

ความรุนแรงระหว่างคู่ครอง การสนับสนุนทางอารมณ์ และผลลัพธ์ด้านสุขภาพในสตรีไทย : การวิจัยแบบผสมผสาน

Intimate Partner Violence, Emotional Support and Health Outcomes among
Thai Women: A Mixed Methods Study

บทความวิจัย

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การวิจัยแบบผสมผสานสามเส้าด้วยวิธีลู่เข้า (convergent mixed methods) โดยมีการวิจัยเชิงคุณภาพฝังอยู่ในงานวิจัยเชิงปริมาณ ในรูปแบบวิจัยคู่ขนานครั้งนี้มีวัตถุประสงค์เพื่อ 1) หาตัวทำนายความรุนแรงระหว่างคู่ครอง 2) หาความสัมพันธ์ระหว่างความรุนแรงระหว่างคู่ครองกับผลลัพธ์ด้านสุขภาพ 3) ศึกษาการสนับสนุนทางอารมณ์ซึ่งเป็นตัวแปรสื่อ (Mediator) ระหว่างความรุนแรงในครอบครัวและผลลัพธ์ด้านสุขภาพ และ 4) ศึกษาประสบการณ์ความรุนแรงระหว่างคู่ครองในบริบทของไทย โดยใช้แบบสอบถามแบบมีโครงสร้าง และคำถามปลายเปิดในการเก็บข้อมูลจากกลุ่มตัวอย่างซึ่งเป็นผู้ป่วยสตรีที่มารับบริการ ณ โรงพยาบาลมหาวิทยาลัยในประเทศไทย ช่วงปี 2553 วิเคราะห์ข้อมูลเชิงปริมาณด้วยสถิติโมเดลสมการโครงสร้าง AMOS รุ่น 21.0 ส่วนข้อมูลเชิงคุณภาพวิเคราะห์โดยการวิเคราะห์เนื้อหา (Conventional content analysis)

ผลการวิจัยพบว่า รายได้ของครอบครัว การใช้สารเสพติด การดื่มสุรา และการเล่นการพนันของสามี เป็นตัวทำนายการเกิดความรุนแรงระหว่างคู่ครอง ความรุนแรงระหว่างคู่ครองมีความสัมพันธ์กับภาวะซึมเศร้า อาการทางกายภาพ และคุณภาพชีวิต การสนับสนุนทางอารมณ์เป็นตัวแปรสื่อของทางระหว่างความรุนแรงระหว่างคู่ครองกับผลลัพธ์ด้านสุขภาพ ข้อมูลเชิงคุณภาพแสดงให้เห็นถึงสาเหตุของการเปิดเผยหรือไม่เปิดเผยการมีความรุนแรงในครอบครัว

ผลการศึกษาซึ่งให้เห็นว่าการตรวจคัดกรองความรุนแรงในครอบครัวให้แก่ผู้ป่วยสตรีมีความจำเป็น และควรกำหนดให้เป็นภาระแห่งชาติในการต่อต้านความรุนแรงต่อสตรีในประเทศไทยต่อไป

คำสำคัญ : ความรุนแรง, การสนับสนุนทางอารมณ์, ภาวะซึมเศร้า, อาการทางกายภาพ, คุณภาพชีวิต, ตัวแปรสื่อของทาง

Abstract

This convergent mixed methods examined: 1) predictors of IPV; 2) the association between IPV and health outcomes; 3) emotional support as a mediator between IPV and health outcomes and 4) IPV experiences in the Thai context. Structured questionnaires and open-ended questions were used to collect data in 2010 among female patients at a hospital in Thailand. Quantitative data were analyzed using

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structural equation modeling with AMOS version 21.0. Qualitative data were analyzed by conventional qualitative data analysis. Results showed that predictors of IPV included family income, spousal drug use, spousal alcohol use, and spousal gambling behavior. IPV was associated with depression, physical symptoms, and the quality of life. Emotional support weakly mediated between IPV and health outcomes. Qualitative results captured antecedents of IPV, reasons for disclosure or nondisclosure of IPV, how emotional support mediated between IPV and health outcomes, recommendations for support needed to stop or deal with IPV, and plans if IPV continues. Findings from this study point to the need for routine screening for IPV among female patients and for a national campaign against IPV in Thailand.

Keywords: violence, emotional support, depression, physical symptoms, quality of life, mediator, structural equation modeling, convergent mixed methods

Significance and Literature Review

Intimate partner violence (IPV), an abuse by a spouse, is a global health problem that accounts for more than 1.5 million deaths each year (World Health Organization [WHO], 2014). Over 20% of these deaths occur in Southeast Asia where IPV is a significant, prevalent, and costly problem (WHO, 2014). In Thailand, the rates of IPV are reported to be up to 47% among women (Garcia-Moreno et al., 2006; Saito et al., 2012). Yet, IPV research in Thailand is not extensive; the mediating effect of emotional support between IPV and health outcomes (especially depression and the quality of life) have not yet been examined. In addition, little is known about what plans Thai female IPV victims have when future IPV occurs.

IPV acts in Southeast Asia can include setting women on fire, throwing acid at women's faces, and battering during pregnancy (WHO, 2014). IPV can occur in multiple forms—emotional, physical, and sexual—and yields negative effects on victims' physical and psychological health. Effects on physical health range from minor injuries to death; adverse effects on psychological health include depression and suicidal ideation/attempts (Bonomi et al., 2006; Saito et al., 2012).

Previous studies in different cultures reported that predictors of IPV include a partner's controlling

behavior, alcohol abuse, gambling addictions, and financial problems (Chan et al., 2011; Thananowan & Leelacharas, 2011). Although various types of violence are co-occurring in nature, most IPV studies examined the effect of each type of violence separately on health outcomes. Thus, our study used IPV as a latent variable, representing violence in real life, examining the effect of emotional, physical, and sexual violence on health outcome simultaneously.

Bell and Naugle's (2008) and Lazarus and Folkman's (1984) theories were modified to guide this study. Bell and Naugle's theory contextualizes IPV and includes motivating factors/antecedents (e.g., spousal drug/alcohol abuse & gambling addiction, income, and family status) as predictors of IPV. Lazarus and Folkman's theory of coping suggests individual coping resources (e.g., emotional support) can mediate negative health outcomes (e.g., physical/mental problems) among individuals who have experienced stress/trauma (in this study, women who have experienced IPV) (Figure 1). The objectives of the present study were to examine: 1) predictors of IPV; 2) the association between IPV and health outcomes (depression, physical symptoms, and the quality of life [QoL]); 3) emotional support as a mediator between IPV and health outcomes; and 4) IPV experiences in the Thai context.

Methods

Design. A convergent mixed methods study (correlational cross-sectional and qualitative description) was used to collect quantitative (QN) and qualitative (QL) data at one point, with the QN arm more dominant than the QL arm (Creswell & Plano Clark, 2011). The intent of a convergent design is to merge statistical QN results and open-ended QL question responses to develop a more complete understanding of a research problem (Creswell, 2014). Internal review boards in Thailand and the USA approved the study protocol. Data collection took place in 2010 at a large hospital in northeast Thailand. Before data collection, the first author trained data collectors who were registered nurses (RNs) to ensure: 1) data collection consistency; and 2) that the RNs know what to do if participants experience emotional distress during data collection. Eligible participants: were female patients (≥ 18 years old); were receiving care at the hospital at OB/GYN units; and who could read and write in Thai. Instead of written informed consent, verbal permission was used to protect participants from possible later harm from her partner. When the woman agreed to participate, a structured self-report questionnaire packet was administered in a private room with the RN's presence, in case emotional distress surfaces. At the completion of the packet, the RN gave each participant a $3'' \times 5''$ card with hotline telephone numbers for emergency help. None of the participants showed signs of emotional distress during and right after completion of the questionnaires and none called in for IPV emergency help.

Sample size. For the QN strand, the sample size was calculated based on a recommendation of 5-20 cases per parameter estimate (Kline, 2011). As shown in Figure 1, 55 parameters were to be estimated. With a sample size of 284, our ratio is slightly over 5 cases per parameter. For the QL strand,

participants fill in information to open ended questions.

Data collection tools. Back-translated structured questionnaires, with good-psychometric-properties, widely used in Thailand were administered to generate QN data. To save space here, we present information of the measures in Table 1. Open-ended questions were used to generate QL data. The four open-ended questions included in the questionnaire packet were: 1) *Did you tell anyone about the abuse? And If so, who did you tell?;* 2) *What were your reasons for not telling?;* 3) *What is your plan if your spouse acts violently towards you again?; and 4) What support or help would you like to have in order to solve this problem?*

Analysis. Using SPSS version 21, frequency, percentage, mean, and standard deviation were calculated for IPV rates and demographic data. Structural equation modeling was performed by AMOS Graphics version 21 to examine the association among predictors of IPV, IPV, emotional support, and health outcomes. Based on data screening, Mahalonobis distances showed no outliers. Multivariate normality of the data was not met (Kurtosis = 101.953). Nevertheless, with a sample size of <300 , data transformation will not improve results in structural equation modeling (Gao, Makhtarian, & Johnston, 2008). Thus, we analyzed our data without any transformation. Conventional qualitative data analysis was used to generate QL categories (Creswell, 2014). QN and QL results are integrated, consistent with mixed methods research (Creswell, 2014).

Results

Quantitative results

Among 284 participants (aged 18-58), 55% had a family yearly income of $\geq \$US 3,600$ with 45% of $< \$US 3,600$. About 94 % were married/living with partner and 20% were pregnant. The rates for

emotional, physical, and sexual violence were reported at 89.8%, 61.3%, and 25.4%, respectively. When types of IPV were combined, 48% of the participants reported experiencing one type of IPV, while 42% reported two types of IPV. Only 10% of the participants never experienced IPV.

Figure 1 shows results of the hypothesized model. First, the three measurement models of IPV, emotional support, and health outcomes were examined. The standardized factor loadings of the three models ranged substantially from .54 to .91, indicating reliable measures used in this study (Hair, Black, Babin & Anderson, 2010). All but one (pregnancy → IPV) of the path coefficients was statistically significant. Low family income and spousal negative behaviors (gambling, alcohol use, and drug use) predicted IPV (Figure 1).

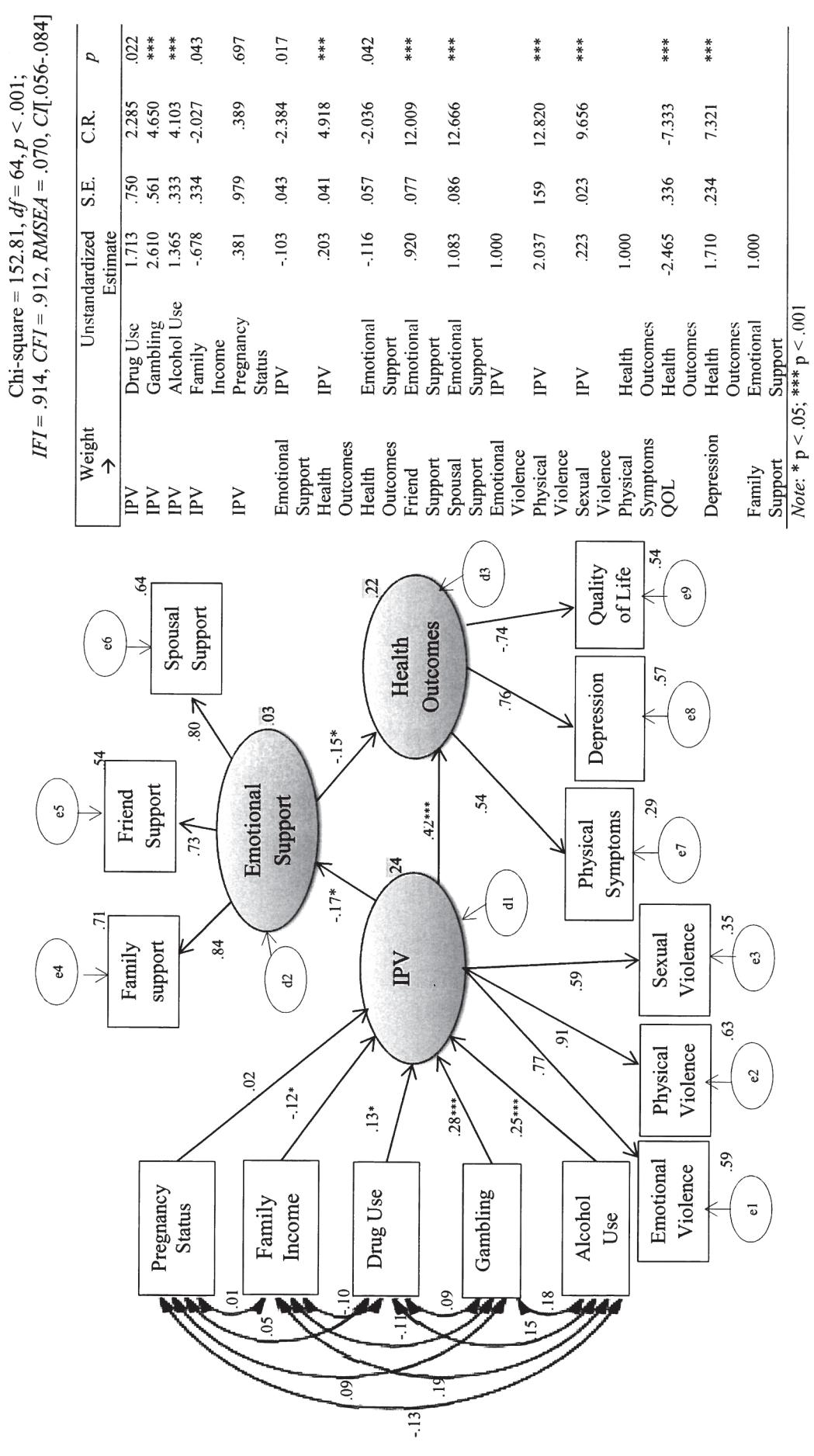
Next, the structural regression model was examined, including an examination of covariances. Four out of the 10 covariances were significant ($p < .05$) (Figure 1): spouses of pregnant participants consumed more alcohol than those of their non-pregnant counterparts. Spouses with low family income consumed more alcohol than those with higher income. Spouses who consumed more alcohol also tended to gamble and use illicit drugs more than those who consumed less alcohol. IPV significantly had a negative direct effect on emotional support and a positive direct effect on health outcomes (Figure 1). IPV was associated with lower emotional support and

lower QoL. IPV also predicted depression and physical symptoms. Sobel test (Preacher & Leonardelli, 2012) shows that emotional support mediated between IPV and health outcomes ($z = -2.16, p = .031$). Participants with more support reported less depression and physical symptoms and better quality of life. The model fit indices indicate good model fit ($IFI & CFI > .90$; $RMSEA < .08$) (Hair et al.). Next, the model was trimmed by eliminating the non-significant path (pregnancy status → IPV). Results from the trimmed model showed that all statistical values remained the same. Thus, the trimmed model is not presented here.

Qualitative results

Disclosure of violence. Out of all participants who experienced IPV ($n = 256$), 200 participants (78.1%) responded to the open-ended questions. When asked whether they told anyone about the abuse, the majority responded “yes” (73%) and most reported telling family members: mothers, fathers, and siblings/relatives, respectively. The rest told a non-family member, usually a close friend about IPV. When responding to “reasons for disclosing,” most participants stated they disclosed IPV in order to “vent stress” (75%) or to “seek help” (22%) from families and/or close friends. About 27% of participants indicated they did not tell anyone ($n = 54$). To save space, the rest of qualitative results are presented in Table 2 along with examples of participants’ corresponding quotes.

Figure 1 Hypothesized Model: Predictors of IPV, Direct and Indirect Effects of IPV on Health Outcomes, and Direct and Mediating Effects of Emotional Support on Health Outcomes (R^2 highlighted)



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Table 1 Variables, Theoretical Definitions, and Measures Used in the Study

Variable	Theoretical Definition	Tool/No. of items; Scoring	α	The higher the score,
Emotional Violence	Any abusive/threatening word to a woman inflicted by her spouse	<i>Psychological Maltreatment of Women Inventory/14</i> (Tolman, 1989); 1 (never) to 5 (very frequently)	.90	the more emotional violence
Physical violence	An abusive/violent/threatening physical act toward a woman inflicted by her spouse	<i>Severity of Violence Against Women Scale: Physical/40</i> (Marshall, 1992); 1 (never) to 4 (many times)	.96	the more physical violence
Sexual violence	An abusive/violent/coercive/forceful sexual act against a woman inflicted by her spouse	<i>Severity of Violence Against Women Scale: Sexual/6</i> (Marshall, 1992); 1 (never) to 4 (many times)	.84	the more sexual violence
Family support	Participant's perception about the extent to which she is cared for, feels loved, and is understood by her family	<i>Multidimensional Scale of Perceived Social Support</i> MSPSS-Family subscale/4 (Zimet et al., 1988); 1 (strongly disagree) to 7 (strongly agree)	.89	the more family emotional support
Friend support	Participant's perception about the extent to which she is cared for, feels loved, and is understood by her friend(s)	MSPSS-Friend subscale/4 (Zimet et al., 1988); 1 (strongly disagree) to 7 (strongly agree)	.93	the more friend emotional support
Spousal support	Participant's perception about the extent to which she is cared for, feels loved, and is understood by her spouse	MSPSS-Spouse subscale/4 (Zimet et al., 1988); 1 (strongly disagree) to 7 (strongly agree)	.89	the more spousal emotional support
Depression	Participant's report about her sadness, tearfulness, suicidality, and somatic complaints	<i>Thai Depression Inventory/20</i> (Lotrakul & Sukanich, 1999); 1 to 4	.88	the more depressed
Physical symptoms	Participant's perception about the extent to which she is bothered by physical illness	<i>Patient Health Questionnaire (PHQ)/15</i> (Kroenke, Spitzer, & Williams, 2002); 0 (not bothered at all) to 2 (bothered a lot)	.84	the more physical symptoms
Quality of life	Participant's perception of her wellness in the areas of physical health, psychological health, social relationships, and environment	<i>World Health Organization Quality of Life (WHOQOL-BREF)/26</i> (WHO, 2004); 1 (very dissatisfied) to 5 (very satisfied)	.87	the higher level of quality of life

Table 2 Comparison of quantitative and qualitative results

Theme	Quantitative results	Qualitative results and examples of quotes
Predictors of IPV	Predictors of IPV include: <ul style="list-style-type: none"> • Spousal alcohol use • Spousal gambling • Spousal drug use • Low family income 	<p><i>Antecedents of IPV:</i></p> <ul style="list-style-type: none"> • Spousal alcohol use (n = 35): “If not drunk, he’s gentle. But when he’s drunk, the abuse starts. He punches on my face, leaving dark bruises.” • Gender inequality (n = 34): “My husband says to me that men can do no wrong and no tears [regrets] should be shown.” • <i>Jealousy or unfaithful relationship</i> (n = 20): “I was jealous of his new girlfriend so he beat me up.” <p><i>Reasons for not disclosing IPV</i></p> <ul style="list-style-type: none"> • <i>IPV is normal</i> (n=30): “Fighting is normal. There’s even a song that sings, ‘Husband and wife physically fight to reunite their relationship.’” • <i>IPV is shameful</i> (n=11): “It’s disgraceful to tell people about your “mosquito tent” [airing your dirty laundry] matter. Then, everyone will know what’s going on in your family.” • <i>Protecting the abuser/family</i> (n=6): “I don’t tell my parents about what’s going on because I’m afraid that they will feel shameful. I don’t want people to think that my husband is a bad person. I want to keep our family together, protecting my kids from knowing that we are having problems.”
Reasons for not disclosing IPV	NA	<p><i>Emotional support</i></p> <ul style="list-style-type: none"> • <i>Seeking emotional support was helpful</i> (n=32): “My mom is always there for me. She listens and consoles me which helps me to feel better every time.” • <i>Seeking emotional support was helpless</i> (n=27): “I told my mom and sister about the violence, but it was not helpful. They don’t get along well with him. They said that they already warned me not to marry him.” <p><i>Support needed to stop or deal with IPV</i></p> <ul style="list-style-type: none"> • Shifting cultural attitudes (n=11): “We need to change the men’s attitudes. They believe that females are the hind steps and we are subservient. They believe that women are responsible for the violence in their homes.”; “A national campaign should be initiated to improve the men’s attitude towards their
Support needed to stop or deal with IPV	NA	

Table 2 Comparison of quantitative and qualitative results

Theme	Quantitative results	Qualitative results and examples of quotes
family	Men should be more faithful to their wives and stop committing adultery. They need to stop saying that “there is nothing wrong for men to have a “gig” [a temporary affair with another woman].”	<ul style="list-style-type: none"> ● <i>Thai law should not be a ‘paper tiger’</i> (n = 7): “We have the law about domestic violence. But it doesn’t work. The law needs to be reinforced by the authorities. The law we have now is like a straw man [‘paper tiger’]. Thai men are not afraid of it.” ● Needs for professional help (n=5): “Maybe health professionals can give us counseling. But people in Thailand tend to think such counseling is for mentally ill people.”; “I would like to receive assistance from a foundation professionally providing assistance to the victims...but we don’t have much help here in Thailand.”
Plan if IPV continues	NA	<p><i>Plan if violence continues</i></p> <ul style="list-style-type: none"> ● <i>Ignoring it</i> (n=19): “Whenever he beats me, I cover myself with a blanket but he keeps stomping on me. I need to ignore it. If I don’t fight back, that helps stop the beating.” ● <i>Seeking help</i> (n=10): “I think I will need to consult with the elders, especially with those whom he respects the most. These people may be able to help me talk with him and tell him that he should not abuse me.” ● <i>Separating</i> (n=8): “If it still happens, I will separate from him. Having a personal guard may be good.” ● <i>Fighting back</i> (n=3): “I have been taking a Muay Thai [Thai boxing] course. I think I will fight back to teach him a lesson.”

Discussion

This study was the first to use merged data-mixed methods to examine IPV among women in Thailand. The quantitative strand examined predictors of IPV, the effects of IPV on health outcomes, and the mediating role of emotional support between IPV and health outcomes. IPV in our study is treated as a latent, complex, real-world variable, encompassing emotional, physical, and sexual violence. The use of structural equation modeling in our study strengthened the analytical power of the relationships among these variables. The qualitative strand expanded our understanding of the cultural context of IPV in Thailand.

Quantitative results showed that rates of IPV were 89.8% for emotional violence, 61.3% for physical violence, and 25.4% for sexual violence. These rates are higher than those in Vietnam where emotional, physical, and sexual violence rates were reported at 55.4%, 30.9%, and 9.2% respectively (Vung, 2008). Also, IPV rates in our study are higher than those from previous Thai studies (Archavanitul et al., 2003; Sricamsuk, 2006). Our higher rates of IPV are alarming given that, in 2007 the Thai government established the first law that punishes spouses who abuse their wives (United Nations Development Programme, 2012). Our data collected in 2010, three years after the new law was ratified, still showed high IPV rates. Such high rates of IPV in our study warrant a routine screening for violence among female patients in Thailand.

Based on our qualitative results, some of our participants perceived the new law as a “paper tiger” because most Thai authorities still believe that IPV is a family matter, and so the law is not enforced. This perception is consistent with other reports in Thailand. For instance, Wongsuriyasak (2010) stated that the Thai justice system does not take the law

seriously. She substantiated her report about a former university professor who beat his wife to death but received special treatment from the court. In the same year the new law was established, a national campaign to stop IPV was also initiated and is presided over by Her Royal Highness Princess Bajrakitiyabha Mahidol (United Nation Entity for Gender Equality and the Empowerment of Women, 2011). The new law and the campaign are significant indicators that Thailand is moving in the right direction in order to lessen IPV in Thai society.

Our quantitative results supported most of the study’s theoretical framework as adapted from Bell and Naugle’s (2008) and Lazarus and Folkman’s (1984); predictors of violence were low family income, spousal alcohol and drug use, and spousal gambling addiction. Our qualitative results support the quantitative findings that alcohol use is a predominant cause of IPV. We are aware that changing one’s behavior is not simple. Nevertheless, applying the Behavioral Change Wheel as proposed by Michie (2014) may be beneficial to change Thai men’s alcohol consumption behaviors. Michie (2014) contends that education per se is not a powerful tool to change one’s behavior; to make it work, additional strategies such as persuasion, coercion, training, restriction, and role modeling should be integrated into the mass media, law & regulation, and service provision.

Our quantitative results showed that the more the participants experienced IPV, the greater were their physical and depressive symptoms and the lower their perception of their QoL. Resonant with previous research in the USA (Lee et al., 2007), our results showed that emotional support had a mediating role between IPV and health outcomes among our Thai participants. The participants had fewer physical and depressive symptoms and a

higher quality of life when they had more emotional support. However, the mediating effect of emotional support was weak in our study. Qualitative results helped explain why the effect of emotional support was almost negligible. For instance, many participants sought support from their parents and loved ones but were told that it was just a normal family occurrence. Some family members even made the victims feel worse, leading to quitting seeking social support. Thus, as nurses or other health care providers, it would be helpful to use Michie's model (2014) as a guiding framework to increase the understanding of extended family members of Thai female victims about the importance of emotional support so that they could provide such support more appropriately.

Some of our participants voiced a need for professional support, but very few official emergency channels are available to assist abused women at this point in Thailand (Kaewfun, 2007). For example, while there are over 32 million females in 77 provinces in Thailand, only 25 shelters are available throughout the country for abused women and their children (Chaowilai, et al., 2008). Moreover, only 13 police stations in Thailand have female investigators, nine of which are located in Bangkok (Chaowilai et al., 2008), indicating a disproportionate distribution of helpful resources for female IPV victims. An increase of women's shelters and female investigators in the police force is highly warranted.

In summary, our mixed methods study further helps us understand the IPV phenomenon within the Thai culture. We learned more about the high rates of IPV in Thailand, predictors of IPV, negative effects of IPV on health outcomes, and the mediating effect and the mechanism of emotional support between IPV and health outcomes. We strongly recommend routine screening for IPV among all female patients in Thailand.

Limitations

Three limitations to our study can be identified. First, our data were collected in the northeast region of Thailand; thus, generalizability of our research results is limited to such a region. Second, the causation between IPV and emotional support is not deterministic because this study is correlational in nature. Lastly, qualitative data came from open-ended questions and may not be as rich as we would have liked. A replicate study conducted in other regions of Thailand and in other countries will be helpful. Future research should test the effects of family and friend emotional support on health outcomes and incorporate in-depth interviews for richer qualitative data.

References

- Bonomi, A. E., Thompson, R. S., Anderson, M., Reid, R. J., Carrell, D., Dimer, J. A., & Rivara, F. P. (2006). Intimate partner violence and women's physical, mental, and social functioning. *American Journal of Preventive Medicine*, 30(6) : 458-66.
- Chan, K. L., Brownridge, D. A., Tiwari, A., Fong, D. Y., Leung, W. C., & Ho, P. C. (2011). Associating pregnancy with partner violence against Chinese women. *Journal of Interpersonal Violence*, 26(7) : 1478-500. doi: 10.1177/0886260510369134.
- Chaowilai, J., Pungcokesoong, S., Chaichetpipatkul, P., & Reunthong, M. (2008). *One Voice: Stop the violence against women*. Bangkok, Thailand: Thai Health Promotion Foundation.
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Los Angeles, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. P. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

- Gao, S., Makhtarian, P. L., & Johnston, R. A. (2008). Nonnormality of data in structural equation models. *Transportation Research Record: Journal of the Transportation Research Board*, 116-124. doi: 10.3141/2082-14.
- Garcia-Moreno, C., Jansen, H., Ellsberg, M., Heise, L., & Watts, C. (2006). Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *The Lancet*, 368, 1260-1269.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7thed.). Upper Saddle River, NJ: Prentice Hall.
- Jeyaseelan, L., Kuman, S., Neelakantan, N., Peedicayil, A., Pillai, R., & Duvvury, N. (2007). Physical spousal violence against women in India: Some risk factors. *Journal of Biosocial Science*, 39, 657-670.
- Kaewfun, K. (2007). *Domestic violence: A case study of female factory workers in Saraphi District, Chiang Mai towards violence of their spouse* (Master's thesis). Retrieved from http://library.cmu.ac.th/digital_collection/etheses/.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rded.). New York, NY: Guilford.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2002). The PHQ-15: Validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine*, 64, 258-266.
- Lotrakul M., & Sukanich, P. (1999). Development of the Thai Depression Inventory. *Journal of Medical Association of Thailand*, 82(12) : 1200-1207.
- Marshall, L. L. (1992). Development of the Severity of Violence Against Women scales. *Journal of Family Violence*, 7(2) : 103-121.
- Michie, S. (2014). Implementation science: Understanding behaviour change and maintenance. *BMC Health Services Research*, 14 (Supplement 2), O9.
- Preacher, K. J., & Leonardelli, G. J. (2012). *Calculation for the Sobel test*. Retrieved from <http://quantpsy.org/sobel/sobel.htm>.
- Saito, A., Creedy, D., Cooke, M., & Chaboyer, W. (2012). Effect of intimate partner violence on postpartum women's health in northeastern Thailand. *Nursing & Health Sciences*, 14(3) : 345-51. DOI: 10.1111/j. 1442-2018.2012.00735.x.
- Sricamsuk, A. (2006). *Domestic violence against women: A Thai perspective* (Unpublished doctoral dissertation). School of Nursing and Midwifery, Griffith Health, Griffith University, Australia.
- Thananowan, N., & Leelacharas, S. (2011). Factors and psychosocial profiles of intimate partner violence among pregnant women. *Journal of Nursing Sciences*, 29(1) : 37-44.
- Tolman, R.M. (1989). The development of a measure of psychological maltreatment of women by their male partners. *Violence and Victims*, 4(3) : 159-177.
- Wongsuriyasak, T. (2010). *The complexities of power relation in family violence : Cases of sexual and physical assaults in Thai law* (Master's thesis). Retrieved from http://library.cmu.ac.th/digital_collection/etheses/.
- World Health Organization. (2004). *The World Health Organization Quality of Life (WHOQOL)-BREF*. Geneva, Switzerland: Author.
- World Health Organization. (2014). *Intimate partner violence*. Geneva, Switzerland: Author.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52(1) : 30-41.