



Review Article

Violence against women in the Covid-19 pandemic: A review of the literature and a call for shared strategies to tackle health and social emergencies

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ABSTRACT

The aim of this article was to conduct a rapid critical review of the literature about the relationship between violence against women (VAW) and the current COVID-19 pandemic.

After the screening process, a total of 42 articles were considered. Our review confirmed that the “stay at home” policies to contrast the pandemic have increased the problem of VAW, creating a “shadow pandemic within the pandemic”, as it was called by the United Nations. However, rigorous studies estimating the relationship between VAW and COVID-19 pandemic are scarce; most of the articles are commentaries, letters, editorials, and most of the published data derives from social media, internet, anecdotal evidence and helplines reports.

Health care systems should promote further investigations into the relation between VAW and COVID-19, to identify creative solutions to provide clinical care and forensic services for victims of VAW.

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1. Introduction

Violence against women (VAW) is a human rights violation and a universal issue, with great impact on victims, families, and communities [1]. In particular, intimate partner violence (IPV) is a specific type of VAW occurring in a family or a couple relationship that presupposes cohabitation. According to the World Health Organization (WHO), IPV can be perpetrated in various forms, including physical violence (beatings, torture, murder), sexual violence (unwanted intercourse, harassment), psychological violence (manipulation, threats, humiliations, intimidation), economic violence (obsessive control of finances; money subtraction) and stalking (persecution, obsessive control of phone calls or messages) [2,3].

Several authors have reported that women's requests for help at antiviolence centers because of IPV substantially increase after natural disasters, and that this increase lasts for an entire year following the catastrophic event [4–6]. A 50% increase in police reports of IPV after a natural disaster was observed by Norris [7].

Several studies have revealed, for example, an increase in IPV rates and severity in women living in areas affected by Hurricane Katrina in 2005 [8–10]. Specifically, Anastario and colleagues reported that the rate of IPV increased following the hurricane Katrina from 12.5% in 2006 to 34.4% in 2007 [8]. Moreover, Schumacher and colleagues [11] found that, six months after Hurricane Katrina, the proportion of women reporting psychological victimization increased from 33.6%–45.2%.

Several reasons have been suggested to explain why IPV rates increase after disasters. First, disasters may contribute to a reduced marital satisfaction and may reinforce aggressive behaviors to manage relational conflicts between intimate partners. Second, post-disaster stressors situations, such as the economic disruption or uncertainty or increase in mental disorders, could contribute to increased aggressive behaviors between partners. Third, disasters may limit the access to important supports for women, for example family members or friends, or to professional services that might aid women victims of IPV [12].

Given this background, increasing IPV rates are of particular concern during the current COVID-19 pandemic (caused by the acute respiratory syndrome coronavirus 2, SARS-CoV-2), because the outbreak has affected nearly every country worldwide, causing a significant negative impact in relation to health, economic and social aspects [13]. In this context, which represents a more prolonged health and social crisis than most of those studied, one can reasonably expect that IPV reports are even greater than those seen during previous natural catastrophic events.

The 'stay home, save lives' slogan, widely used to protect people from the SARS-CoV-2 infection, becomes a paradox in the context of domestic violence [6]. In this regard, perpetrators of IPV may exploit the COVID-19 lockdown restrictions introduced by many countries to increase their power and control over women, who, forced to spend their time at home, may be completely isolated and unable to seek help. In a document released on 26 March 2020, the World Health Organization (WHO) underlined that the restrictive measures enacted to contain and manage the COVID-19 emergency (e.g., quarantine, isolation, social distancing) could exacerbate the

risk of violence against women, including intimate partner femicides [14].

Our personal experience in SVSeD (Service for Sexual and Domestic Violence, Milan, Italy) during the Covid-19 pandemic has reinforced our belief that the impact of the COVID-19 social restriction on IPV victims is greater than assumed. Since the beginning of the COVID-19 pandemic and the related Italian national lockdown, we observed a substantial decrease in the number of women who asked for assistance at SVSeD. In particular, from February 24th to April 28th 2020, SVSeD offered emergency healthcare, forensic examination and psychosocial support to only 74 women victims of violence, among which 30 women asked for help because of sexual violence and 44 because of IPV. In the same period in 2019, SVSeD assisted 141 victims, of whom 66 were admitted for sexual violence and 75 for IPV, so there has been a clear drop in access which is estimated at around 50%. This drop in new accesses to SVSeD during the COVID-19 Italian lockdown should not be interpreted as a decrease in the cases of IPV, nor in complete contrast with the increased trend in calls to helplines described by the Italian National Department of Equal Opportunities [15]. We interpreted this data as a huge limit for women in requesting for help, and consequently the negative implications of the pandemic on victims could be even greater than imagined.

Given this background, the main aim of this article is to conduct a rapid critical review of the scientific literature related to violence against women after the WHO COVID-19 pandemic declaration on March 11th, in order to highlight possible solutions to provide clinical/psychological care and forensic services for victims of IPV during the pandemic.

2. Materials and methods

2.1. Literature search and information sources

A literature search was conducted using the Medline Database (PubMed.gov; US National Library of Medicine National Institute of Health) and EMBASE Database with free text protocols (i.e. "Domestic violence", "Sexual violence", "COVID-19", "Intimate Partner Violence") individually combined through the Boolean operator "AND" and by using Medical Subject Headings (MeSH) terms. Appropriate search terms were constructed by reviewing titles, abstracts, and key words of a sample of articles investigating VAW during the COVID-19 pandemic. Further studies were then identified by systematically reviewing the reference lists of the papers that were found in this search. At the same time filters such as full-text, publication date from March 2020 to November 2020, and English language were activated. No effort was made to retrieve the results of unpublished studies. Since only published data were considered and no experimental studies were conducted, the current research project was exempt from institutional review board approval.

2.2. Eligibility criteria and data collection process

The present rapid critical review was designed to provide a broad overview on the problem of VAW during the COVID-19 pandemic;

Table 1

Data extracted from papers included in the study after the literature search.

Authors, year	Month of publication	Journal	Type of article	Principal aims
[16]	April	Am J Emerg Med.	Article	To report the trend of calls denouncing VAW during pandemic
[17]	April	J Clin Nurs	Editorial	To identify strategies for the management of VAW during COVID-19 pandemic
[18]	April	Forensic Science International Reports	Report	To report the trend of calls denouncing VAW during pandemic
[3]	April	EClinical Medicine	Commentary	To identify strategies for the management of VAW during COVID-19 pandemic
[19]	April	Cad. Saudè Publica	Report	To report the trend of calls denouncing VAW during pandemic
[20]	April	Psychiatry Research	Article	To identify strategies for the management of VAW during COVID-19 pandemic
[21]	May	Int J Gynecol Obstet	Brief communication	To report the trend of calls denouncing VAW during pandemic
[22]	May	The Lancet	Correspondence	To identify strategies for the management of VAW during COVID-19 pandemic
[23]	May	JMIR Public Health and Surveillance	Article	To identify strategies for the management of VAW during COVID-19 pandemic
[24]	May	BMJ	Clinical news	To identify strategies for the management of VAW during COVID-19 pandemic
[25]	May	Indian J Med Ethics	Article	To identify strategies for the management of VAW during COVID-19 pandemic
[26]	May	Braz J Psychiatry	Article	To report the trend of calls denouncing VAW during pandemic
[27]	May	BMJ	Editorial	To identify strategies for the management of VAW during COVID-19 pandemic
[28]	May	Asian J Psychiatr.	Letter to the Editor	To identify strategies for the management of VAW during COVID-19 pandemic
[13]	May	Prim Care Companion CNS Disord	Commentary	To report the trend of calls denouncing VAW during pandemic
[29]	June	Int J Gynecol Obstet	Brief communication	To report the trend of calls denouncing VAW during pandemic
[30]	June	CMAJ	Commentary	To report the trend of calls denouncing VAW during pandemic
[6]	June	Australian Journal for General Practitioners	Article	To identify strategies for the management of VAW during COVID-19 pandemic
[31]	June	Medico legal journal	Original article	To report the trend of calls denouncing VAW during pandemic
[32]	June	Rhode Island Medical Journal	Contribution	To identify strategies for the management of VAW during COVID-19 pandemic
[33]	June	Int J Gynecol Obstet	Special communication	To report the decrease in the number of referrals for forensic examination and identify strategies for the management of VAW during the COVID-19 pandemic
[34]	June	European Radiology	Editorial	To raise awareness on the problem of IPV during the COVID-19 Pandemic among radiologists and to suggest strategies to identify victims/pandemic
[35]	June	Psychological trauma: theory, Research, Practice and Policy	Commentary	To raise awareness on the problem of IPV during the COVID-19 Pandemic
[36]	June	IJCEAS	Original article	To raise awareness on the problem of IPV during COVID-19 pandemic and to propose strategies to manage this sensitive issue.
[37]	July	Journal of Family Violence	Original article	To expose the potential reasons behind an increase in domestic violence cases due to Covid-19, and to propose strategies for the management of VAW during the COVID-19 pandemic
[38]	July	Violence Against Women	Commentary	To raise awareness on the problem of IPV during the COVID-19 Pandemic
[39]	July	Journal of Public Economics	Original article	To document the pandemic's impact on police calls for service for domestic violence.
[40]	August	Journal of Health Management	Article	To raise awareness on the problem of IPV during COVID-19 pandemic and to define the trend of calls denouncing VAW during COVID-19 pandemic
Rhodes et al., 2020	August	Cureus	Original article	To report the trend of access for IPV to Emergencies departments during the COVID-19 lockdown and to propose strategies for the management of VAW during the COVID-19 pandemic
[41]	August	Int J Gynecol Obstet	Review	To identify strategies for the management of VAW during the COVID-19 pandemic
[42]	September	World Development	Original article	To define the trend of calls denouncing VAW during the COVID-19 pandemic
[15]	September	J Women's Health	Commentary	To report the decrease in the number of referrals for forensic examination and to identify strategies for the management of VAW during the COVID-19 pandemic
[43]	September	Globalization nd Health	Commentary	To identify strategies for the management of VAW during the COVID-19 pandemic
[44]	September	NEJM	Perspective	To raise awareness on the problem of IPV during the COVID-19 pandemic and to propose strategies to manage this sensitive issue.
[45]	September	Psychiatry and Clinical neurosciences	Letter to the Editor	To raise awareness on the problem of IPV during the the COVID-19 pandemic and to propose strategies to manage this sensitive issue
[46]	September	Asian Journal of Psychiatry	Letter to the Editor	To raise awareness on the problem of IPV during the COVID-19 pandemic in Bangladesh.
[36]	September	JAP	Original article	To raise awareness on the problem of IPV during the COVID-19 pandemic
[47]	September	European Journal of Psychotraumatology	Short communication	To identify strategies for the management of VAW during the COVID-19 pandemic
[48]	October	Reproductive health	Original article	To raise awareness on the problem of IPV during the COVID-19 pandemic through the analysis of data collected through interviews and self-administered standard questionnaire
[49]	October	Asia Pacific Journal of Public Health	Original article	To identify strategies for the management of VAW during the COVID-19 pandemic
[50]	October	Social Sciences & Humanities	Commentary	To raise awareness on the problem of IPV during the COVID-19 pandemic
[51]	November	Forensic Science, medicine and Pathology	Original article	To identify strategies for the management of VAW during the COVID-19 pandemic

hence, the authors decided to include in the current review all types of publications reporting information related to VAW in the COVID-19 pandemic context, including original articles, opinion papers, commentaries, letters, editorials, and reviews.

With the aim to provide a wide perspective on VAW in the COVID-19 era, we decided to include in the review articles considering various outcomes (i.e. fatal or non-fatal events caused by domestic violence), different types of relationships between

victims and perpetrators of violence (i.e. current or former intimate relationship), and all forms of IPV (physical, sexual, emotional, psychological, economical). Papers related to children and adolescents, as well as papers reporting mainly psychiatric outcomes (such as for example studies examining the association between alcohol or substances abuse and the COVID-19 outbreak), were instead excluded from the current review.

Two authors (A.V. and G.B.) conducted an independent screening of all titles and abstracts retrieved to exclude irrelevant or duplicate citations. The full-text of the retrieved papers was analyzed. A data extraction form was designed and applied to each article to extract information on the first author's name, month of publication, journal, type of study, main subject of investigation, and proposed strategies for the management of VAW during the pandemic period.

3. Results

3.1. Study selection

During the electronic database research process, about 80 articles were identified as potentially relevant. Forty-two (42) papers fulfilled the inclusion criteria (i.e. relation between COVID-19 pandemic and violence against women) and were included in the review, as reported in Table 1.

The remaining articles were excluded because they dealt with psychiatric outcomes after the COVID-19 outbreak or with the maltreatment of children and the related consequences in the COVID-era, and consequently they were not pertinent to the purpose of the study.

Complete author agreement (A.V. and G.B.) regarding included and excluded studies was achieved.

3.2. Study characteristics

The characteristics of the selected studies are extensively reported in Table 1 in relation to the following variables: first author's name, month of publication, journal, type of study, main subject of investigation, and proposed strategies for the management of VAW during the pandemic period.

Among the selected papers, 17 consisted of articles, 21 consisted of correspondence, reports, commentaries, perspectives, letter to editor, clinical news, contribution and communications, 3 consisted of editorials and 1 is a review. No case reports were available.

Moreover, among the selected papers, 7 were mainly aimed at raising awareness on the problem of IPV during the current COVID-19 pandemic, 15 mainly dealt with the trend of calls denouncing VAW during COVID-19 pandemic, 20 mainly dealt with the proposal of new strategies for the management of VAW during a pandemic time. However, several papers dealt with more than one of the aforementioned issues (see Table 1 for detail).

3.3. Summary of results

3.3.1. Raising awareness on the problem of VAW during the current COVID-19 pandemic

Many studies provided warnings about the risk of higher domestic violence rates, as a direct consequence of the restrictions established by most of the countries all over the world to manage the pandemic [38,44,50,35,40,36,46].

The United Nations Population Fund predicted a 20% increase in IPV during the COVID-19 pandemic lockdowns in all the UN member countries [52]. Gebrewahd and colleagues [48] highlighted the problem of this "silent pandemic", assessing the prevalence of IPV during the COVID-19 pandemic in Northern Ethiopia, through a data collection using interviews and a self-administered

questionnaire for women of reproductive age. The authors found that the prevalence of IPV was at 24.6%, with psychological violence being the most prevalent form of domestic violence. For many women and children, being confined at home with a violent partner and parent is as dangerous—and for some, more dangerous—than the COVID-19 pandemic [38].

Evans and colleagues [44] pointed out how the pandemic has worsened women's economic dependence on the partner, by increasing job losses and unemployment, particularly among women of color and workers without a high education. Moreover, the social restrictions have also limited women's access to different sources of housing: shelters and hotels have reduced their capacity to host, and travel restrictions have prevented women's access to safer places [44]. This is a critical point because, very often, the most dangerous time for a female victim of IPV is immediately after leaving the relationship, when the risk of a lethal event is particularly high [35]. If shelters had to limit their capacity to host, because of the social distancing guidelines for protection against the spread of the SARS-CoV2, the consequence could be an increasing risk for women and their children of returning home with the abusive partner, particularly if alternatives, for instance for economic reasons, are not available [35].

Another point to be considered is related to the economic instability caused by the pandemic, which may increase conflicts within families. In particular, job loss or unemployment may exacerbate men's frustration, and this could lead to increased aggressive behaviors toward their partners [46].

Some authors [34,44] have emphasized the important role of the health system in preventing IPV. Women victims of IPV often seek medical assistance, but IPV injuries could be misinterpreted as routine trauma in a busy emergency department, especially if doctors are overwhelmed by coronavirus demands. There is an absence of valid policies enacted to make provisions for these situations [34]. On the other hand, most women who experience IPV simply do not ask for help. In these cases, health professionals have a unique opportunity to identify these women in health care services, to provide counseling and to connect women to the dedicated centers. Even this opportunity has often been limited during the COVID-19 pandemic, as health services had to cancel and/or reschedule nonurgent clinical visits, and consequently performing a safely screening for IPV victims became more difficult [44].

3.3.2. Trend of calls denouncing VAW during the current COVID-19 pandemic

In many countries all over the world a huge increase has been reported in the number of calls (comparing with the same period in 2019) from women subjected to violence by their intimate partner from the COVID-19 pandemic declaration in March 2020, when the recommendation for social distancing first issued in many countries [24]. The World Health Organization reported that, comparing April 2020 with the same month last year, the online inquiries to violence prevention support hotlines had also increased as much as fivefold [24].

The vast majority of observations related to the trend of calls denouncing VAW during the COVID-19 pandemic specifically derive from helpline calls [42,18,21,29,30,40,13,19,24,31], with only few articles based on police reports [16,30,39,27,26]. Two recent studies concern the casuistry of reference centers of assistance for violence against women, from both of which an important decrease in the number of referrals for forensic examination mainly emerges [15,33].

The United States National Domestic Violence Hotline highlighted that many women reported the advantages taken from the social restrictions related to the COVID-19 pandemic by their abusive partners to further limit their access to support

centers [21]. In addition to physical maltreatment, U.S. reports have also underlined that in some cases IPV perpetrators have used Covid-19 also as an indirect weapon against the victims, for example forbidding handwashing to increase the woman's fear of contracting the infection or forbidding medical assistance in case of need [18]. In Canada, trend of calls to the Vancouver Battered Women's Support Services have tripled, while in Alberta, crisis lines for IPV have reported a 30%–50% increase in calls [30].

Overall, a 60% increase in calls from women victims of IPV has been reported in the World Health Organization Europe member states [24]. In Italy, the Italian national network of shelters for women subjected to gender-based violence (D.I.R.E.) showed that from March 2 to April 5, 2020 there was a substantial increase (74.5%) of women's request for help. Moreover, only one quarter of the total requests included women reaching such a network for the first time in their lifetime, whereas in 2018 this proportion was as high as 78.0%, meaning that women are constantly controlled by their abusive partners and the opportunities for a disclosure of the maltreatment are reduced [29]. In France there is a reported increase of 30% in domestic violence [18]. In India, in April 2020, the National Commission for Women (NCW) reported a twofold increase in complaints related to IPV after the implementation of the national lockdown [28]. In Peru, an analysis performed using data on phone calls to the helpline for IPV found that the incidence rate of the calls increased by 48% between April and July 2020 [42]. In Brazil, data from the 180 Hotline provided by the Ministry for Women, Family, and Human Rights reported a 17% increase in the number of calls denouncing VAW in the month of March 2020, when the restrictive measures first issued in the country [19].

Police reports due to IPV have increased in Argentina, Canada, China, France, Germany, Italy, Spain, the UK and the USA [26]. In the Hubei province of China, Police reports showed a threefold increase of IPV cases in February 2020 compared with the same month last year. In the UK, female deaths from IPV between 23 March and 12 April had more than double, compared with the average rate in the previous years [27]. In the United States, the New York City Police Department reported a 10% increase in IPV reports compared to March 2019, the San Antonio Police Department reported a 18% increase in calls due to IPV in March 2020 compared to March 2019 [16].

Rhodes and co-workers (Rhodes et al. 2020) conducted a retrospective analysis of all the access for assaults during the COVID-19 lockdown (March 16–April 30, 2020), in all the emergency departments (ED) of the American College of Surgeons (ACS) verified rural level one trauma centers. With respect to the same period in the previous year, a statistically significant increase in assaults was found during the COVID-19 lockdown, particularly during the period after school closures. However, this increase is mostly related to penetrating injuries directed at white males by partners and unspecified nonfamily members, whereas assaults due to IPV perpetrated by husbands during the COVID-19 lockdown showed a dramatic reduction during the study periods.

This data is in line with our observation derived from a retrospective analysis of access in a public referral center for sexual and domestic violence located in an emergency department of a substantial (about 50%) reduction in the IPV victims' requests for help during the Italian lockdown [15].

Similarity, Johnson K and colleagues [33] pointed out that in the first 6 weeks of the UK's lockdown, the 47 sexual assault referral centers reported a 50% decrease in the number of access for forensic medical examinations after a sexual and gender-based violence.

However, although this trend seems contrary to the trend of calls to helplines for IPV, these observations should not be interpreted as a reduction of IPV victims, but as a dangerous limitation in women's request for assistance and as a negative consequence of the pandemic-related restriction measures.

3.3.3. Proposal of new strategies for the management of VAW during the current COVID-19 pandemic

The COVID-19 pandemic has been identified as a crucial turning point for the implementation of adequate guidelines for the protection of domestic violence victims, as well as for the proposal of new strategies for the management of VAW during pandemics. The “stay at home” policies have increased VAW itself, creating a “shadow pandemic within the pandemic”, as it was called by the United Nations, involving women who are obliged to tolerate abuse within the home because of lockdowns decided by Governments all over the world to mitigate the spread of the COVID-19 pandemic.

Since appropriate WHO protocols for the protection of domestic violence in case of pandemic have not been created yet, many authors have proposed different interesting strategies, including the use of mobile health and telemedicine as an effective technique to discuss and counsel the victim using yes or no questions [23,49,44,6,20,45,27,37,41,32].

Several other authors highlighted the importance of the implementation of a routine inquiry for the presence of IPV integrated into remote primary care consultations, with a specific training for physicians to recognize signs of violence [3,22,33,34].

Chandan et al., [22] pointed out the important role of the active syndromic surveillance from local health protection teams, as well as the implementation of linked datasets between police and health records datasets to identify individuals at risk.

Other interesting proposals are related to the development of apps to allow women to ask for help without needing to make phone calls and code words to alert pharmacists [24], to the expansion of free and easy access to national helpline services available 24/7, as well as to the implementation of web-based services for victims of violence [47].

Moreover, of pivotal importance are the maintenance and support of both clinical and forensic services for survivors of violence despite the modifications to the provision of health care services because of the new needs due to the COVID-19 pandemic [28,17,51,36,43], as well as the redefinition of safe shelters [25].

4. Discussion

4.1. Summary of key findings

The current rapid critical review of the literature revealed that there is a higher risk of domestic violence, as a direct consequence of the restrictions established by most of the countries all over the world to manage the COVID-19 pandemic. Several studies reported a huge increase in the number of calls (comparing with the same period in 2019) from women victims of IPV from March 2020. However, rigorous studies estimating increases in reporting of VAW during COVID19 pandemic are scarce, as with earlier outbreaks such as the Ebola and Zika which also shored up serious consequences for women. In addition, among the papers included in the investigation dealing with the trend of calls denouncing VAW during COVID-19 pandemic, most of the published data derives from social media, the internet, anecdotal evidence and helplines reports and only few studies concern casuistry from police reports.

As the world is trying to cope with the current COVID-19 crisis by enforcing lockdown measures, many countries resorted to 'stay at home' orders. However, the 'stay home, save lives' mantra, which protects the public from COVID-19 infection, becomes a paradox in the context of domestic violence [21,6,16]. Measures to minimize the spread of the infection reinforce environments that facilitate behaviors perpetrated by one person within an intimate relationship to exert power over and inflict physical, psychological or sexual harm on another. The stress of confinement, financial

uncertainty, attitudes about gender roles and a desire for control during disasters all contribute to an increased risk of IPV [30].

Data derived from an analysis of the requests for help at antiviolence centers during the lockdown period [15,33] showed a substantial reduction in the IPV victims' requests for help, revealing a trend contrary to the data published on most of the papers retrieved from the literature review, with the objective to increase awareness on the problem of IPV during the current pandemic. This observation should not be interpreted as a reduction in IPV cases. Requests for help may decrease if movements are restricted, and/or where access to quality essential services is limited, or being administered differently, as a result of social distancing (e.g. counselling by phone, emails or other platforms), even if the reference center continued to operate at full capacity, without being affected by the need to relocate healthcare professionals due to the emergency.

The plummeting of the accesses of women seeking both medical care and safety from abuse to antiviolence centers observed during COVID-19 pandemic could be linked not only to mobility constraints, but also to fears of contracting the virus, as some centers could be located inside a hospital [15]. This situation of difficulty or inability to access to hospitals and reference centers of assistance for violence against women could also occur in other contexts or in case of other future calamities, in which the hospitals might become inaccessible, such as terrorist attacks [53], so that authorities must find timely solutions to prevent this from becoming an obstacle for women victims of IPV.

4.2. Implications for practice and future research

In light of the aforementioned results, we can deduce that the next step is to find strategies to reverse the trend of accesses to the antiviolence centers. This crucial need also emerged from the performed literature search, since most of the selected papers dealt with proposal strategies for the management of VAW during the COVID-19 pandemic [54,17,20,22,25].

We have to learn from the recent past, taking a cue from the critical issues that emerged during the actual COVID-19 pandemic regarding the assistance of women victims of violence, in order to develop effective strategies that can also be adapted to other emergency situations.

According to Zero and Neil, the healthcare system should respond with innovative telehealth interventions performed by a multidisciplinary team [32,6], including a preliminary evaluation and a planning of all the interventions, including clinical, forensic, psychological, social and legal aid. As regard to the collection of the forensic evidences of violence, which cannot obviously be done telematically, it seems also reasonable to organize and provide such a service outside the context of a healthcare center (if the victim does not need urgent clinical attention), to improve women's accessibility.

4.3. Strengths and limitations of the review

The authors searched Medline and ENBASE databases, which are appropriate for the topic under investigation, i.e. the relationship between VAW and the current COVID-19 pandemic.

A limitation of the current review is that it is not a systematic review, as the authors did not perform a rigorous assessment of the quality of the included studies, nor use a systematic method to extract and analyze data from the studies. However, most of the studies retrieved on the topic under investigation were commentaries, opinion papers, communications, with only few studies reporting original data. The information from the studies was summarized and conceptually organized by themes based on relevant issues emerged from the analysis of the literature. This method of analysis appears appropriate considering the scope of

the review, which is providing a wide perspective on the relationship between VAW and the current pandemic. The results were then critically synthesized and interpreted, to allow a critical overview of the problem.

5. Conclusions

While quarantine is an effective infection control measure, it can lead to significant health, social, economic and psychological consequences. COVID-19 and violence against women are inter-related pandemics, and health care system should learn from the actual tragic scenario in order to identify creative solutions to provide clinical care and forensic services for victims of violence, and to be able to face other future calamities, in which the hospitals might become inaccessible.

Credit authors statement

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript. Furthermore, each author certifies that this material or similar material has not been and will not be submitted to or published in any other publication.

Authorship contributions

Viero A. and Barbara G. contributed equally to this work and should be considered as co-first authors

Conception and design of study: Viero A, Barbara G;
acquisition of data: Viero A, Barbara G analysis and/or interpretation of data: Viero A, Barbara G, Montisci M, Kustermann A, Cattaneo C.

Drafting the manuscript: Viero A, Barbara G;
revising the manuscript critically for important intellectual content: Viero A, Barbara G, Montisci M, Kustermann A, Cattaneo C
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Declaration of Competing Interest

Authors have no conflict of interests.

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