Impact of Intimate Partner Violence on Iranian Children's Growth and Development: A Descriptive-analytical Study

Munn-Sann Lye[1], Mehran Zarghami[2,3], Jamshid Yazdani Charati[4] and Fatemeh Abdollahi[5]*

[1]Department of Community of Health, Faculty of Medicine and Health Sciences, University Putra Malaysia, Serdang, Malaysia
[2]Department of Psychiatry, School of Medicine, Mazandaran University of Medical Sciences, Sari, Iran
[3]Psychiatry and Behavioral Sciences Research Center, Addiction Institute, Mazandaran University of Medical Sciences, Sari, Iran
[4]Department of Biostatistics, Faculty of Health, Mazandaran University of Medical Sciences, Sari, Iran
[5]Department of Public Health, Faculty of Health, Mazandaran University of Medical Sciences, Sari, Iran

ABSTRACT

Objectives: This study aimed to determine the prevalence of different types of intimate partner violence (IPV) experienced by married Iranian women and their impact on the growth and development of their children. *Methods*: For this descriptive-analytical study, we recruited the mothers of one-year-old children attending primary health centers in Gonbad-e-Kavoos city, Iran. The data was collected using a questionnaire comprising the World Health Organization Domestic Violence, Ages and Stages Questionnaire-12; and queries related to the participants' socio-economic, obstetrics, demographic, and anthropometric characteristics. The body mass index z (BMI z) scores of the children were divided into five categories based on the World Health Organization's classification: severely underweight (z < -3), underweight (-3 ≤ z < -2), normal (-2 ≤ z < 1), overweight (1 ≤ z ≤ 2), and obese (z > 2). The data were subjected to descriptive analysis, chi-square test, and regression. *Results:* A total of 596 of mother-child dyads were included in this study. The prevalence of psychological, physical, and sexual IPV was 29.5%, 7.4%, and 2.4%, respectively. Most children (91.7%) had normal weight while the rest were overweight or obese. Developmental problems were reported in 1.7% of children. The education level of the father was significantly related to IPV ($p = 0.001$) while the type of his occupation was related to delay in child growth ($p = 0.020$). There was no significant difference between BMI z-score and developmental disabilities in the children of women exposed and not exposed to any type of IPV. *Conclusions:* The prevalence of psychological IPV was high while those of physical and sexual IPV were low. The rates of poor child growth and development were also low. The father's educational and socio-economic status influenced IPV and the children's growth deficits.

V iolence is a serious and complicated global health issue.[1] A common form of interpersonal violence is intimate partner violence (IPV), which is assumed to be any type of spousal behavior which causes physical, mental, and sexual hurt that results in serious health outcomes such as depression, suicide, or death.[2] In the USA, 25% of women have experienced sexual, physical, and psychological violence.[3] Women in Saudi Arabia (11.9%),[4] India (27%),[5] and Tanzania (61%),[6] have also been reported to experience violence from their husbands. A 2016 study among 204 159 women in low- and middle-income countries revealed 34% prevalence of domestic violence.[7] A study in the Iranian town Rasht reported rates of physical, psychological, and sexual violence by men against their wives at 27.6%, 57.1%, and 26.6%, respectively.[8]

Delay in growth is a significant health issue in young children and is associated with risk of morbidity and mortality. In low-income countries, 112 million to 178 million children under the age of five are reportedly underweight (weight-for-age z-score (WAZ) < -2 SD) and have stunted growth (height-for-age z-score (HAZ) < -2 SD).[9] A review of Iranian studies for the period 2001–2015 found

a prevalence of delay in growth and developmental disability in children younger than eight years between 7.0–22.4%.[10]

Children's growth and development are influenced by complex interactions of genetic, environmental, and socioeconomic factors. Domestic violence is considered a key contributor to maternal and child health problems.[11] It has been suggested that when parents are exposed to IPV, children may come to harm whether actively defending a parent or subconsciously.[12,13] Such children are at risk of developing endocrine response disorders, general health deficits, and impaired adaptive behavioral patterns.[14] The trauma of IPV may trigger high-risk health behaviors in mothers leading to reduced access for their children to preventive health care and treatment, in addition to their being at risk of malnutrition, delayed growth, and developmental disabilities.[5,7,15–18,19]

Chai et al,[7] in their study on 69 652 women from 29 developing countries, found a direct association between IPV and delay in growth in their offspring (HAZ < -2 SD), especially in urban areas. However, in high-income countries such as the USA, obesity is a higher risk for children in families exposed to IPV.[20] Culture and beliefs have a significant role in the behavior of men and women, their interaction with each other and towards their offspring.[21]

The negative health consequences of IPV on children have been studied insufficiently. In Iran, there is a dearth of literature on this topic. The only published Iranian study so far was among 750 children aged 6–18 months in Tehran, which showed a significant indirectly inverse association between child development and IPV.[22] However, that study did not investigate growth indicators.

The current study aimed to investigate the prevalence of any type of IPV against women attending primary health centers (PHCs) in Gonbad-e-Kavoos city and its relationship with their infants' growth and development.

METHODS

Our descriptive-analytical study assessed the prevalence of IPV among the women attending PHCs in Gonbad-e-Kavoos city, and its association with the delay in growth and developmental disabilities of one-year-old children. Data were collected during March–August 2018. The required sample size was estimated at 550 mother-child dyads using an estimated prevalence of 35.3% of IPV and 8–22% delayed growth in children in Iran based on previous studies (z = 1.96; α = 0.05; p = 0.35; d = 0.04).[10,22] To increase the precision of estimates and compensate for probable loss to follow-up, the sample size was increased to 600. Ethical approval was obtained from the medical ethics committee of Mazandaran University of Medical Sciences (grant No. 1444).

We applied a multistage procedure to select the samples—using stratified random sampling method and sampling proportion to size. In the first stage, the required sample sizes in urban and rural areas were estimated using an appropriate weighting factor according to the number of one-year-old children in the previous year. Then, all 11 urban PHCs as well as four rural health centers in different geographical areas were chosen as sampling locations. The number of samples in each health center was calculated weighted by the number of one-year-old children recorded in that center. The mother-child dyads presenting for vaccination or other services were considered as the potential study population. The first mother with child attending the PHC and fulfilling the inclusion criteria was invited to participate in the study, and the rest were recruited randomly one by one. In the event of refusal, the next mother was invited to participate. The research assistants explained the aims of the study to all participants. After receiving verbal informed consent, the participating women completed the questionnaires, helped by the research assistants.

Healthy 16–45-year-old literate women who had the ability to understand the study questionnaires with the help of research assistants were included in the study. Women having chronic diseases (hypertension, diabetes, cardiovascular, autoimmune, renal, pulmonary, or depression, etc.) and those who had severe pregnancy complications including preeclampsia, gestational diabetes, bleeding, and prolonged labor were excluded from the study. Regarding the children, single full-term one-year-olds who had > 2500 g birth weight and ≥ 7 Apgar score were included. Low-birth-weight infants (< 2500 g), infants with congenital anomalies, severe diseases, history of hospitalization, and who were born three years after the birth of the previous child were excluded.

Sociodemographic characteristics of the women and their husbands including age, years married, occupation, education, accommodation status, household income, residency, and satisfaction with family income were collected using a self-report questionnaire. Also, reproductive history such as parity, pregnancy willingness, sex of the baby, type of delivery (caesarian or vaginal), place of birth (government or private hospital), and demand during pregnancy to ascertain the sex of the fetus was collected.

The children's anthropometric information was measured by trained research assistants and included weight, length at birth (as per medical record) and at the time of the study (in light clothing and no footwear), vaccination status, breastfeeding status, and the time of commencement of complementary feeding.

The children's body mass index (BMI) was calculated by dividing weight (kilogram) by height (meter) squared. BMI z-scores were estimated and divided into five categories based on the World Health Organization's (WHO) classification: severely underweight ($z < -3$), underweight ($-3 \leq z < -2$), normal ($-2 \leq z < 1$), overweight ($1 \leq z \leq 2$), and obese ($z > 2$).[23] In the current cohort, there were too few children in the categories severely underweight and obese. Therefore, we combined them to form three BMI z-score categories: (1) underweight-severely underweight, (2) normal, and (3) obese-overweight.

The self-reported modified standard WHO Domestic Violence Questionnaire (WHO-IPV) was used to identify women with domestic violence. The reliability and validity of the questionnaire were already established in the population of Tehran, Iran.[24] It consists of 31 questions covering three domains of harassment: physical, psychological, and sexual. The physical IPV part consists of 10 questions on: threatening by cold or warm weapon, slapping, punching, shoving, kicking, hitting, pushing, bruising, burning, delivering blow to internal organs, and fracturing bones. Psychological IPV is measured by 14 questions including: fear of the husband, threats to life, threats to hurt her or others close to her, emotional abuse, offensive language, verbal abuse of her family in their presence or absence, disapproval of her beliefs and principles, cursing their children, abandoning her and their children, preventing her from leaving home, blocking her

opportunities for education and employment, and keeping her short of money, food, and clothing. Sexual IPV encompasses seven questions on topics such as forcing sex on the wife without her consent, threatening her with physical violence if she refuses, verbally and physically harassing her during the sexual act, disrupting sex to deny her satisfaction, and causing injuries to genitals.

The presence of IPV was identified when any one of these 31 domestic violence questions received a 'yes' response. Women were then stratified into two groups: 'exposed to violence' and 'unexposed to violence.' We also asked the women an additional question of whether they experienced violence from family members other than their husbands during their lifespan, to be answered 'yes' or 'no.'

Children's developmental disability was assessed using the self-reported Ages and Stages Questionnaire (ASQ),[25] with established reliability and validity in Iran ($\alpha = 0.76–0.86$).[26] The Iranian version of the questionnaire is in simple Persian language with items arranged progressively from simpler to more difficult activities. It consists of 30 items grouped into five developmental domains: communication, fine motor, gross motor, problem-solving, and personal-social domain. The mother answers each item based on her experience of her infant's activities as follows: 'yes' (score: 10); 'sometimes' (score: 5); or 'not yet' (score: 0). We summed the scores of each domain and compared them with the established cutoff points for the same domain for that age group. A score of 2 SD below the mean is recommended as the main cutoff point for identifying the child's developmental disabilities. For infants in Iran, the recommended cutoff points for the five domains of ASQ are 18.3, 33.7, 34.6, 21.5, and 20.4, respectively. We initially piloted the ASQ among 40 mother-child dyads to evaluate its reliability (which yielded an acceptable kappa coefficient of 78%) before administering the questionnaire to the full cohort.

Data was analyzed using SPSS Statistics (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.). Descriptive statistics were in terms of frequencies and percentages; hypotheses were evaluated using chi-square and logistic regression. The prevalence of any type of IPV and growth patterns in children and their development, including 95% CI, were computed. Using the chi-square test, the probable IPV and

Table 1: Sociodemographic characteristics of the participating women by exposure to any type of intimate partner violence (IPV).

Variables	IPV n (%)	No IPV n (%)	p-value
Total household income*			
≥ IRR 20 000 000	177 (29.8)	346 (58.4)	0.010
< IRR 20 000 001	13 (2.2)	57 (9.6)	
Age of husband, years			
16–24	16 (2.7)	16 (2.7)	0.030
25–35	97 (16.6)	237 (40.4)	
≤ 36	77 (13.1)	143 (24.5)	
Woman's educational status, years			
1–5	49 (8.3)	146 (24.7)	0.001
6–12	107 (18.1)	169 (28.6)	
≤ 13	34 (5.7)	86 (14.6)	
Husband's educational status, years			
1–5	30 (5.2)	41 (6.8)	0.001
6–12	134 (22.6)	240 (40.6)	
≤ 13	26 (4.4)	121 (20.4)	
Number of children			
1	65 (11.0)	146 (24.7)	0.280
2	73 (12.4)	169 (28.5)	
≤ 3	52 (8.8)	86 (14.6)	
Age of woman, years			
16–24	44 (7.4)	79 (13.3)	0.060
25–35	102 (17.2)	256 (43.2)	
≤ 36	44 (7.4)	68 (11.5)	
Age of marriage			
10–24	148 (25.0)	305 (51.6)	0.230
25–35	42 (7.1)	90 (15.3)	
≤ 36	0 (0.0)	6 (1.0)	
Duration of marriage, years			
1–5	68 (11.5)	157 (26.5)	0.140
6–10	60 (10.2)	144 (24.4)	
≤ 11	62 (10.5)	100 (16.9)	
Woman's occupation			
Homemaker	177 (29.9)	358 (60.6)	0.130
Employed	13 (2.2)	43 (7.3)	
Husband's occupation			
Unemployed	24 (4.0)	27 (4.6)	0.003
Self-employed	135 (22.8)	293 (49.4)	
Farmer	15 (2.5)	18 (3.0)	
Governmental	16 (2.7)	65 (11.0)	
Ethnicity			
Fars	40 (6.8)	109 (18.4)	0.300
Turkman	111 (18.8)	219 (37)	
Others	38 (6.4)	75 (12.7)	
Place of residence			
Urban	96 (16.2)	247 (41.6)	0.010
Rural	94 (15.9)	156 (26.3)	

Table 1: Sociodemographic characteristics of the participating women by exposure to any type of intimate partner violence (IPV).

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Variables	IPV n (%)	No IPV n (%)	p-value
Family structure			
Nuclear	150 (25.9)	328 (56.7)	0.400
Extended	36 (6.2)	65 (11.2)	
Housing			
House owner	138 (23.3)	284 (47.9)	0.580
Tenant	52 (8.7)	119 (20.1)	
Pregnancy was desired			
Yes	177 (29.9)	376 (63.5)	0.860
No	13 (2.2)	26 (4.4)	
Type of delivery			
Vaginal	89 (15.0)	163 (27.5)	0.140
Cesarean section	101 (17.0)	240 (40.5)	
Sex of baby			
Girl	100 (16.9)	179 (30.1)	0.060
Boy	90 (15.2)	224 (37.8)	
Baby's age at commencement of complementary feeding			
≤ 6 months	24 (4.2)	47 (8.1)	0.710
> 6 months	160 (27.7)	346 (60.0)	
History of violence from family members during lifespan			
Yes	5 (0.8)	0 (0.0)	0.001
No	185 (31.3)	402 (67.9)	

*IRR: Iranian Rial (1 USD ≈ IRR 40 000).

obesity-overweight risk factors were determined. The association between IPV and children's growth and developmental disability was tested in the regression model, controlling for confounding variables using multiple binary logistic regression and multiple linear regression. Both the BMI z-score and the five domains of ASQ scores based on the above-mentioned cutoff scores (categorized 'normal development' and 'developmental disabilities') were considered as dependent variables. Statistical significance was set at $p ≤ 0.050$.

RESULTS

Of the 645 mothers of one-year-old infants invited to participate, 615 agreed, and 596 completed the questionnaires. Thus, a total of 596 mother-child dyads constituted our study cohort.

The mean age of the participating women was 29.8±6.0 years, and their mean age at marriage was 21.7±4.3 years. The education levels of 79.7%

women and 75.2% husbands were diploma or lower. Most women were homemakers (90.5%) and 72.2% husbands were self-employed. The household income of 88.2% of the participants was low, the monthly average being IRR 20 000 000 (approx. USD 500). Over half of our participants had Turkman ethnicity (55.8%), 82.6% had nuclear families, 71.2% lived in their own houses, and 57.8% were urban residents.

Obstetrics data revealed that 40.9% of participants had two children, 53.0% were male. The vast majority (93.4%) had planned their pregnancies and 94.4% admitted having sex preference during pregnancy. Most of the children (57.5%) were born by cesarean section; 75.5% were exclusively breastfed for six months, and thereafter 87.7% were initiated into complementary feeding [Table 1].

A small minority of participants (0.8%) revealed that they had experienced violence from their family members prior to marriage, against 32.1% who reported experiencing IPV after marriage. The most common IPV type was psychological (29.5%) followed by physical (7.4%) and sexual (2.4%).

Regarding the risk factors of IPV, the women's and their husbands' educational status, age and occupation, total household income, residency, and history of violence from family members during their lifespan emerged as significant factors in the chi-square test. Women most vulnerable to IPV were likely to have the following characteristics ($p < 0.050$): age 25–35 years, low educational level of husband, self-employed husband, low household income, urban residence, and history of violence from family members before marriage. However, in binary logistic regression analysis, husbands' educational status emerged as the only significant factor; higher educational levels of husbands were associated with lower odds of IPV [Table 2].

Regarding the children, the cohort's mean BMI was 13.4±1.4 at birth and 17.2±1.9 at one year of age. BMI z grouping, the majority of the children at birth and at one year of age was normal (84.7% and 91.7%, respectively). The prevalence of obesity and overweight was 3.2% and 10.1% at birth and 2.7% and 5.3% at age one, respectively. Based on ASQ, 1.7% of children suffered from developmental disabilities in the following domains: communication (0.2%), fine motor (0.0%), gross motor (0.2%), problem-solving (1.0%), and personal-social domain (0.3%) [Table 3].

Table 2: Risk factors for any type of intimate partner violence (IPV), using binary logistic regression (N = 384).

Risk factors	B	Adjusted odds ratio	95% CI	p-value
Age of husband, years				
25–36	-0.330	0.71	0.50–1.02	0.060
≤ 36		1.00		
Husband's occupation				
Unemployed	0.550	1.73	0.83–3.24	0.080
Governmental		1.00		
Husband's educational status, years				
1–5	1.250	3.51	1.84–6.72	0.001
6–12	1.002	2.73	1.68–4.43	0.001
≤ 13		1.00		
History of violence from family members during lifespan				
Yes	21.630	248.00	0.00–0.00	0.990
No		1.00		

Table 3: Poor growth and development in children based on BMI z-score and five domains of ASQ.

BMI z-score	At birth		At one year of age	
	n	%	n	%
Obese	19	3.2	16	2.7
Overweight	60	10.1	31	5.3
Underweight	10	1.7	2	0.3
Severely underweight	2	0.2	0	0.0
Normal weight	502	84.7	540	91.7
Development based on ASQ	Normal		Disability	
	n	%	n	%
Communication	591	99.8	1	0.2
Fine motor	587	100	0	0.0
Gross motor	591	99.8	1	0.2
Problem-solving	584	99.0	6	1.0
Personal-social	589	99.7	2	0.3

BMI: body mass index; ASQ: Ages and Stages Questionnaire.

Regarding the sociodemographic risk factors related to BMI, the father's occupation was the only significant variable. There was a higher prevalence of overweight and obesity where the father was a farmer ($p < 0.050$).

In the multiple binary logistic regression model, no significant relationship was found between IPV and BMI z-score grouping [Table 4]. The linear regression model [Table 5] showed no significant relationship between IPV and all domains of children's developmental disabilities.

Table 4: The relationship between all types of IPV and children's BMI z-score using binary logistic regression.

IPV	BMI z-score at birth			BMI z-score at one-year-old		
	OR	**CI**	***p*-value**	**OR**	**CI**	***p*-value**
Any type	1.29	0.15–11.25	0.810	2.35	0.26–20.56	0.430
Physical	0.48	0.11–2.08	0.330	0.02	0.67–6.09	0.210
Psychological	1.80	0.13–8.96	0.930	0.60	0.07–4.98	0.630
Sexual	0.00	0.00–0.00	0.990	3.02	0.82–11.13	0.090

IPV: intimate partner violence; BMI: body mass index; OR: odds ratio.

Table 5: The relationship between any type of IPV and children's development based on ASQ using linear regression.

Development based on ASQ	*t*	*p*-value	R^2
Communication	0.35	0.725	0.00
Fine motor	0.42	0.670	0.00
Gross motor	-0.09	0.920	0.00
Problem-solving	-0.14	0.880	0.00
Personal-social	-0.85	0.390	0.00

IPV: intimate partner violence; ASQ: Ages and Stages Questionnaire; t: the coefficient t-value; R^2: the coefficient of determination.

DISCUSSION

This study assessed the risk of IPV and its association with one-year-old children's growth and development in a city in northeast Iran within a population of predominantly Turkmen ethnicity.

According to WHO, one in three women experience IPV worldwide.[27] Consistent with reports from Iran,[8,28] USA,[29] Saudi Arabia,[4] and Tanzania,[6] this study found 32.1% of the participating women to be exposed to IPV. Psychological violence (29.5%) was the predominant type of IPV in our cohort, in agreement with studies elsewhere.[30,31] Psychological violence can be a forerunner of other types of violence. Differences in methods, with different questionnaires used to determine IPV, different cut-off points used, and unwillingness of women to disclose violence because of cultural barriers may contribute to differences in the rates of IPV across countries. This calls into question the comparability of these studies. The high prevalence of domestic violence in a developing country such as Iran is a public health concern and need special attention from policymakers.

Our study found the husbands' education to be the only significant factor that predisposed women to the risk of IPV. This is consistent with a Nepalese study reporting that IPV was negatively associated with educational status, where living with a husband with low education level determined to a large extent whether a woman would be subjected to violence.[32] Several other studies from the developing world also reported education to be the most common predictor of violence.[33,34] A large study among 69 805 Indian and Bangladeshi couples revealed that women whose husbands had higher education reported significantly lower levels of IPV, and the severity decreased with rising levels of education of the spouses.[33]

In sharp contrast to studies in developing countries and other parts of Iran,[10,35] our study showed a very small proportion of children (0.3%) was at risk of delayed growth. A study among 2030 children under two years of age in Khoram Abad, Iran, found that 14.2% had experienced at least one-time drop in weight growth curve and 10.4% one-time drop in height growth curve.[36] An Indian study found the prevalence of children's stunting, underweight, and wasting at 37.4%, 33.6%, and 20.4%, respectively.[5] Similar results emerged from a Bangladeshi study, the prevalence of stunting was 44.3%, underweight was 18.4%, and wasting was 42.0%.[16]

Our finding of 1.7% developmental disabilities is comparable with an Indian study's finding of 2.3% disabilities among children under two years old.[37] However, the rates of children's developmental disabilities were different in various studies and in different age groups. A survey among 10 516 children in 41 Iranian cities showed developmental disabilities ranging from 3.69% to 4.31%.[38] Another study in Tehran found developmental disabilities in 12.1% of 6–18-month-old children.[22] The same rate (12.1%) was reported from Turkey among children under two years.[39] However, the rates of delay in growth and developmental disabilities in children may be

different across countries and direct comparisons need to be made with cautions due to differences in age of the studied children, scales used, and methodological design. In addition, a wide variety of biological, social, environmental, and cultural factors can affect children's growth and development in different populations.[40] Comprehensive and culturally sensitive assessments are needed to assess children for developmental disabilities. The remedial measures also should be culturally sensitive to be effective.

The results of our study concurred with that of a Nicaraguan study on 40–60-month-old children, in which no association was found between physical, psychological, and sexual IPV and delay in growth based on BMI z-score.[19] However, most studies in developing countries such as Tanzania,[18] India,[5] Bangladesh,[16] and African countries (Honduras, Kenya, and Malawi)[41] showed significant relationships between IPV and delay in growth in children of different age groups. Also, in a recent study among 783 mother-infant dyads in south Africa, emotional and physical IPV were associated with reduced WAZ z-scores at 12 months.[42] Chai et al,[7] 2016 review of literature from 29 developing countries found that the risk of delay in growth in children under five, whose mothers experienced physical and sexual violence, was significantly higher than in controls (odds ratio (OR) = 1.11; 95% CI: 1.09–1.14 vs. OR = 1.09; 95% CI: 1.05–1.13). On the other hand, a study in an affluent country, USA, showed that children exposed to IPV were at a significantly higher risk of obesity.[20]

Additionally, our data does not support the findings of previous researchers that IPV was associated with developmental disabilities in children.[18,22,43] Prominent among these was Jeong et al,[43] (2020) through a cross-sectional study involving 15 202 children in 11 low- and middle-income countries, which reported that children who witnessed IPV during their one-year study period were more prone to early developmental disabilities after adjusting for sociodemographic variables. Similarly, in a cohort of 1031 Tanzanian children aged 18–36 months, the risk of developmental disabilities was higher in those who were exposed to physical and sexual IPV.[18] An early literature review (2009) also endorsed the adverse effects of IPV on social-emotional and physiological/neurological development in young children.[44]

An explanation for the null relationship between IPV and children's poor growth and development in our study may be related to the exposure age we investigated. Our study sample of one-year-olds was significantly younger than those in the other studies. Moreover, our study did not assess certain parent-child interactive behaviors such as breastfeeding status; stimuli such as touching, eye contact, massaging, playing, and talking with the child; receiving micronutrients, as well environmental factors (such as exposure to smoking) which play critical roles in growth and development of children under two.[45] Additionally, our study design did not have provisions to collect data on the severity of IPV, the mother's mental health status, and the differences in parenting performance, all of which could further influence the effect of IPV on children.[46] In some societies, children exposed to IPV are seen more resilient to adverse outcomes. This may be related to cultural factors. In some traditional cultures, IPV is more tolerated as part of the norm and socially accepted.[47] This perception may tend to reduce expectations of negative consequences of IPV on women and children.

The current study has several limitations. First, in a cross-sectional study such as this, design assessment of causal direction is problematic because the temporal relationship between the risk factor and outcome remains unclear. Second, using a self-reported questionnaire to collect data on IPV is prone to recall bias. Third, cultural barriers to reporting private family matters such as IPV may result in underestimation of its prevalence. Fourth, although we considered several potentially confounding variables in assessing the relationship between IPV and children's poor growth and development, there may have been others which were not considered.

The strengths of this study include its relatively large sample size, control of several potentially confounding factors in the analysis, use of locally validated ASQ and WHO-IPV questionnaires as well as measuring children's anthropometric indices by educated and trained co-researchers using standardized scales.

CONCLUSION

This study revealed that psychological violence from husbands was commonly experienced by married women in Gonbad-e-Kavoos city, Iran. As habitual

psychological violence could be a forerunner of physical and sexual violence, screening and identifying those at risk and providing relevant interventions are proposed, especially for low socioeconomic families. Moreover, as husbands' education is negatively associated with IPV, improving education, especially among men, is likely to help reduce this problem.

Although no increased risk of poor growth and developmental disabilities was found in children who witnessed violence in our study, violence between partners can have long-term negative effects on children; it is proposed that such children's growth and development in the upcoming years be assessed. Since environmental factors and interaction between parents and their children were not assessed in this study, a more comprehensive study taking these factors into account is recommended.

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