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Child Marriage and Its Associations With Controlling Behaviors and Spousal Violence Against Adolescent and Young Women in Pakistan



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ABSTRACT

Purpose: Child marriage (before 18 years) is widely prevalent in Pakistan, and disproportionately affects young girls in rural, low-income, and poorly educated households. Our study aims to determine the associations between child marriage and controlling behaviors (CB) and spousal violence by husbands against adolescent and young women in Pakistan beyond those attributed to social vulnerabilities.

Methods: We analyzed data from the Pakistan Demographic and Health Survey, 2012–2013, of currently married women aged 15-24 years who had participated in the domestic violence module (n=589, 22.5% [589/2,615] of the subsample aged 15-24 years) to identify differences in CB and spousal violence experiences between early (<18 years) and adult (\geq 18 years) ages at marriage. Associations between child marriage and CB and spousal violence by husband were assessed by calculating adjusted odds ratios (AOR) using logistic regression models after controlling for demographics, social equity indicators (education, wealth index, and rural residence), spousal age gap, and husband's education.

Results: Overall, 47.8% of currently married women aged 15-24 years in Pakistan were married before the age of 18 years. About one third of women aged 15-24 years in Pakistan reported experiencing CB (31.8%) and spousal violence (31.1%) by their husbands. Compared with adult marriage, child marriage was significantly associated with CB (AOR = 1.50; 95% confidence interval [CI], 1.042-2.157), any form of spousal violence (physical or emotional) (AOR = 2.03; 95% CI, 1.392-2.969), emotional violence (AOR = 1.86; 95% CI, 1.254-2.767), and physical violence (AOR = 2.44; 95% CI, 1.582-3.760), including severe physical violence (AOR = 2.57; 95% CI, 1.122-5.872).

Conclusions: Effective interventions are needed to prevent child marriages and raise awareness about their negative consequences, with special reference to spousal violence.

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IMPLICATIONS AND CONTRIBUTION

Child marriage practice in Pakistan is significantly associated with controlling behaviors and spousal violence by husbands compared with adult marriage, even after controlling for social vulnerabilities (women's economic status, education, ethnicity, and place of residence). Communities must awareness of the negative consequences of marriage and provide social, legal, and institutional support to women, especially those married as children and who are victims of spousal violence.

Conflicts of Interest: None.

Globally, violence against women is recognized as a major public health problem with significant consequences for women's health [1]. Abused women are observed to suffer from detrimental health effects such as injuries, chronic pain, gastrointestinal complaints, gynecological signs, including sexually transmitted diseases, depression, and posttraumatic stress

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disorder [2]. Globally, the lifetime prevalence of physical or sexual partner violence has been reported to range from 15% to 71%, with the majority of countries having a prevalence between 23% and 49% [1]. Violence is mostly perpetrated by male intimate partners, and men who exercise controlling behaviors (CB) over their partners are more likely to exhibit emotional, physical, and sexual violence against their partners as well [1].

As in other low- and middle-income countries, spousal violence is a problem of public health concern in Pakistan [3–6]. It is estimated that around 40% of ever-married women aged 15–49 years have suffered some form of violence in Pakistan during their lifetime, and every third woman in Pakistan has suffered physical violence [7]. Husbands are reported to be the culprits in 79% of cases of violence against ever-married women, indicating a high level of spousal violence in the country [7]. Low educational status, low levels of empowerment, poverty, and misuse of the dowry system were found to be some of the factors associated with spousal violence in Pakistan [3].

Culturally, women are at a disadvantage from birth in Pakistan; they face discrimination on the basis of sex, which continues into childhood, adolescence, and even after marriage [8]. One of the huge concerns in Pakistan is early marriage [9]. It is estimated that, in 2007, 50% of women aged 20-24 years were married before the age of 18 years [9]. The extent to which adolescent and young women who were married as children (before the age of 18 years) [10,11] experience spousal violence and CB by their husbands is unknown in Pakistan. It is important to quantify the spousal violence and CB by husbands experienced by women married as children at a national level. It is, however, evident from the reports of the United Nations Children's Fund, the World Health Organization, and International Council for Research on Women that in African and Asian countries child marriages are associated with spousal violence [10-15]. Furthermore, studies have shown that, compared with those married as adults, women married as children are socially vulnerable because they are poor, uneducated, reside in rural areas, and have little access to health care services [9-11,16,17]. In particular, large age gaps between couples could lead to the imposition of more restrictions on the mobility of wives by husbands and at the same time increase the chance of wives being victims of spousal violence [10,11]. It is not clear whether these social vulnerabilities put these young women at risk of spousal violence or whether spousal violence is a consequence of child marriage. It therefore becomes critical to understand the association between child marriages and spousal violence and CB by husbands regardless of women's economic status, education, ethnicity, and place of residence. The study aims to determine the association between child marriage and CB and spousal violence by husbands against adolescent and young women in Pakistan beyond those attributed to social vulnerabilities (women's economic status, education, ethnicity, and place of residence), spousal age gap, and husband's level of education.

Methods

Sample of participants

We selected participants from the Pakistan Demographic and Health Survey (PDHS) carried out by the National Institute of Population Studies, Islamabad, Pakistan and ICF International, Calverton, Maryland between October 2012 and March 2013 [7]. PDHS is the third national survey conducted in Pakistan under

the umbrella of the global program of Demographic and Health Surveys. Depending on the preference of household members, trained interviewers verbally administered the survey. A nationally representative household-based sample was obtained by a two-stage, stratified, random sample design that excluded Azad Jammu and Kashmir, Federally Administered Tribal Areas, and restricted military and protected areas.

During the first stage, from the universe of all urban and rural areas of the four provinces of Pakistan and Gilgit Baltistan, all urban cities and towns were divided into smaller areas known as enumeration blocks. The enumeration blocks contained an average of 200-250 households that were further categorized into low-, middle-, and high-income groups. In both urban and rural areas, households were selected in the second stage by the systematic random sampling technique. In the 12,943 households interviewed, a total of 14,569 ever-married women aged 15-49 years were identified, of whom 13,558 were successfully interviewed, yielding a response rate of 93%. The detailed methodology of survey design, data collection, and management has been described elsewhere [7]. A domestic violence module was implemented only in a subsample of households. One evermarried woman per household was selected, and 3,687 women were successfully interviewed for the violence module.

For this study, the sample was limited to currently married women aged 15–24 years who had participated in the domestic violence module (n = 589, 22.5% [589/2,615] of the subsample aged 15–24 years) to assess the association between CB and spousal violence by husbands among those married before 18 years compared with those who were 18 years or older at marriage. Our sample focused on 15- to 24-year-old mothers to ensure the inclusion of a population that reflects current marriage practices in Pakistan [18,19].

Survey instrument and data management

Exposure variable and covariates. The exposure variable, child marriage, was defined as marriage before 18 years of age [9–11,18–20].

The demographics of the participants were assessed through questions regarding age, level of education, area of residence, national region of residence, and ethnicity. A wealth index was calculated in quintiles based on ownership of consumer items and dwelling characteristics between 1 (poorest) and 5 (wealthiest). Participants were also asked questions about their husband's education and age. We calculated a separate variable for older husbands, if the participant's husband was 10 or more years older than his wife. Participants were also asked about their marital status, age at marriage, and marital duration.

Outcomes. The degree of "marital control" that husbands exercise over their wives was assessed by the questions: is the husband jealous if his wife talks with other men? Does he accuse his wife of being unfaithful? Does he refuse to permit his wife to meet her female friends? Does he try to limit his wife's contact with her family? And does he insist on knowing where his wife is? [7]. The "emotional violence" of the participant's husband against his wife was assessed by the questions: had the participant ever been humiliated, threatened, or insulted by her husband? [7]. The extent of "less severe physical violence" by a participant's husband against his wife was assessed by the questions: had the participant ever been pushed, shaken or had something thrown at her, been slapped, punched with a fist or hit

by something harmful, or had her arm twisted or hair pulled by her husband? [7]. The extent of "severe physical violence" by a participant's husband against his wife was assessed by the questions: had the participant ever been kicked or dragged, strangled or burnt, or threatened with a knife/gun or other weapon by her husband? [7]. Any physical violence by a participant's husband against his wife was assessed by whether the participant had ever experienced less severe or severe physical violence from her husband. Any form of violence by a participant's husband against his wife was assessed by whether the participant had ever experienced any physical or emotional violence from her husband. Ethics approval: The demographic health survey procedures included in the study were approved by ICF International institutional review board and the ethics review boards of the government of Pakistan. Because this manuscript involved secondary data analysis of a publicly available data set, ethical approval from our respective institutions was not required. All study authors were granted access to these data for the purpose of manuscript development.

Data analysis

The degree of marital control that husbands exercise over their wives and the prevalence of different forms of spousal violence against young women married as children were calculated for the total sample of women aged 15-24 years. The characteristics of child marriage were compared with adult marriage using the chi-square test. We considered a two-tailed p value of <.05 to be statistically significant. Associations between child marriage and CB and spousal violence by husbands were assessed by calculating the unadjusted odds ratios (OR) and adjusted odds ratios (AOR) with 95% confidence intervals (CIs)

using logistic regression models after controlling for age and social equity indicators (education, wealth index, and rural residence). Although we did not find any difference between child and adult marriage by type of residence (rural vs. urban), we still kept the variable in the models because published literature has shown it to be an important determinant of poor health outcomes in child marriages [9,18,19,21]. Coefficients of independent variables were examined using Spearman correlation test to determine possible collinearity. The models were not adjusted for national region of residence because of collinearity with ethnicity. Separate regression analyses were also conducted adjusting for participants' husbands' education and the husband being \geq 10 years older than his wife. All the data were weighted and analyzed using SPSS (IBM SPSS Statistics for Windows, Version 20.0; IBM Corp., Armonk, NY) to account for selection probability, nonresponse, and sampling differences between regions to produce nationally representative estimates. We calculated weighted percentages of the national population, including the absolute numbers of participants from the original sample. Weighted percentages without the absolute numbers of participants are presented in the text.

Results

The median age of participants in the sample was 22 years (minimum = 15 years; maximum = 24 years). The median age of participants' husbands was 27 years (minimum = 16 years; maximum = 60 years). Around 30% of the participants reported that they had been married for a total of 5–9 years. The most participants (47.8%) were married before the age of 18 years. Around 3% and 13% of participants were married before the age of 14 and 16 years, respectively. Of those married before the age

Table 1Prevalence of controlling behaviors of husband and types of spousal violence among currently married women aged 15—24 years in Pakistan, Pakistan Demographic and Health Survey, 2012—2013

Controlling behaviors and types of spousal violence	Married women (589)	Child marriage (297)	Adult marriage (292)	
	n (weighted %)	n (weighted %)	n (weighted %)	
Controlling behaviors of husband over their wife				
Any controlling behaviors of husband	206 (31.8)	113 (36.4) ^a	93 (27.5) ^a	
Husband jealous if talking with other men	166 (26.7)	88 (29.3)	78 (24.3)	
Husband accuses her of unfaithfulness	33 (5.1)	17 (5.4)	16 (4.9)	
Does not permit her to meet her girlfriends	55 (8.1)	37 (11.6) ^a	18 (4.9) ^a	
Husband tries to limit her contact with family	40 (5.0)	26 (7.1) ^a	14 (3.1) ^a	
Husband insists on knowing where she is	106 (15.4)	57 (16.1)	49 (14.8)	
Types of spousal violence ^b				
Ever any type of violence (physical or emotional)	196 (31.3)	121 (38.0) ^a	75 (25.1) ^a	
Ever any physical violence (less severe or severe)	150 (21.7)	98 (27.9) ^a	52 (16.0) ^a	
Ever any less severe violence	147 (20.5)	96 (25.7) ^a	51 (15.8) ^a	
Ever been pushed, shook or had something thrown by husband	71 (10.6)	48 (14.6) ^a	23 (7.0) ^a	
Ever been slapped by husband	140 (19.7)	91 (24.9) ^a	49 (15.0) ^a	
Ever been punched with fist or hit by something harmful by husband	33 (4.3)	$22(5.9)^{a}$	11 (2.8) ^a	
Ever had arm twisted or hair pulled by husband	54 (7.2)	34 (9.0)	20 (5.4)	
Ever any severe violence	37 (5.1)	26 (7.3) ^a	11 (3.1) ^a	
Ever been kicked or dragged by husband	25 (3.4)	19 (4.8) ^a	6 (2.1) ^a	
Ever been strangled or burnt by husband	13 (1.3)	10 (2.3)	3 (.5)	
Ever been threatened with knife/gun or other weapon by husband	13 (1.5)	10 (2.3)	3 (.8)	
Ever any emotional violence	156 (26.3)	96 (31.6) ^a	60 (21.4) ^a	
Ever been humiliated by husband	129 (20.9)	78 (24.9) ^a	51 (17.3) ^a	
Ever been threatened with harm by husband	29 (3.6)	14 (3.7)	15 (3.6)	
Ever been insulted or made to feel bad by husband	139 (21.9)	86 (26.8) ^a	53 (17.4) ^a	

Data are weighted % of participants in the subsample, whereas numbers are absolute participants.

Absolute number of participants does not perfectly correspond to percentages because the percentages are weighted.

p < .05 (child marriage vs. adult marriage).

^b Different types of violence are not mutually exclusive, and women may report multiple forms of violence.

Table 2Selected characteristics of currently married women aged 15–24 years who participated in domestic violence module by marital status in Pakistan, Pakistan Demographic and Health Survey, 2012–2013

	Child marriage (297)		Adult marriage (292)		p value
	n	Weighted%	n	Weighted%	
Age of women, years					<.001
15	1	.3	0	.0	
16	8	2.0	0	.0	
17	14	3.7	0	.0	
18	38	15.2	11	4.4	
19	27	6.2	17	4.9	
20	39	10.1	46	16.8	
21	28	9.6	35	12.2	
22	54	18.6	66	23.1	
23	44	22.3	54	16.3	
24	44	12.1	63	22.3	
Respondent level of					<.001
education					
No education	182	66.9	105	37.6	
Primary	48	14.7	62	25.4	
Secondary	55	16.1	74	23.6	
Higher	12	2.3	51	13.5	
National region of					.011
residence					
Punjab	76	52.0	98	65.6	
Sindh	71	26.6	75	19.4	
Khyber Pakhtunkhwa	67	16.9	49	11.1	
Balochistan	35	3.4	31	3.1	
Gilgit Baltistan	35	.8	24	.5	
Islamabad (capital territory)	13	.3	15	.3	
Type of residence					.061
Urban	105	21.5	129	27.6	
Rural	192	78.5	163	72.4	
Wealth index					<.001
Poorest	88	34.5	42	13.2	
Poorer	84	27.7	47	14.5	
Middle	61	17.2	66	26.9	
Richer	44	14.1	75	25.9	
Richest	20	6.5	62	19.4	
Ethnicity					<.001
Urdu	11	4.8	40	10.1	
Punjabi	50	23.1	72	43.8	
Sindhi	39	13.8	29	8.2	
Pushto	69	15.2	53	11.6	
Balochi	20	15.2	13	2.6	
Siraiki	41	19.4	34	17.8	
Other	67	8.5	51	5.9	004
Husband's level of					<.001
education	400	22.5		22.2	
No education	100	32.5	64	23.3	
Primary	57	27.1	44	18.6	
Secondary	102	31.4	107	40.3	
Higher	38	9.0	77	17.8	
Husband 10 or more					.005
years older than					
wife	225	70.5	25.4	07.3	
No	227	79.5	254	87.3	
Yes	68	20.5	37	12.7	

Data are weighted % of participants in the subsample, whereas numbers are absolute participants.

Absolute number of participants does not perfectly correspond to percentages because the percentages are weighted.

of 18 years, around 54% of the participants reported that they had been married for a total of 5–9 years.

Overall, almost one third of women aged 15-24 years (31.8%) reported experiencing CB by their husbands with those married as children experiencing significantly more CB compared with those married as adults (36.4% vs. 27.5%; p < .05) (Table 1). Similarly,

almost one third of women aged 15–24 years (31.1%) reported ever experienced any spousal violence (physical or emotional), with significantly more violence experienced by those married as children compared with those married as adults (38.0% vs. 25.1%; p < .05) (Table 1). A little less than a quarter of women (21.7%) reported having ever experienced physical violence, of which 5.1% reported having experienced severe physical violence. Physical violence (27.9% vs. 16.0%; p < .05), including severe physical violence (7.3% vs. 3.1%; p < .05), was more prevalent among women married as children compared with those married as adults. Over one quarter of women (26.3%) reported having ever experienced emotional violence, with significantly more violence experienced by those married as children compared with those married as adults (31.6% vs. 21.4%; p < .05).

There were significant differences in demographics and social equity indicators among women who were married before they were 18 years of age compared with those who were married at age 18 years or older (p < .05). Women married as children compared with women married as adults were younger, less educated, and poorer (Table 2). The proportion of women married as children compared with adults was higher in Sindh and Khyber Pakhtunkhwa.

Women married as children compared with women married as adults were more likely to have experienced CB by their husbands (OR = 1.52; 95% CI, 1.117–2.082) and were more likely to have ever experienced either physical or emotional violence (OR = 1.83; 95% CI, 1.333–2.501) (Table 3). Those married as children were also more likely to have ever experienced physical violence (OR = 2.03; 95% CI, 1.418–2.900) and emotional violence (OR = 1.70; 95% CI, 1.221–2.366). In addition, those married as children were twice as likely to have ever experienced severe physical violence compared with those married as adults (OR = 2.48; 95% CI, 1.232–4.977).

After adjustment for age, social equity indicators (education, wealth index, and rural residence), ethnicity, husbands' education, and husband being ≥ 10 years older than his wife, child marriage compared with adult marriage was significantly associated with an increased likelihood of wives experiencing CB by their husbands (AOR = 1.50; 95% CI, 1.042–2.157), any form of violence (physical or emotional) (AOR = 2.03; 95% CI, 1.392–2.969), emotional violence (AOR = 1.86; 95% CI, 1.254–2.767), and physical violence (AOR = 2.44; 95% CI, 1.582–3.760), including severe physical violence (AOR = 2.57; 95% CI, 1.122–5.872) (Table 3).

Earlier studies have shown that men who exercise CB over their partners are also more likely to exhibit violence against their partners [1,2,22]. We therefore explored the association between child marriage and spousal violence by adjusting "any CB" by husbands over their wives along with other covariates in the logistic regression models and found that child marriage still remains significantly associated with any form of violence (physical or emotional) (AOR = 1.78; 95% CI, 1.186–2.678) and physical violence (AOR = 2.24; 95% CI, 1.404–3.578), including severe physical violence (AOR = 3.37; 95% CI, 1.272–8.923). The association was lost for emotional violence with child marriage when adjusted for CB by husbands over their wives along with other covariates in the logistic regression model.

Discussion

Almost one third of women aged 15–24 years in Pakistan reported experiencing CB by their husbands. This is in line with

Table 3Associations of child marriage and controlling behaviors of husband and types of spousal violence among currently married women aged 15–24 years in Pakistan, Pakistan Demographic and Health Survey, 2012–2013

Outcomes	Married women (589) n (weighted %)	Child marriage (297) n (weighted %)	Adult marriage (292) n (weighted %)	ORs (95% CI)	Adjusted ORs (95% CI) ^a	Adjusted ORs (95% CI) ^a including adjustment for husband education, and husband ≥10 years older than wife
Any controlling behavior of husband over their wife				1.52 (1.117-2.082)**	1.50 (1.050-2.152)*	1.50 (1.042-2.157)*
No	381 (68.2)	183 (63.6)	198 (72.5)			
Yes	206 (31.8)	113 (36.4)	93 (27.5)			
Ever any type of spousal violence (physical or emotional)				1.83 (1.333–2.501)***	2.13 (1.465–3.093)***	2.03 (1.392–2.969)***
No	393 (68.7)	176 (62.0)	217 (74.9)			
Yes	196 (31.3)	121 (38.0)	75 (25.1)			
Ever any physical violence (less severe or severe)				2.03 (1.418–2.900)***	2.45 (1.601-3.738)***	2.44 (1.582-3.760)***
No	439 (78.3)	199 (72.1)	240 (84.0)			
Yes	150 (21.7)	98 (27.9)	52 (16.0)			
Ever any less severe physical violence				1.86 (1.294-2.637)**	2.25 (1.468-3.446)***	2.23 (1.441–3.453)***
No	442 (79.5)	201 (74.3)	241 (84.2)			
Yes	147 (20.5)	96 (25.7)	51 (15.8)			
Ever any severe physical violence				2.48 (1.232-4.977)*	2.32 (1.028-5.244)*	2.57 (1.122-5.872)*
No	552 (94.9)	271 (92.7)	281 (96.9)			
Yes	37 (5.1)	26 (7.3)	11 (3.1)			
Ever any emotional violence	, ,	, ,	, ,	1.70 (1.221-2.366)**	1.98 (1.342-2.925)**	1.86 (1.254-2.767)**
No	433 (73.7)	201 (68.4)	232 (78.6)			
Yes	156 (26.3)	96 (31.6)	60 (21.4)			

Data are weighted % of participants in the subsample, whereas numbers are absolute participants.

Absolute number of participants does not perfectly correspond to percentages because the percentages are weighted.

previous international literature, which has shown that women, especially in Asian [23], African [22], and Middle-Eastern regions [24], experience CB by their husbands. Our study adds to the literature by showing that, among women who experienced CB, those married as children experienced significantly more CB from their husbands compared with those married as adults. Furthermore, findings from previous studies suggest that more CB by a husband increase the likelihood of violence, especially physical and sexual violence against women [1,22,23]. Although we cannot comment on sexual violence because of the unavailability of data in the PDHS, we found that after adjusting for CB along with social equity indicators, women married as children are still more vulnerable to spousal violence (physical or emotional), and specifically to physical violence, including severe physical violence. These findings signify the role of cultural factors such as men's traditional attitude toward women, the more rigid sex-role stereotypes, and the patriarchal nonegalitarian expectations directed toward those married as children in Pakistan, which have been shown to play a role in domestic violence against women [24].

Our study showed that one third of women aged 15–24 years in Pakistan reported having ever experienced spousal violence, around 22% reported experiencing physical violence, and 26.3% reported experiencing emotional violence. A recent, 2014, systematic review of spousal violence in Pakistan has shown that the lifetime prevalence of psychological violence ranges from 48% to 84% and the lifetime prevalence of physical violence ranges from 16% to 80% [25]. However, most of these small-scale

studies are not generalizable, as they were conducted only in one city or in hospital settings and by using a convenience sample [25]. Our study is the first to estimate the prevalence of spousal, physical, and emotional violence at a national level from a nationally representative sample of adolescent and young women aged 15-24 years. Further, our study showed that, among women who experienced spousal violence, women married as children experienced significantly more spousal violence from their husbands compared with those married as adults. Child marriages are found to be associated with a large spousal age gap, nationally and internationally [10,11,26,27]. The wide age gap between couples may disturb the relationship equilibrium and equity between them, which negatively affects their power dynamics at a household level. Girls with older spouses are less likely to have a say in family decision making because of their culturally perceived lower status, which could be because of their younger age [8,10,11]. The low status of these young girls may result in an increased likelihood of spousal violence [11]. Our study advances the literature that despite adjusting for a large spousal age gap in the models, spousal violence still remains associated with child marriage. Nonetheless, more in-depth research is needed to explain the power dynamics between couples including a large spousal age gap among those women who were married as children.

Our study showed that women married as children in Pakistan have an increased likelihood of experiencing lifetime emotional and physical violence, including severe physical violence, compared with those married as adults. These findings

All analyses used women married as adults as reference group.

CI = confidence interval; ORs = odds ratios.

^{*}p < .05; **p < .01; ***p < .001.

^a Analysis adjusted for participant age, level of education, area of residence, ethnicity, and wealth index.

are consistent with international studies, which have shown that women married as children are subject to experience spousal violence from their partners [10,12–15]. Nonetheless, our study controlled for social vulnerabilities (education, wealth index, and rural residence) that were not considered in earlier studies [10–14]. Furthermore, one study from the neighboring country, India, has shown a similar association between physical violence and child marriage after controlling for social vulnerabilities, but it lacks adjustment in the regression models for CB by husbands, which have been shown to influence spousal violence against young women [1,22,23].

There are few limitations to this study, which should be seen in the context of the overall paucity of information on child marriage in Pakistan. The analyses in the study are cross-sectional, so it is not possible to assess the causality. We do not know exactly when the episode(s) of spousal violence occur(s) among women married as children, and therefore, the findings of our study should be interpreted with caution. Nonetheless, further studies are needed to assess the cause and effect relation. These analyses may be subjected to recall and social desirability biases as a result of being self-reported. Furthermore, these findings are limited to women aged 15-24 years of age in Pakistan and are therefore not generalizable either to other age groups in the country or to other countries. However, the same age group of women has been reported and used in other publications related to child marriage [18,19,28]. Child marriage has shown to be associated with increased risk of lifetime and current psychiatric disorders compared with women who married in adulthood in an international study [29]. However, because of lack of data, we were unable to assess the impact of child marriage on mental health of women in our study. Sexual violence is usually accompanied with physical violence; however, because of lack of data on sexual violence in the PDHS, we are unable to assess its prevalence and association with child marriage in Pakistan.

In conclusion, one third of women aged 15–24 years in Pakistan reported experiencing CB and spousal violence by their husbands. Child marriage was significantly associated with CB and spousal violence by husbands compared with adult marriage. Effective interventions are needed to prevent child marriages and raise awareness about their negative consequences, especially with respect to spousal violence. Concerted efforts are needed from all stakeholders to provide social, legal, and institutional support to women, especially those married as children and who are victims of spousal violence.

References

- [1] Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH, WHO Multicountry Study on Women's Health and Domestic Violence against Women Study Team, et al. Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. Lancet 2006;368:1260–9.
- [2] Campbell JC. Health consequences of intimate partner violence. Lancet 2002;359:1331–6.
- [3] Nasrullah M, Xiang H. The epidemic of injuries in Pakistan—A neglected problem. J Pak Med Assoc 2008;58:420—1.
- [4] Nasrullah M, Haqqi S, Cummings KJ. The epidemiological patterns of honour killing of women in Pakistan. Eur J Public Health 2009;19:193–7.

- [5] Zakar R, Zakar MZ, Mikolajczyk R, Kramer A. Intimate partner violence and its association with women's reproductive health in Pakistan. Int J Gynaecol Obstet 2012:117:10—4.
- [6] Nasrullah M, Muazzam S. Newspaper reports: A source of surveillance for burns among women in Pakistan. J Public Health (Oxf) 2010;32:245–9.
- [7] National Institute of Population Studies (NIPS) [Pakistan] and ICF International. Pakistan Demographic and Health Survey 2012-13. Islamabad, Pakistan, and Calverton. Maryland, USA: NIPS and ICF International; 2013.
- [8] Nasrullah M, Bhatti JA. Gender inequalities and poor health outcomes in Pakistan: A need of priority for the national health research agenda. J Coll Physicians Surg Pak 2012;22:273–4.
- [9] Nasrullah M, Muazzam S, Bhutta ZA, Raj A. Girl child marriage and its effect on fertility in Pakistan: Findings from Pakistan Demographic and Health Survey, 2006-2007. Matern Child Health J 2014;18:534–43.
- [10] United Nations Children's Fund (UNICEF). Early marriage: A harmful traditional practice. Available at: http://www.unicef.org/publications/files/ Early_Marriage_12.lo.pdf; 2005. Accessed November 1, 2011.
- [11] International Council for Research on Women (ICRW). New insights on preventing child marriage: A global analysis of factors and programs. Available at: http://www.icrw.org/files/publications/New-Insights-on-Preventing-Child-Marriage.pdf; 2007. Accessed November 1, 2011.
- [12] United Nations Children's Fund (UNICEF). Early marriage: Child spouses. Available at: http://www.unicef-irc.org/publications/pdf/digest7e.pdf; 2001. Accessed December 27, 2011.
- [13] International Council for Research on Women (ICRW). How to end child marriage: Action strategies for prevention and protection. Available at: http:// www.icrw.org/files/publications/How-to-End-Child-Marriage-Action-Strategies-for-Prevention-and-Protection-Brief.pdf; 2007. Accessed October 20, 2013.
- [14] World Health Organization. Married adolescents: No place of safety. Available at: http://whqlibdoc.who.int/publications/2006/9241593776_eng.pdf; 2006. Accessed March 19, 2014.
- [15] Raj A, Saggurti N, Lawrence D, et al. Association between adolescent marriage and marital violence among young adult women in India. Int J Gynaecol Obstet 2010;110:35–9.
- [16] Nour NM. Health consequences of child marriage in Africa. Emerg Infect Dis 2006;12:1644–9.
- [17] Nour NM. Child marriage: A silent health and human rights issue. Rev Obstet Gynecol 2009;2:51–6.
- [18] Nasrullah M, Zakar R, Kramer A. Effect of child marriage on use of maternal health care services in Pakistan. Obstet Gynecol 2013:122:517—24.
- [19] Nasrullah M, Zakar R, Zakar MZ, Kramer A. Girl-child marriage and its association with morbidity and mortality of children under 5 years of age in a nationally-representative sample of Pakistan. J Pediatr 2014;164:639–46.
- [20] Raj A, McDougal L, Rusch ML. Changes in prevalence of girl child marriage in South Asia. JAMA 2012;307:2027–9.
- [21] Raj A. When the mother is a child: The impact of child marriage on the health and human rights of girls. Arch Dis Child 2010;95:931–5.
- [22] Antai D. Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. BMC Public Health 2011;11:511.
- [23] Krantz G, Nguyen DV. The role of controlling behaviour in intimate partner violence and its health effects: A population based study from rural Vietnam, BMC Public Health 2009;9:143.
- [24] Haj-Yahia MM. Beliefs about wife beating among Palestinian women: The influence of their patriarchal ideology. Violence Against Women 1998;4: 533–58.
- [25] Ali PA, Naylor PB, Croot E, O'Cathain A. Intimate partner violence in Pakistan: A systematic review [published online ahead of print March 12, 2014]. Trauma Violence Abuse http://dx.doi.org/10.1177/1524838014526065.
- [26] United Nations Population Fund (UNFPA). Study report, child marriage in Pakistan: A taboo. Available at: http://floods2010.pakresponse.info/LinkClick. aspx?fileticket=CtHaS_yaaR0%3D&tabid=228&mid=1739; 2007. Accessed December 11, 2012.
- [27] Lane S. Stealing innocence: Child marriage and gender inequality in Pakistan. Plan Finland. Available at: http://www.plan.fi/File/197245fc-8b02-4abe-8868-54cd5e6a5497/Stealing+Innocence.+Child+Marriage+in+Pakistan+%28Plan+2011%29.pdf; 2011. Accessed December 28, 2011.
- [28] Raj A, Saggurti N, Winter M, et al. The effect of maternal child marriage on morbidity and mortality of children under 5 in India: Cross sectional study of a nationally representative sample. BMJ 2010;340:b4258.
- [29] Le Strat Y, Dubertret C, Le Foll B. Child marriage in the United States and its association with mental health in women. Pediatrics 2011;128:524–30.