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Abstract

Background: Infertility is a significant psychological stressor among infertile couples. Aggressive behaviour such as domestic violence may be the consequence of this situation.

Aims: To determine the relationship between domestic violence and infertility and its associated factors.

Methods: This unmatched case-control study was conducted on 400 women who were referred to Al-Zahra teaching Hospital in Rasht, Islamic Republic of Iran, from May to December 2015. The data were collected by WHO Domestic violence questionnaire, which was validated in the Islamic Republic of Iran. Data were analyzed by using descriptive and analytical statistic (Chi square, t test, and logistic regression).

Results: Out of the 200 infertile women 136 (68%) reported a history of physical violence, 120 (60%) had experienced sexual violence and 140 (70%) had psychological violence. There was a significant relationship between infertility and physical, sexual and psychological violence (P

Conclusions: In this study there was a relationship between infertility and physical, sexual and psychological violence and infertile women were more likely to encounter domestic violence.

Screening for domestic violence is necessary for infertile couples.

Keywords: domestic violence, infertility, women, Risk factors, sexual violence

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Introduction

Infertility in a couple is usually defined as the failure to become pregnant after 1 year of regular, unprotected sexual intercourse (1). Worldwide many couples suffer from infertility; it is a global health problem, with an estimated 8–12% sufferers (2), while the prevalence of primary infertility in the Islamic Republic of Iran was reported as 24.9% in 2004 (3). Worldwide violence is a vital community health distress commonly observed among all cultures, regardless of geographical limitation, educational level or economic development (4). Domestic violence is defined as exerting any violent behaviour against another person and within an intimate relationship, and includes physical, psychological and sexual violence (5). Domestic violence may cause physical, psychological or sexual harm to those involved (6,7). The prevalence of domestic violence among ever partnered women was reported to be from 15.4% in Japan to 70.9% in Ethiopia by a World Health Organization (WHO) multi-country study report (8). The prevalence of domestic violence in the Islamic Republic of Iran was reported to be from 47.3% up to 80% (3,9–11).

Marital conflict and divorce may be associated with infertility (1) and could be a formerly unrecognized risk factor for domestic violence (12). Infertility is a significant psychological stressor among infertile couples. Aggressive behaviour may be the consequences of difficulty of

dealing with this situation (13). Some researchers reported that infertile women who experience domestic violence were 33.6% in Turkey (1), 31.2% to 35.9% in Nigeria (14,15) and 34.7% in the Islamic Republic of Iran (3). Childbearing is considered highly desirable in many cultures (16), yet it is women alone who are constantly held responsible for a couple's infertility and is often punished socially and economically as a consequence (17). Globally, regardless of socioeconomic or educational levels of couples, domestic violence affects the quality of life among millions infertile women (1).

There are a limited number of studies in the Islamic Republic of Iran about the relationship between domestic violence and infertility. Most studies have no control group with which to compare results. The present study was conducted with the aim of assessing the relationship between domestic violence (psychological, physical and sexual) and infertility among women who suffered from infertility at a reproductive health referral centre in Rasht, Islamic Republic of Iran.

Methods

Subjects and settings

This unmatched case-control study was conducted on 400 women who were referred to Al-Zahra teaching Hospital in Rasht, Islamic Republic of Iran, from May 2015 to December 2015. The sample size was determined by using the prevalence of domestic violence in infertile and fertile women as at least 176 for each group based on previous studies by Ardabili et al. and Ahmadi et al. (16,18).

$n \geq$

$P= (P1+P2)/2$

$\alpha = 0.05\ Z1- \alpha /2 = 1.96$

$\beta = 0.20$ $Z1-\beta/2 = 0.84$

$P1 = 0.6$, $P2 = 0.44$

In an infertility clinic 200 infertile women who met the inclusion criteria of the study were selected as cases. Two hundred women who had at least one child were selected by simple random sampling from other clinics in Al-Zahra Hospital as a control group. In order to evaluate the factors affecting domestic violence among women, they were divided into two groups – abused and non-abused women – by using WHO domestic violence questionnaire and calculating the relationship between characteristics and socio-demographic data with domestic violence.

The inclusion criteria of this study were Iranian nationality and duration of marriage at least one year. Exclusion criteria were any chronic disease which has an effect on fertility. The ethical committee of Guilan University of Medical Sciences approved this study (93121120, 2 March 2015). Written consent was obtained from the participants in a private setting. WHO ethical and safety recommendations for research on domestic violence against women were considered in this study. The participants were assured that all their information would remain confidential.

Instruments

The data were collected by using the WHO domestic violence questionnaire (19), which contains 34 items. The field of physical violence has 10 items, sexual violence has 5 items and psychological violence has 11 items, while other questions concerned demographic variables. The number of cases of violence is calculated based on a Likert scale 1–5 (never, one time, two times, 3–5 times, more than 5 times). In this study a participant who has at least one positive answer to each question related to physical, sexual or psychological violence were considered to have been abused. The validity of the questionnaire in Iran was investigated by other researchers (17,18). The total CVI of the questionnaire was calculated 0.74 and Cronbach's alpha coefficient of the questionnaire on three areas physical, sexual and psychological violence were 0.99, 0.89 and 0.88, respectively. Ten researchers and faculty members evaluate the questionnaire. The CVR for each item was calculated above 0.8. The questionnaires were filed by participant in order to prevent shame and embarrassment.

Data analysis

The data were analyzed by using SPSS software for descriptive and analytical statistical tests (chi square test, t-test, and multiple logistic regressions) and the significance level was 0.05. The confounding factors were controlled with logistic regression.

Results

The mean age of the respondents in the infertile and fertile groups was 32.96 and 32.44 respectively. Nearly 45% of participants in both fertile and infertile groups had average incomes. In this study the majority of women in infertile (n=163, 81.5%) and fertile (n=150, 75%) groups were housewives. The education level of more than 50% of participants was secondary school in infertile group (n=101, 50.5%) and fertile group (n= 104, 52%) respectively. Within each group there was no significant difference in age, education level of women, education level of husband, wife's or husband's occupation (Table 1). The duration of marriage among participants was 2–22 years (median 8.45± 4.37). Out of the 200 infertile women that participate in this study 167 (83.5%) reported a history of domestic violence, 136 (68%) physical violence, 120 (60%) sexual violence and 140 (70%) psychological (emotional) violence. There was a significant relationship between infertility and physical, sexual and psychological violence (Table 2).

In the control group the duration of marriage was 1–28 years (median 10/44 ± 6.42). Fifty-three (26.5%) infertile women and 34 (17%) fertile women also experienced physical and psychological violence; there was a statistically significant difference between the two groups, with the infertile group demonstrating higher levels of abuse than the fertile group. Logistic regression showed significant associations between the women's education level and domestic violence [OR= 0.176, CI 95% (0.070–0.446)]. The chance of violence among women with high school education was 80% less than women with university education. There was significant association between an unemployed husband and domestic violence [OR=15.83, CI 95% (1.307–191.977)]; women with an unemployed husband were 16 times more exposed to domestic violence. As the number of children [OR=0.379, CI 95% (0.189–0.762)] increased in the family, the chance of domestic violence decreased by approximately 60%. There was significant relationship between infertility and domestic violence [OR= 0.133, CI 95% (0.057–0.31)]. The chances of violence against women with infertility were 87% more than fertile women (Table 3).

Discussion

Violence affects the lives of millions of women worldwide and in all socioeconomic and educational classes (20). In this study the prevalence of physical, psychological and sexual violence in infertile women was 68%, 70% and 60%, respectively. Similarly, other studies showed a high prevalence of psychological violence (1,3,14,15), which may be related to

different perceptions of violence in women compare to men. Also women demonstrate a greater sense of responsibility for infertility, which may cause personal psychological distress.

The prevalence of sexual violence varied from 7% in Turkey to 57% in Pakistan (1,3,15,16). Reasons for the difference between our study findings with other studies could relate to different cultures, different perceptions of violence or different instruments used. Women may hide sexual violence in many cultures. These women are more likely to suffer depression, which also has an adverse effect on fertility.

The prevalence of physical violence reported from studies showed abuse varied from 14% in the Islamic Republic of Iran to 83% in Nigeria (1,15,16). Again, the variation may be related to different cultures or different instruments used. Psychological violence was the most type of violence in all studies. In the present study the chance of domestic violence against women with infertility was about 80% more than for fertile women.

Infertility is a significant psychological stressor among infertile couples. Aggressive behaviour may be as a result of inability to deal with this situation (13). Infertile women may display greater sensitivity, so may have different perceptions about domestic violence compared to fertile women. There is great variability in the definitions for domestic violence worldwide and the prevalence of domestic violence among infertile women is difficult to compare across studies (12). In this study infertile women also reported violence from their family (26.5%). In other studies, perpetrators were also female relatives or members of the husband's family (1,21). There was no relationship between wife's age and husband's age with regard to violence in this study, which was similarly to other studies (1,16). In contrast, Kaur et al. (2014) reported a correlation between wife's age and husband's age with regard to domestic violence (22).

In the present study there was no association between duration of marriage and domestic violence, which was similar to one study in Turkey (1). However, age at marriage was associated with domestic violence; women who married younger were more exposed to domestic violence (3), and unemployment significantly influenced the experience of violence. Similar studies reported a significant relationship between the husband's employment and domestic violence (3,22). In this study, the level of women's education was associated with domestic violence, and is similar to studies in Nigeria and Punjab, India (14,22).

The number of children and infertility were associated with domestic violence in this study, with increased number of children decreasing the chance of violence by 60%, which was similar to a

study in Turkey (23). Thus, studies showed that age, education level and income status did not protect women from violence.

The prevalence of depression was high among infertile couples in the Islamic Republic of Iran (24). In Iranian culture the chances of divorce among infertile women are high and the probability of remarriage will decrease after divorce (25); thus, infertile women live in anxiety and fear (1,25). Decreased self-steem, poor sexual satisfaction and conflict between couples are consequences of infertility. Quality and satisfaction of marital life may decrease with these factors and domestic violence could be a consequence (25,26). Moreover, Infertile women fear losing family support because of a weak system of social support in many countries (27).

Limitations

Participant reticence to share experiences may be a limitation in this study.

Conclusion

Infertile women were more exposed to an increased risk of domestic violence compared to fertile woman in this study. Domestic violence is a risk factor for stress, anxiety and fear among women and this factor may have an adverse effect on fertility. Thus, it is necessary to provide a domestic violence programme within infertility care. Domestic violence victims may need primary care and special attention during her visits, and infertile women need to be educated by health care providers on how to prevent domestic violence. Increasing couples' knowledge about infertility and empowering women about their rights may decrease domestic violence.

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Competing interests: None declared.

Relation entre violence domestique et stérilité

Résumé

Contexte : La stérilité est un facteur de stress psychologique important pour les couples concernés. Les comportements agressifs tels que la violence domestique peuvent être la conséquence de cette situation.

Objectifs : Déterminer la relation entre la violence domestique et la stérilité et les facteurs qui y sont associés.

Méthodes : La présente étude cas-témoins sans appariement a été menée auprès de 400 femmes adressées au Centre hospitalier universitaire Al-Zahra de Rasht (République islamique d'Iran) de mai à décembre 2015. Les données ont été recueillies à l'aide du questionnaire de l'OMS sur la violence domestique, validé par la République islamique d'Iran. Les données ont été analysées à l'aide de statistiques descriptives et analytiques (test du chi-carré, test T et régression logistique).

Résultats : Sur les 200 femmes stériles, 136 (68 %) ont fait état d'antécédents de violence physique, 120 (60 %) ont été victimes de violence sexuelle et 140 (70 %) de violence psychologique. Nous avons observé une relation significative entre la stérilité et la violence physique, sexuelle et psychologique (p