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Original Article

Factors Affecting Behaviors of Women with Breast Cancer Facing Intimate Partner Violence Based on PRECEDE-PROCEED Model

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Abstract

Introduction: More than half of women in Iran experience intimate partner violence (IPV). This study aimed to explore IPV in women with breast cancer (BC) in Ardabil, Iran. Moreover, the predictors of violence and women's reactions against violence were examined.
Methods: Using a convenient sampling method, the current cross-sectional study was performed on 211 women with BC in northwest of Iran. To collect data, a questionnaire consisting of demographic characteristics and items based on PRECEDE-PROCEED model and women's reaction to violence was used. Data were analyzed using SPSS Ver. 20 and descriptive and inferential statistics.
Results: In this study, 190 (90%) subjects reported that they had experienced IPV in the preceding year. Only 27(12.8%) women were familiar with all forms of violence. Moreover, 141 (66.8%) and 160 (75.8%) women had no access to counseling centers and life skill training courses, respectively. Women mostly had adopted emotion-oriented coping strategies when facing IPV. The results of multivariate regression analysis indicated that enabling factors and knowledge were predictors of problem-oriented coping strategies in women.
Conclusion: Empowered women, for the most part, were better educated and had more access to social resources than others. Therefore, empowering women can help reduce the amount of violence they might have to encounter. It is essential that supporting and empowering centers for women be established in the society and efficient laws be enacted to fight IPV.

Introduction

World Health Organization (WHO) defined domestic violence as the range of sexually, psychologically, and physically coercive acts committed against female adults and adolescents by current or former male intimate partners.[1] Violence against women in the family is the most typical form of violence against women, which is most often committed by the closest family members, such as husbands.[2] Domestic violence can refer to any mistreatment against a woman by a spouse or intimate partner, and can include a variety of abusive behaviors.[2,3]

Unfortunately, due to the privacy of home in different societies, there is no accurate and reliable statistics on the prevalence and percentage of this type of violence in the world or in our country. More than half of the families are estimated to be struggling with this problem.[3] It is, then, not surprising that the prevalence of this social health problem, which annually leads to complications and casualties in the world, has been reported differently. WHO has reported the prevalence of violence 25-50%. According to the World Bank report, domestic violence, compared to diseases like uterine cancer and accidents, is more likely to endanger the health of 15-44 year-old women.[4]

Analogously, in Iran, mistreating women is an important social health problem. Of the 2 million and 253,000 physically battered women referring to forensic medicine in a two-year period, more than half a million were victims of domestic violenc.[4] According to the national study, 60.6% of women in Iran were under domestic violence.[5] However, a local study has reported higher rate of violence against women which is 83%.[6]

Violence is often associated with quite a few physical consequences, with unimaginable psychological aftermaths.[7-9] The physical and psychological damage caused by intimate partner violence can affect both treatment and follow-up by women with cervical cancer.[7-10]

Studies have shown that the risk of intimate partner violence against women with cancer or other illnesses is higher than that for other women.[11-14] Studies have also suggested the negative impact of the lack of support of sexual partners on women's compliance with breast cancer and their quality of life.[12,15,16]

Alongside the efforts to determine the extent of facing violence, factors influencing intimate partner violence, and predictors of women's behavior in the face of it, can also be helpful in developing preventive and educational interventions. The aim of this study was to identify the predictive role of predisposing, enabling, and reinforcing structures of the PRECEDE-PROCEED(PRECEDE stands for Predisposing, Reinforcing and Enabling Constructs in Educational Diagnosis and Evaluation and PROCEED stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development)model and women's behavior in the face of violence.

In the area of health education, there are certain models that help us explain behaviors, implement health education programs and assess their effectiveness on the women's behavior. One of the frequently used models in health education and promotion is the PRECEDE-PROCEED model.[17] The first section of the model focuses on planning and the second section focuses on implementation and evaluation of the health programs.

In order to determine individual and social factors associated with misbehavior against women, the first section of the PRECEDE-PROCEED model was employed in the present study. This study, in addition to portraying the intimate partner violence against women with breast cancer, can contribute to identifying individual and social factors that affect incidence of misbehavior against women, and explain the reasons behind the women's responses in the face of intimate partner violence and provide the necessary data for taking educational and preventive measures concerning the issue.

Materials and Methods

The present study was a descriptive-analytic cross-sectional study. The study was approved by the Ethics Committee for Research with the code: IR.ARUMS.REC.1398.304.

The ideal sample size in this cross sectional study was calculated, using Cochran formula, considering the previous studies done on domestic violence with the incidence rate of 83%, the 0.05 error of measurement and the 95% confidence interval.[6] According to the calculation of sample size from a limited population, 217 subjects were calculated, of which 211 patients participated in the study.

The subjects of the study had completed their treatment period or had received their complementary therapy.

Married women with breast cancer who had undergone surgery were enrolled while participants with any illness or disability other than breast cancer were excluded. After an explanation of the objectives of the study, explicit verbal consent was obtained from the participants. All personal information received from the patients was kept confidential.

The questionnaire consisted of three parts: The first part dealt with the demographic characteristics of women and their partners. The second part was related to violence; that is, enabling, reinforcing and provoking factors of violence, extracted from the PRECEDE model. The questionnaire was adapted from Soleiman Ekhtiari's et al., study, with some modifications.[18] The third part of the questionnaire had to do with the women's reaction in the face of intimate partner violence. The items of the questionnaire were developed regarding the previously done research studies, and the validity of the items was estimated by experts' opinion. Reliability was calculated 0.76 via Cronbach's alpha.

A self-report questionnaire was used. The researchers gave the questionnaires to the participants and waited until they completed them. The questionnaires were read out to the illiterate participants by the researchers and their answers were recorded.

The questions about knowledge included 20 items which assessed individuals' awareness of the forms of intimate partner violence and verifying behaviors for each form of violence and its underlying causes. Thus, the score obtained was between 0-20, such that answering each item earned one point while zero was given when an item was not answered.

Attitudes and beliefs about intimate partner violence were assessed through 25 questions on a 5-point Likert scale. For each question, Scores ranged from 0 for strongly disagree to 4 for strongly agree. In this section, the minimum score could be 0, and the maximum 100.

The questions about the enabling factors included 4 questions. The "yes" response received one point; while the value attributed to both "I do not know the answer" and "No" responses was zero. The score obtained in this section ranged from 0 to 4, and the questions of this section examined the access of participants had to enabling factors that could prevent intimate partner violence against women, such as counseling centers, life skill training classes, and information books or resources.

The three questions with three options concerned reinforcement factors, with the score ranging from 0 and 9.The three options were factors enhancing the prevention of domestic violence, including family, relatives and friends. The point for responding to each option was one, and not responding to that was zero.

There were two questions dealing with facing

mistreatment, and 9 questions related to behaviors in the face of violence. These section's questions had to be completed by those who had experienced intimate partner violence at least once in their lives. These questions assessed how individuals had encountered violence. The score obtained from this section could range from 0 to 15 in the problem-oriented coping strategies, and could vary from 0 to 12 regarding emotional coping strategies. In the scoring procedure for each question, scores ranged from 0 for never to 4 for always.

The validity of the questionnaires employed in this study was obtained through experts' comments on the questionnaires' items. Via e-mail, the questionnaires were sent to 10 experts known to have had the experience of developing questionnaires about domestic violence. Subsequently, some modifications were made in the questionnaire in line with their opinions and comments. Three questions were designed for each item in the questionnaire. The questions were as follows: "Has the material been explicitly and clearly stated?" "Does the question really measure what it is supposed to measure?" "Is there consistency between these and other questions?" content validity of questionnaire was provided based on expert's opinion. Reliability was calculated to be 0.76 via Cronbach's alpha.

All data were analyzed using SPSS ver. 20 (SPSS Inc., Chicago, IL, USA). Student's t-test, one-way ANOVA test, chi-square and multivariate regression were used. In these tests, the significance level was considered to be 0.05.

Results

Two hundred and eleven patients who were willing to participate in the study were included in the study.The mean (SD) age of the participants in this study was 44.42 (13.44) years. Participants' characteristics are shown in Table 1.

One hundred thirty nine women (65.9%) had undergone total mastectomy, 72 women (34.1%) had experienced partial mastectomy, and 181 women (85.8%) were receiving chemotherapy at the time of study.

During the past one year, 109 women (90%) had experienced intimate partner violence at least once. The mean (SD) rate of women exposure to intimate partner violence was 15 (3.13) times.

The results showed a significant relationship between women's level of education and their facing intimate partner violence ($P=0.02$).

The results did not find any statistically significant correlation between intimate partner violence and age, duration of marriage, the elapsed time since being diagnosed with the illness, and the type of treatment.

The patients' Knowledge and attitude were considered as predisposing factors in this study. The mean (SD) score of the participants' knowledge of mistreatment was 8.94 (4.17) and the mean (SD) score of the respondents' attitude was 67.01 (8.01).

Table 1. Frequency distribution of socio-demographic and clinical data

Variable	Min	Max	N(%)
Age€	18	79	44.42 (13.44)
Duration of marriage(year) €	1	60	24 (14.8)
Age at the time of getting married€	13	30	20.38(3.36)
Number of family members€	2	11	-
Number of children€	0	9	-
Elapsed time since being diagnosed (months) €	1	228	38.95 (35.15)
Patients level of education			
Illiterate			83(39.30)
High school			62(29.40)
Diploma			46(21.80)
Academic			20(9.50)
Status occupational			
Housewife			194(91.90)
Employed			17(8.10)
The education of spouse			
Illiterate			52(24.60)
High school			62(29.40)
Diploma			45(21.30)
Academic			52(24.60)
The occupation of spouse			
Unemployed			28(13.30)
Worker			51(24.20)
Self-employed			90(42.70)
Clerk			42(19.90)

€Mean (SD)

Beating and throwing objects at the person were found to be the major embodiments of physical violence, based on the accounts of 153 women (72.5%). As for the psychological violence, 117 women (55.5%) perceived insulting and swearing as this kind of violence, and 142 women found scorning (67.3%) as such. The main instance of sexual violence was also expressed in terms of dissatisfaction with sexual relations by 42 women (20%). Moreover, 117 people (55.5%) reported being forced to give their income to their spouses as the main case of economic violence (Table 2). Only 27(12.8%) of women were familiar with all forms of violence.

The examination of any association between the

Table 2. Women's perception of different mistreatment

Variable	N (%)
Embodiments of physical mistreatment	
Throwing objects and beating	153 (72.5)
Embodiments of psychological mistreatment	
Shouting	46(21%)
Insulting/disparaging/badmouthing	117(55.5)
Humiliating/scorning	142(67.3)
Carping at individuals	49(32.2)
Deciding without consulting	45(21.3)
Inattention	27(12.8)
Embodiments of economic mistreatment	
Getting an individual's income by force	117(55.5)
Preventing one from having financial independence	70(33.2)
Getting someone involved in affairs which is not interested	38(18)
Embodiments of sexual mistreatment	
Dissatisfaction with sex	42(20)

patients' level of literacy and their perception of intimate partner violence showed that 75.9 percent of all women with low level of familiarity with different types of intimate partner violence were illiterate while only 35 percent of those with a high school diploma or higher degrees had a low level of familiarity with domestic violence. Taking employment factor into account, we found that 66.5 percent of housewives had a minimal level of awareness, whereas only 5 employed women (29.4%) had a low level of familiarity with intimate partner violence. There was a statistically significant relationship between the awareness level of women and their level of literacy ($P<0.001$) as well as their occupation ($P<0.001$).

In this study, the enabling factors comprised availability and accessibility to counseling centers, educational classes, and informational resources, such as books, websites, etc.

The participants were asked about their access to social support resources in the face of intimate partner violence. The intention of the researcher by posing questions about access to social support resources was to evaluate the participants' awareness of the availability of these resources in the society and the benefit of these centers could yield. One hundred and forty one women (66.8%) remarked that they simply did not have access to counseling facilities while 37 women (17.5%) noted they were not even aware of the existence of such facilities. The results also revealed that 160 women(75.8%), did not have the chance of attending life skill training courses and 131 persons (62.1%) had no access to books and written information sources on how to prevent and deal with intimate partner violence (Table 3).

The results of the study detected a statistically significant correlation between women's education and access to social support sources, that is, their access to these resources seemed to be more likely when they were better educated ($P=0.004$).

Reinforcing factors in this study embraced the impact of parents, relatives and friends on the behavior of individuals in the face of violence. The mean (SD) of the reinforcement factors was 1.1(3.7). The results showed that there is a significant relationship between the prevention of intimate partner violence and education and the employment of patients ($P<0.001$).

The investigation of the women's coping strategies in the face of intimate partner violence showed that women mostly adopt emotion-oriented coping strategies, with mean (SD) of 2.2 (8.3), or problem-oriented ones, with mean (SD) of 1.9(6.9).

Checking over the behavior of women in the face of intimate partner violence, we found that most women exhibited emotion-oriented coping behaviors such as abandonment or silence or pursued problem-oriented strategies such as contacting external resources like family members, or referring to counseling centers, or calling the police, though the last one was resorted to by only a smaller percentage of people as a major means of coping with violence.

The results of women's self-report on their behavior regarding the use of social support resources indicated that most women, 171 people, (81%) had never called the police in the face of intimate partner violence, and only14 (6.6%) of women had sometimes asked the police for help. One hundred and thirty five people (64%) had tried to reduce the possibility of intimate partner violence by keeping quiet, and 104 (49.3%) by leaving the place (Table 4).

Family support resources of the patients were reviewed. The results showed that 167 women (79.1%) referred to their own parents as the most important source of support when being mistreated by a spouse, but the results of women's self-report on their behaviors in dealing with intimate partner violence showed that 90(42.6%) of women had never used family support resources or rarely used it.

The multivariate regression showed that predictor of problem-oriented coping strategies in women was the enabling factors and knowledge of patients ($P=0.004$, and $P<0.001$ respectively).

In contrast, attitude was the only predictive factor ($P=0.017$, $\beta=0.17$) for performing emotion-oriented coping strategies.

Discussion

The results of current study showed that the prevalence of intimate partner violence against women with breast cancer was 90%. It was discovered that 190 out of 211 women had experienced at least one type of violence in their married life. According to the world-wide studies, the prevalence of intimate partner violence against women is estimated to be between 7% and 54%.[3,12,14,19]

Table 3. Enabling factors in the face of violence

Variable	Lack of awareness about presence of these resources N (%)	No N (%)	Yes N (%)
Access to consulting centers	37(17.5)	141(66.8)	33(15.6)
Access to life skill training courses	37(17.5)	160(75.8)	14(6.6)
Access to books or other information resources	35(16.6)	131(62.1)	45(21.1)

Table 4. Samples of coping strategies of women when being mistreated by their spouses

Variable	Never	Sometimes	Most often	Always
	N (%)	N (%)	N (%)	N (%)
Asking for help from relatives	34(16.1)	56(26.5)	43(20.4)	57(27)
Negotiation about problem with spouse	2(1.1)	60(31.6)	58(39)	70(36.8)
Leaving the place to reduce the amount of damage/ casualty	13(6.2)	73(34.6)	14(6.6)	90(42.7)
Contacting police	171(81)	14(6.6)	3(1.4)	2(0.9)
Keeping silence	19(9)	29(13.7)	7(3.3)	135(64)

Intimate partner violence against women is one of the mechanisms of establishing male superiority over women, which is legalized by marriage and family formation.[20]

Men who mistreat their wives live in a culture in which men dominate women. Hence, the more tense the events or situations that threaten the family, the greater the likelihood of the intimate partner's violent behavior.[20]

In Iran, the prevalence of intimate partner violence among Iranian women has been reported to be between 60% and 83% in different regions.[5,6] The estimated prevalence of intimate partner violence in this study is even much higher, suggesting that intimate partner violence is more likely to occur with women suffering from incurable illnesses than other women.

The association between high prevalence of domestic violence and women's having incurable illnesses is a recent hypothesis which has already been confirmed in the studies done by Coker et al.,[12] and Shamsi & Bayati.[21] The increased incidence of intimate partner violence in women with such illnesses can be attributed to the loss of female's body shape, illness-related psychological problems, and extra family costs imposed by the illness.[22]

The results of the Narimani & Agha Mohammadian study showed that the degree to which the women fell short of their spouses' expectations had the highest correlation with the amount of intimate partner violence.[19]

Moreover, the results of the study showed that increased levels of education and the occupational status of women affected their familiarity with intimate partner violence, and how to manage it.[19] The Narimani & Agha Mohammadian study also reported that women's education is associated with increasing women's familiarity with intimate partner violence and appropriate management.[19] According to the results of the study, the level of education not only increases the awareness of women about intimate partner violence but also increases their familiarity and access to social support resources. To justify the detected relationship between the above factors, it can be said that higher education may pave the way for family members to manage the problematic situations, because as the educated families become more knowledgeable, they manage to find ways to cope with conflicts in their close relationships and control intimate partner violence. To put it another way, when confronting any external or internal barriers, they make use of reasonable problem solving tools instead of violence.

Jamali & Javadpour study also found that women with a low level of education were 11.7 times more likely to be prone to intimate partner violence than other women.[23]

Based on the results of the current study, the women's level of education and employment and women's awareness of different types of domestic violence were significantly related to each other, additionally, there was a significant relationship between women's familiarity with intimate partner violence and the degree of their encounter with violence; therefore, raising women's level of education can decrease the amount of intimate partner violence. As the results indicated, while most women prefer to use the social resources in the face of intimate partner violence, the social support systems in the society are weak, both in terms of the existence of such centers in the society and the extent of access to them by individuals.

Elsenbruch et al., also mention social support as a protective factor against intimate partner violence.[24] Social assistance, while reducing social violence, brings about the reduction of the psychological effect of intimate partner violence.[25,26]

Considering empowerment a fundamental part of health promotion in the society, the empowerment of women in terms of different dimensions could include the following; increasing the level of general and specific education of women, decreasing the amount of their economic dependence on their spouses through raising the possibility of women's employment in the society, creating or increasing supportive social networks and reforming current laws, or enacting effective society-based laws, etc. If these conditions are met, they might lead to lowering violence in society at large, in addition to empowering women. Yuksel Kaptanoglu et al., also indicated that economic dependence enhances the likelihood of intimate partner violence.[27]

Taghdisi et al., revealed that empowering women by training them about communication skills can reduce the amount of their encounter with intimate partner violence. Teaching life skills to women, as well, enhances their ability to avoid showing negative behaviors at home, and in turn reduces the likelihood of being mistreated by a spouse in their families.[28]

Investigating the behavior of women facing intimate partner violence in this study showed that most women never contact the police in the face of intimate partner violence, with most trying to decrease the possibility of increased violence by keeping quiet or leaving the place. The reasons for such passive behaviors on the part of the women can be rooted in the lack of effective laws protecting victims of intimate partner violence in the society and the existence of a cultural context based on the encouragement of unconditional adherence of women to their husbands under all circumstances.

The results also showed that, despite the fact that the majority of women consider family as their most important source of support, some women try to avoid using family support resources in the face of violence as far as possible.

The deterrent factor for women in using parental guidance for controlling violence can be explained by the Beeble et al. They maintained that the relatives of a woman who encounter intimate partner violence, try not to get involved in their quarrels as much as possible. It's because they perceive it as a private issue or they fear the assailant himself, consequently, they choose not to protect the victim of intimate partner violence and adopt passive

reactions.[29] Therefore, failing to achieve a favorable outcome through using family support resources by victims of intimate partner violence makes women unwilling to use this particular source of support.

Rabbani & Javadian also states that the women's passive role in spousal violence can be due to their financial independence, fear of deterioration of the situation, low self-esteem, lack of supportive source (in the family or the society), love for their marital life, love for husband and children, and their religious and cultural beliefs.[30] It can be said that in many cases women begin their marital life with an induced frustration resulting from their cultural traditions in their patriarchal society. Therefore, the only way to control intimate partner violence in the society is to empower women in different ways such as utilize social workers in oncology clinics,[31,32] and by so doing, the women can have the ability to prevent intimate partner violence or, control and reduce it.

One of the important limitations of the current study is the cultural context governing the community, which encourages women to maintain secrecy of family issues. Therefore, women prefer not to provide much information to anyone about intimate partner violence and its kinds. Therefore, the collected information in this study was only about facing or not facing intimate partner violence in the family, and it was not likely to have access to all types of violence experienced by women.

Another limitation was related to the fact that the rate of "intimate partner violence" in the sample was compared with the data from previously conducted studies than directly with a healthy control group.

Conclusion

This is the first study to identifying the multiple factors that affect the behaviors of women with breast cancer against intimate partner violence on the PRECEDE-PROCEED model.

The results revealed a higher number of encounters with intimate partner violence among women with breast cancer in the studied society, which was not unexpected. Additionally, the enabling and reinforcing factors of the PRECEDE-PROCEED indicated empowering women can have influence on the reduction of intimate partner violence against women with breast cancer. Empowered women are more likely to have a better status in terms of knowledge and access to social resources than other women, so empowering women could help them reduce the level of their encounter with intimate partner violence. However, in order to control intimate partner violence fully, it is necessary that supporting and empowering centers be established for women in the society, and efficient laws be enacted so that such violence against women might be controlled in the family. This issue is of paramount value, because the consequence of intimate partner violence is the prevalence of violence in society.

Research Highlights

What is the current knowledge?

The risk of intimate partner violence against women with cancer or other illnesses is higher than that for other women.

What is new here?

The factors that affect the behaviors of women against intimate partner violence on the PRECEDE-PROCEED model was identified.

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Ethical Issues

This descriptive-analytic cross-sectional study was reviewed and approved by the ethics committee for research in Ardabil University of Medical Sciences with the code: IR.ARUMS.REC.1398.304

Conflict of Interest

No financial or other conflicting relationships are disclosed that preclude publication of this manuscript.

Author's Contributions

NF: participated in the design and interpretation of the data, and performed the statistical analyses, drafted the manuscript; IF: participated in gathering and interpretation of data; FP: participated in the design and interpretation of the data; SY: assisted in data gathering; SA: assisted in drafted and editing the manuscript; EM: assisted with drafting and English editing the manuscript; MR: assisted in the interpretation of the data; All authors read and approved the final manuscript.

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