

# Assessment of the COVID-19 Pandemic's Impact on Physical Intimate Partner Violence Against Pregnant Women in Ankara (Turkey): A Hospital-Based Study

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**Purpose:** A significant increase in physical intimate partner violence (IPV) cases has been reported from many countries during the COVID-19 pandemic, and particularly during lockdown periods. The current study's objectives are to define the COVID-19 pandemic's impact on physical IPV against pregnant women in Ankara.

**Patients and Methods:** During the one-year pre-pandemic and two-year pandemic, records of patients who sent by the judicial authorities to the Obstetrics and Gynecology Emergency Room (ER) at Ankara City Hospital were reviewed, and pregnant women who had been subjected to IPV were identified.

**Results:** Of pregnant women 19.1% in the pre-pandemic period, 29.4% in the first year and 51.5% in the second year of the pandemic period exposed to IPV. The mean age of IPV victims was  $28.8 \pm 6.5$  years. Most ER applications were in the evening hours (48.5%), and majority of assailants were the victim's husband (77.9%). Vast majority of victims were multigravida women (89.7%), and most of the traumas were localized in abdomen and genitalia (50%). Three of the women (4.4%) had miscarriage.

**Conclusion:** The increase in cases of IVP against pregnant women during the pandemic was striking, according to the current study. We think that this first study from Turkey on the IPV that pregnant women are exposed to during the pandemic can lead to extensive research focused on measures against IPV during pandemics, such as dissemination of telephone applications for IPV victims, increasing home visits by marriage therapists, and intensifying of education campaigns against violence.

**Keywords:** COVID-19, pregnancy, intimate partner violence, women

## Introduction

Unfortunately, until today it was not possible to prevent deaths and injuries caused by violence, despite the fact that violence is recognized as a serious crime in almost all legal systems.<sup>1</sup> The World Health Organization (WHO) has recognized gender-based violence as a critical public and clinical health problem and emphasized that health care providers' approaches can be lifesaving for women, girls, and other at-risk groups.<sup>2</sup> According to the WHO, 38% of femicides are perpetrated by a woman's male partner, and 1 in 3 women globally have experienced physical and/or sexual abuse at some point in their lives.<sup>3</sup> Since 1975, numerous forums have featured extensive discussion regarding the definition of femicide. In the most widely used version, femicide is defined as the murder of a woman or girl, specifically, because of their gender by a man, or by a woman who accepted the value judgments of men. Femicide can occur for a wide range of supposed reasons and take many different forms, including intimate partner femicide, killings of women accused of witchcraft or sorcery, so-called honour killings, killings during armed conflict, killings related to dowries, killings of aboriginal and indigenous women, killings based on sexual orientation or gender identity, and more.<sup>4</sup> Many risk factors for intimate partner violence (IPV) and femicide, one of the main components of violence against

women, have been reported in previous studies, and pregnancy of a woman significantly ranks among these risk factors.<sup>4–7</sup> IPV is more likely to occur when there is spousal jealousy or anger toward the fetus, and new or ongoing violence against the woman may start when she is pregnant.<sup>8</sup> IPV is more prevalent during pregnancy than during the postpartum period. The prevalence of physical IPV in pregnant women in various world countries<sup>9</sup> ranged from 1.6% to 78%. For the causes of these proportional inconsistencies, socio-economic and socio-cultural variations are responsible.<sup>10</sup> James et al reported that 13.8% of pregnant women were victims of physical abuse in various countries.<sup>11</sup>

IPV in pregnant women, particularly physical violence, is a significant risk factor for premature births, low birth weights, and mental development disorders in the fetus. Women who were exposed to physical violence were five times more likely to have a premature birth and nearly six times more likely to have newborns with low birth weight.<sup>12</sup>

As of 22 January 2023, the global coronavirus disease 2019 (COVID-19) pandemic had infected more than 664 million people and killed more than 6.7 million people.<sup>13</sup> The pandemic's effects, including widespread social isolation, forced accommodation, travel restrictions, and the closing of essential community facilities, have worsened various types of violence in society.<sup>14–21</sup>

In many countries in the world, domestic violence against women, children, and the elderly has been reported to have increased during the pandemic and especially during lockdown periods.<sup>21–24</sup> Many women were left alone at home with their abusive partners due to restrictive policies and interrupted support services during the pandemic, and in the first few months of the outbreak, IPV emergency calls increased by 60% in European United member states,<sup>18</sup> while they decreased in Portugal and Italy and remained unchanged in the Netherlands and Switzerland.<sup>22</sup> The governments of Portugal and Italy started a campaign to increase public awareness of domestic violence during the pandemic. They also developed tools that improve access to victims, such as a special email address, SMS hotline, and special telephone application, and they increased the number of allowances and staff assigned to shelters. However, the specific reason of the decline in IPV instances in Portugal and Italy could not be exactly determined due to the uncertain results of the measures taken, the underreporting of IPV instances, and the fact that some data were gathered through newspaper stories rather than official sources.<sup>23</sup> About 65.4% of women who experienced IPV during the pandemic stated that either experienced violence for the first time or witnessed an increase in the severity or frequency of violence compared to their previous experiences.<sup>25</sup>

Although the COVID-19 pandemic and pregnancy have each been identified as risk factors for the increase in violence against women, there are relatively few studies on how these two factors interact in the literature.<sup>26,27</sup> Tran et al reported that only one of the four studies looking into IPV against pregnant women during the COVID-19 pandemic assessed prevalence before and during the pandemic.<sup>28</sup> We have not yet found a study in the literature that looks at how the COVID-19 pandemic affects physical IPV for expectant women in Turkey and how much of this is reflected in the reporting as a forensic case.

The information in this study is the first to evaluate the prevalence of reporting as forensic cases before and after the COVID-19 pandemic among a hospital population sample of Turkish pregnant women exposed to physical IPV. The current study's objectives are to determine the prevalence of physical IPV among pregnant women who applied to Emergency Room (ER), including quarantine periods during the pandemic, and to describe changes in the characteristics of the assailant, violence, and victim during the pandemic.

## Material and Methods

The population of Ankara is 5,747,325 according to 2021. The Ankara Bilkent City Hospital Complex with a total bed capacity of 3633—the biggest in both Ankara and Turkey—has 518 beds set aside for the Obstetrics and Gynecology Hospital. On 14 March 2019, this hospital began providing services in an official manner. At this hospital, 4659 deliveries occurred in 2019, 14,049 in 2020, and 16,528 in 2021.

Almost exactly a year later, the first coronavirus case was reported in Turkey on 12 March 2020, and the first death occurred on 17 March. Lockdowns in Turkey were imposed in three phases: the first from March 25 to June 1; the second from November 17, 2020, to February 2, 2021; and the third from April 14, 2021, to July 1, 2021.

The landmark in this study was defined as 12 March 2020, the day that the first COVID-19 case was reported in Turkey. In quarterly intervals determined in accordance with this date, the data for the one-year period prior to the pandemic and the two-year period during the pandemic were evaluated. Since this hospital's activities began on

14 March 2019, the comparison data from periods prior to 2019 could not be used in the current study. This was identified as one of the limitations of the study.

In the first phase, the “forensic cases” had been referred to the ER by the judicial authorities for the preparation of forensic reports were identified among all cases admitted to the obstetrics and gynecology ER. In the second stage, pregnant women who were victims of IPV were identified among all forensic cases, and their ER records as well as forensic reports prepared by the forensic medicine unit were reviewed in detail.

Following that, the cases were classified into pre-pandemic and pandemic periods. In addition, were investigated the IPV characteristics of assault time, relationship between the perpetrator and the victim, number of pregnancies, period of pregnancy, location of wounds on the body of the victim, and if the victim had outpatient or hospital treatment.

## Statistical Analysis

Descriptive statistics for the studied variables (characteristics) were presented as count and percent. Comparisons of the proportions were performed by Z test for two proportions. In addition, Fisher’s exact test was also used for small sample size and proportions. Statistical significance levels were considered as 5% and MINITAB for windows (ver:14) statistical program was used for all statistical computations.

## Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Ankara Bilkent City Hospital’s 2nd Clinical Research Ethics Committee (Ethical Approval No: E2-22-1238; Date: 05 January 2022) approved for the current study, despite the fact that ethics committee approval is not necessary for retrospective studies using archive scanning that are conducted in Turkey. After ethical approval, the authors of the article who were knowledgeable of the patients the data were blinded for the authors who were uninformed of the patients and attached the data for this retrospective analysis to an Excel file.

## Results

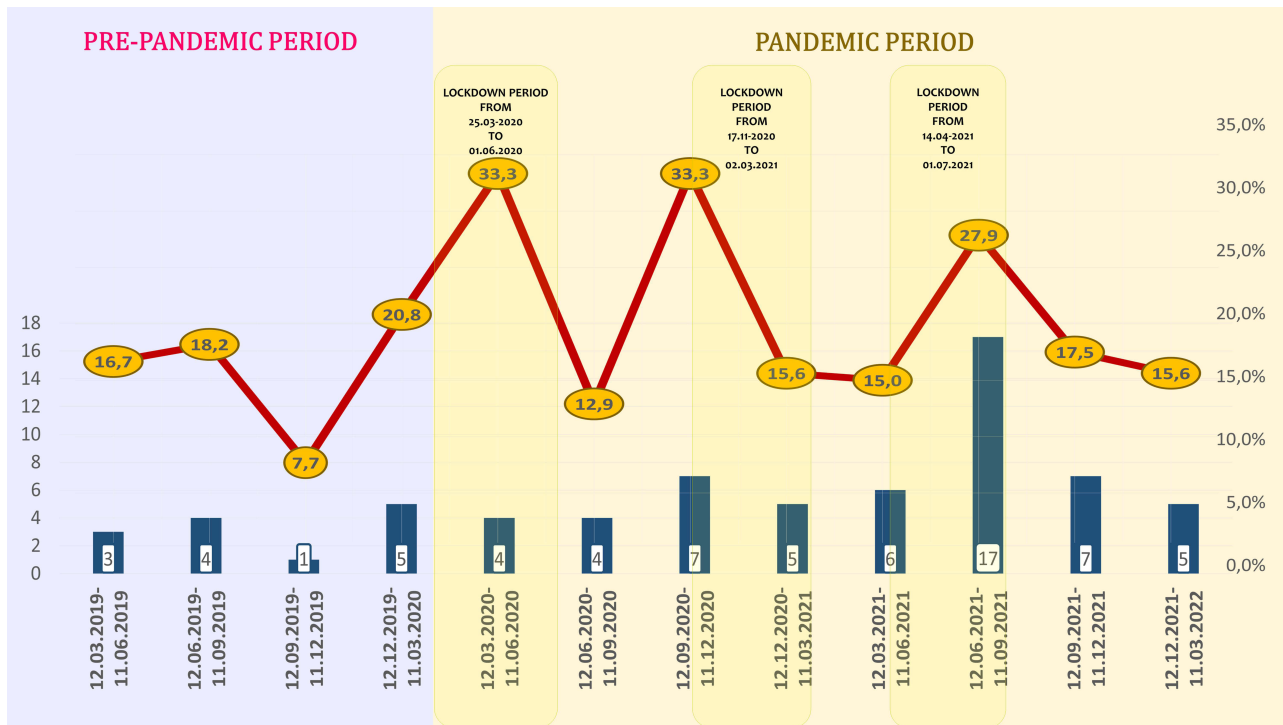
During the three years before and during the pandemic, 68 pregnant women experienced physical IPV. Thirteen (19.1%) of the ER applications were submitted prior to the pandemic, 20 (29.4%) during the first year of the pandemic, and 35 (51.5%) during the second year ( $p = 0.004$ ). Table 1 shows the rate of pregnant women exposed to IPV who were identified as forensic cases among the pregnant women treated in ER who have suffered other types of violence than IVP or unintended injuries and its prevalence among all pregnant women admitted to the ER. In comparison to the pre-pandemic period, the change in the rate of pregnant women exposed to IPV among all forensic cases in pandemic periods was not statistically significant ( $p = 0.507$ ). The rate of increase in IPV among pregnant women compared to the pre-pandemic period was 60% in the first year of the pandemic and 160% in the second year ( $p = 0.004$ ).

When the rates of pregnant women who applied to the ER due to physical IPV exposure were compared with those who applied at three-month intervals for other forensic cases, it was determined that the majority of these applications were during the isolation periods of the pandemic. This distribution was not statistically significant though ( $p = 0.991$ ) (Figure 1).

**Table 1** Prevalence of Pregnant Women Exposed to IPV

Prevalence	Pre-Pandemic Period		First Year of Pandemic Period		Second Year of Pandemic Period		Total		P-values*
	n	%	n	%	n	%	n	%	
Among pregnant women treated in ER who have suffered other types of violence than IVP or unintended injuries.	13/77	16.88	20/96	20.83	35/173	20.23	68/356	19.10	0.507
Among all pregnant women admitted to the ER.	13/24,613	0.05	20/25,123	0.08	35/27,336	0.13	68/77,072	0.09	0.004

**Note:** \*P-value significant at level  $\leq 0.05$ .



**Figure 1** The number of pregnant women who experienced IPV before the pandemic and during the pandemic, and their rate among all forensic cases coming to the Obstetrics and Gynecology ER.

The mean age of IPV victims was  $28.8 \pm 6.5$  years (range, 18–44; median, 28). Of IPV victims, 10.3% (n = 7) were between the ages of 18 and 20, 26.5% (n = 18) were between the ages of 21 and 25, 22.1% (n = 15) were between the ages of 26 and 30, 23.5% (n = 16) were between the ages of 31 and 35, and 17.6% (n = 12) were between the ages of 36–44 ( $p = 0.250$ ).

The victim’s husband was responsible for more than  $\frac{3}{4}$  of the attacks (n = 53; 77.9%) ( $p = 0.001$ ). In the first and second years of the pandemic, the rate of IPV committed by the husband increased from 46.2% to 85% and 85.7% ( $p = 0.009$ ), respectively, while the rate of IPV committed by the ex-partner decreased from 46.2% to 10% and 5.2%, respectively ( $p = 0.005$ ) (Table 2).

Most ER applications of pregnant women due to physical IPV occurred on Sunday (19.1%) ( $p = 0.143$ ) and between the hours of 18.01 and 24.00 (48.5%) ( $p = 0.001$ ) (Table 3). The distribution of cases according to the days and hours before and during the pandemic showed no statistically significant difference ( $p > 0.05$  for each).

Vast majority of the pregnant women who had been subjected to physical IPV were pregnant for at least a second time (89.7%) ( $p = 0.001$ ). The majority of them experienced violence during the second trimester (39.7%) ( $p = 0.144$ ). The abdominal and genital region was most common trauma locations (50%), followed by the head/face/neck region (30.9%) ( $p = 0.007$ ). Of the victims, 23.5% were hospitalized, while the majority of them (76.5%) received outpatient treatment ( $p = 0.001$ ) (Table 4). As a result of the complications brought on by the violence they experienced, 3 (4.4%) of the pregnant women exposed to physical IPV miscarried.

**Table 2** Distribution of Assailants

Assailant	Pre-Pandemic Period (n = 13)		First Year of Pandemic Period (n = 20)		Second Year of Pandemic Period (n = 35)		Total (n = 68)		P-values*
	n	%	n	%	n	%	n	%	
Husband	6	46.2	17	85.0	30	85.7	53	77.9	0.009
Boyfriend	1	7.7	1	5.0	3	8.6	5	7.4	0.599
Ex-Partner	6	46.2	2	10.0	2	5.7	10	14.7	0.005

**Note:** \*P-value significant at levels  $\leq 0.05$ .

**Table 3** Distribution of Pregnant Women Affected by Violence by Months, Days and Time Intervals

	Pre-Pandemic Period (n = 13)		First Year of Pandemic Period (n = 20)		Second Year of Pandemic Period (n = 35)		Total (n = 68)		P-values*
	n	%	n	%	n	%	n	%	
<b>Day</b>									
Monday	1	7.7	3	15.0	5	14.3	9	13.2	0.486
Tuesday	1	7.7	2	10.0	5	14.3	8	11.8	0.486
Wednesday	1	7.7	5	25.0	5	14.3	11	16.2	0.155
Thursday	2	15.4	2	10.0	6	17.1	10	14.7	0.538
Friday	2	15.4	2	10.0	3	8.6	7	10.3	0.538
Saturday	3	23.1	2	10.0	5	14.3	10	14.7	0.502
Sunday	3	23.1	4	20.0	6	17.1	13	19.1	0.656
<b>Time of Day</b>									
Between 00:01–06:00	1	7.7	2	10.0	8	22.9	11	16.2	0.139
Between 06:01–12:00	1	7.7	4	20.0	3	8.6	8	11.8	0.289
Between 12:01–18:00	6	46.2	4	20.0	6	17.1	16	23.5	0.057
Between 18:01–24:00	5	38.5	10	50.0	18	51.4	33	48.5	0.415

Note: \*P-value significant at levels  $\leq 0.05$ .

**Table 4** Distribution of Characteristics of the Pregnancy, Trauma Localization and Hospitalization

	Pre-Pandemic Period (n = 13)		First Year of Pandemic Period (n = 20)		Second Year of Pandemic Period (n = 35)		Total (n = 68)		P-values*
	n	%	n	%	n	%	n	%	
<b>Number of Pregnancy</b>									
Primigravida	3	23.1	3	15.0	1	2.9	7	10.3	0.055
Multigravida	10	76.9	17	85.0	34	97.1	61	89.7	0.093
<b>Period of Pregnancy</b>									
1st Trimester	5	38.5	6	30.0	8	22.9	19	27.9	0.306
2nd Trimester	4	30.8	6	30.0	17	48.6	27	39.7	0.162
3rd Trimester	4	30.8	8	40.0	10	28.6	22	32.4	0.883
<b>Location of Trauma</b>									
Abdomen /Genitalia	6	46.2	13	65.0	15	42.9	34	50.0	0.139
Head / Face	3	23.1	5	25.0	13	37.1	21	30.9	0.018
Other Regions	4	30.8	2	10.0	7	20.0	13	19.1	0.232
<b>Treatment</b>									
Outpatient	10	76.9	16	80.0	26	74.3	52	76.5	0.622
Hospitalized	3	23.1	4	20.0	9	25.8	16	23.5	0.622
P-values*		0.001		0.001		0.001		0.001	

Note: \*P-value significant at levels  $\leq 0.05$ .

## Discussion

The present study's IPV prevalence (0.09%) among all pregnant women admitted to the ER was considerably lower than previously reported prevalences (1.6% to 78%).<sup>10</sup> We considered that lower IPV prevalence in the current study was caused by the fact that the women who can express themselves more easily in previous survey studies hid the majority of their physical IPV because of numerous variables in their hospital admissions. These factors had to do with feelings of socioeconomic inadequacy, the belief that physical abuse would not be repeated, the potential for psychological problems in their children, the challenges they would face in medical and forensic procedures, and the potential for social pressures.<sup>29</sup>

Both the COVID-19 pandemic and pregnancy have been identified as risk factors for IPV in pregnant women. According to previous studies, the frequency of pregnant women who were exposed to IPV during the COVID-19 pandemic increased from 10.5% to 15.1% in Ethiopia,<sup>27</sup> whereas it declined in Jordan<sup>26</sup> and Brazil.<sup>26,28,30</sup> According to a different survey study from Ethiopia, 25% of pregnant women felt an increase in IPV after the COVID-19 outbreak.<sup>31</sup> Survey studies demonstrating a decrease in IPV in pregnant women during the COVID-19 pandemic included quarantine processes in the early days of the outbreak but did not cover the end of the first year and second years of the pandemic, when the pandemic's secondary socioeconomic impacts became obvious.

The reason of the increase in IPV prevalence among pregnant women in the present study during the first year of pandemic (60%), and in particularly during the second year (160%), was associated with victims' and assailants' lifestyle problems reflecting in their homes. According to previous studies, risk factors that arose during the worldwide pandemic process, such as poverty, unemployment, financial stress, social isolation, and expanding economic inequality, may worsen people's mental health, lead to depression, and increase the tendency to use violence against vulnerable people.<sup>16,32</sup> Turkey's annual inflation rate was 11.8% in 2019 before the pandemic, but it increased to 14.6% in 2020, 36.1% in 2021, and 64.3% in 2022 after the pandemic. In the first year of the pandemic, dismissals were restricted through providing government support for businesses that had closed whilst these subsidies and limits were removed in the second year of the pandemic. All of these problems were thought to be potential causes of the IPV increase in the second year.

In previous studies, it was defined that 56.7% to 76% of assailants who commit violence on women and pregnant women were the victims' husbands, 1.3% to 6.7% were their boyfriends, and 6.7% were their ex-husbands.<sup>30,33,34</sup> Likewise, the majority of IPV against pregnant women was perpetrated by the husbands of the victims (77.9%) in the present study. The rate of IPV committed against pregnant women by their husbands significantly increased during the pandemic, whilst the rate of IPV committed by ex-partner decreased. We think that while husbands stay at home during the pandemic, the IPV perpetrated by them increases, whereas the IPV perpetrated by ex-partners is reduced by limiting their going out due to fear of infection of COVID-19 and forced quarantine periods.

According to a study from Iceland, the majority of women who needed ER because of IPV applied to ER between the hours of 08:00 and 16:00 (42.1%) and on weekends (42.9%).<sup>35</sup> Bernardino et al stated that the majority of the Brazilian women exposed to IPV applied to hospitals on the weekends (37.5%), but unlike the previous study, the majority of applications were done at night (60.5%).<sup>36</sup> The current study found that the majority of IPV for pregnant women occurred between 18:01 and 24:00 (48.5%) and weekends, which is consistent with the outcomes reported from Brazil.<sup>36</sup> No significant change in day or time was noticed before or during the pandemic.

It was reported that, multigravida pregnancies were more likely to experience perinatal-IPV than first-time mothers.<sup>37</sup> In the current study, vast majority of the pregnant women who had been subjected to physical IPV were pregnant for at least a second time (89.7%). No information was defined concerning the period of pregnancy where exposure to violence increased in the previous studies. The present study revealed that most women were exposed to trauma during the second trimester (the distribution according to trimesters is not statistically significant). In previous studies, it was reported that the head, face, and neck were the most common site of violence against women, followed by injuries of upper extremities.<sup>35,36</sup> In the current study, the abdominal and genital region was most common trauma locations (50%), followed by the head/face/neck region (30.9%). Because this study only included pregnant women who visited the Obstetrics and Gynecology ER, the incidence of abdominal and genital injuries was higher than that reported in previous studies. Likewise, 23.5% of the women admitted to the ER were hospitalized and 4.4% had miscarriage, indicating that pregnant women admitted to Obstetrics and Gynecology ER as a result of IPV had a very serious prognosis. Pregnant

women exposed to violence were shown to have complications like respiratory distress syndrome (27.5%), low Apgar scores (24.3%), the threat of abortion (26.9%), hypertension (22.7%), and preterm birth (19.2%).<sup>38</sup> It was reported that pregnant women who are exposed to violence are more likely to smoking, drinking, and drug misuse that can have serious long-term consequences on the development of fetus brain and mental health due to the stress factors associated with violence. Additionally, it was claimed that these children, whose mothers had been violent during their pregnancies, were more likely to commit violence and aggressively in the future.<sup>39,40</sup> For this reason, it is crucial to prevent violence against women, especially against pregnant women, and to create healthy future generations.

## Limitations of This Study

The study was conducted in a single hospital. Since this hospital's operations began on March 14, 2019, the comparison data from periods prior to 2019 could not be used in the current study.

Due to the fact that the study was a retrospective file scan and was not included in the patient records, it was not possible to determine the victim's level of education, duration of marriage, type of physical violence, use of alcohol and other drugs, and other risk factors that belonged to both the victim and the assailant.

## Conclusion

Despite the introduction of several national and global policies, it has not yet been possible to reduce violence against women in many countries all over the world. A significant increase in IPV cases has been reported from many countries in relation to the COVID-19 pandemic, and particularly during lockdown periods. IPV against pregnant women increased during the lockdowns, as was to be expected. It has been evaluated that the increase in the prevalence of IPV against pregnant mothers in the second year of the pandemic is associated with the rise in the violent tendencies that develops with the reflection of depression and deterioration in mental health caused by risk factors like poverty, unemployment, financial stress, social isolation, and widening economic inequality. As of today, it does not foresee to be possible to say for sure when this pandemic will end. Furthermore, it appears impossible to forecast whether a new pandemic will arise in the upcoming years.

As highlighted in the current study, it is important to prevent violence against pregnant women, especially by their husbands. In times of pandemic, it is recommended to dissemination of phone applications that will allow one-touch access for women exposed to violence and to increase home visits by marriage therapists, which will be funded by the states and provide free services. Additionally, education campaigns against violence in the home and at school need to be stepped up in order to prevent all forms of violence in society.

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## Disclosure

The authors report no conflicts of interest in this work.

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