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Intimate partner violence constrains timely utilisation of antenatal care services among Armenian women: Results from a nationally representative sample

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ABSTRACT

Background: Well-timed utilisation of antenatal care (ANC) services during pregnancy emphatically impact pregnancy outcomes. Intimate Partner Violence (IPV) predominance during pregnancy is exceptionally noticeable in Armenia, yet we have restricted information on the association between IPV and ANC attendance. The aim of this study was to determine the association between IPV and utilisation of adequate ANC services among Armenian women.

Methods: A nationally representative sample survey from 2015 to 2016 Armenia Demographic and Health Survey was considered for this study. A total of 6116 women were interviewed. To estimate the association between outcome and explanatory variable, Pearson's Chi-square test followed by bivariate logistic regression analysis were performed.

Results: About 58% of participants, more than 35 years old has encountered IPV. Women with advanced education (54.7%) attended ANC services between 0 and 3 months. It was found that only the richer women are two times more likely to visit ANC services above four times than other groups and its association with IPV claimed that richer women are more likely to face IPV. Moreover, women who are residing with alcoholic husbands/partners are two times more likely to suffer from partner abuse ($P < 0.001$).

Conclusion: The impact of IPV on accessibility and timely utilisation of ANC services in Armenia cannot be overlooked as IPV is causing risk in healthy delivery and the country's overall productivity in a broader perception.

Key Words: Armenia, intimate, prenatal care, partner violence, women

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INTRODUCTION

Intimate Partner Violence (IPV) is one of the most common forms of pervasive domestic violence against women worldwide.^[1] It has negative health consequences, especially for women's reproductive health and their children's physical, emotional, and mental health such as induced abortion, premature birth, and low birth weight.^[2,3] However, the link between health-seeking behaviour and IPV experience is not well-researched across the countries. Armenia, one of the stable states of the former Union of Soviet

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Socialist Republics has suffered recent socioeconomic setbacks and natural disasters and a conflict in Nagorno-Karabach.^[4] With a GDP of 11.54 billion (2017), Armenia is one of the upper-middle-income countries, where women experiencing violence, both physically and sexually, is also a common feature. However, their health-seeking behaviour experience is under-researched.^[5] Armenia's constitution provides equal rights to women, however it is a conservative nation and societal norms often restrict women's ability to live independently, restrict them sitting alone in a restaurant, and engage with different social groups who deal with women issues.^[6] The reasons behind women not seeking help are lack of support services and various cultural, legal and institutional barriers. Additionally, many women believed that if they speak out it will bring the shame on the family.^[7] In this way, violence has become a learned behaviour for many women in Armenia. Help-seeking tends to increase with increasing education but does not vary consistently with wealth.^[8] Women employed for cash are more likely than those who are not employed to have ever sought help.^[9] However, there is a dearth of research on how Armenian women, especially the pregnant women experiencing IPV, sought help for their reproductive health.

Antenatal cares (ANC's) timing and quality are also important in maintaining women's reproductive health in Armenia. Nevertheless, the relationship between IPV and utilization of ANC services remains poorly characterized. Research on this link states that experiencing IPV is associated with reduced ANC services.^[10] Therefore, this study has been undertaken to determine this less explored link in Armenia.

METHODS

This research has used data from 2015 to 2016 Armenia Demographic and Health Survey, a nationally representative sample survey. This survey dataset is publicly available from 'The DHS program website' and details of the questionnaire, study design, and data collection procedures used in the survey can be found in the annual report from the DHS website.^[11]

Sampling and sample size

The sampling frame used in this survey is a complete list of enumeration areas (EA) covering the whole country, and a total number of 11,571 EAs were selected using a census database. Each EA in the frame is also sub-divided into two types of residence (urban vs rural). In rural areas, an EA is a natural village, a segment of a large village, or a group of small villages; in urban areas, an EA is a street or a city block. Of the total 11,571 EAs, 6,613 are in urban areas, and 4,958 are in rural areas. Overall, each EA has an average of 69 households, with EAs in urban

areas averaging 79 households and those in rural areas averaging 56 households.^[9]

A representative probability sample of 8,749 households was selected. The sample was selected in two stages: (i) 313 (192 urban areas and 121 rural areas) clusters were selected from a list of EAs and (ii) complete listing of households was performed from each selected cluster and then households were selected systematically for participation. A total of 6,116 women were selected for interview.

Data analysis and variables

Statistical data analysis was performed IBM® SPSS v24 (IBM Corp., Armonk, NY, USA). There are different inferential statistical tests, but in this research Chi-square and binary logistic regression analysis are performed. To estimate the association between outcome and explanatory variable, bivariate logistic regression analysis is performed.

Outcome variables

The outcome variables used in this research are: (i) timing of 1st Antenatal visit (ii) number of Antenatal visits and (iii) experience of IPV. For the 1st ANC visit, participants who visited the health centres in 0–3 months were coded 0 and who visited between 4 and 9 months were coded 1. Similarly, the number of ANC visits is a continuous variable and was converted to a dichotomous variable. Two categories were created, such as <4 ANC visits were coded 0 and more than 4 ANC visits were coded as 1. According to WHO, four or more ANC visits are considered as sufficient ANC visits.^[12]

The other outcome variable

IPV was constructed by adding physical, sexual and emotional violence. Physical violence was determined by respondent answering "yes" to any of a string questions whether respondent's husband or partner did the following: (i) Pushed, shook or threw something at her (ii) slapped her (iii) punched her (iv) kicked or dragged her (v) strangled or burnt her (vi) threatened or attacked her with a knife, gun or any other weapons. Sexual violence was developed by respondent answering "yes" to ever been physically forced into unwanted sex. Emotional violence was determined by respondent answering "yes" to ever experienced emotional violence. Those who did not experience IPV were coded as 0, and the respondents who experienced IPV were coded as 1.

Explanatory variables

The explanatory variables are women's background characteristics such as the respondents' age, place of residence, educational status, employment status, number of household members, wealth index (the wealth index was categorised into poorest, poorer, middle,

richer and richest), husband or partner's age, husband or partner education and husband or partner drinks alcohol. The wealth index was measured in relation to inequalities in household income, use of health services and health outcomes.^[13] IPV was also considered as an explanatory variable.

RESULTS

The mean age of the respondents is 31 years, with a standard deviation of 9.51 years. About 38.8% of respondents are 35 and over, and only 34% of them are between 25 and 34 years of age. About 58% of respondents are from the urban area, and 51.1% of respondents completed their higher education. Approximately 32.8% of respondents are employed, only 18.6% of them are from the poorest, and 21.1% are from richer backgrounds. About 66.3% of respondents have 4–6 household members. The respondent's husband or partner's mean age is 39 years, with a standard deviation of 8.87 years. About 23.7% respondent's husband or partner age between 30 and 39 years, and almost 50% respondent's husband or partner completed secondary education. Almost 62.3% of respondents revealed that their husband/partner drinks alcohol, as shown in Table 1.

The Chi-square analysis between the respondents' age and the 1st ANC visit's timing reveals that about 64.7% of respondents aged between 25 and 34 years make their first antenatal visit in 0–3 months. In contrast, respondents ≥ 35 about 45.9% of them use ANC services in 4–9 months. It is statistically significant as $P < 0.00$. Respondents age is also statistically related to the number of antenatal visits and experience of IPV. About 60.9% respondent's aged between 25 and 34 years had <4 ANC visits, and about 39.3% of respondents aged 35 and over had more than 4 ANC visits. Nearly 58% of respondents age ≥ 35 years reported experiencing IPV in their lifetime. Respondents' place of residence is statistically related to respondent's number of antenatal visits and IPV. Their husbands/partners have abused about 52.8% of urban respondents, and urban respondents visited ANC services more than four times during pregnancy. Respondents with higher education (54.7%) are more likely to use the ANC between 0 and 3 months of their pregnancy, and about 51.3% of respondents had more than 4 ANC visits. Of Women who completed secondary education, 48.9% experienced IPV. Respondent's educational status is statistically related to the timing of ANC, number of ANC visits, and IPV experience. This study revealed that respondent's employment status, number of household members, and husband's age influence timing and number of antenatal visits, but no association found with IPV. Respondents in the poorest (30.3%)

Table 1: Distribution of respondents and their husband/partner by their background characteristics

Variables	Frequency (%)
Respondent's age	
15-24	1665 (27.2)
25-34	2081 (34)
35+	2370 (38.8)
Mean \pm SD	31.50 \pm 9.51
Place of residence	
Urban	3545 (58.0)
Rural	2571 (42.0)
Educational status	
Basic and no education	411 (6.7)
Secondary education	2580 (42.2)
Higher education	3125 (51.1)
Employment status	
No	4108 (67.2)
Yes	2006 (32.8)
Wealth index	
Poorest	1137 (18.6)
Poorer	1358 (22.2)
Middle	1324 (21.6)
Richer	1293 (21.1)
Richest	1004 (16.4)
Number of household members in family	
1-3	1299 (21.2)
4-6	4054 (66.3)
7+	763 (12.5)
Husband/partner age	
20-29	612 (10.0)
30-39	1447 (23.7)
40-49	1283 (21.0)
50+	2774 (45.4)
Mean \pm SD	39.36 \pm 8.87
Husband/partner education	
Primary education	384 (9.6)
Secondary education	1993 (49.9)
Higher education	1616 (40.5)
Husband/partner drinks alcohol	
No	1334 (37.7)
Yes	2204 (62.3)

SD: Standard deviation

and poorer (20.2%) groups were more likely to experience IPV ($P < 0.001$ for each). Additionally, 55% of respondents whose husbands/partners completed secondary education reported IPV, and 80.7% of respondents with a husband/partner that drinks alcohol reported IPV ($P < 0.001$) as shown in Table 2.

Respondents ≥ 35 years of age are two times more likely to visit ANC services in 0–3 months than respondents from other age groups. Place of residence, educational status, and employment status of respondents could not show any association with the timing of ANC, number of ANC visits, and IPV experience. Only the richer respondents are two times more likely to visit ANC services above four times from the wealth index category than other groups. Its association with IPV means that richer respondents are more likely to face IPV. Respondents with husband/partner age 50 and over are ten times more likely to use ANC services in 0–3 months, and husband higher education is statistically related to ANC's timing. Respondents who are residing with alcoholic husbands/partners are two times more likely to suffer from partner abuse ($P < 0.001$) as shown in Table 3.

Table 2: Distribution of respondents by their background and husband/partner characteristics and utilisation of antenatal care and experience of intimate partner violence

Variables	Timing of first antenatal visit, n (%)		Number of antenatal visits, n (%)		Experienced IPV, n (%)	
	0-3 months	4-9 months	< 4 visits	> 4 visits	No	Yes
Respondent's age						
15-24	299 (23)	1366 (28.4)	33 (25.8)	1632 (27.3)	319 (10.5)	23 (4.5)
25-34	842 (64.7)	1239 (25.7)	78 (60.9)	2003 (33.5)	1309 (43.2)	191 (37.5)
35+	161 (12.4)	2209 (45.9)	17 (13.3)	2353 (39.3)	1402 (46.3)	295 (58)
P		0.00		0.00		0.00
Place of residence						
Urban	756 (58.1)	2789 (57.9)	63 (49.2)	3482 (58.1)	1786 (58.9)	269 (52.8)
Rural	546 (41.9)	2025 (42.1)	65 (50.8)	2506 (41.9)	1244 (41.1)	240 (47.2)
P		0.93		0.04		0.01
Educational status						
Basic and no education	61 (4.7)	350 (7.3)	5 (3.9)	406 (6.8)	144 (4.8)	44 (8.6)
Secondary education	529 (40.6)	2051 (42.6)	70 (54.7)	2510 (41.9)	1301 (42.9)	249 (48.9)
Higher education	712 (54.7)	2413 (50.1)	53 (41.4)	3072 (51.3)	1585 (52.3)	216 (42.4)
P		0.00		0.01		0.00
Employment status						
No	1010 (77.6)	3098 (64.4)	103 (80.5)	4005 (66.9)	1972 (65.1)	318 (62.5)
Yes	292 (22.4)	1714 (35.6)	25 (19.5)	1981 (33.1)	1057 (34.9)	191 (37.5)
P		0.00		0.00		0.25
Wealth index						
Poorest	243 (18.7)	894 (18.6)	26 (20.3)	1111 (18.6)	526 (17.4)	154 (30.3)
Poorer	275 (21.1)	1083 (22.5)	40 (31.3)	1318 (22)	649 (21.4)	103 (20.2)
Middle	287 (22)	1037 (21.5)	26 (20.3)	1298 (21.7)	672 (22.2)	122 (24)
Richer	258 (19.8)	1035 (21.5)	16 (12.5)	1277 (21.3)	668 (22)	72 (14.1)
Richest	239 (18.4)	765 (15.9)	20 (15.6)	984 (16.4)	515 (17)	58 (11.4)
P		0.18		0.04		0.00
Number of household members in family						
1-3	93 (7.1)	1206 (25.1)	6 (4.7)	1293 (21.6)	624 (20.6)	135 (26.5)
4-6	892 (68.5)	3162 (65.7)	89 (69.5)	3965 (66.2)	2081 (68.7)	327 (64.2)
7 and above	317 (24.3)	446 (9.3)	33 (25.8)	730 (12.2)	325 (10.7)	47 (9.2)
P		0.00		0.00		0.00
Husband's age						
20-29	423 (32.5)	189 (3.9)	32 (25)	580 (9.7)	434 (14.3)	36 (7.1)
30-39	674 (51.8)	773 (16.1)	71 (55.5)	1376 (23)	1176 (38.8)	139 (27.3)
40-49	152 (11.7)	1131 (23.5)	19 (14.8)	1264 (21.1)	842 (27.8)	144 (28.3)
50+	53 (4.1)	2721 (56.5)	6 (4.7)	2768 (46.2)	578 (19.1)	190 (37.3)
P		0.00		0.00		0.00
Husband/partner education						
Primary education	131 (10.3)	253 (9.3)	17 (13.7)	367 (9.5)	270 (9.4)	56 (14.7)
Secondary education	636 (50.2)	1357 (49.8)	66 (53.2)	1927 (49.8)	1378 (48.2)	210 (55)
Higher education	499 (39.4)	1117 (41)	41 (33.1)	1575 (40.7)	1210 (42.3)	116 (30.4)
P		0.45		0.12		0.00
Husband/partner drinks alcohol						
No	445 (40.5)	889 (36.5)	35 (31.3)	1299 (37.9)	1236 (40.8)	98 (19.3)
Yes	655 (59.5)	1549 (63.5)	77 (68.8)	2127 (62.1)	1794 (59.2)	410 (80.7)
P		0.02		0.15		0.00

IPV: Intimate partner violence

DISCUSSION

The study's findings showed that women with higher education (54.7%) utilised the ANC between 0 and 3 months, and only half of the women had more than 4 ANC visits. A similar finding was seen in a study conducted in Belgium and the Netherlands (41%).^[14] Women who are over 35 years and above are more likely to use the ANC services than other age groups; however, studies in Tanzania and Myanmar reported that women of younger age group 15–24 years used ANC services more than other age groups.^[15,16] In this study, about 58% women ≥ 35 years of age have experienced IPV whereas the prevalence rate in Brazil was 45.2%, 54.5% in Iran, 49% in Sri Lanka and 43.4% in Portugal.^[17-20] The number of ANC visits is associated with place of residence. The women from urban areas are more using ANC services than women from rural areas, which

is in line with another research conducted in Ethiopia.^[21] The wealth index revealed that richer women used ANC services more than four times than other socioeconomic status groups. There is a strong association between income and ANC received by the respondents in Dhaka, Bangladesh.^[22] The present study also revealed that the number of household members is associated with the timing of ANC visits and the number of ANC visits. About 66.2% of women with household members between 4 and 6 had more than 4 ANC visits. However, there is no association between the uptake of ANC and family size in India.^[23]

Urban women experienced more abuse by their husbands/partners, but national data from Pakistan reported that women from rural areas are more likely to suffer from partner violence.^[24] In the present study, the experience of IPV by women was significantly

Table 3: Odds ratio analysis between background characteristics and husband/partner characteristic with antenatal care utilisation and experience of intimate partner violence

Variables	Timing of first antenatal visit	Number of antenatal visits	Experienced IPV
Respondent's age			
15-24	1	1	1
25-34	1.42 (0.90-2.23)	1.47 (0.84-2.56)	1.44 (0.85-2.45)
35 +	2.26 (1.24-4.12) **	1.82 (0.75-4.44)	1.79 (0.96-3.34)
Place of residence			
Urban	1	1	1
Rural	1.50 (1.01-2.23) *	1.25 (0.72-2.21)	1.04 (0.76-1.40)
Educational status			
Basic and no education	1	1	1
Secondary education	1.14 (0.57-2.27)	0.52 (0.16-1.61)	0.95 (0.59-1.52)
Higher education	0.95 (0.47-1.95)	0.69 (0.21-2.27)	0.83 (0.50-1.37)
Employment status			
No	1	1	1
Yes	1.37 (0.99-1.89) *	1.12 (0.67-1.89)	0.87 (0.68-1.12)
Wealth index			
Poorest	1	1	1
Poorer	1.00 (0.65-1.54)	0.84 (0.47-1.49)	0.61 (0.45-0.83) **
Middle	1.11 (0.68-1.80)	1.52 (0.75-3.07)	0.59 (0.41-0.85) **
Richer	1.73 (1.01-2.96) *	2.30 (1.00-5.27) *	0.41 (0.26-0.63) ***
Richest	1.32 (0.75-2.34)	1.61 (0.71-3.64)	0.43 (0.27-0.68) ***
Number of household members in family			
1-3	1	1	1
4-6	0.67 (0.39-1.12)	0.65 (0.25-1.67)	1.36 (0.99-1.87)
7 +	1.20 (0.67-2.14)	0.61 (0.21-1.73)	1.24 (0.77-1.99)
Husband's age			
20-29	1	1	1
30-39	1.63 (1.10-2.42) **	0.66 (0.39-1.14)	1.14 (0.73-1.78)
40-49	2.66 (1.56-4.55) ***	0.54 (0.24-1.18)	1.40 (0.82-2.38)
50 +	10.62 (4.69-24.04) ***	2.99 (0.35-25.56)	1.26 (0.69-2.28)
Husband/partner education			
Primary education	1	1	1
Secondary education	0.73 (0.47-1.15)	1.27 (0.66-2.44)	0.85 (0.58-1.23)
Higher education	0.53 (0.32-0.87) **	1.07 (0.52-2.23)	0.69 (0.45-1.04)
Drinks alcohol			
No	1	1	1
Yes	0.89 (0.67-1.17)	0.68 (0.45-1.05)	2.41 (1.85-3.14) ***
Experienced IPV			
No	1	1	1
Yes	1.35 (1.09-1.68) **	1.49 (0.77-2.91)	

* Significance at 0.05 level, ** 0.01 level, ***0.001 level, IPV: Intimate partner violence

related to the husband's consumption of alcohol. Similarly, a Swedish study reported a significant relationship between IPV and alcohol misuse by male partners. It was more extreme when they became pregnant.^[25] Other factors related to husband/partner, which influence IPV in this study are educational status and age. These findings are similar to a study in Iran, Sri Lanka, India.^[18-19,26] This study also offered that IPV affects the timing of ANC utilisation, and there is no significant association found with the number of ANC visits by pregnant women. Same was reported by the researchers in Nepal that pregnant women exposed to IPV are less likely to register for ANC services.^[27] This is inconsistent with another finding from research in Tanzania and Rwanda, where the researcher found IPV has no significant link with the utilisation of ANC services.^[15,28]

This study's main strength is that the findings are based on the nationally representative data from a reliable source, and present study tried to link the association between violence against women and their health-seeking

behaviour in Armenia for the first time. Despite some strengths, there are some limitations since the data used in this study is cross-sectional nature; it precludes the causal relationship, and also there is a high possibility of recall bias.

CONCLUSION

To conclude, both urban and rural female residents demonstrate IPV issues and how this brute force affects their health care-seeking behaviour and health care services accessibility during pregnancy period. Furthermore, several socio-demographic variables, notably education level and wealth index are associated with ANC. Also, alcohol abuse tends to instigate violating approach among males that ultimately inflicts torture on females of the family, and when it is during pregnancy, the outcome is undoubtedly devastating. The Armenian government and nongovernment organisations should work collaboratively to enact and better enforce measures to combat IPV. Laws and regulations should be strengthened, and culprits should

be given a punishment that changes others mentality at least to some extent.

Research quality and ethics statement

The authors attest that this research did not require Institutional Review Board approval as open source data was utilized. The authors followed the applicable EQUATOR Network (<http://www.equator-network.org/>) guidelines, specifically the STROBE Guidelines, during the conduct of this research project.

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Conflicts of interest

There are no conflicts of interest.

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