Review Article

Mental Health Consequences and Risk Factors of Physical Intimate Partner Violence

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ABSTRACT

Violence against women is a public health concern and physical intimate partner violence is the most common form of it. Physical violence is often accompanied by psychological abuse and has detrimental effects on female victims' mental health. While the adverse mental consequences experienced by women due to violence and abuse by their partners have been well established, it is not clear how much of these consequences are the result of physical violence only. Indeed, the mental health impact that physical intimate partner violence has on women is still lacking. This paper reviews and consolidates findings from the existing literature on mental health consequences of male partner violence that are attributed to physical victimization only. Also discussed are variables that increase the risk of mental ill health among female victims of physical intimate partner violence. Recommendations for practitioners, policy makers and future research have been explored.

MeSH Headings/Keywords: Physical violence, Intimate partner violence, Mental Health, Risk Factors, Female Victims

Introduction

Intimate partner violence (IPV) is a complex and silent pandemic that leaves no society untouched. IPV has detrimental effects on female victims' mental health and causes a significantly higher use and cost of health care services [1]. Centers for Disease Control and Prevention [2] has identified the evaluation of the health consequences of intimate partner violence as a research priority. IPV had different forms including physical, psychological and sexual and each with different impacts on mental health [3, 4]. Globally, the physical type of IPV has been recognized as the most common form of violence experienced by women with life time prevalence from 6% to 48% [5, 6].

Physical IPV is often accompanied by psychological abuse. Indeed, psychological abuse often precedes, follows, or occurs concurrently with physical violence but the reverse is not always true [3]. As a result, the psychological consequences experienced by women who are abused by their partners may be due not so much to physical violence but to psychological abuse. However it is not clear how much of the psychological consequence are the result of physical violence only. Despite the growing research on IPV, the existing literature is still lacking a comprehensive review on the mental outcome resulting from physical IPV against women. Addressing the existing gap and considering physical IPV as the most common form of IPV in comparison to sexual and psychological IPV [3-6], this article is aimed at examining and consolidating findings from the existing research concerning mental health outcome of physical IPV only and the variables that may contribute to the development of these consequences. Additionally for the purpose of this article, we define physical IPV against women as "any physical harm, abuse, assault, attack or aggression perpetrated by a male intimate partner in the context of marriage or cohabitation irrespective of the variety in forms and severity". Sexual and psychological IPV are not included in this definition.

Search Strategy

The literature search was conducted systematically using Sage journal, Health References Center Academic, Taylor and Francies online, Science Direct (Elsevier) , Medline , Cochrane, Pubmed, Joanna Briggs Institution, Proquest databases by combining the synonymous keywords for physical IPV including "intimate partner" and "physical violence, physical abuse, physical assault, physical aggression, physical attack, physical harm" and" mental health, mental well being, psychological" and "consequences, outcomes, needs, problems, issues". We excluded studies that focused on sexual or psychological IPV. We also restricted the literature search to human studies in the English-language published from 1 January 1990 to 19 February 2015. Figure 1 shows the result of the search, inclusion and exclusion criteria and the final number of studies.

The study titles and abstracts were examined and screened for immediate relevancy to the research purpose. Included studies in this review were those that reported any mental consequences for physical IPV only in women. Primary reasons for excluding studies were: men or child victimization, pregnancy, immigration, dating violence, interventions, qualitative research, policy changing, scale development and irrelevant data. Those studies which could not distinguish physical violence from the other types of IPV in their result section were also excluded.

A total of 197 manuscript titles and abstracts were initially identified for screening. This primary assessment yielded 54 relevant papers that were reviewed. Six papers reported the mental outcomes of physical IPV only. Twenty nine articles were assessed for risk factors.

Findings

Mental Health Consequences: One of the common mental health consequences of physical IPV against women has been reported as mood disorder which is defined as persistent or episodic exaggeration of mood state [7]. In the study conducted by Okuda et al. [8], victims of physical IPV were more likely to report mood disorders. They found an eight fold increased risk of developing mood disorders in those who were slapped, kicked, bitten, or hit at least once a month.

One common form of mood disorders that have been

observed in female victims of physical IPV is depression. Empirical support exists for the higher occurrence of depression among women who experienced physical IPV ranging from 12.5% to 66.4% [9- 11]. Bonomi et al. [12] reported a prevalence ratio (PR) of 1.64 for depression in women who were physically abused in comparison to women who were never been abused. Similarly Meekers et al. [13], reported that women who experienced physical abuse from their partners were more likely to report depressive symptoms than non abused women. They further categorized the symptoms of depression into three subgroups namely: difficulty in doing daily activities, difficulty in making decisions, crying easily and feeling tired which all were more likely to be reported by physically abused women than non-victims. Another symptom that is usually classified as a mood disorder and persists for years is dysthemia which has been reported with a rate of 8.7% among female victims of physical IPV only [9].

Another mental health problem that has been suggested in the literature with a higher rate in female victims of physical IPV is anxiety disorder. Meekers et al. [13] categorized symptoms of this disorder in their sample and reported that 53.5% of victims had feelings of fear without apparent reason and 66.6% scared easily. In a study by Bonomi et al. [12] odds of having anxiety were positively related to the type of physical attack ranging from 2.2 in the case of pushing and shoving to 8.1 in the case of cutting and bruising. Similarly, "worry" as a symptom of anxiety was reported by victims in the study of Wingood et al. [11] with a higher rate in comparison to non-victims. Anxiety disorder may be manifested as Post-Traumatic Stress Disorder (PTSD).This mental disorder is based on the notion that in spite of the cessation of the traumatic event, the individual responds as though the danger still persists and may manifest an impressive array of flashback, intrusive thoughts and memories, avoidant, and hyper-arousal symptoms [14,15]. High rates of PTSD have been reported in female victims of physical IPV only. According to Peltzer et al. [10], physical abuse contributes to the prediction of severe PTSD in 52% of female victims. Panic as a subcategory of anxiety disorder has also been reported in the study of Habib et al. [9] by women who experienced physical IPV only with a rate of 9.8%.

Research also lends support to the connection of substance and drug use disorder with physical victimization in intimate relationship. Two studies indicated a higher rate of alcohol, nicotine, marijuana, crack and cocaine abuse and dependency in women who were only physically abused by their partners in comparison to non-victims [8, 11].

Women who are victims of physical violence in their intimate relationship are also at high risk for suicide. In a cross-sectional study, Wingood et al. [11] revealed that 57.4% of physically abused women perceived to have no control on the relationship with their partners. Their findings linked this symptom with suicide. This association appears to be well explained by the theory of learned helplessness. According to this theory, one learns to behave helplessly after perceiving that she can do little to control an outcome. As a result some victims believe that their partner will kill them inevitably so they decide to kill themselves instead [16].

Risk Factors

Some variables have been recognized in literature as risk factors for developing mental health outcome in female victims of IPV that can also be attributed to physical type of IPV. These risk factors and their potential influences have been depicted in (Figure 2) and will be discussed as follows.

Briere [14] introduced demographic variables such as age, race, gender and genetic predisposition as risk factors in the development of mental outcome. Accordingly, feminist model explores that a combination of social inequality and female victimization can lead to mental health problems [17].

Several studies have also suggested an association between previous mental disorders and risk of exposure to IPV [1, 18-20]. A probable explanation for this relationship is that, mental symptoms and the prescribed drugs may have an effect on the victims and their intimate relationship leading to inadequate response to marital conflicts [1].

Evidence also indicates that any type of abuse during childhood, is a risk factor for further victimization in adulthood [14, 21]. Meekers et al. [13] reported that those experiencing physical abuse in childhood or exposed to parental violence are more likely to be more depressed, cry easily and have problems in decision making. As a result the cumulative impact of prior and current trauma on mental status may be more debilitating. In addition scholars of trauma have highlighted the occurrence of "splitting" or "(dissociation)" as a defense mechanism in adults who were exposed to high levels of stress during childhood [22].

Splitting by itself is a psychological phenomenon that occurs in victims of trauma. According to the trauma model, anxiety and the experience of danger which result from trauma, can lead to emotional (dysregulation) that in turn activates splitting as a defense mechanism. Splitting has the potential to alter the individual's self-perception in a way that the victim considers herself as worthless or responsible for the violent action [22]. Emotional dysregulation can also lead to cognitive distortions such as judgment impairment and confusion. These cognitive distortions, in turn, may lead to negative mood states and dysfunctional behaviors [14].

The nature of victimization has also been suggested as a risk factor. Briere [14] cited studies that indicated an association between the severity of psychological outcomes and specific characteristics of victimization including timing, duration, frequency, severity, type and proximity of traumatic events. Similarly, some studies indicate that a higher frequency of abusive incidents usually results in more experiences of PTSD, depression, and substance abuse [4,8,23].

Literature has also proposed self-interpretation of victimization as a risk factor for mental illness. Briere [14] referred to this variable as "reactivity" and suggested that reaction at the time of victimization is likely to be an important predictor of later psychological state. For example, if a woman perceives herself as helpless and feels responsible for being in a violent relationship, she may present some negative reactions such as shame, self- blame, embarrassment, fear of disclosure, horror, panic and PTSD [14,24- 26].

Literature also introduces PTSD both as a mental outcome and a risk factor in victims of IPV that can mediate the effects of violence through various pathways. PTSD can enhance relationship conflicts that in turn increase the risk of physical IPV. It may also result in concentration deficits and thus can

reduce the ability to assess danger situations subsequently [27,28]. Another explanation for the mediator role of PTSD is related to the involvement of the right hemisphere of the brain in affective experience regulations and its disconnection with the left part of the brain which may interfere with the processing of affective states. Through this mechanism, PTSD can contribute to high levels of emotional reactivity or dissociation [22, 29]. PTSD effects can also be explained by "battered women syndrome" which stem from the repetitive nature of chronic violence and conceptualizes the psychological consequences of intimate partner violence [17]. Additionally, PTSD can increase the risk of substance abuse and unemployment [27,28]. As already mentioned, substance and alcohol abuse has been recognized as a consequence of physical IPV in female victims. Unemployment and job instability have been identified as risk factor for the development of mental health problems.

Adrienne et al. [30] established an indirect effect of IPV on depression and anxiety through job instability. Similarly Romito et al. [31], asserts that interpersonal violence can lead to professional precariousness which in turn is a risk factor for psychological distress. One possible explanation for this relationship is that injuries, fractures, scars, bruises and other physical symptoms resulted from physical violence may inhibit women from attending their workplace because of either a need of medical attention and restriction of movement or having fear of losing face and disclosing. The resultant injuries can also diminish both the quality and quantity of working which in turn would lead to negative mental consequences. As well, mental health problems can serve as a barrier for the employment of women [30]. This job instability may be resulted from low education. However research has shown that interpersonal violence can limit educational opportunities that in turn are risk factors for mental distress [31]. Job instability can also lead to housing instability which is a great risk factor for negative health consequences in physical IPV. Pavao et al. [32] conducted a cross-sectional study among a representative sample of 3619 victims of IPV and showed that the participants were at increased risk for housing instability. They further proposed that housing instability may exacerbate the health consequences of victims. Job and house instability can finally lead to poverty (Table 1) .

Empirical research has consistently and robustly shown that lower income individuals experience more stressors and associated mental health difficulties, such as anxiety and depression than higher income individuals [33]. Recent research have also indicated that physical assault in adulthood, is a risk factor of women's poverty and makes the victims economically dependent on their partners [31,32,34]. Poverty as a source of daily stress also results in emotional arousal and dysregulation which in turn makes the victims unable to function and causes anxiety [22]. Carbone-Lopez et al. [33] showed that IPV and poverty co-occur and their effects on mental outcomes seem to be parallel. They found that both phenomena resulted in stress, powerlessness, and social isolation which in turn produced PTSD, depression, and other emotional difficulties. IPV and poverty also constrained coping strategies [33]. Personal coping style plays an important role in the relationship of mental outcomes and female victimization of physical IPV. Past research has hypothesized that problem-focused coping can debilitate mental health and results in depression and PTSD in victims who are socially powerless and lack social support [33]. Research indicates that social support can mediate the association of IPV with depression and anxiety [30]. Carbone-Lopez et al. [33] indicated that IPV and poverty dramatically compromised the creation and utility of social supports. They further illustrated that victims of IPV had insufficient and inadequate social support and that this low support before and after victimization may have caused more frequent and severe post-assault responses.

Another risk factor introduced in literature is "perspective on family functioning". According to Street et al. [35], female victim's perspective about family functioning directly and indirectly affects psychological distress experienced by these women. They also presented a path model which explained that this perspective can be influenced by male partner's viewpoints and interpersonal violence.

Self perception and evaluation has also been suggested as a risk factor for mental ill health in female victims. How victims think about themselves and evaluate their own feelings may have great effect on their mental health status. It has been also pointed out that IPV association with depression and anxiety can be attributed to self esteem, feelings of powerlessness, hopelessness, loss of control and coping responses [30].

Literature also suggests that physiological changes may impact the association of physical IPV and mental consequences. According to Pico-Alfonso et al. [36], physical IPV can result in changes in cortisol and dehydroepiandrosterone sulfate (DHEA) levels which in turn may affect the physical integrity affective or cognitive function of the brain. Research also has shown that high levels of cortisol can sensitize the brain to other noxious or adverse events [37]. Meanwhile acute and chronic stress can create some structural changes in some areas in the brain such as the hippocampus, amygdale, and prefrontal cortex, which in turn has implications for mental health and cognitive functioning [38,39].

Discussion

As suggested by this review, women's mental responses to physical IPV range from preventable and treatable conditions such as depression, anxiety to fatal outcomes such as suicide and each of these outcomes is likely to be complex, hard to predict and may involve some phenomena or risk factors that go well beyond the victimization event. As a result, further attempts to establish the psychological impact of physical IPV on female victims needs to take into account the whole spectrum of physical symptoms and the organism functioning from physiologic to cognitive and mental alterations. Trauma model, learned helplessness theory, battered women syndrome and feminism are some theories that were applied in literature to explain the role of some risk factors but none of these theories could explain all aspects of the relationship between physical IPV and its mental outcomes in female victims. As depicted in (Figure 2). The complex interrelationship of the identified risk factors is of such breadth that a given theory may not capture the overall symptomatic experience of victims and cannot be defined by any pre -formulated assault syndromes. However emotional dysregulation seems to be the core concept in most

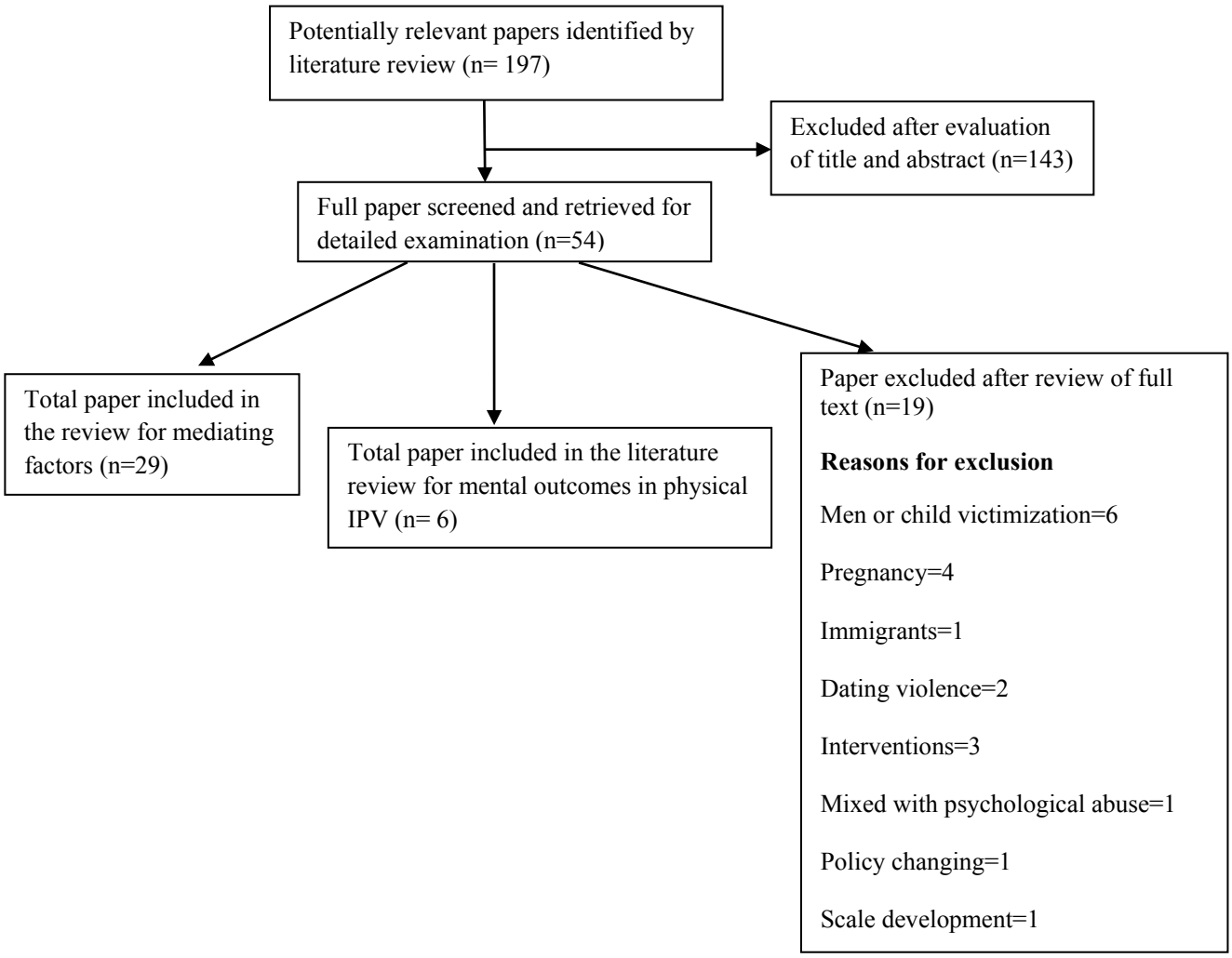

Figure 1: Flowchart of study selection for literature review.

Table 1: Studies reporting mental health consequences in women who experienced physical IPV.

Author(s) (Year) Mental outcome	Wingood et al. (2000)	Bonomi et al. (2007)	Okuda et al. (2011)	Habib et al. (2011)	Meekers et al. (2013)	Peltzer et al. (2013)
Mood disorders			*			
Depressive disorders	*	*		*		*
Difficulty in daily activities	*					
Difficulty in decision making	*					
Cry easily	*					
Feeling tired	*					
Dysthemia				*		
Anxiety disorders	*		*		*	
PTSD						*
Panic				*		
Worry	*					
Feeling fear					*	
Scared easily					*	
Substance abuse disorder	*		*			
Suicide	*					

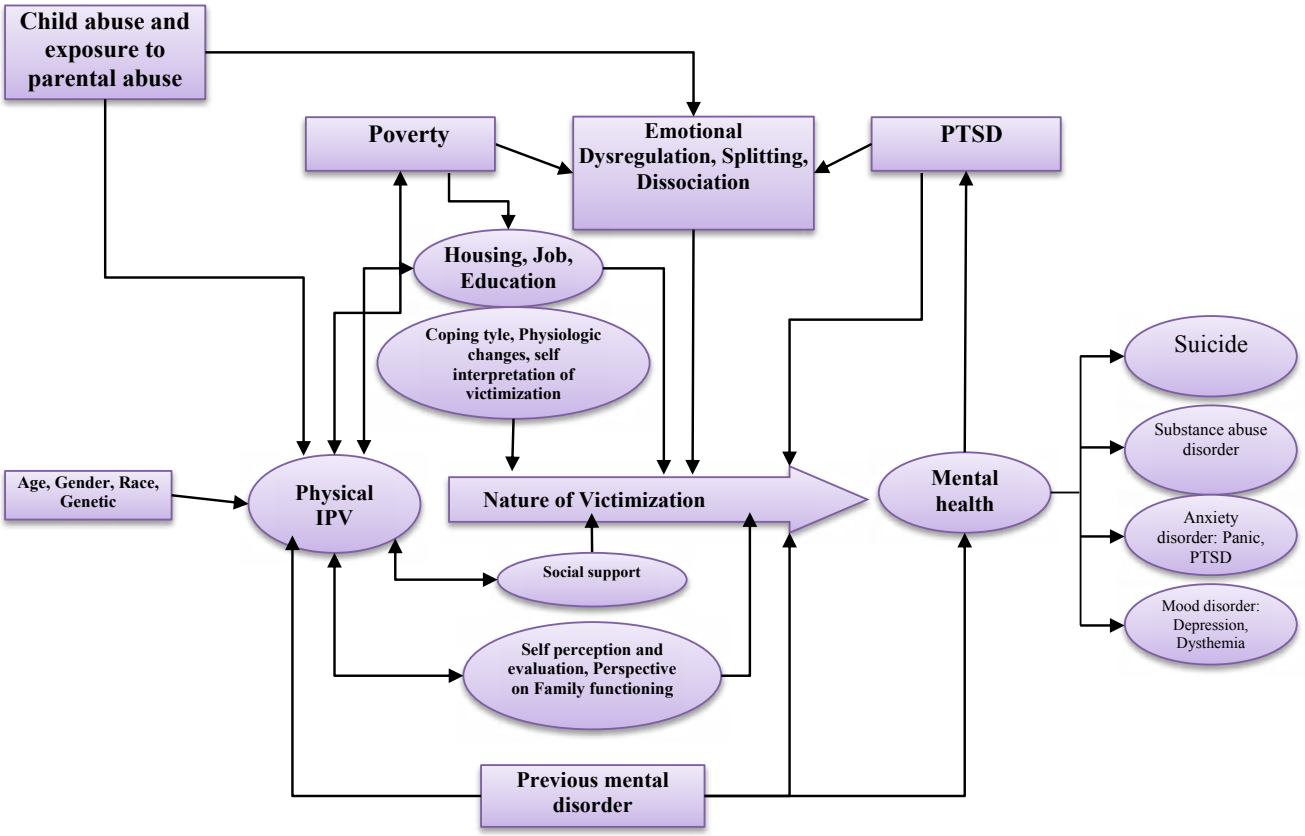

Figure 2: Risk factors and their potential influences.

of the underlying pathways as PTSD, poverty, child abuse and exposure to parental violence are related to physical IPV through this variable but the extent to which emotional dysregulation is implicated in physical IPV needs to be explored.

Another issue to consider is the notion that psychological abuse can occur concurrently with physical violence. The argument is that the mental consequences reported in literature review, may be due not so much to physical violence but to the accompanying psychological aggression. Indeed, this was the main concern that we addressed in this study by focusing on studies related to physical IPV only. Given that psychologically abused women may not necessarily experience physical violence, to improve the findings of the studies focusing on IPV, one suggestion could be to compare mental sequels in two matched groups of IPV: one group as merely psychologically abused and the other group as physically abused which is probably accompanied with mental abuse. Adding a control group will also enhance the findings.

This review is also the first to provide a valuable contribution to the literature on the impact of physical IPV on women's mental well being and should be commended for bringing to the forefront the often neglected but critically important issue of mental health needs in female victims. The findings from this review are primarily aimed at policy-makers, program developers and researchers to advance the prevention of intimate partner violence base on the recognized risk factors. It is also intended that practitioners will find this document a useful source of information to enhance treatment programs for physical IPV. However they should keep in mind that all the symptoms or disorders are unlikely to be developed in any given victim and the effects of physical IPV vary substantially from person to person. This variability may be due to the complex result of a wide variety of individual or social factors that play a role before or after the victimization. Nevertheless findings of this study have the potential to enhance the health, well-being and productivity of individuals, communities and societies. Current findings also acknowledge the essence of universal access to mental basic services including psychological support and finally can contribute to the reduction of direct and indirect costs and consequences associated with physical IPV.

However this review is not exempt from limitations. Lack of studies that focus only on physical IPV is a major concern in this review. Even though many studies were available that reported mental outcomes of IPV in female victims but they failed to clarify the distinction of physical IVP outcome from the outcome of psychological or sexual IPV. Data were usually mixed and presented in tables without clear explanation that in some cases we could disentangle the combined data. However it is widely accepted that in practice, making such distinctions might be often difficult. Although we could find and report only six studies related to the topic, the findings of this review are invaluable and can contribute to the understanding of the complexity of physical IPV. Nevertheless, commonly among all studies related to IPV is the underreporting of symptoms

regardless of the type of IPV. Violence is globally underreported because of the sensitivity of women considering it as a private issue [40,41]. In addition in some countries, women do not tend to report IPV because of shame and fear or cultural acceptance of violence [5]. Clearly, more research is needed in this area to include a larger and specific sample of physical IPV victims to provide reliable statistics about the predictors and factors that increase the risk of mental health problems among them and then integrate these factors into a theoretical framework.

Conclusion

Available research consistently shows that physical IPV is the most common form of violence experienced by women and its mental health outcome is a relatively understudied issue. This review provided evidence for some mental health problems including mood and anxiety disorders, substance and drug use disorder, and suicidal attempts that have been identified in literature as being potentially associated with physical IPV in female victims. Some risk factors have also been demonstrated for this association. Demographic variables such as age, race, gender and genetic predisposition, previous mental disorders, being abused during childhood and exposure to paternal violence are among these risk factors. The nature of victimization, self perception and evaluation, self-interpretation of victimization**,** perspective on family functioning are also suggested as risk factors for developing mental ill health among female victims of physical IPV. Personal coping style also plays an important role in the relationship of mental outcomes and victimization of physical IPV. There is also evidence that "splitting" as a psychological phenomenon occurs in victims of trauma. PTSD has been introduced both as a mental health outcome and a risk factor for other mental health problems. Literature also suggests that physiological changes may impact the association of physical IPV and mental consequences. Poverty, job instability and lack of social support can also increase the risk of depression and anxiety in female victims of physical IPV. Emotional dysregulation seems to be the core concept through which PTSD, poverty, child abuse and exposure to parental violence can be related to physical IPV but the extent to which emotional dysregulation is implicated in physical IPV needs to be explored .This review suggests that the complexity of physical IPV and its risk factors cannot be explained by a single theory or pre -formulated assault syndromes. Future research is warranted to address the limitations of this review.

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