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SUPPLEMENT ARTICLE

Associations of marital violence with different forms of contraception: Cross-sectional findings from South Asia

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ABSTRACT

Objective: To assess associations between marital violence and type of contraception among women in South Asia. *Methods:* Cross-sectional analyses were conducted using marital violence data collected during the most recent Demographic and Health Surveys from Bangladesh (n = 3665), India (n = 56 357), and Nepal (n = 3037). Data were pooled to assess associations of marital violence (physical or sexual) with modern contraception use (current spacing or sterilization). *Results:* Sexual marital violence was associated with both modern spacing contraception (adjusted odds ratio [AOR] 1.30; 95% confidence interval [CI], 1.13–1.49) and sterilization (AOR 0.79; 95% CI, 0.70–0.88). Sexual violence was reported more often by pill users (9.8% vs 5.5% for non-users) but less often by condom users (4.5% vs 5.8% for non-users). *Conclusion:* Sexual marital violence might increase use of contraception that need not require husband involvement (pill) but decrease use of methods that require his cooperation (condom) or support for mobility, funds, or time (sterilization).

1. Introduction

A study published in 2010 estimated that 40% of women in South Asia had experienced physical and/or sexual marital violence [1]. Global evidence suggests that such violence affects women's reproductive control and contraceptive practices [2–4]. Actions taken by male partners to prevent women from implementing family planning measures have been implicated in increased risk of unplanned and unwanted pregnancies and induced abortion among women in South Asia who report marital violence [5–10]. Complicating this picture are findings from India that demonstrate associations between marital violence and non-use of contraception [5,6,11], and contrasting findings from Bangladesh that document an association between marital violence and increased use of contraception [12]. Research from Nepal found no appreciable association between marital violence and contraception, possibly owing to an inadequate sample size [13].

These dissimilar findings, which were recorded at the national level, might be attributable to the different forms of contraception that predominate in each country; namely, injections in Nepal, the contraceptive pill in Bangladesh, and female sterilization in India [14–165]. Regional, rather than country-specific, analysis could, therefore, offer some insight, given the overlap of key predictors of contraceptive use across South Asia. Such predictors include gendered risks (e.g. early marriage of girls and a preference for sons) and social inequities (e.g. rural residence, poverty, and low education) [14–16]. Such pooled regional analysis would also allow for large samples through which to explore differences in associations of marital violence with spacing contraception (modern contraceptives that allow a woman to delay or space pregnancy; for example, the pill, IUD) versus limiting contraception (or permanent contraception, which prevents further pregnancies from occurring; for example, female sterilization).

Analysis of associations with spacing versus limiting contraception is currently lacking; however, this aspect is important to consider because motivations differ for these forms of contraception. Multi-country analyses, including research conducted in South Asia, suggest that women who report spousal violence are also more likely to report high parity [2,14–17], which suggests that they might be less likely to use limiting forms of contraception. Research from East Africa found that men who held an accepting attitude toward marital violence also desired a large number of children [18]. Such attitudes in the context of marital violence might affect women's acquisition of limiting forms of contraception (e.g. sterilization). Simultaneously, however, the high rates of unwanted pregnancy [19] and induced abortion [20] observed among women experiencing spousal violence suggest that such women might actually wish to avert a pregnancy. In this context, female-controlled contraceptive

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methods, such as the pill, might offer greater opportunity for covert use by women contending with marital violence, while still allowing them the opportunity to achieve their husband's expected fertility goals.

The aim of the present study was to provide insight into the potentially different associations between marital violence and spacing versus limiting forms of contraception in South Asia, through the analysis of data collected from married women not currently pregnant at the time of survey in Bangladesh, India, and Nepal.

2. Methods

Cross-sectional analyses were conducted using the most recent Demographic and Health Survey (DHS) data from Bangladesh (2007), India (2005–2006), and Nepal (2011) [14–16]. The analysis was conducted at the University of California, San Diego, between November 2013 and November 2014. Ethical approval for the DHS design and implementation was provided by ICF International (Fairfax, VA, USA) and the respective host country. All DHS participants provided informed consent prior to their participation. The institutional review board of the University of California, San Diego, USA, approved the present study.

The DHS data from Bangladesh, India, and Nepal were used for present study because they were the only countries in South Asia for which both physical and sexual marital violence measures were available [14–16]. The DHS are nationally representative, two-stage, stratified sample surveys on population health and fertility conducted among women of reproductive age [21]. Response rates were greater than 94% in all three countries included in the present study. The sample for analysis was restricted to currently married women who had completed the domestic violence module; were not pregnant at the time of interview; and had provided responses for all dependent and independent variables assessed. The total cohort size was 63 059; the breakdown by country was Bangladesh (n = 3665), India (n = 56 357), and Nepal (n = 3037).

The primary independent variables assessed in the present study were any occurrence of physical marital violence (assessed by seven items) or sexual marital violence (assessed by two items), ever in the current marital relationship. Other items assessed physical and sexual marital violence during the past year; these data were provided descriptively. Further details are available in the relevant DHS reports [14–16]. Current contraceptive use was set as the primary dependent variable. This variable was categorized as none and/or not modern (including traditional and folkloric methods); modern spacing (contraceptive pill, intrauterine device [IUD], injections, diaphragm, condom, implant, female condom, foam, and jelly); and sterilization (male and female).

Covariates were social equity indicators (respondent age, respondent and husband education, household wealth quintile, and urban vs rural residence) and gender equity indicators (parental marital violence [father's abuse of mother], female child marriage, position in the household, preference for a son, and actual number of living sons and daughters). These covariates were selected on the basis of previous research documenting their associations with marital violence and contraception in South Asia [5–12,22–24].

2.1. Data analysis

Data were pooled across countries, and multinomial regressions were used to assess relationships between independent variables and the contraception outcome. Models included both physical and sexual marital violence as primary independent variables. Final adjusted models included primary independent variables, fixed effects by country, and all covariates that were statistically significant ($P < 0.05$). No co-linearity for covariates was indicated for the model, based on a tolerance cutoff of 0.30. All analyses were weighted using individual weights that adjusted for country population sizes and complex survey design using SAS version 9.3 (SAS Institute, Cary, NC, USA). Given the much larger sample size for India, sensitivity analyses were conducted to determine whether the observed effects for the pooled model held true at the national level. The sensitivity analyses involved examination of multivariate models stratified by country and by comparing multivariate models with and without India. In addition, descriptive analyses of specific types of contraceptive use (e.g. pill, condom, or IUD) by physical and sexual marital violence were conducted both for the total pooled sample and by country.

3. Results

The descriptive characteristics of the present study group and observed associations are outlined in Table 1. A history of physical or sexual marital violence ever was reported by 37.2% (unweighted n = 20 225) of the cohort; 23.3% (unweighted n = 12 966) had experienced physical or sexual marital violence during the past year. The occurrence of both physical and sexual marital violence ever was 7.8% (unweighted n = 4192), and in the past year was reported by 4.6% (unweighted n = 2543). In all, 34.9% (unweighted n = 19 051) reported physical marital violence at any time, and 10.1% (unweighted n = 5366) reported sexual marital violence at any time. Modern spacing contraceptive use was reported by 14.5% (unweighted n = 10 923) and sterilization by 37.4% (unweighted n = 22 578; male sterilization, 1.1%, unweighted n = 948).

Adjusted multinomial analyses indicated that history of sexual marital violence was associated with increased likelihood of current modern spacing contraceptive use but reduced likelihood of sterilization (Table 1). The adjusted odds ratios (AORs) were 1.30 (95% confidence interval [CI], 1.13–1.49) and 0.79 (95% CI, 0.70–0.88), respectively. Physical marital violence was not associated with either parameter. Sensitivity analyses—including Bangladesh-specific and Nepal-specific models, and the pooled multivariate model without India—did not yield similar findings to the overall model; in these analyses, neither physical nor sexual marital violence were appreciably associated with the contraception outcomes (data not shown). Small cell sizes for sexual marital violence might have affected these estimates. The results of the India-specific model were comparable to the pooled model.

Covariates in the total pooled model revealed important social equity indicators associated with the contraceptive outcomes (Table 1). Well-educated women with a high wealth index were more likely to report both spacing contraception and sterilization than poorly educated women with a low wealth index. In addition, women with well-educated husbands and those who were urban residents tended to report the use of spacing contraception. Women in the oldest age category (40–49 years) were more likely to report sterilization and less likely to report spacing contraception than women in the youngest age category (15–19 years). Son preference ideologies were associated with increased likelihood of both spacing contraception and sterilization. Although high boy and high girl parity were both associated with the use of spacing contraception and sterilization, having two or more boys demonstrated markedly greater effect sizes for these associations than were detected for two or more girls. The greatest difference was seen for sterilization: women with two or more boys were 7.5-times more likely than those with no boys to report sterilization; by contrast, women with two or more girls were only 1.6-times more likely than those with no girls to use this method of contraception. Heads of household and daughters of the heads of household were less likely than daughters-in-law to report spacing contraception or sterilization, although wives of the heads of household were more likely than daughters-in-law to report sterilization. Early marriage was also associated with sterilization.

To offer further insight, descriptive data on the type of contraceptives used by history of sexual marital violence were reviewed (Table 2). Women who had experienced sexual marital violence were more likely to report pill use (9.8% [507/5366] vs 5.5% [3332/ 57 693] for non-users) but less likely to report condom use (4.5% [279/5366] vs 5.8% [4335/ 57 693] for non-users). Similarly, use of injection was more likely, but use of an IUD was less likely, among women who had experienced sexual marital violence; however, the prevalence of these types of birth control was