3.5 Proposed Analysis

Statistical Package for Social Science (SPSS 12 for Windows) was used for analysis. Initially, frequency distributions and crosstabs were used to identify some of the major background characteristics of the study population. Cross tabulations and Chi-square distributions were used to obtain a preliminary idea of the relationship between the dependent, intervening, and independent variables.

Correlation was used to check the colinearity of the independent variables. Finally, regression model was used to examine the strength of the relationship between the dependent and independent variables in order to identify those variables that have a significant relationship with the dependent variable. Also, another regression model was examined to see the effect of the intervening variable on the dependent variable.

3.6 Limitations of the Study

For this study data from a secondary source were also used, namely, from the WHO Multi-country Study on Women's Health and Domestic Violence against Women, conducted in Thailand. The major limitations of the study are: it deals with the last pregnancy that occurred during the five years previous to the survey while IPV data were collected for all years. Besides this limitation, recall bias and under reporting may lead to under estimates of unintended pregnancy and IPV rate.

CHAPTER IV
RESULTS AND DISCUSSIONS

4.1 Selected Background Characteristics of the Sample

4.1.1 Demographic Characteristics

The general background characteristics of the respondents are presented in Table 1 according to their demographic characteristics. The sample for the study comprises 531 respondents. In terms of the partnership status, all women had only one intimate partner over their life course. Among them 87.2 percent were currently married and co-residing, 7.7 percent were living together not married, about 1 percent had a regular partner living apart, and 4.1 percent were separated, widowed, or divorced.

In the case of age distribution of respondents, the majority (55.9%) were between 25-34 years, one-fourth in the age group 35 years or over, and another 17.5 percent in the age group below 25. Regarding the age distribution of the current intimate partner, age group 25-34 years (46%) and 35 or over (46.3%) comprised the overwhelming majority of intimate partners; another 7.7 percent of intimate partners were below age 25.

As for the number of living children, it was found that on average the women had 1.8 live births. Among all the women, 85.1 percent had given birth to one (42.7%) or two (42.4%) children. Another 14.9 percent had 3 or more live children.

Table 1: Percentage distribution of sampled women by selected demographic characteristics

Characteristics	Percent	Number
Partnership and marital status		
Currently married	87.2	463
Co-habitating	7.7	41
Non-cohabitating intimate partner	0.9	5
Separated/divorced/widowed	4.1	22

Table 1: Percentage distribution of sampled women by selected demographic characteristics (continued)

Characteristics	Percent	Number
Age of respondents (years)		
Below 25	17.5	93
25-34	55.9	297
35 or more	26.6	141
Mean = 30.61 SD=6.08		
Age of partner/husband		
Below 25	7.7	41
25-34	46.0	244
35 or more	46.3	246
Mean = 34.12 SD=7.57		
Number of living children		
One	42.7	227
Two	42.4	225
Three or more	14.9	79
Mean = 1.76 SD=0.84		

(n=531)

4.1.2 Socio-Economic Characteristics

Table 2 presents the frequency distribution of the sample population by selected socio-economic characteristics such as women's education, partner's education, and socio-economic status. In terms of educational attainment of respondents, only 1.7 percent had no education at the time of the interview. This indicates high literacy rate in Thailand. The completion of primary education is quite high (44.6%), followed by 30 percent who completed secondary, and about one-fifth who had completed higher education.

When looking at the educational attainment of the intimate partner, it was found that for 3 cases data are missing or no information was provided. Thirteen women reported that they did not know their partner's educational status. So among 515 cases, data show that the largest group of husband/partner (39.6%) was the group that had completed primary education. A third of partners had completed secondary school, and another quarter (27.6%) had attended college, university, or even higher level.

Comparing the educational attainment of women to their partners it was found that the percentage of attainment in primary education is higher for women. But for secondary and higher education, the partners' level was higher.

Regarding the socio-economic status in the household, 40 percent of women had higher socio-economic status, half of the total had medium status, and another 10 percent had lower socio-economic status in the household. So data reveal that a majority of women had a favorable socio-economic condition. According to Table 14 (See Appendix), half of the total number of households had a source of pure drinking water, 94.5 percent had a flush toilet facility, 85.5 percent had a radio, 96.2 percent had a television, 48.8 percent had a telephone, 87.8 percent had a refrigerator, 48.6 percent had a bicycle, 61.4 percent had a motorcycle, 42.9 percent had a car and 66.7 percent had land. Each of these assets was given a value of one to measure the level of socio-economic status.

Table 2: Percentage distribution according to socio-economic characteristics

Characteristics	Percent	Number
Respondents level of education		
Illiterate	1.7	9
Primary	44.6	237
Secondary	29.9	159
Higher	23.7	126
Partner's/husband's level of education*		
Primary	39.6	204
Secondary	32.8	169
Higher	27.6	142
Socio-economic status		
Lower (1-4)	10.0	53
Medium (5-7)	50.1	266
Higher (8-10)	39.9	212
Mean=6.84 SD=1.70 Minimum=1 Maximum=10		

(* 16 missing cases; n=531)

4.1.3 Contraceptive Behavior

Table 3 presents the frequency distribution of the sample population by selected contraceptive behavior, such as previous use of contraception, current use of contraception, type of contraceptive methods used, and use of Postinor. Concerning the use of contraceptive methods it is quite high, about 93 percent women ever used

any contraceptive methods and only 7 percent had never used any contraception. The study also confirms that 2.5 percent of women were currently pregnant. Again, excluding the 23 missing cases and women who were currently pregnant, 85.3 percent of respondents were currently using contraceptive methods, which is quite high and satisfactory as compared to other developing countries. Another satisfactory result among current contraceptive users was that 95.7 percent women used modern methods. Besides the regular contraceptive methods, in Thailand the post-coital contraceptive pill (Postinor) is also available, and 7.3 percent women reported having used Postinor, 61.8 percent never having used it, and a quite large percentage (30.9%) did not know about Postinor.

Table 3: Percentage distribution of women according to their contraceptive behavior

Characteristics	Percent	Number
Ever use of contraception		
Never	6.8	36
Ever	93.2	495
Current use of Contraception*		
Yes	85.3	422
No	14.7	73
Type of method used (currently)		
Modern methods	95.7	404
Traditional methods	4.3	18
Ever use of Postinor		
Yes	7.3	39
No	61.8	328
Don't know	30.9	164

(* 23 missing cases; n=531)

4.1.4 Psycho-Socio Characteristics

Table 4 presents the frequency distribution of the respondents according to some selected psycho-socio characteristics, such as women's financial autonomy, women's attitude toward gender role, attitude toward battering and attitude toward sexual autonomy. Regarding financial autonomy, it was found that about one-fourth of the women (23.5%) do not have financial autonomy and that another one-third (76.5%) do have financial autonomy, such as owning either land or a house or business or having another source of income. According to Table 15 (See Appendix),

43.1 percent women own land (27.8 % by themselves and 15.3% with others), 49 percent own a house (19.6% by themselves and 29.4% with others), and 13.2 percent own a company or business (4.1% by themselves and 9.1% with others). The study also shows that 28.6 percent of women earn money. So women who had any one of the above assets or who earn money were considered to be financially autonomous.

Regarding women's attitude regarding gender roles, it was found that only 15.8 percent of women had a higher level with regard to attitude concerning gender roles, while 53.1 percent and 31.1 percent had moderate and low levels, respectively. The mean score of attitude on gender role is 3.2 from the total of 7 scoring points and the minimum and maximum value is 0 and 6 respectively (Table 4).

According to Table 16 (See Appendix), the questions for which most of the respondents registered a positive attitude on gender roles were "It is important for a man to show his wife/partner who is the boss," "A woman should be able to choose her own friends even if her husband disapproves," and "A good wife obeys her husband even if she disagrees with his thoughts or his actions." About 78.4 and 75.1 percent of answers supported higher positive attitude regarding gender roles for the first and second ones respectively among all answers. The question support lower attitude toward gender role was "Family problems should only be discussed with people in the family," which showed only 19 percent. Also it is noted that only 48.2 percent women disagreed with the statement "It's a wife's obligation to have sex with her husband even if she doesn't feel like it."

Regarding attitude toward battering, it was found from Table 4 that quite a large percentage (76.5) of women had a greater supportive attitude toward battering, whereas 19.4 percent and about 4.1 percent had moderate and lower supportive attitudes. The mean score of attitude toward battering was 5 from a total of 6 scoring points. The level of attitude toward battering was assessed by scoring the answers of all six questions, one score for each negative answer, and zero score for each positive/ not know answer.

According to Table 17 (See Appendix), all questions support the highest attitude toward battering except for the question "Does a man have good reason to hit his wife if he finds out that she has been unfaithful?" The question given highest supportive answer was "Does a man have good reason to hit his wife if she asks him

whether he has other girlfriends" and the percentage was 97.2. On the other hand, the least answer showed that only 43.5 percent of women supported the attitude toward battering.

Concerning the attitude regarding sexual autonomy, it was found that quite a large percentage of women (64.8%) had a strong positive attitude. On the other hand only 35.2 percent had a negative attitude. Five questions were used to assess attitude regarding sexual autonomy. If all the answers were "yes," then it a strong attitude regarding sexual autonomy was assumed. Otherwise, if any question was answered "no," this was considered to indicate lower supportive attitude regarding sexual autonomy. Because if any women answered "no" to any question, it was assumed to mean that she didn't to have a strong positive attitude regarding sexual autonomy.

According to Table 18 (See Appendix), all the questions support the highest positive attitude toward sexual autonomy. The question given the highest number of "yes" response (97.9%) is "In your opinion, can a married woman refuse to have sex with her husband if: She is sick?"; The question "In your opinion, can a married woman refuse to have sex with her husband if: When wife wants to use condom and husband doesn't want to" elicited the fewest "yes" responses and the percentage is 82.3 which is still high and satisfactory.

Table 4: Percentage distribution of respondents by some selected psycho-socio characteristics

Characteristics	Percent	Number
Financial autonomy		
Yes	76.5	406
No	23.5	125
Attitude regarding gender roles		
Lower (0-2)	31.1	165
Moderate (3-4)	53.1	282
Higher (5-6)	15.8	84
Mean 3.2, Minimum 0, Maximum 6, SD=1.36		
Attitude regarding battering		
Lower (1-2)	4.1	22
Moderate (3-4)	19.4	103
Higher (5-6)	76.5	406
Mean=5.0, Minimum=1 Maximum=6 SD=1.14		
Attitude regarding sexual autonomy		
Negative/Lower	35.2	187
Positive/Higher	64.8	344

(n=531)

4.1.5 Risk Behavior Factors

Regarding the risk behavior of women during their last pregnancy, 5.8 percent of women reported that they had drunk alcohol and 94.2 percent that then did not. Again, data show that 4.1 percent women had a habit of using tobacco, and that 95.9 percent did not.

Concerning the partner's use of alcohol, 27.3 percent of women reported that their partner never used alcohol while 72.7 percent that their partner did use alcohol though frequency of alcohol consumption varied from user to user. About 27.7 percent drank everyday, 26.9 percent once/twice a week, 20.2 percent 1 to 3 times a month and another one-fourth (25.1%) less than once a month.

Concerning the other sexual behavior of women's partners, one-fifth of all women's partners had had sexual relations with other women. This figure may be more than the study findings as these responses were gathered from women and many of them may not be aware of their partner's other sexual relations. Also about 12 percent claimed that they did not know or were not sure about their partner's sexual relations outside the relationship.

Table 5: Percentage distribution of women according to risk behavior

Characteristics	Percent	Number
Alcohol use by women during pregnancy		
Yes	5.8	31
No	94.2	500
Smoking by women during pregnancy		
Yes	4.1	22
No	95.9	509
Partner's / husband's use of alcohol		
Yes	72.7	386
No	27.3	145
Partner's sexual relations outside the relationship		
Yes	19.4	103
No	68.7	365
Don't know/ Not sure	11.9	63

(n=531)

4.1.6 Abuse and Intendedness of Pregnancy

Table 6 presents the frequency distribution of the sample population according to selected abuse and intendedness of pregnancy. Regarding the abuse history, a large

percentage of women (59.5%) did not report any type of physical or sexual violence in their lifetime that was committed by their partner. But quite a large percentage of women (40.5%) reported that they had experienced some form of physical (13.0%), sexual (16.6%), or both types of violence (10.9%) in their lifetime. Also one-fourth of women reported that they had experienced some form of physical (6.6%), sexual (11.9%), or both types of violence (5.3%) in the last 12 months preceding the survey. But this study does not attempt to record the number of occurrences during their lifetime. According to Table 19 (See Appendix), about 15 percent of women reported that their partner slapped or threw something at her that could hurt her. Also about 14 percent claimed that a partner pushed or shoved her. Table 20 (See Appendix) shows that among the sexual abuse variables, the highest percentage of women (25.6%) reported that they had previously had sexual intercourse with their partner though they didn't want to but were afraid of what their partner might do otherwise.

On preliminary analysis of the data, 64 percent of respondents reported that their last pregnancy within the previous five years was intended, 21.1 percent reported it as mistimed, 11.7 percent reported that they did not want the child at all, and 3.2 percent that they didn't mind either way. For the purpose of the study the pregnancies of women who waited until later for child were considered as unintended. So, finally, 67.2 percent of the respondents reported that their last pregnancy within the previous five years was intended whereas the rest, 32.8 percent, reported that the pregnancy was unintended. This study will concentrate on these two categories.

Table 6: Percentage distribution of women by abuse and pregnancy intendedness

Characteristic	Percent	Number
Intimate partner violence (ever)		
No violence	59.5	316
Both physical and sexual	10.9	58
Only physical	13.0	69
Only sexual	16.6	88
Intimate partner violence (last 12 months)		
No violence	76.3	405
Both physical and sexual	5.3	28
Only physical	6.6	35
Only sexual	11.9	63
Pregnancy intendedness		
Intended	67.2	357
Unintended	32.8	174

(n=531)

4.2 Factors Affecting Pregnancy Intendedness

Results from the Bivariate Analysis

Bivariate analysis was conducted to explore the factors affecting the unintended pregnancy among the women in Thailand.

4.2.1 Demographic Factors

Marital Status

From Table 7, it is clear that the pregnancy rate is higher among the women who had previously or were currently married. More than half of the unmarried respondents reported that they experienced unintended pregnancy whereas about only one-third of married women reported that their pregnancy was unintended, which is lower as compared to never married women. Further the Chi-square test shows that the effect of marital status on pregnancy intendedness is statistically significant.

Age of Women

The result shows that the unintended pregnancy rate is higher among women who were below age 25 (46.2%) or 35 and older (44%). Only 23.2 percent of women aged 25-34 experienced unintended pregnancy. The chi-square test provides evidence that the effect of respondent's age group on pregnancy intendedness is statistically significant.

Age of Partner/Husband

The findings show that the rate of unintended pregnancy decreases as the partner's age increases. The unintended pregnancy rate is low for those whose partner's age is 35 or older–only 30.5 percent. Similarly, the rate is low (31.1%) among women whose partner's age is between 25 and 34. Among women whose partner's age was below 25, 56.1 percent experienced unintended pregnancy, which is quite high as compared to other groups. This result indicates that partner's age had an influence on pregnancy intendedness. The Chi-square test also shows the effect of partner's age group on pregnancy intendedness is statistically significant.

Number of Living Children

Table 7 shows that unintended pregnancy increases with the increase in the number of living children. The unintended pregnancy rate is very high (60.8%) among women who have three or more living children. The unintended pregnancy rate is 26 percent among women who have one child, and about 30 percent among women who have two children. The Chi-square test shows the effect of number of living children on intendednes of pregnancy is statistically significant.

Table 7: Percentage distribution of women who experienced intended and unintended pregnancy by selected demographic characteristics

Characteristics	n	Pregnancy intendedness		χ^2	P Value
		Intended	Unintended		
Marital status				8.61	0.003
Ever married	485	69.1	30.9		
Never married	46	47.8	52.2		
Age of respondent (years)				27.95	0.000
Below 25	93	53.8	46.2		
25-34	297	76.8	23.2		
35 or more	141	56.0	44.0		
Age of partner (years)				11.00	0.004
Below 25	41	43.9	56.1		
25-34	244	68.9	31.1		
35 or more	246	69.5	30.5		
Number of living children				33.74	0.000
1	227	74.0	26.0		
2	225	70.2	29.8		
3 or more	79	39.2	60.8		

(n=531)

4.2.2 Socio-Economic Factors

Women's Education

Table 8 shows that unintended pregnancy decreased with women's higher level of education. The unintended pregnancy rate was high (37.1%) among women who had completed only secondary education, as it was for women who had completed only primary education or who were illiterate (32.5%). On the other hand, only 27.8 percent of women who experienced unintended pregnancy had a higher education. But

the Chi-square test shows that there is no association among pregnancy intendedness and women with different level of education.

Husband's Education

The findings show that the unintended pregnancy rate is higher (38%) among women whose partner had completed only secondary education. On the other hand, unintended pregnancy rate was low (26%) whose partner has higher education. The rate was highest of all (32%) for partner's with only a primary education. This result indicates that partner's educational attainment has an effect on pregnancy intendedness and the Chi-square test shows the effect is statistically significant.

Socio-Economic Status

The rate of unintended pregnancy increased with decrease in the level of socio-economic status. The highest socio-economic status group had experienced the lowest rate (28.3%) of unintended pregnancy. At the same time, 33 percent of women with medium socio-economic status experienced unintended pregnancy, followed by about 50 percent for those whose socio-economic status was lowest. The Chi-square test also shows the effect of socio-economic status on unintended pregnancy is statistically significant.

Table 8: Percentage distribution of women who experienced intended and unintended pregnancy by selected socio-economic characteristics

Characteristics	n	Pregnancy intendedness		χ^2	P Value
		Intended	Unintended		
Respondent's level of education				2.79	0.248
Illiterate* & primary	246	67.5	32.5		
Secondary	159	62.9	37.1		
Higher	126	72.2	27.8		
Partner's level of education**				4.95	0.084
Primary	204	68.1	31.9		
Secondary	169	62.1	37.9		
Higher	142	73.9	26.1		
Socio economic status				8.31	0.016
Lower	53	50.9	49.1		
Medium	266	66.9	33.1		
Higher	212	71.7	28.3		

(*Illiterate= 9 cases; ** 16 missing cases; n=531)

4.2.3 Contraceptive Behavior Factors

Contraceptive Use

From Table 9, the findings show the effect of previous use of contraceptives on unintended pregnancy. The rate of unintended pregnancy was higher (33.1%) among women who had previously used contraception than among those who had never used it (27.8%). The Chi-square test, however, shows that the effect of women's contraceptive use on unintended pregnancy is not statistically significant. But current contraceptive users experienced less unintended pregnancy than non current users (31.5% vs. 42.5%) and the effect of current contraceptive use on pregnancy intendedness is statistically significant. Also modern method users experienced more unintended pregnancy than the traditional method user (31.7% vs. 27.8%). But the Chi-square test shows that the effect of types of method uses on pregnancy intendedness is not statistically significant.

Table 9: Percentage distribution of women who experienced intended and unintended pregnancy by contraceptive behavior factors

Characteristics	n	Pregnancy intendedness		χ^2	P Value
		Intended	Unintended		
Previous contraception user				0.437	0.509
Yes	495	66.9	33.1		
No	36	72.2	27.8		
Current contraceptive user*				3.37	0.066
Yes	422	68.5	31.5		
No	73	57.5	42.5		
Type of method user**				0.122	0.727
Modern	404	68.3	31.7		
Traditional	18	72.2	27.8		

(n=531; *, n=495; **, n=422)

4.2.4 Psycho-Socio Factors

Women's Financial Autonomy

Results show (Table 10) that the rate of unintended pregnancy was lower (31%) among women who had financial autonomy. On the other hand, the rate of

unintended pregnancy was higher (38.4%) among women who didn't have any financial autonomy. However, the Chi-square test provides evidence that there is no significant association between unintended pregnancy and women's financial autonomy. Cross tabulations between women's financial autonomy and previous history of abuse show that among women who had financial autonomy, 38 percent reported having experienced some form of abuse, but this rate is even higher (47%) for women who didn't have financial autonomy. Also the Chi-square test shows that women's financial autonomy has a significant effect on abuse.

Women's Attitude Concerning Gender Roles

In this study, the highest percentage of women who experienced unintended pregnancy (33.7%) displayed a moderate attitude concerning gender equality. Thirty three percent of women had a strong attitude concerning gender equality, experienced unintended pregnancy. This rate is comparatively low (31%) for those who display a lower attitude concerning gender equality. From this evidence it can be seen that women who had higher positive attitude regarding gender equality are more likely to experience unintended pregnancy than women who showed lower positive attitude toward gender equality. It indicates that experience of unintended pregnancy may lead women to expose their strong attitude regarding gender equality. Results showed that women's attitude concerning gender equality has no effect on unintended pregnancy. Chi-square test has also confirms that the effect of women's attitude about gender equality on unintended pregnancy is statistically insignificant. In terms of abuse, 45.5 percent of women who showed lower positive attitude toward gender roles reported previous abuse, which is higher as compared to women who showed moderate attitudes and higher positive attitudes toward gender roles (38% & 39% respectively).

Women's Attitude Concerning Battering

Again study shows that women whose attitude concerning battering is positive and higher, responded that they had experienced 32.5 percent unintended pregnancy whereas 34 percent of women, who had experienced unintended pregnancy, showed moderate support concerning battering and 31.8 percent of women showed lower

attitude toward battering. The Chi-square test shows that the effect of attitude concerning battering on pregnancy intendedness is statistically insignificant. So this variable does not show any association with pregnancy intendedness. Experience of unintended pregnancy and experience of abuse may be the reason to gain better attitude regarding battering. But in terms of abuse, women who showed lower positive attitude toward battering among half of them reported ever experience of abuse which was higher as compared to women who supported moderate and higher positive attitude toward battering (45.6% & 38.7% respectively).

Women's Attitude toward Sexual Autonomy

Similarly, from Table 10 it is clear that the unintended pregnancy rate is high (36.9%) among women who showed lower positive attitude toward sexual autonomy as compared to women who showed strong attitude on sexual autonomy (30.5%). The effect of women's attitude toward sexual autonomy on unintended pregnancy was statistically insignificant. About half of women, who supported lower positive attitude on sexual autonomy, reported some form of previous abuse, which was higher compared to women who supported higher positive attitude toward sexual autonomy. This means that women's attitude on sexual autonomy has an effect on abuse. Chi-square test confirms that the effect of women's attitude about sexual autonomy on abuse is statistically significant.

Table 10: Psycho-socio characteristics of respondents by pregnancy intendedness and abuse

Characteristics	n	Pregnancy intendedness		Ever abused	
		Intended	Unintended	No	Yes
Financial autonomy of women					
Have autonomy	406	69.0	31.0	61.6	38.4
Don't have autonomy	125	61.6	38.4	52.8	47.2
Chi-square test		χ^2 =2.35, p=0.125		χ^2 =3.06, p=0.080	
Attitude toward gender roles					
Lower	165	69.1	30.9	54.5	45.5
Moderate	282	66.3	33.7	62.1	37.9
Higher/Strong	84	66.7	33.3	60.7	39.3
Chi-square test		χ^2 =0.379, p=0.827		χ^2 =2.49, p=0.287	

Table 10: Psycho-socio characteristics of respondents by pregnancy intendedness and abuse (continued)

Characteristics	n	Pregnancy intendedness		Ever abused	
		Intended	Unintended	No	Yes
Attitude concerning battering					
Lower	22	68.2	31.8	50.0	50.0
Moderate	103	66.0	34.0	54.4	45.6
Higher/Strong	406	67.5	32.5	61.3	38.7
Chi-square test		χ^2 =0.090, p=0.956		χ^2 =2.51, p=0.285	
Attitude toward sexual autonomy					
Lower/negative attitude	187	63.1	36.9	52.9	47.1
Higher/positive attitude	344	69.5	30.5	63.1	36.9
Chi-square test		χ^2 =2.24, p=0.135		χ^2 =5.17, p=0.023	

(n=531)

4.2.5 Risk Behavior Factors

Women's Use of Alcohol during Pregnancy

The results showed that unintended pregnancy rate was higher among women who were using alcohol during the pregnancy, which was 58 percent. On the other hand, only 31 percent unintended pregnancies occurred among women who were not using alcohol during pregnancy, the Chi-square test shows that there is significant association among alcohol consumption and pregnancy intendedness.

Women's Use Tobacco during Pregnancy

From Table 11, it is found that unintended pregnancy rate was higher (59%) among women who were using tobacco during their pregnancy, whereas among women who were not using tobacco, only 31.6 percent experienced unintended pregnancy. The effect of tobacco use during pregnancy on intendedness of pregnancy is statistically significant through Chi-square test.

Partner's Use of Alcohol

Again findings showed that the rate of unintended pregnancy decreased if women's partner didn't have habit of alcohol consumption. Women whose partner

never drank alcohol among them 28.3 percent had experienced unintended pregnancy. On the other hand, 34.5 percent of women whose partner had habit of alcohol consumption reported experience of unintended pregnancy. But Chi-square test shows that there is no significant association between women whose partner had habit of alcohol consumption on pregnancy intendedness.

Partner's Sexual Relations outside the Relationship

Study findings showed that the rate of unintended pregnancy was high when partners had sexual relations with other women. The results showed that more than fifty percent unintended pregnancies occurred among women whose partner had sexual relations outside their relationship, whereas the rate was quite low among women whose partner's didn't have such kind of relations with other woman and when women were not sure about such kind of relationship. Chi-square test shows that there is significant association among women whose partner had sexual relations outside their relationship on pregnancy intendedness.

Table 11: Percentage distribution of women who experienced intended and unintended pregnancy by the risk behaviors

Characteristics	n	Pregnancy intendedness		χ^2	P Value
		Intended	Unintended		
Women's use of alcohol				9.56	0.002
Yes	31	41.9	58.1		
No	500	68.8	31.2		
Women's use of tobacco				7.22	0.007
Yes	22	40.9	59.1		
No	509	68.4	31.6		
Partner's use of alcohol				1.83	0.176
Yes	386	65.5	34.5		
No	145	71.7	28.3		
Partner's sexual relations outside the relationship				22.43	0.000
Yes	103	47.6	52.4		
No	365	72.1	27.9		
Not sure	63	71.4	28.6		

(n=531)

4.2.6 Abuse Factors

Table 12 showed the effect of intimate partner violence on intendedness of pregnancies. The results showed that the rate of intended pregnancy among sampled women who never experienced violence was highest (77.2%), whereas unintended pregnancy rate was higher among women who previously had experienced sexual (44.3%), physical (43.5%) or both types of violence (56.9%) than women who had never experienced any types of violence (22.8%). It is clear from the Table that the rate of unintended pregnancy is higher among the women who experienced both types of violence than the women who experienced only physical or only sexual violence. Study findings also conclude that an unintended pregnancy rate is high among women who experienced only sexual violence than women who experienced only physical violence, but this difference is very negligible. The Chi-square test in this study shows the effect of intimate partner violence on pregnancy intendedness is statistically significant. Similarly the effect of intimate partner violence which occurred within previous 12 months has an effect on unintended pregnancy. The rate of unintended pregnancy is high among women who reported any form of violence as compared to women who didn't experience violence during previous 12 months preceding the survey. A Chi-square test shows that the effect of intimate partner violence (during the previous 12 months) on pregnancy intendedness is statistically significant.

Table 12: Percentage distribution of women who experienced intended and unintended pregnancy by abuse

Characteristics	n	Pregnancy intendedness		χ^2	P Value
		Intended	Unintended		
IPV (ever)				38.54	0.000
No violence	316	77.2	22.8		
Both physical and sexual	58	43.1	56.9		
Only physical	69	56.5	43.5		
Only sexual	88	55.7	44.3		
IPV (last 12 months)				23.86	0.000
No violence	405	72.3	27.7		
Both physical and sexual	28	42.9	57.1		
Only physical	35	42.9	57.1		
Only sexual	63	58.7	41.3		

4.3 Results of Multivariate Analysis and Discussion

The logistic regression analysis examined all independent variables at the multivariate level. The variables that are significant at the bivariate level are reexamined, controlling for other variables in the multivariate analysis to have a clearer identification of the significant factors. In the multivariate analysis, two models were used to see the effect of independent variables. So the first model includes all independent variables except the intervening variable. But second model includes all independent variables as well as an intervening variable to see the influence of intervening variable on the dependent variable.

Table 13 presents the binary logistic regression coefficient in relation to unintended pregnancy. In the bivariate analysis most of the independent variables are significant but when it has included in the logistic regression model many of these variables do not show any significant effect on dependent variable.

The binary logistic regression model was developed by using the following dependent and independent variables.

The independent variables are:

- Marital status, age of respondents, age of partner, and number of living children
- Respondent's education, partner's education, and socio-economic status.
- Contraceptive use
- Women's financial autonomy, women's attitude toward gender roles, attitude concerning battering, and attitude concerning sexual autonomy
- Women's use of alcohol, women's use of tobacco, partner's use of alcohol, and partner's sexual relations outside the relationship
- Previously abused by intimate partner

The dependent variable was whether the pregnancy was intended or unintended.

The findings in Table 13 show that marital status has an influence on unintended pregnancy. The odds of unintended pregnancy for women who were never married are 2.6 times higher as compared with the previous married women after controlling for all the independent variables in this study. It means that women who

are not married but have the sexual partner are more vulnerable to experience unintended pregnancy. Also the coefficient (B) shows the significant positive association between marital status and unintended pregnancy and the findings confirmed the hypothesis. This finding is consistent with the previous studies that unmarried women are more likely to experience unintended pregnancy as compared with married women (Goto et al., 2002; Gross, 2002; Eggleston, 1999).

Table 13: Logistic regression coefficient of pregnancy intendedness by socio-demographic, psycho-socio, contraceptive use, risk behavior and abuse factors

Variables	Model 1		Model 2	
	B	Exp(B)	B	Exp(B)
Marital status				
Never married	0.968**	2.634	0.965**	2.624
Ever married **(Ref.)**				
Age of respondents (years)				
35 or more	0.098	1.103	0.083	1.086
25-34	-1.167**	0.311	-1.123**	0.325
Below 25 **(Ref.)**				
Age of partner (years)				
35 or more	-1.419**	0.242	-1.486**	0.226
25-34	-0.453	0.636	-0.513	0.599
Below 25 **(Ref.)**				
No. of living children				
2 children	1.140***	3.126	1.202***	3.327
3 or more	2.650***	14.157	2.708***	14.999
1 child **(Ref.)**				
Respondent's education				
None & primary	-0.715*	0.489	-0.778*	0.459
Secondary	-0.069	0.933	-0.079	0.924
Higher**(Ref.)**				
Partner's education				
Primary	-0.055	0.946	0.043	1.044
Secondary	0.516	1.675	0.536	1.709
Higher **(Ref.)**				
Socio-economic status				
Lower	0.716*	2.046	0.597	1.817
Moderate	0.486*	1.626	0.393	1.481
Higher **(Ref.)**				
Contraceptive use				
Never	-0.447	0.639	-0.374	0.688
Ever **(Ref.)**				
Financial autonomy				
Don't have	0.337	1.400	0.331	1.393
Have **(Ref.)**				

***p<0.001; **p<0.05; * p<0.10

Table 13: Logistic regression coefficient of pregnancy intendedness by socio-demographic, psycho-socio, contraceptive use, risk behavior and abuse factors (continued)

Variables	Model 1		Model 2	
	B	Exp(B)	B	Exp(B)
Attitude toward gender roles				
Lower	-0.322	0.725	-0.329	0.720
Moderate	0.045	1.046	-0.033	1.034
Higher **(Ref.)**				
Attitude toward battering				
Lower	-0.308	0.735	-0.407	0.666
Moderate	-0.104	0.901	-0.152	0.859
Higher **(Ref.)**				
Attitude toward sexual autonomy				
Weaker	0.340	1.405	0.315	1.370
Stronger **(Ref.)**				
Respondents use of alcohol				
Yes	0.369	1.446	0.512	1.668
No **(Ref.)**				
Respondents use of tobacco				
Yes	1.052*	2.862	0.842	2.320
No **(Ref.)**				
Partners use of alcohol				
Yes	0.327	1.387	0.300	1.350
No **(Ref.)**				
Partners sexual relations outside the relationship				
Yes	1.031***	2.803	0.866**	2.377
No **(Ref.)**				
Ever abused by partner				
Physical only			0.540	1.716
Sexual only			1.034***	2.812
Both physical and sexual			0.886**	2.425
Never abused **(Ref.)**				
Constant	-2.482***	0.084	-2.790***	0.271

***p<0.001; **p<0.05; * p<0.10

The findings of logistic regression analysis indicate that age of women has an influence on unintended pregnancy. The women who are aged between 25-34 years are 69 percent less likely to experience unintended pregnancy than those who are aged below 25 years and the coefficient shows significant negative association. Again findings show that older women are 1.1 times more likely to experience unintended pregnancy than women who are aged below 25 years. So study confirms the hypothesis that older women are more likely to experience unintended pregnancy than younger. Though similar findings are also found from other studies by Pallitto &

O'Campo[a] (2004), Okonofua et al. (1999), Goto et al. (2002), and Williams (1991) that older women are more likely to experience unintended pregnancy and the coefficient shows a positive effect on unintended pregnancy, the possible reason may be that older women have lack of correct knowledge on family planning methods, which results unintended pregnancy.

Findings show that age of respondent's partner has an influence on unintended pregnancy. The women whose partner's age is between 25-34 years are 37 percent less likely to experience an unintended pregnancy than women whose partner's age is below 25 years. Also women whose partner's age is 35 years or above are 76 percent less likely to experience unintended pregnancy. Both coefficients show negative effect of partner's age on unintended pregnancy.

It is found that the number of living children is statistically associated with unintended pregnancy in bivariate analysis. Here in the multivariate analysis it is found that the women with 3 or more children have higher odds of unintended pregnancy than those who have one child and the coefficient shows positive effect on unintended pregnancy. Again it is found that for two children the effect is also significant and they are more likely to experience unintended pregnancy than who have one child. After controlling all the independent variables in this study, the odds of unintended pregnancy for women with 3 or more children is 14 times higher and with two children is 3 times higher compared to women who have one child. From the findings it reveals that women with two children are less likely (3.1) to experience unintended pregnancy than those women who have three or more children (14.2). The reason may be women in Thailand do not expect more than two children and their third child was not intended in this case. Because when the desired number of children is decreased then women are potentially at risk to experience an unintended pregnancy. The result B coefficient shows the positive association between number of living children and unintended pregnancy among the women and the findings also confirmed the hypothesis. This finding is consistent with the previous studies that unintended pregnancy rate increases with the increase of number of children (Pallitto & O'Campo[a], 2004; Kuning et al., 2004; Eggleston, 1999).

The findings of the logistic regression also indicate that the level of respondent's education has an effect on unintended pregnancy and the coefficient

shows that respondent's education has negative effect on unintended pregnancy. From the Table, it is found that the women who were illiterate or who had completed only primary school are 52 percent less likely to experience unintended pregnancy than the women who have completed higher education. Also women who have completed secondary education are 7 percent less likely to experience unintended pregnancy than women who have completed higher education. This finding contradicts the hypothesis and also contradicts with the previous studies that women with primary education are more likely to experience unintended pregnancy as compared with secondary or higher educated women (Goto et al., 2002; Gross, 2002; Eggleston, 1999). The possible answer may be that educated women do not pay much attention to their fertility.

Many theories suggest that higher socio-economic status can change women's behavior on reproductive health issues. The hypothesis is that when the household socio-economic status increases, then chances of unintended pregnancy will decrease. This study finding through logistic regression analysis indicates that the socio-economic status has an influence on unintended pregnancy. Women with moderate and lower socio-economic status are more likely to experience unintended pregnancy as compared to women with higher socio-economic status. Women with moderate socio-economic status are 1.6 times more likely to experience unintended pregnancy and it shows positive significant association. On the other hand, women with lower socio-economic status are 2 times more likely to experience unintended pregnancy than the women with higher socio-economic status and the coefficient shows significant positive effect on unintended pregnancy. This finding is consistent with the previous studies that unintended pregnancy rate decreases with the increase of household status (Pallitto & O'Campo[a], 2004; Eggleston, 1999; Kost & Forrest, 1995). The possible explanation may be that women who exhibit higher socio-economic status develop higher sense of independence to decide about the number of children.

Multivariate analysis shows that contraceptive use is not a predicting factor to determining unintended pregnancy. As it can be seen that women who had never used contraception are less likely to experience unintended pregnancy than previous or current user, which contradict with the hypothesis. Also findings show that women who showed higher positive attitude toward gender roles, higher positive attitude toward battering, weaker attitude toward sexual autonomy, and who don't have

financial autonomy are more likely to experience unintended pregnancy, but none of these variables show significant effect, which contradicts hypothesis.

The logistic regression Table indicates that the women's habit of smoking during pregnancy has an influence on unintended pregnancy. It is found that the odds of unintended pregnancy for women who had habit of smoking during pregnancy are 2.8 times higher as compared to women who didn't habit of smoking during the pregnancy. The coefficient B shows the positive association between women's habit of smoking during pregnancy and unintended pregnancy and the findings also confirmed the hypothesis. This is consistent with the result from a study by Weller (1987) that women with unintended pregnancies were more likely to use alcohol and cigarettes during pregnancy than women with intended pregnancies. It is clear that engaging in deleterious health behaviors, such as smoking, is harmful to women as they may not care about their sexual activity and pregnancy.

Again from the logistic regression analysis, it is found that partner's sexual relations outside the relationship have a strong influence on unintended pregnancy. The odds of unintended pregnancy for women whose partner had sexual relations outside their relationship are 2.8 times higher as compared to women whose partner doesn't have such sexual relations. The coefficient B shows the positive association between partner's sexual relations outside the relationship and unintended pregnancy and the findings also confirmed the hypothesis. Possible explanation may be that partner's sexual relations with other women may be a marker for increased risk of unintended pregnancy as they may not care their original sexual partner. According to this study and previous studies, partner's sexual relations with other women are viewed as one of the most egregious forms of VAW by women's eyes.

As mentioned earlier, model 2 has been developed to see the effect of all independent variables, including the intervening variable. From model 2, it is clear that after including the intervening variable in the analysis the effects of other independent variables on the dependent variable change significantly. In the first model socio-economic status and respondents use of tobacco was significant but in the second model these variables don't show any significant effect on unintended pregnancy. The effect of other variables remains almost same in both the models. So it is clear from the analysis that intervening variable act as intervening factor on

unintended pregnancy and that this variable has a significant effect on unintended pregnancy.

The findings derived from the previous bivariate analysis between previously abuse by partner and unintended pregnancy is again found significant in multivariate analysis after controlling all other independent variables. Here in multivariate analysis it is found that women who experienced both physical and sexual abuse have higher odds of unintended pregnancy than who never experienced any abuse and the relationship is highly significant. It is found that the effect of only physical abuse is not statistically significant with unintended pregnancy though women who experienced only physical violence are 1.7 times more likely to experience unintended pregnancy than women who never experienced any form of violence. But the effect of only sexual violence on unintended pregnancy is statistically significant and they are more likely to experience unintended pregnancy than those who never experienced any types of abuse. The odds of unintended pregnancy for women who experienced both types of abuse is 2.4 times higher, only with sexual abuse is 2.8 times higher and only physical abuse is 1.7 times higher compared to women who never experienced any forms of abuse in their life course. From the findings it reveals that women who experienced only physical violence have less likelihood (1.7) of experiencing unintended pregnancy than those women who have experienced only sexual (2.8) and both physical and sexual violence together (2.4). The possible reason may be that sexual violence is related to reproduction but physical violence doesn't have the direct relationship with reproduction or pregnancy. The coefficient, B shows a positive association between intimate partner violence and unintended pregnancy and the findings also confirmed the hypothesis. A couple of studies provides the evidence that women who had experienced intimate partner violence during pregnancy were more likely than non-abused women to report that pregnancy was unplanned or closely spaced (Amaro et al., 1990). This study finding is also consistent with the previous studies that unintended pregnancy rate is higher among women who experienced any form of physical or sexual violence or both types of violence (Pallitto & O'Campo[a], 2004; Kuning et al., 2004; Gazmararian et al., 1995).

CHAPTER V
CONCLUSIONS AND RECOMMENDTIONS

5.1 Summary

The purpose of this chapter is to summarize the major findings derived from the study and make the appropriate recommendations for policy formulations and take appropriate interventions for reducing the rate of unintended pregnancy among the women of reproductive ages in Thailand. Also this chapter will address some suggestions for further research on this issue.

The study was undertaken to describe the rate of unintended pregnancy according to the demographic characteristics of the respondents and their partners and also according to the psycho-socio characteristics, contraceptive behavior and risk behaviors as well as to try to explore the factors affecting the unintended pregnancy among the women of reproductive ages, in Thailand. For this purpose the study has analyzed the data from WHO Multi-country Study on Women's Health and Domestic Violence against Women in Thailand 2000. The survey interviewed a total number of 2817 women within the reproductive age ranges 15-49 years old. The study has considered only the women who had a history of previous birth during the previous five years preceding the survey as well as those who had only one intimate partner in their life course. The sample size for the study is a total of 531 respondents from the main sample used in the original survey.

The main purpose of the study is to investigate the factors affecting unintended pregnancy among the women in Thailand. For this purpose this study has included 16 independent and one intervening variable. The demographic variables included in the study such as marital status, age of respondents, age of partner, and number of living children. Socio-economic variables include respondent's level of education, partner's level of education, and socio-economic status. Moreover other independent variables included contraceptive behavior and psycho-socio variables such as women's financial autonomy, women's attitude toward gender roles, attitude concerning battering, and attitude toward sexual autonomy, and risk behavior variables such as women's use of alcohol, women's use of tobacco, partner's use of alcohol, and partner's sexual

relations outside the relationship. Finally the intervening variable is intimate partner violence.

For describing the status of unintended pregnancy, frequency distributions and cross tabulations have been used, whereas for assessing the impact of the independent variable and intervening variable on dependent variable, the Chi-square statistics and binary logistic regression technique have been used.

From the bivariate analysis among the 17 independent variables, ten are found significant but in multivariate analysis only seven independent variables are found significant after controlling other variables. The results in the analysis confirm that marital status, age of respondent, age of partner, number of living children, respondent's education, partner's sexual relations outside the relationship and ever abused by partner have significant effect on unintended pregnancy among women of reproductive age in Thailand.

5.2 Conclusions

Results of the analysis confirm the effect of marital status on the unintended pregnancy of women in Thailand. The analysis demonstrates the critical role of women's marital status in shaping unintended pregnancy. Greater attention needs to be paid to ensuring the legal marital status of women. Married women can share their reproductive health issues with their husband as they are responsible for caring their family. On the other hand, partner's other sexual relations engenders imbalanced power relations in the family and thereby fails to maintain a sense of harmony in the family. This relation is very important for the well being of women in their reproductive and sexual health issues.

Number of living children is an important predictor factor to determine the effect of unintended pregnancy. Age of respondent's and age of their partner is also an important factor on unintended pregnancy. Therefore it is imperative that service providers can play an important role among this target group through proper counseling on reproductive health issues including family planning services to reduce the rate of unintended pregnancy.

From the analysis of the study, findings show that a small number of women used alcohol and tobacco during their pregnancy and a large percentage of partners

used alcohol. But multivariate analysis shows only the significant positive effect of women's use of tobacco during pregnancy on unintended pregnancy. The reason may be that women who use tobacco, they are from well to do family and don't care about their sexuality and reproduction.

Study shows that partner's sexual relations outside the relationship is one of the important factors on unintended pregnancy. According to respondent's understanding study claims that about one-fifth of women's partners had sexual relations with other women. And the multivariate analysis reveals that whose partners had sexual relations with other women shows significant effect on unintended pregnancy. This confirms that the efforts need to control sexual relations outside their relationship to gain better interaction, understanding and environment with partner for enjoying better reproductive and sexual health.

The study shows that the prevalence of physical and sexual violence by intimate partners is quite alarming among women and at the same time unintended pregnancy is also high among them. So preventing intimate partner violence is also crucial to ensuring women's status in the house. Therefore, it is important that society as a whole play an important role in putting an end to violence against women. Thus communities and institutions need to share this responsibility to combat against violence.

5.3 Recommendations

In general, the problem of unintended pregnancy is not one for women only. To combat and overcome this problem, a holistic approach needs to be adopted, with the involvement of partners, service providers, community leaders, policy makers, lawmakers, and women themselves in the design and implementation of programs addressing the reproductive and sexual health and the problem of violence against women. As a result of the findings from this study, some specific recommendations can be made to reduce the rate of unintended pregnancy, namely:

1) to initiate more campaigns to discourage co-habiting and the resultant dangers of having multiple partners, which can improve the status of women both within the household and in society in general;

2) to encourage service providers to pay more attention to younger people (e.g., in terms of family planning education) since unintended pregnancy and IPV rates are high among this group;

3) to encourage government and NGOs to intervene in effective ways in order to raise consciousness with regard to reproductive and health issues among men and women, especially those who have completed secondary education;

4) to motivate family planning workers to make greater efforts to provide detailed information regarding post-coital contraception and to lengthen fertility counseling sessions;

5) to make special efforts to educate men regarding the need to improve the status of women at all levels in terms of socio-economic status and reproductive and sexual rights;

6) to conduct more campaigns through mass media about the dangers of alcohol and smoking among women and men;

7) to implement programs to stop violence against women by integrating anti-IPV programs with other health services for more effective policies and more consistent and effective implementation of laws to protect women;

8) to conduct more studies, especially qualitative studies to explore the issue of IPV and unintended pregnancy.

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APPENDIX

APPENDIX

Table 14: Percentage distribution of socio-economic status variables

Socio-economic Status Questions: Does your household have?	**Yes**	**No**
1) Source of pure drinking water	51.0	49.0
2) Flush toilet facility	94.5	5.5
3) A radio	85.5	14.5
4) A television	96.2	3.8
5) A telephone	48.8	51.2
6) A refrigerator	87.8	12.2
7) A bicycle	48.6	51.4
8) A motorcycle	61.4	38.6
9) A car	42.9	57.1
10) Any land	66.7	33.3
Mean=6.84 SD=1.70 Minimum=1 Maximum=10		

Table 15: Percentage distribution of assets

Questions: do you have?	**Own by self**	**Own with others**	**Own by self + Own with others**	**Do not own**
Land	27.8	15.3	43.1	56.9
House	19.6	29.4	49.0	51.0
A company or business	4.1	9.1	13.2	86.8

Table 16: Percentage distribution of attitude toward gender equality

Questions: Do you agree or disagree with the following statement?	**Percentage**	
	Agree	**Disagree**
1. A good wife obeys her husband even if she disagrees with his thoughts or his actions	28.2	***71.8***
2. Family problems should only be discussed with people in the family.	81.0	***19.0***
3. It is important for a man to show his wife/partner who is the boss	21.7	***78.4***
4. A woman should be able to choose her own friends even if her husband disapproves	***75.1***	24.9
5. It's a wife's obligation to have sex with her husband even if she doesn't feel like it	51.8	***48.2***
6. If a man mistreats his wife, others outside of the family should intervene.	***24.7***	75.3
Mean 3.2, Minimum 0, Maximum 6, SD=1.36		

(Bold italic numbers support a positive attitude on gender roles and n=630 for all the statement. Also, a negligible number of "do not know answer" has been merged with higher percentage of answer)

Table 17: Percentage distribution of attitude toward battering

Questions: In your opinion, does a man have a good reason to hit his wife if:	**Percentage**	
	Yes	**No**
1) She does not complete her household work to his satisfaction	5.5	94.5
2) She disobeys him	16.6	83.4
3) She refuses to have sexual relations with him	6.6	93.4
4) She asks him whether he has other girlfriends	2.8	97.2
5) He suspects that she is unfaithful	11.7	88.3
6) He finds out that she has been unfaithful	56.5	43.5
Mean=5.0, Minimum=1 Maximum=6 SD=1.14		

Table 18: Percentage distribution of attitude toward sexual autonomy

Questions: In your opinion, can a married woman refuse to have sex with her husband if:	**Percentage**	
	Yes	**No**
1) She doesn't want to*	84.9	15.1
2) He is drunk	88.1	11.9
3) She is sick	97.9	2.1
4) He mistreats her	91.5	8.5
5) When wife wants to use condom and husband doesn't want to	82.3	17.7

* 1 missing case

Table 19: Percentage distribution of physical violence

Questions: Has your current or past partner ever	**Percentage**	
	Yes	**No**
1) slapped you or threw something at you that could hurt you?	14.9	85.1
2) pushed you or shoved you?	13.9	86.1
3) hit you with his fist or with something else that could hurt you?	7.3	92.7
4) kicked you, dragged you or beat you up?	7.9	92.1
5) chocked or burnt you on purpose?*	3.6	96.4
6) threatened to use or actually used a gun, knife or other weapon against you?	3.8	96.2

* 2 missing cases

Table 20: Percentage distribution of sexual violence

Questions: Has your current or past partner ever	**Percentage**	
	Yes	**No**
1) physically forced you to have sexual intercourse when you did not want to?	5.5	94.5
2) did you ever have sexual intercourse you did not want because you were afraid of what he might do?	25.6	74.4
3) did he ever force you to do something sexual that you found degrading or humiliating?	4.1	95.9

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