

# Prevalence of Intimate Partner Violence in Pregnancy in a Province of Türkiye, Changes in Violence and Effects on Maternal Mental Health

Türkiye'nin Bir İlinde Gebelikte Eş Şiddetinin Yaygınlığı, Şiddetteki Değişiklikler ve Anne Ruh Sağlığına Etkileri

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## Abstract

Introduction	The aim of this study was to evaluate the frequency of intimate partner violence (IPV) during pregnancy and the effect of violence on maternal mental health.
Materials and Methods	The hospitals in Adana province center was selected by simple randomization method. Frequency tables, chi-square test and multiple logistic regression analysis were used as statistical analysis.
Results	Prevalence of IPV was found as 24.1% before pregnancy and 17.5% during pregnancy. The rate of emotional, physical and sexual IPV exposure during pregnancy was found as 16,7%, 2,8% and 3,3%, respectively. It was found that regarding 69% of those exposed to violence in any period of their life, the rate of overall violence either decreased or completely ceased during pregnancy. Women, who experienced IPV during pregnancy were 4.60 times more likely to have depression in pregnancy.
Conclusion	It has been determined that the rate of IPV exposure decreases with pregnancy however, IPV during pregnancy causes mental health problems in women.
Keywords	Intimate partner violence; pregnancy; mental health; depression.

## Öz

Amaç	Bu çalışmanın amacı gebelikte eşler arası şiddetin sıklığını ve şiddetin anne ruh sağlığına etkisini değerlendirmektir.
Yöntem ve Gereçler	Adana il merkezindeki hastaneler basit randomizasyon yöntemi ile seçilmiştir. İstatistiksel analiz olarak frekans tabloları, ki-kare testi ve çoklu lojistik regresyon analizleri kullanıldı.
Bulgular	Eş şiddeti prevalansı gebelik öncesi %24,1 ve gebelik sırasında %17,5 olarak bulundu. Gebelikte duygusal, fiziksel ve cinsel eş şiddetine maruz kalma sıklığı sırasıyla %16,7, %2,8 ve %3,3 olarak bulundu. Yaşamlarının herhangi bir döneminde şiddete maruz kalanların %69'unda genel şiddet oranının gebelikte azaldığı ya da tamamen durduğu belirlendi. Gebeliği sırasında eş şiddeti yaşayan kadınların gebelikte depresyon geçirme olasılığı 4.60 kat daha fazlaydı.
Sonuç	Gebelikte birlikte eş şiddetine maruz kalma oranının azaldığı ancak kadınlarda ruhsal sağlık sorunlarına neden olduğu belirlenmiştir.
Anahtar Kelimeler	Eş şiddeti; gebelik; ruh sağlığı; depresyon.



## INTRODUCTION

Women's health is an important factor affecting both the child's and the family's health. The concept of violence against women was first described, in the field of international human rights law within the International Declaration on the Elimination of Violence Against Women in 1993. In this declaration, violence against women was described as "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life". The most common form of violence against women is the abuse of the woman by her husband or her partner.<sup>1,2</sup>

Domestic violence can be defined as "any act of force or coercion that gravely jeopardizes the life, body, psychological integrity, or freedom of a person in the family".<sup>3</sup> According to WHO, in 2014, one in three women in the world suffered domestic violence.<sup>4</sup>

Low socioeconomic status, non-employment, being unmarried, having children, old age, long marriage period, adolescent pregnancy, being in a minority ethnic group, spouse's alcohol use are risk factors for violence in pregnancy.<sup>5</sup>

According to WHO data for 2013, 35% of women worldwide are exposed to either physical and/or sexual violence by their partner (spouse or partner) or sexual violence by a person, who is not a partner.<sup>6</sup>

In Europe, Denmark has the highest rate of physical (29 %) and sexual (11 %) intimate male partner violence, Austria (12 %) has the lowest rate of physical, Croatia (3 %) has the lowest rate of sexual intimate male partner violence. In African region, The Democratic Republic of the Congo has the highest rate of physical and sexual violence, which is 56.9 % and 35.3% respectively.<sup>7</sup>

According to The Survey of Domestic Violence Against Women in Türkiye conducted between the years of 2013 and 2014, 36% of women in Türkiye are exposed to physical violence by their spouse or partners and the ratio of exposure to physical violence in the last 12 months is 8%. 12% of married women are subjected to sexual violence in any period of their lives and 5% are exposed to sexual violence in the last 12 months. Furthermore, 44% of women in Türkiye, in general, are subjected to psychological violence in any period of their lives. Also, 26% of whom are the victim of violence in the last 12 months. Regarding the results of the same study, the rate of physical violence during pregnancy is 8%.<sup>8</sup>

Domestic violence during pregnancy causes mental health problems such as depression, anxiety, post-traumatic stress disorder (PTSD), psychosis, inability to trust others, self-harm, risky behaviors, and psychosomatic disorders such as chronic pain.<sup>9</sup>

The aim of this study was to investigate the frequency of intimate partner violence (IPV) on pregnant women and the effects of the violence on maternal mental health in central districts of Adana which is one of the largest cities in Türkiye.

## MATERIALS and METHODS

This study is a cross-sectional study aimed to determine the exposure to IPV during pregnancy and the effects of such violence on the mental health of women who gave birth in Adana central districts.

### The Population of the Research and Sample Selection

A total of 33,597 child births took place in the hospitals of Adana central districts in 2015, and this number was used as the population size. The prevalence of IPV during pregnancy was 50% (to reach the maximum sample size), with the error rate of 4% and 95% reliability, it was aimed to reach 649 people (with 10% non-response). There is a total of 15 hospitals in Adana, including 3 state hospitals,

2 university hospitals, and 10 private hospitals. These hospitals were divided into three classes as state, private and research hospital then one hospital from each layer was selected by the simple randomization method. The research was conducted in 3 hospitals located in the central districts of Adana. When proportional sampling was applied according to the number of births in selected hospitals, 441 from public hospitals, 130 from private hospitals and 78 from research hospitals were planned to be interviewed. Selected hospitals were visited between October and December 2016, and interviews were held with women who had given birth within 24 hours and were there at that time. Since 5 people from public hospitals and 4 from private hospitals refused to participate in the study, 98.6% (640) of the sample was included in the study.

#### Research Application

Approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Cukurova University Faculty of Medicine. The study was conducted in accordance with the Declaration of Helsinki. Besides, a project fund was received from Cukurova University Scientific Research Project Unit.( TTU-2016-6411)

Before the data collection, the pre-questionnaire was applied, which were not processed therefore these questionnaires were not included in the data set. The questionnaires were administered to all women, who had given birth within the first 24 hours by the researcher doctor via in person method. While the data were collected in the hospital, the relatives of the patients were asked to leave the rooms and the women, who gave birth were interviewed in private. Before the collection of survey data, individuals were informed about the research along with its purpose then verbal consent was obtained.

In this study, a questionnaire, which includes socio-demographic characteristics of pregnant women, questions about pregnancy and exposure to violence before and during pregnancy and the Edinburgh postpartum depression

scale was used as the data collection tool.

#### Edinburgh Postpartum Depression Scale

The Edinburgh Postnatal Depression Scale was developed in 1987 by Cox et al. It is one of the appropriate screening scales used for the detection of depression during pregnancy. It is a self-report scale consisting of 10 items in the form of a four-point Likert. The answers consisting of four options are scored between 0–3, the lowest score is 0, and the highest score is 30. In the evaluation, items 1, 2 and 4 are scored as 0,1,2,3, while items 3, 5, 6, 7, 8, 9 and 10 are scored in reverse as 3,2,1,0. In Türkiye, with validation study in 1997 by Engindeniz et al., sensitivity and specificity were determined as 84% and 88%, respectively, while the cutoff point was observed to either 12 or 13.<sup>10</sup>

#### Intimate Partner Violence During Pre-pregnancy and Pregnancy

If at least one of the violent behaviors specified in the definitions below has been experienced at least once then that type of violence that specific behavior belongs to was considered to have occurred. The questions were transformed into Likert type ranging from 0 to 3 in the form of never, once or twice, several times, many times. The emotional, physical, and sexual violence exposures in two periods were determined separately during marriage and pregnancy.

##### Emotional IPV

- insults or swearing
- humiliation or mortification among others
- intimidation or threatening
- threatening to harm the woman or others around her

##### Physical IPV

- slapping or throwing something
- pushing, manhandling or pulling hair
- kicking, dragging or beating
- squeezing the throat or burning a part of the body
- threatening with objects like knives, weapons, etc. or

using them

### Sexual IPV

- forced sexual intercourse
- despite the unwillingness having sexual intercourse due to fear of violence by her partner or spouse
- forcing sexually humiliating or insulting actions

If any violence occurred at least once during pregnancy / pre-pregnancy, the person was considered to have experienced “violence during pregnancy / pre-pregnancy”.

### Change of Exposure to IPV with Pregnancy

The question that measures the IPV before and during pregnancy consists of the choices such as ‘one-two-times / several-times / multiple-times’ that people were asked to choose to evaluate the frequency of the violence were scored as 1/2/3, respectively, and the answer “NO” was coded as 0 points. Emotional, physical, and sexual violence scores were collected for each person and 2 groups of evaluating scores were calculated as pre-pregnancy and during pregnancy. The interpretation was made according to the change of scores across the two groups.

### Data Analysis

As statistical analysis; frequency tables, chi-square test, Fisher’s exact test, and logistic regression analysis were used to evaluate the data.

In the regression analysis, which examined the effect of violence during pregnancy resulted in mother’s having depression during the pregnancy, risk factors and confounding factors were as follows; educational statuses (primary education was taken as reference), income status perception (good reference was taken), a recent sadden event, miscarriage/abortion/stillbirth history and pregnancy plan (planned pregnancy was taken as reference).

SPSS 20.0 for Windows package program was used for statistical analysis and cases with p-value <0.05 were consid-

ered statistically significant.

### Limitations of Research

Since answers to the questions related to violence were obtained based on women’s own statements, missing/biased data may be provided due to memory factors and the tendency to hide violence.

### RESULTS

68.1% (436) of the participants delivered in the state hospital, while 12.2% (78) in the university hospital and 19.7% (126) in the private hospital.

Among the women, the youngest was 16 years old, and the oldest was 42 years old and the mean age is  $26.9 \pm 5.7$  years and the median is 26 years. Of the women, 11.9% (76) were in the 16-20 age group, 10.0% (64) were in the 36-42 age group, while 78.1% (500) were in the 21-35 age group.

While 12.0% (77) of the women were illiterate, 7.6% (49) were literate with no formal education, 28.6% (183) were elementary school graduates, 25.5% (163) were secondary school graduates, 17.5% (112) were high school graduates and 8.8% (56) were university graduates.

While 10.6% (68) of the women worked in an income-generating job, 88.8% (568) were housewives. Four women were employed in the non-income-generating family business.

When the family types of the women were evaluated, 73.9% (473) had nuclear families and 26.1% (167) had extended families.

While 60.1% (385) of the participants had a monthly household income of 1300 TL (minimum wage) and below, 30.5% (195) had income between 1301-2600 TL and 9.4% (60) had income over 2600 TL.

The youngest first marriage age of the participants was 13 years old and the oldest was 39 years old, with a mean

score of  $20.62 \pm 4.02$  years old and a median of 20 years old. 2.0 % of the participants were in their second marriage. The women were married for at least 1 year and the maximum duration was 25 years and the average marriage period was  $6.17 \pm 5.04$  years and the median was 4 years.

When the participants' pregnancy information taken into account, the gestational numbers of the participants ranged from 1 to 11. The rate of those who had their first, 2nd or 3rd and 4th or more pregnancy was 23.3% (149), 53.1% (340), 23.6% respectively. The ratio of women who

had less than two years between the last two pregnancies was 58.7% (288), and the ratio of those who had more than two years was 41.3% (203) ( $n = 491$ , first pregnancies were excluded).

Before pregnancy 20.6% of women experienced emotional violence, 8.6% of them were exposed to physical violence, 4.2% of them was subjected to sexual violence. During pregnancy, these numbers were 16.7%, 2.8% and 3.3%, respectively. (Table 1).

**Table 1.** Intimate Partner Violence before and during pregnancy

		IPV Before Pregnancy				IPV During Pregnancy			
		Yes		No		Yes		No	
	Have your spouse ever ...?	N	%	N	%	N	%	N	%
Emotional IPV	Has he insulted you or made you feel bad?	98	15.3	542	84.7	75	11.7	565	88.3
	Has he taunted or humiliated you among other people?	50	7.8	590	92.2	35	5.5	605	94.5
	Has he ever scared you or intimidated you with his looks, shouting or shattering something?	46	7.2	594	92.8	41	6.4	599	93.6
	Has he threatened to harm you or other people around you?	5	0.8	635	99.2	5	0.8	635	99.2
	Emotional IPV	132	20.6	508	79.4	107	16.7	533	83.3
Physical IPV	Slapping or throwing something	52	8.1	588	91.9	17	2.7	623	97.3
	Pushing, manhandling or pulling hair	15	2.3	625	97.7	6	0.9	634	99.1
	Punching or knocking with an object	5	0.8	635	99.2	1	0.2	639	99.8
	Kicking, dragging or beating	9	1.4	631	98.6	4	0.6	636	99.4
	Squeezing or burning any part of your body	4	0.6	636	99.4	1	0.2	639	99.8
	Threaten via tools such as knives, weapons or use them against you	0	0.0	640	100.0	0	0.0	640	100.0
	Physical IPV	55	8.6	585	91.4	18	2.8	622	97.2
Sexual IPV	Has he forced you to have sexual intercourse when you did not want to?	23	3.6	617	96.4	18	2.8	622	97.2
	Have you had sexual intercourse even though you did not want to because you were afraid of your spouse?	9	1.4	631	98.6	7	1.1	633	98.9
	Has he forced you into sexually humiliating or insulting acts?	3	0.5	637	99.5	4	0.6	636	99.4
	Sexual IPV	27	4.2	613	95.8	21	3.3	619	96.7

There were 167 women who had been subjected to violence during and / or before pregnancy. When the changes in the exposure of these 167 women to IPV due to pregnancy considered, being subjected to IPV decreased in 64.1% of women, increased in 16.2% of women and stated the same in 19.7% of women. (Table 2) The rate of IPV during pregnancy in women, who had not been exposed to violence before pregnancy was 2.7% (13) while in women, who had been exposed to violence before pregnancy was 64.3% (99). Women, who had been subjected to violence before pregnancy had higher rates of violence during pregnancy than those who had not. ( $p < 0.001$ )

	N	%
Never exposed to any violence at all	473	%73.9
Exposed to Violence Pre or Post-Pregnancy	167	%26.1
Violence Exposure in Pregnancy		
Remains still	33	%19.7
Increased	27	%16.2
The violence started with pregnancy	13	
Violence increased during pregnancy	14	
Decreased	107	%64.1
Violence ceased, or none existed	55	
Violence decreased during pregnancy	52	

According to our study, age, educational status, employment status, family type, and income perceptions did not affect being subjected to IPV during pregnancy, while the risk of exposing to IPV during pregnancy was found to be higher in those, who do not have kinship with their spouse and those with two or more children. ( $p = 0.037$ ,  $p = 0.002$ , respectively). Besides, as the duration of marriage increased, the risk of violence in pregnancy increased. ( $p = 0.009$ ) (Table 3)

According to the Edinburgh postpartum depression scale, 29.1% (186) of the women had depression during their pregnancy. When investigated, the depression, which is another negative effect of violence in pregnancy on maternal health; 35.5% (66) of those, who experienced depres-

sion during pregnancy, were exposed to violence, while 10.1% (46) of those without depression were subjected to violence. The rate of exposing to IPV during pregnancy was higher in women, who had depression. ( $p < 0.001$ ) (Table 4).

When the relation between depression in pregnancy and the state of IPV during pregnancy evaluated, the risk of depression detected by the Edinburgh scale was 4.87 times higher in those exposed to IPV during pregnancy. (95% CI = 3.18-7.48). The risk of depression was found to be higher in those, who had low income, who had a saddening event, and who had unplanned/unwanted pregnancy. Having a history of miscarriage/abortion/stillbirth and having low education level did not have any effect on depression in pregnancy. When all the factors included in the analysis were considered as confounding factors, the risk of depression during pregnancy was found to be 4.60 times higher (95% CI = 2.93-7.20). (Table 5)

When the effect of the type of IPV exposed to during pregnancy on depression taken into account, the risk of depression is 8,45 times higher in those who were exposed to sexual IPV, 5,01 times higher in those who were exposed to emotional IPV and 4,01 times higher in those who were exposed to physical IPV. (Table 6)

**Table 3.** IPV in pregnancy according to sociodemographic and family characteristics of participants

		Violence in Pregnancy						p value
		No		Yes		Total		
		N	%a	N	%a	N	%b	
Age	≤20	61	80.3	15	19.7	76	11.9	p=0.841
	21-35	415	83.0	85	17.0	500	78.1	
	≥36	52	81.3	12	18.8	64	10.0	
Education	None	108	85.7	18	14.3	126	19.7	p=0.474
	Primary School	282	81.5	64	18.5	346	54.1	
	High school and above	138	82.1	30	17.9	168	26.2	
Occupation	Not working	474	82.9	98	17.1	572	89.4	p=0.478
	Working	54	79.4	14	20.6	68	10.6	
Family Type	Nuclear	385	81.4	88	18.6	473	73.9	p=0.216
	Extended	143	85.6	24	14.4	167	26.1	
Kinship	No	400	80.8	95	19.2	495	77.3	p=0.037
	Yes	128	88.3	17	11.7	145	22.7	
Income	Low	157	79.3	41	20.7	198	30.9	p=0.212
	Moderate	297	83.9	57	16.1	354	55.3	
	Good	74	84.1	14	15.9	88	13.8	
Duration of marriage	1 year	90	85.7	15	14.3	105	16.4	p=0.009
	2-5 years	216	84.7	39	15.3	255	39.8	
	6-9 years	113	85.6	19	14.4	132	20.6	
	≥10 and more	109	73.6	39	26.4	148	23.2	
Number of Children Alive (before this pregnancy)	0	156	86.2	25	13.8	181	28.3	p=0.002
	1	196	86.7	30	13.3	370	57.8	
	≥2	176	75.5	57	24,5	89	13.9	

**Table 4.** Distribution of IPV Exposure in Pregnancy According to Depression Status in Pregnancy

		Violence in Pregnancy						p value
		No		Yes		Total		
		N	%a	N	%a	N	%b	
Depression	No	408	89.9	46	10.1	454	70.9	p<0.001
	Yes	120	64.5	66	35.5	186	29.1	

**Table 5.** Investigation of the Relation Between IPV in Pregnancy and Depression Status in Pregnancy by Correcting According to Risk Factors and Mixing Factors for Depression in Pregnancy

	Odds ratio (OR)	%95 Confidence Interval	AOR*	%95 Confidence Interval	
Violence during Pregnancy	4.87	3.18-7.48	4.60	2.93-7.20	
Education Level	1.32	0.84-2.06	0.76	0.46-1.23	
Income Status	Low	2.28	1.24-4.17	2.21	1.15-4.23
	Moderate	1.62	0.91-2.89	1.79	0.96-3.32
A Recent Sadden Event	3.59	2.24-5.75	3.55	2.15-5.87	
Miscarriage / abortion / stillbirth history	1.46	0.98-2.18	0.73	0.47-1.12	
Unplanned Pregnancy	1.64	1.15-2.35	1.29	0.87-1.92	

**Table 6.** Regression Analysis of Risks Caused by Emotional, Physical and Sexual Violence for Depression

Type of Violence		Beta	Odds ratio (OR)	%95 Confidence Interval	P
Emotional Violence	No	ref.			
	Yes	1.61	5.01	3.24-7.75	<0.001
Physical Violence	No	ref.			
	Yes	1.39	4.01	1.53-10.52	0.005
Sexual Violence	No	ref.			
	Yes	2.13	8.45	3.04-23.42	<0.001
Any kind of violence	No	ref.			
	Yes	1.58	4.87	3.18-7.48	<0.001

## DISCUSSION

In our study, the rate of IPV before pregnancy (throughout the marriage period) was found to be 24.1%. Regarding different geographical regions of Türkiye, these figures were observed to vary between 13.4% and 47.3%.<sup>11-13</sup> When the types of violence before pregnancy were further investigated, the ratio of emotional violence was 20.6%, physical violence was 8.6% and sexual violence was 4.2%. In a study conducted in the urban parts of the city of Elazığ, the rate of verbal IPV was 62.0%, the rate of physical IPV was 33.7% and the rate of sexual IPV was 16.9%.<sup>14</sup> Also, in another study conducted in the city of Edirne, 54.6% of the women were subjected to psychological violence, 30.4% of women suffered from physical violence and 6.3% of women were exposed to sexual violence.<sup>15</sup> Since violence is a taboo in Türkiye, women may have problems in expressing it. In addition, questioning different IPV types in the studies and using different scales for IPV cause differences in the detected IPV rates.

Regarding studies in foreign countries, in Canada, the rate of IPV before pregnancy was 10.9%. However, in Lima, Peru, physical violence that women were exposed to throughout their lifetime was 34.2%, the ratio of emotional violence was 28.4% and sexual violence was 8.7% and in Pakistan detected IPV rates are even higher (80.0% emotional IPV, 44.0% physical IPV).<sup>16</sup> Therefore, these figures suggests that as the development level of a given country decreases, the IPV rate increases.

In this study observed rate of IPV during pregnancy was 17.5%. However, similar studies conducted in Türkiye had a rate vary between 4.67% to 11.0%. Such variance can be attributed to differences in the scales used to estimate the rate of violence. In studies utilizing the same tools as the current study, the ratio of violence was detected in Peru to be 21.5% and in Nicaragua. Ending intimate partner violence after pregnancy: findings from a community-based longitudinal study in Nicaragua<sup>17-18</sup> The ratio of developed countries states further variance, and results vary from 0.9 to 20.1%.<sup>19</sup>

In our study, emotional IPV was found to be 16.7% during pregnancy. This rate is 53.6% in a study carried out in Sivas, 52.6% in a study carried out in İzmir Ödemiş, 57.9% in Düzce.<sup>20-22</sup> It is thought that these differences can be due to the different scales utilized in the studies and differences in statements by the participants.

In the current study, the rate of physical IPV during pregnancy was found to be 2.8%.<sup>12</sup> However, there were similar studies conducted in Türkiye, which estimated the prevalence to vary from 4.8% to 28.5%. According to the WHO; the ratio of such violence varies between 1.0% and 28.0% in different countries.<sup>23</sup> The low rate in our study may be attributed to the possibility that a woman subjected to physical IPV during pregnancy may not have had a live birth because our study only included pregnant women



with live births.

In this study, the ratio of sexual IPV during pregnancy was found to be 3.3%. In Türkiye, the ratio varies between 3,8% and 24,7%. In developed and underdeveloped countries, there is a ratio between 0.9% and 30.0%.<sup>14,20</sup> It is thought that the rate found in our study is relatively low, as sexuality is a taboo in Türkiye.

In this study, regarding 69% of those exposed to violence in any period of their life, the rate of overall violence either decreased or completely ceased during pregnancy. On the other hand, pre-pregnancy violence is an important risk factor and it was observed that it is a confounding factor influencing violence to increase by 65 times. In the city of Manisa, 80% of the women reported that the violence decreased during their pregnancy.<sup>24</sup> In the city of Şanlıurfa, 21.9% of those who were subjected to violence before pregnancy also continued to experience violence.<sup>11</sup> According to another study conducted in Türkiye, 74.1% percent of women who suffered from pre-pregnancy violence were not exposed to any violence at all during pregnancy. According to the results of the survey conducted by the EU Fundamental Rights Agency (FRA) in 28 EU member countries in 2014, 42% of the women who were subjected to IPV were exposed to violence while they were pregnant.<sup>25</sup> As it is seen in the studies conducted in Türkiye, the rates of violence during pregnancy decreases. Pregnancy has emerged as a protective factor against violence; it is thought that the importance given to pregnant women and child especially in Türkiye reduces the violence.

In our study, there is no significant difference between age and IPV during pregnancy. Other studies conducted in Istanbul, Kars, and Jordan show similar results.<sup>26-28</sup> In contrast, in a study conducted in Peru, pregnant women older than 30 years were more victims of violence.<sup>17</sup> It is thought that age is not an important factor for IPV during pregnancy, but other age-related conditions (such as having children) may be effective.

In this study, there was no relationship between the educational level of the woman and IPV during pregnancy. There are similar results in related studies.<sup>11,12,28</sup> There are also studies that establish a link between primary and lower education levels and IPV during pregnancy.<sup>16,17,24</sup>

According to our study, the risk of IPV during pregnancy was found to be higher in women who were not related to their spouse. Due to the lack of similar studies in our country, no comparison could be made. It is thought that the relationship between the spouses is thought to reduce the exposure to violence because of fear of family reaction. In our study, the rate of working women is 10.6%, and the employment status of women does not pose a risk for IPV during pregnancy. While some studies support our findings there have been also studies showing that being unemployed increases the risk of IPV during pregnancy.

In our study and similar studies, there was no relation between family type and IPV during pregnancy.<sup>21</sup> There is also a study showing that pregnant women living in extended families are exposed to more violence.<sup>27</sup> According to the results of our study, it can be considered that family type is not an important risk factor for IPV during pregnancy.

In this study, no relation was found between the perception of income status and IPV during pregnancy.<sup>11,27</sup> Unlike our study, there are studies showing that women with low economic level are exposed to more violence during pregnancy.<sup>14,17</sup> Our study suggests that there is not any relation between income status and violence since the proportion of high-income groups among the participants was low, and the income of the majority was below the minimum wage.

To our knowledge, there have been no other studies investigating the relation between the duration of marriage and IPV. According to our findings, the risk of exposure to IPV increases during pregnancy as the duration of marriage

increases.

According to our study, there is a significant relation between depression and IPV. Depression in pregnancy is an important problem that affects maternal and newborn health and continues after pregnancy. Since our study included women, who gave birth in 24 hours and the depression scale evaluated symptoms for the last 7 day period; it was thought that birth stress might have increased the percentage of depressed women. So this situation can be inquired under the topic of having a recent sadden event, which was considered as one of the confounding factors. Later on in the analysis it was found the risk of depression was 4.60 times higher for those exposed to IPV during pregnancy. According to Stewart et al. violence during pregnancy is related to depression after pregnancy.<sup>29</sup> Ludermir et al. also state that emotional violence during pregnancy increased the risk of postnatal depression by 2.29 times.<sup>30</sup> Among the studies conducted in Türkiye, there was no study examining the relation between depression and IPV during pregnancy, but in line with the literature, violence in pregnancy poses a risk for depression in pregnancy.

### CONCLUSION

Women in Türkiye and the world are exposed to IPV during their marriage and pregnancy.

This study, which we conducted to investigate the prevalence of IPV on pregnant women in urban parts of Adana, and its effects on maternal mental health, indicates that women are exposed to violence in pregnancy regardless of their age and education level and despite the decrease in the level of IPV during pregnancy compared to pre-pregnancy, the rate of violence in pregnancy is high and no matter what the type of violence mothers experience, it will result in mental health problems.

### Conflict Of Interest

There is no conflict of interest.

### Ethics Approval

The necessary permissions were granted by the Adana provincial health directorate and Cukurova University. Besides, a project fund was received from Cukurova University Scientific Research Project Unit (TTU-2016-6411)

### Author Contributions

Idea-ED; Checking-EN; Data collecting-ED; Analysis-EN; Who wrote the article-ED.

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