

Effects of Domestic Violence During Pregnancy on Fetal Health in Tertiary hospital, Nepal

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Abstract

Domestic Violence against pregnant women is legally and socially punishable though the prevalence of such violence is reported in Nepal also. The study was conducted with the objective is to identify the effects of domestic violence during Pregnancy on fetal health(outcomes in newborns).The study was conducted among the 804 newborns of admitted Postnatal women who were interviewed about domestic violence during pregnancy in the Dhulikhel hospital-Kathmandu University Hospital in the Kavre district. A systematic random sampling technique was used to select the respondents 'babies and data obtained from newborns' hospital records. The study found that the effects of economic violence were high on low birth weight followed by the effects of psychological violence. Though, there were no statistically significant effects of violence on fetal health of interviewees about domestic violence during pregnancy prematurity, post-maturity, low birth weight, Asphyxia, and other health problem. Future research can be done in other parts of Nepal covering the rural women who are from the poor and illiterate groups.

Keywords: Domestic violence, Pregnancy, Effects on Fetal & Women' Health.

Introduction

In Nepal, violence against women is a significant and pervasive issue of public health and human rights with numerous detrimental effects on one's physical, mental, and sexual health (Van Parys, Verhamme, Temmerman, & Verstraelen, 2014). According to the 2016, Demographic and Health Survey, around 23% of married women in Nepal had ever been the victims of physical violence, 12% of emotional violence, and 7% of sexual violence (Ministry

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of Health, Nepal; New ERA; ICF, 2017). Due to the increased risk to the unborn child, violence against pregnant women is a serious issue. A fetus can suffer direct injuries from violence, which can result in placental damage, early labor, membrane rupture, or fetal death (Petersen, Gazmararian, & Spitz, 1997; Pak, Reese, & Chan, 1998).

In Nepal, domestic violence even during pregnancy is rather widespread. This could be a serious risk factor for neonatal morbidity and mortality. We discovered that pregnant women who experienced both fear and violence had a greater risk of giving birth to a preterm child. According to the study, 20% of the women reported experiencing domestic violence. Thirty seven point six percent (37.6%) of the 1381 ladies who gave birth did so via cesarean section. 84.7% of women who underwent a cesarean section during delivery did so due to an emergency. Thirteen Point five percent (13.5%) of the infants were born with low birth weight and less than 10% were delivered prematurely. We could not find any conclusive evidence linking pregnant exposure to any form of domestic abuse to an increased risk of low birth weight or cesarean delivery. However, having experienced both violence and fear was significantly associated with giving birth to a preterm infant [a OR 2.33 (95% CI;1. 10–4.73)] (Pun, et al., 2019).

According to a research conducted in Nepal, 58% of participants said they had been the victim of intimate partner violence, other types of abuse, or both in the previous six months. The majority of individuals (148, or 79%), had been pregnant during the research period, and 117, or 64%, had given birth. To calculate the likelihood of any intimate partner violence in the preceding six months, multivariate models were utilized. Participants who became pregnant and gave birth had odds of experiencing any intimate partner violence that were more than two times higher than those who did not (odds ratio, 2.2; 95% confidence range, 1.0-4.7; odds ratio, 2.9; 95% confidence interval, 1.2-7.2). Pregnancy and childbirth were not statistically associated with a change in the likelihood of reporting any non-partner violence after controlling for variables. The study indicates that newly married young women in Nepal are vulnerable to violence in the home from both partners and non-partners (Raifman, Puri, Arcara, & Diamond-Smith., 2021).

In the Dhulikhel municipality, a qualitative study was undertaken with the participation of 76 women and 41 men in 12 focus group conversations divided by gender and family role. The community was aware that various types of violence during pregnancy endangered women's physical and mental health and made it difficult for them to access antenatal care. Some culturally specific forms of abuse, including as pressure to have sons, food deprivation, and making pregnant women perform strenuous physical labor, were thought to be especially detrimental and could leave daughters-in-law vulnerable to domestic violence in large extended households. Women were thought to tolerate and accept the condition because of a society that values endurance and family healing over personal health. Participants suggested actions and strategies to address continuing violence, which indicated a societal transition toward increased awareness and changing attitudes and practices (Pun, Infanti, Koju, Schei, & Darj, 2016).

Women who report any domestic violence typically experience intimate partner violence (IPV) or non-partner violence (NPV), or violence from any family members is punishable. In 2009, Nepal passed the Domestic Violence Act, which defined violence as “any form of physical, mental, sexual, and economic abuse perpetrated by any person to the other person with whom he has a family relationship” (Nepal Law Commission, 2009) though, the case is increasing day by day. Many reports of domestic violence come in daily newspapers also. In the Nepalese context, very much study is found on domestic violence during the pregnancy period. So, the study is conducted with the objective to explore the effect of domestic violence during pregnancy on a newborn baby.

1. Materials & methods

The study was conducted among the 804 newborns of postnatal women who were admitted to the maternity ward or obs/Gynae ward of Dhulikhel Hospital -Kathmandu University Hospital (DH-KUDH) in the Kavre district, Nepal. A systematic random sampling technique was used to select the postnatal mothers (interviewees) on domestic violence during pregnancy and data obtained from their newborns’ hospital records. Semi Structural Modified Abuse Screening (Tools) questionnaire was used for data collection. The questionnaire was developed in both English and Nepali languages in terms of local context for interviewees. Ethical clearance was taken from the Nepal Health Research Council (NHRC), Director of Dhulikhel Hospital, and written consent from postnatal mothers in Kavre, Nepal. Inferential Statistical analysis was done to present the findings.

2. Result & Discussion

The study has identified the four types of violence: Emotional, Physical, Sexual, and Economical violence, and their effects on the fetal health(Outcomes in Newborns).The study did cross-tabulation and binary logistic regression.

2.1 Effect of emotional violence during pregnancy on fetal health (outcomes in newborn)

The study presented the effects of emotional violence during pregnancy on fetal health. The data presented in Table 1 shows that four percent of women exposed to emotional violence gave birth to preterm or prematurity babies whereas 2.6 percent of non-exposed women also gave birth to preterm or prematurity babies. Similarly, only 0.5 percent exposed and 0.9 percent of non-exposed women gave birth to the post-term baby.

Table 1: Effects of Emotional Violence during Pregnancy on Fetus health

(Outcomes in Newborns)

N=804

Effects in Fetus (Outcomes in Newborn)			Emotional Violence		Total	Exp (B) OR	95% C.I. for EXP(B)		Sig. p-value
			Exposed	Non-exposed			Lower	Upper	
Preterm/ prematurity	Present	Count	15	11	26	1.528	.688	3.392	.298
		%	4.0%	2.6%	3.2%				
	Not Present	Count	364	414	778				
		%	96.0%	97.4%	96.8%				
Post-term/ post-maturity	Present	Count	2	4	6	.419	.069	2.553	.345
		%	0.5%	0.9%	0.7%				
	Not Present	Count	377	421	798				
		%	99.5%	99.1%	99.3%				
Low birth weight	Present	Count	33	31	64	1.275	.763	2.129	.354
		%	8.7%	7.3%	8.0%				
	Not Present	Count	346	394	740				
		%	91.3%	92.7%	92.0%				
Asphyxia	Present	Count	4	6	10	.663	.179	2.456	.538
		%	1.1%	1.4%	1.2%				
	Not Present	Count	375	419	794				
		%	98.9%	98.6%	98.8%				
Others	Present	Count	9	6	15	1.435	.493	4.178	.508
		%	2.4%	1.4%	1.9%				
	Not Present	Count	370	419	789				
		%	97.6%	98.6%	98.1%				

In total, a slightly higher number (8 %) of recoded a low birth weight baby. Among them, 8.7 percent of exposed and 7.3 percent of non-exposed women gave low birth weight babies. The presence of Asphyxia was found among the 1.1 percent exposed and 1.4 percent non-exposed women. Similarly, other types of the problem are also seen among the 2.4 percent exposed and 1.4 percent of non-exposed women.

The finding of this study supported by the national report of Nepal also. 2016 Demographic and Health Survey reported that 12% experienced emotional violence against married women in Nepal (Ministry of Health, Nepal; New ERA; ICF, 2017).

The Binary logistic regression shows that there was no significant effects of emotional violence on any type of health problem in newborn babies because the p-value of each problem is greater than .05 significant levels. The result indicates that there was no so severe emotional violence during the pregnancy period.

2.2 Effect of Physical Violence during Pregnancy on Fetal Health (outcomes in Newborns)

The study also discussed the effect of physical violence during pregnancy on fetal health. The data presented table 2 shows that only 3.2% of women had preterm where 5.9 percent were exposed to physical violence and 3.2 % were not exposed. Similarly, very few women (0.7 percent) had post-term babies where 5.9 percent were exposed and 0.6 percent were not exposed to physical violence.

Table 2: Effects of Physical violence During Pregnancy on fetal health (outcome in newborn)

			Physical Violence		Total	Exp(B) OR	95% C.I. for EXP(B)		Sig. p- value
			Exposed	Non- exposed			Lower	Upper	
Preterm/ prematurity	Present	Count	1	25	26	1.713	.196	14.940	.626
		%	5.9%	3.2%	3.2%				
	Not Present	Count	16	762	778				
		%	94.1%	96.8%	96.8%				
Post-term/ post- maturity	Present	Count	1	5	6	10.088	.793	128.299	.075
		%	5.9%	0.6%	0.7%				
	Not Present	Count	16	782	798				
		%	94.1%	99.4%	99.3%				
Low birth weight	Present	Count	0	64	64	NA			
		%	0.0%	8.1%	8.0%				
	Not Present	Count	17	723	740				
		%	100.0%	91.9%	92.0%				
Asphyxia	Present	Count	1	9	10	5.944	.568	62.197	.137

		%	5.9%	1.1%	1.2%				
	Not Present	Count	16	778	794				
		%	94.1%	98.9%	98.8%				
Others	Present	Count	1	14	15	1.384	.146	13.082	.777
		%	5.9%	1.8%	1.9%				
	Not Present	Count	16	773	789				
		%	94.1%	98.2%	98.1%				

In total, 8% reported a low birth weight of a baby but there were not exposed to physical violence. Only those women who were non-exposed to physical violence reported low birth weight. Similarly, 5.9 % of exposed and 1.1 percent of non-exposed women reported the problem of asphyxia in their newborn babies. Only 1.9% also shared the other problem of newborn babies.

The prevalence of physical violence among married women in Nepal was 23% in the report of the 2016 Demographic and Health Survey (Ministry of Health, Nepal; New ERA; ICF, 2017). Similarly, another study in the US also reported the prevalence of physical and sexual violence during the pregnancy period. A prospective study with 634 pregnant women (336 HIV sero positive, 298 sero negative) was done to evaluate physical and sexual violence and violence risk variables during late pregnancy and 6 months after delivery. The study was conducted in 4 US states. Violence was reported by 10.6% of women overall, 8.9% of them while pregnant and 4.9% of them after giving birth. Among these women, 61.7% experienced abuse just during pregnancy, 21.7% experienced abuse on many occasions, and 16.7% experienced abuse only after giving birth. There was very little sexual violence when there was no physical violence (Koenig, et al., 2006). The findings of the previous study support the prevalence reported by this study.

2.3 Effect of Sexual violence during pregnancy on fetal health (Outcomes in Newborns)

The study assessed the effects of sexual violence during pregnancy period and its effects on fetal health. According to the World Health Organization (WHO) sexual violence includes any sexual act or attempt to obtain a sexual act using coercion (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Sexual violence includes rape, traditionally defined as vaginal, anal, or oral sexual intercourse obtained through force or threat of force (Koss, Gidycz, & Wisniewski, 1987).

The data presented in Table 3 shows that in total 3.7 percent exposed to sexual violence had preterm baby whereas 3.2 percent had a preterm baby without exposure to sexual violence. Similarly, only 1.9 percent had a post-term baby who was exposed to sexual violence.

Table 3: Effects of Sexual violence during pregnancy on Fetal health(Outcomes in newborn)

Items			Sexual Violence		Total	Exp(B) OR	95% C.I.for EXP(B)		p- value
			Exposed	Non- exposed			Lower	Upper	
Preterm/ prematurity	Present	Count	2	24	26	.970	.206	4.567	.969
		%	3.7%	3.2%	3.2%				
	Not Present	Count	52	726	778				
		%	96.3%	96.8%	96.8%				
Post-term/ post-maturity	Present	Count	1	5	6	1.818	.149	22.205	.640
		%	1.9%	0.7%	0.7%				
	Not Present	Count	53	745	798				
		%	98.1%	99.3%	99.3%				
Low birth weight	Present	Count	2	62	64	.477	.113	2.021	.998
		%	3.7%	8.3%	8.0%				
	Not Present	Count	52	688	740				
		%	96.3%	91.7%	92.0%				
Asphyxia	Present	Count	1	9	10	1.088	.108	10.974	.943
		%	1.9%	1.2%	1.2%				
	Not Present	Count	53	741	794				
		%	98.1%	98.8%	98.8%				
Others	Present	Count	4	11	15	4.747	1.349	16.707	.015
		%	7.4%	1.5%	1.9%				
	Not Present	Count	50	739	789				
		%	92.6%	98.5%	98.1%				

The data also shows that 3.7 percent and 8.3 percent had low birth weight who was exposed and non-exposed to sexual violence respectively. The result shows that a comparatively higher number of women who had not been exposed to sexual violence had given low birth weight babies than those who were exposed to sexual violence. It indicates that there was no severe effect of sexual violence on fetus health.

The problem of Asphyxia was presented among 1.9 % and 1.2 % who were exposed and non-exposed to sexual violence respectively. In the statistical analysis of the effects of sexual violence on fetal health, the p-value of preterm, post-term, low birth weight, and Asphyxia were found more than .05 significant levels indicate that there was no effects of sexual

violence on fetal health. Whereas, there was a significant effects on the other types of health problems because the p-value is .015 which is less than .05 significant levels.

According to a 2016 Demographic and Health Survey study, 7% of women reported having experienced sexual violence (Ministry of Health, Nepal; New ERA; ICF, 2017). The frequency of sexual violence was also discovered in the global society. According to earlier research, lifetime prevalence of sexual violence among national representative samples of women in the USA ranged from 18.0% for rape (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007) to 27.2% for unwelcome sexual contact (Black, et al., 2011). While the WHO's multi-country study revealed a lifetime prevalence ranging from 6.2% in Japan to 58.6% in Ethiopia (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006), population-based studies from Australia, Sweden, and Norway report a prevalence ranging from 8.1 to 13.3% (Rees, et al., 2011).

2.4 Effects of Economic Violence during Pregnancy on Fetal Health (outcomes in Newborns)

Economic violence means the violence against pregnant women due to economic issues. There may be an economic crisis because of poverty, inadequate income sources, and lack of income of husband or wife may create conflict between the husband and wife. The study also discussed with the respondents regarding their experience of economic violence during the pregnancy period and its effects on the fetal health. The data presented in Table 4 shows that 4.7 percent and 2.9 percent of women reported the preterm or prematurity of newborn babies who were exposed and non-exposed to economic violence. Similarly, only 0.7 percent and .08 percent reported the birth of a post-term baby who was exposed and non-exposed to economic violence.

Table 4: Effect of Economic Violence during Pregnancy on Fetal Health (outcomes in Newborn)

			Economic Violence		Total	Exp(B) OR	95% C.I.for EXP(B)		p- value
			Exposed	Non- exposed			Lower	Upper	
Preterm/ prematurity	Present	Count	7	19	26	1.664	.687	4.035	.259
		%	4.7%	2.9%	3.2%				
	Not Present	Count	141	637	778				
		%	95.3%	97.1%	96.8%				
Post-term/ maturity	post- Present	Count	1	5	6	.912	.886	.103	7.638
		%	0.7%	0.8%	0.7%				
	Not	Count	147	651	798				
		%							

	Present	%	99.3%	99.2%	99.3%				
Low birth weight	Present	Count	17	47	64	1.682	.936	3.021	.082
		%	11.5%	7.2%	8.0%				
	Not Present	Count	131	609	740				
		%	88.5%	92.8%	92.0%				
Asphyxia	Present	Count	1	9	10	.489	.061	3.890	.499
		%	0.7%	1.4%	1.2%				
	Not Present	Count	147	647	794				
		%	99.3%	98.6%	98.8%				
Others	Present	Count	3	12	15	1.110	.309	3.985	.872
		%	2.0%	1.8%	1.9%				
	Not Present	Count	145	644	789				
		%	98.0%	98.2%	98.1%				

As the data presented in the above table, 11.5 percent and 7.2 percent of women who were exposed and non-exposed to economical violence gave a low birth weight of newborn babies respectively. The problem of asphyxia was reported by .07 percent and 1.4 percent of women who were exposed and non-exposed to economic violence respectively. Finally, women also reported other types of health problems by 2.0 percent and 1.8 percent of women who were exposed and non-exposed to economic violence.

The statistical analysis of binary logistic regression shows that there was no effect of economic violence on fetus health because the p-value of preterm, post-term, low birth weight, Asphyxia, and other health problem was greater than .05 significant levels. several references discuss safety status in Nepal and other related topics. For instance, Chheku Lama et al. (2019) conducted a study on occupational hazards identification and risk assessment during the construction of the Head race Tunnel in the Middle Bhotekoshi Hydroelectric project. Mishra and Maskey (2018) assessed labor productivity in the Armed Police Force Nepal Building project. Mishra et al. (2021) analyzed job safety during tunnel construction, while Mishra and Aithal (2022) investigated factors and features influencing laptop users in Kathmandu, Nepal. Lama and Mishra (2022) evaluated the operational assessment of fire safety status in existing commercial buildings in Birtamode, Jhapa, Nepal. Bhagat et al. (2022) proposed a model for the implementation of e-government services in developing countries like Nepal. Mishra and Mishra (2022) discussed the imperative of green financing in the perspective of Nepal. Mishra et al. (2021) analyzed the behavior of laptop users in purchase in Kathmandu, Nepal. Mishra (2021) examined the operational status of safety and

health in construction. Mishra (2019) investigated the impact of safety management practice on project performance. Shakya and Shrestha (2019) studied managerial roles in architectural/engineering consulting firms in Nepal. Bhatta et al. (2018) examined job satisfaction among civil engineers working in the building sector in construction firms of Nepal. Jha and Mishra (2019) assessed the structure of credit policy and sales trend of Sarbottam Cement. Mishra (2021) discussed the operational status of safety and health in construction.

Conclusion & Recommendation

The study found the prevalence of four types of violence during pregnancy: Emotional, physical, sexual, and economic violence. The effect of economical violence was high on low birth weight followed by the effect of emotional violence. Effects on fetal health was measured on prematurity, post-maturity, low birth weight, asphyxia, and other health problem. The statistical analysis shows that there was no statistically significant effects of violence on fetal health.

The study was conducted among those postnatal women who visited Dhulikhel hospital in Kavre district so future research can be done in other parts of Nepal covering the rural women who are from the poor and illiterate groups.

Conflict of Interest: there is no conflict of interest.

Contribution of authors: Mrs. Prajapati had collected the data and prepared the draft report then the research supervisor, Prof. Dr. Sarala Shrestha Worked on the finalization of the report.

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