Assessment of post-traumatic stress disorders in women victims of intimate partner violence: a mixed methods comparison at initial care in coordinated and uncoordinated care facilities in France

Noémie Roland (noemieroland@orange.fr)
La Maison des femmes

Noëlla Delmas
Sorbonne Université, INSERM, Institut Pierre Louis d’Épidémiologie et de Santé Publique

Fabienne El-Khoury
Sorbonne Université, INSERM, Institut Pierre Louis d’Épidémiologie et de Santé Publique

Alice Bardou
La Maison des femmes

Leila Yacini
Centre de Santé Municipal “Les Moulins”

Laure Feldmann
Centre de Santé Municipal “Docteur Pesqué”

Ghada Hatem
Centre Hospitalier de Saint Denis

Sarah Mahdjoub
Sorbonne Université, INSERM, Institut Pierre Louis d’Épidémiologie et de Santé Publique

Marc Bardou
Université Bourgogne Franche Comté, UFR des Sciences Santé

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Abstract

**Background:** Intimate Partner Violence (IPV) has serious consequences on the mental health of victims-survivors such as Post-Traumatic Stress Disorder (PTSD). « La Maison des Femmes » (MdF, Women’s Home) is a French original medical and social structure specifically dedicated to provide multidisciplinary care for victims-survivors of IPV. The main objective of this study was to examine the prevalence of PTSD in victims-survivors of IPV consulting at the MdF or in two Municipal Health Centers (MHCs) located in the same area of the Paris conurbation.

**Methods:** We conducted an observational survey from July 2020 to June 2021 in the MdF and in two MHCs. All women aged 18 years and over having suffered from IPV were eligible. PTSD diagnosis was assessed using the PTSD self-report checklist of symptoms defined in the DSM-5 (PCL-5). We solicited data on the level of self-rated global health, the substances use, and the possibility of reaching women by phone in the 6 months following the inclusion visit. We also conducted qualitative interviews with a sub-sample of the women, asking for victims-survivors’ perceptions of the effect of the care provided at MdF and perceptions of their specific needs.

**Results:** A total of 67 women (mean age: 34 years old [Standard Deviation=9.7]) responded to our questionnaire (40 in the MdF, 12 in the MHC-1 and 15 in the MHC-2). PTSD diagnosis was retained for 40 women (59.7%) (PCL-5 score ≥33). The prevalence of PTSD was quite similar between the three groups. Around 30% of participants (n=23) self-rated their global health as bad or very bad, less than 30% (n=18) of women were regular smokers. Six months after inclusion, a half of participants (52.2%) had been reached by phone. Analysis of the nine qualitative interviews clarified victims-survivors’ perceptions of the MdF’s specific care: social networking, multidisciplinary approach, specialized listening, healthcare facilities, evasion and “feeling at home”.

**Conclusions** The prevalence of PTSD was high among the three centers. This mixed-methods comparison will serve as a pilot study for a larger comparative trial to assess the impact of the MdF on victims-survivors’ mental health outcomes comparatively with the impact of non-dedicated structures.

**Background**

According to the WHO, violence against Women (VaW) is a global public health matter with significant physical and mental health-related consequences for women (1). Intimate partner violence (IPV) is the most widespread form of VaW (2). Worldwide, around 30% of girls and women aged 15 and older have experienced IPV in their lifetime(3). IPV are associated with an increased risk of developing numerous short and long-term adverse psychological outcomes, including depression, generalized anxiety disorder, and Post-Traumatic Stress Disorder (PTSD) (4), a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event (5).

Women who experienced violence have specific needs, arising from the often-repeated and complex nature of the trauma (6). They also tend to accumulate other risk factors for poor mental health, such as economic insecurity, parenting stress and social isolation (7). In France, victims-survivors of IPV, especially the most socially disadvantaged women, face multiple barriers to healthcare access (8). Particularly, there is a lack of dedicated care facilities and providers trained in caring for these women’s specific medical, psychosocial, parenting and judicial needs. French Health professionals are strongly encouraged to ask their female patients about any experience of physical or sexual violence (9). But they have rarely received the specific training to deal with these
issues with confidence and professionalism, and often lack the resources to refer women victims of IPV to appropriate care facilities and health providers.

As described in a recent publication (10), « La Maison des Femmes » (MdF, Women's Home), established in 2016, is a medical and social structure specifically dedicated to provide individualized multidisciplinary care for victims-survivors of VaW, such as IPV. It offers care combining health, social and judicial aspects in a single structure. The MdF consists of 3 units: a Family Planning Center (FPC, consultations for contraception and abortions), a violence care unit (composed of doctors, midwives, psychologists, social workers, lawyers, police officers, and support groups) and a female genital mutilation care unit (surgeons and sex therapists). The MdF is located in the poorest department in mainland France, Seine-Saint-Denis, a department right next to Paris, where one in four women attending the FPCs suffers, or has suffered, from IPV (10).

Several structures providing coordinated multidisciplinary care, directly inspired by the model of the Saint Denis women's center, have been created in France. As the economic model has not yet been established, the question arises of evaluating the service provided by these coordinated care structures, particularly in terms of their capacity to improve the mental health and reduce the post-traumatic stress of women victims of IPV.

The main objective of this study is to examine individual characteristics, and the prevalence of PTSD, in victims-survivors of IPV consulting at the MdF or in two others FPCs located in the same area of the Paris conurbation.

**Methods**

**Data source and study population**

We carried out surveys from July 2020 to June 2021 in three Family Planning Centers (FPC): one in the Mdf, and 2 in Municipal Health Centers (MHC) from the same department (MHC 1 in Saint Denis, MHC 2 in Aubervilliers).

All women aged 18 years and over consulting in one of the three FPCs, having suffered or suffering from IPV and able to understand the objectives of the study were eligible (interpreters could be contacted by phone if necessary). Trained research assistants (RA) were available in each of the study centers to screen women for eligibility, explain the study, and ask for a written informed consent before recruitment. Women under 18 years old or under tutorship were excluded. RA also assisted participants in completing the questionnaire.

We contacted every participant by phone 6 months after.

**Outcome measures**

Data were collected using a self-administered questionnaire that included questions about participants' socio-demographic characteristics, as well as a range of health and substance use data.

The main outcome was a PTSD diagnosis, measured using the PTSD self-report checklist of 20 PTSD symptoms defined in the DSM-5 (PCL-5) (11). PCL-5 is a widely used self-administered questionnaire to detect and evaluate a PTSD, with a validated French version (12). Each item on this scale is rated on a five-point Likert scale reflecting severity of a particular symptom from 0 (not at all) to 4 (extremely) during the past month, with a threshold score of 33.
Other outcomes included: the possibility of reaching women by phone in the 6 months following the inclusion visit, the level of self-rated global health (Likert scale: “Very good”, “Good”, “Quite good”, “Bad”, “Very Bad”), the number of emergency visits in the past 6 months, the substances use: smoking status, alcohol (evaluated by the Alcohol Use Disorders Identification Test-Consumption/AUDIT-C (13)), drugs (“Did you use hypnotics, sleep pills, antidepressants or anxiolytics in the past 6 months?”), the readiness to change, the safety behaviors (evaluated by questions inspired by the Safety behavior Checklist (14)) and the help seeking behaviors in the past 6 months (evaluated by questions inspired by Van Parys et al. (15)).

Qualitative interviews

We conducted semi-structured interviews with a sub-sample of the participants in the MdF and in the MHC-1, according to the grounded theory. The qualitative interview guide included questions about: history of violence, women's perception of the effect of the care provided at MdF and in the MHC, women's perception of their needs and their mental and physical health. Interviews were anonymized, transcribed, analyzed and interpreted following practical guidance for conducting qualitative research (16).

Ethics

The Committee for the Protection of Persons of Ile de France 6 provided ethical approval for this study (reference number 92 – 19 NI Cat.3, file number 19.12.10.36712). As recommended by the WHO, our study paid particular attention to minimizing the risk affecting the safety of the respondents: confidentiality, safe climate at all time, informed consent, and basic care and support available locally for victims-survivors (17).

Analysis

Quantitative data analysis was conducted using SAS for Windows (version 9.4). To describe the socio-demographic characteristics, perceived social support, health and substance use indicators descriptive statistics was used consisting of frequency, percentage, and mean and standard deviation.

The qualitative data were analysed with NVivo V12 software using thematic content analysis. The transcribed text was coded, then the codes were sorted into categories and main themes, and illustrated using verbatim quotations.

Results

Sample description

A total of 67 women responded to our questionnaire: 40 in the MdF, 12 in the MHC-1 and 15 in the MHC-2.

The characteristics of study participants are described in Table 1. Most of the participants (57%) were aged below 35 years, with a mean age of 34 [SD = 9.7], and had at least one child (73.1%). Slightly more than half of participants (53.0%) were not born in France. Around 25% of participants (n = 17) declared having no one to turn to
for help or assistance if they needed it, while more than one third (n = 25) had at least two people to turn to for help.

Six months after inclusion, a half of participants (52.2%) had been reached by phone (65.0% in MdF, 25.0% in MHC1 and 40.0% in MHC2).
Table 1
Sociodemographic characteristics of study participants (n = 67)

<table>
<thead>
<tr>
<th></th>
<th>ALL (N = 67)</th>
<th>Maison des Femmes (N = 40)</th>
<th>MHC-1 (N = 12)</th>
<th>MHC-2 (N = 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
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<tr>
<td>Age (years) (n = 67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>33</td>
<td>29</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Ages (years, 4 classes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>14.9 (10)</td>
<td>20.0 (8)</td>
<td>0 (0)</td>
<td>13.3 (2)</td>
</tr>
<tr>
<td>25–34</td>
<td>41.8 (28)</td>
<td>52.5 (21)</td>
<td>25.0 (3)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>35–49</td>
<td>34.3 (23)</td>
<td>25.0 (10)</td>
<td>50.0 (6)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>≥ 50</td>
<td>9.0 (6)</td>
<td>2.5 (1)</td>
<td>25.0 (3)</td>
<td>13.3 (2)</td>
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<tr>
<td>In a couple (n = 67)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>49.2 (33)</td>
<td>50.0 (20)</td>
<td>50.0 (6)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>In a couple for (n = 32)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than a year</td>
<td>25.0 (8)</td>
<td>10.0 (4)</td>
<td>20.0 (1)</td>
<td>42.8 (3)</td>
</tr>
<tr>
<td>1–5 years</td>
<td>37.5 (12)</td>
<td>20.0 (8)</td>
<td>40.0 (2)</td>
<td>28.6 (2)</td>
</tr>
<tr>
<td>6–15 years</td>
<td>28.1 (9)</td>
<td>15.0 (6)</td>
<td>40.0 (2)</td>
<td>14.3 (1)</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>9.4 (3)</td>
<td>5.0 (2)</td>
<td>0 (0)</td>
<td>14.3 (1)</td>
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<tr>
<td>Has children (n = 67)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>73.1 (49)</td>
<td>67.5 (27)</td>
<td>83.3 (10)</td>
<td>80.0 (12)</td>
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<tr>
<td>Housing situation (n = 66)</td>
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<tr>
<td>Lives alone (tenant or owner of the house)</td>
<td>51.5 (34)</td>
<td>51.3 (20)</td>
<td>58.3 (7)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>Lives with (ex)spouse (tenant or owner)</td>
<td>13.6 (9)</td>
<td>18.0 (7)</td>
<td>0 (0)</td>
<td>13.3 (2)</td>
</tr>
<tr>
<td>(Ex)spouse alone (tenant or owner of the dwelling)</td>
<td>1.5 (1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Staying with family/friends</td>
<td>24.2 (16)</td>
<td>20.5 (8)</td>
<td>33.3 (4)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>Staying in a hostel</td>
<td>9.1 (6)</td>
<td>10.3 (4)</td>
<td>8.3 (1)</td>
<td>6.7 (1)</td>
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<tr>
<td>Born in France (n = 66)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47.0 (31)</td>
<td>43.6 (17)</td>
<td>50.0 (6)</td>
<td>53.3 (8)</td>
</tr>
<tr>
<td>Geographic origin (n = 62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>ALL N = 67 % (n)</td>
<td>Maison des Femmes N = 40 % (n)</td>
<td>MHC-1 N = 12 % (n)</td>
<td>MHC-2 N = 15 % (n)</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>North Africa</td>
<td>24.2 (15)</td>
<td>21.1 (8)</td>
<td>25.0 (3)</td>
<td>33.3 (4)</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>43.5 (27)</td>
<td>52.6 (20)</td>
<td>33.3 (4)</td>
<td>25.0 (3)</td>
</tr>
<tr>
<td>Caribbean/Americas</td>
<td>8.1 (5)</td>
<td>10.5 (4)</td>
<td>8.3 (1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Asia/Middle East</td>
<td>3.2 (2)</td>
<td>0 (0)</td>
<td>(0)</td>
<td>16.7 (2)</td>
</tr>
<tr>
<td>Europe outside France</td>
<td>4.8 (3)</td>
<td>5.3 (2)</td>
<td>(0)</td>
<td>8.3 (1)</td>
</tr>
<tr>
<td>France</td>
<td>16.1 (10)</td>
<td>10.5 (4)</td>
<td>33.3 (4)</td>
<td>16.7 (2)</td>
</tr>
<tr>
<td>Health coverage (n = 67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health insurance</td>
<td>44.8 (30)</td>
<td>37.5 (15)</td>
<td>66.7 (8)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>Social security</td>
<td>17.9 (12)</td>
<td>22.5 (9)</td>
<td>0 (0)</td>
<td>20.0 (3)</td>
</tr>
<tr>
<td>Universal Health Coverage (CMU)</td>
<td>25.4 (17)</td>
<td>30.0 (12)</td>
<td>16.7 (2)</td>
<td>20.0 (3)</td>
</tr>
<tr>
<td>State medical assistance (AME)</td>
<td>4.5 (3)</td>
<td>0 (0)</td>
<td>16.7 (2)</td>
<td>6.7 (1)</td>
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<tr>
<td>No coverage</td>
<td>7.5 (5)</td>
<td>10.0 (4)</td>
<td>0 (0)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Professional situation (n = 66)</td>
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<td></td>
<td></td>
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<tr>
<td>Inactive</td>
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<td>38.5 (15)</td>
<td>16.7 (2)</td>
<td>60.0 (9)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>13.6 (9)</td>
<td>10.3 (4)</td>
<td>25.0 (3)</td>
<td>13.3 (2)</td>
</tr>
<tr>
<td>Working</td>
<td>37.9 (25)</td>
<td>38.5 (15)</td>
<td>58.3 (7)</td>
<td>20.0 (3)</td>
</tr>
<tr>
<td>Student</td>
<td>9.1 (6)</td>
<td>12.8 (5)</td>
<td>0 (0)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Level of education (n = 67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No diploma</td>
<td>20.9 (14)</td>
<td>20.0 (8)</td>
<td>16.7 (2)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>French Baccalaureate or equivalent</td>
<td>16.4 (11)</td>
<td>20.0 (8)</td>
<td>8.3 (1)</td>
<td>13.3 (2)</td>
</tr>
<tr>
<td>Undergraduate (Bac + 2)</td>
<td>28.4 (19)</td>
<td>25.0 (10)</td>
<td>41.7 (5)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>Vocational education (CAP/BEP)</td>
<td>20.9 (14)</td>
<td>20.0 (8)</td>
<td>16.7 (2)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>Primary or elementary education</td>
<td>13.4 (9)</td>
<td>15.0 (6)</td>
<td>16.7 (2)</td>
<td>6.7 (1)</td>
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<tr>
<td>Monthly household income (n = 67)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>&lt; 850 €</td>
<td>37.3 (25)</td>
<td>37.5 (15)</td>
<td>25.0 (3)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>850 € à 1100 €</td>
<td>9.1 (6)</td>
<td>10.0 (4)</td>
<td>16.7 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>1100 € à 1800 €</td>
<td>35.8 (24)</td>
<td>30.0 (12)</td>
<td>41.7 (5)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>1800 € à 2500 €</td>
<td>10.5 (7)</td>
<td>12.5 (5)</td>
<td>16.7 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>ALL</td>
<td>Maison des Femmes</td>
<td>MHC-1</td>
<td>MHC-2</td>
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<td>--------------------------------</td>
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<tr>
<td></td>
<td>N = 67</td>
<td>N = 40</td>
<td>N = 12</td>
<td>N = 15</td>
</tr>
<tr>
<td></td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
</tr>
<tr>
<td>&gt; 2500 €</td>
<td>7.5 (5)</td>
<td>10.0 (4)</td>
<td>0 (0)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Support (n = 67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No one</td>
<td>25.4 (17)</td>
<td>22.5 (9)</td>
<td>33.3 (4)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>One people</td>
<td>37.3 (25)</td>
<td>45.0 (18)</td>
<td>25.0 (3)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>At least 2 peoples</td>
<td>37.3 (25)</td>
<td>32.5 (13)</td>
<td>41.7 (5)</td>
<td>46.7 (7)</td>
</tr>
<tr>
<td>Number of women that can be reached by phone 6 months after inclusion</td>
<td>52.2 (35)</td>
<td>65.0 (26)</td>
<td>25.0 (3)</td>
<td>40.0 (6)</td>
</tr>
<tr>
<td>Safety precaution (n = 67)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.0 (2)</td>
<td>2.5 (1)</td>
<td>8.3 (1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>2</td>
<td>10.6 (7)</td>
<td>10.0 (4)</td>
<td>8.3 (1)</td>
<td>14.3 (2)</td>
</tr>
<tr>
<td>3</td>
<td>19.7 (13)</td>
<td>17.5 (7)</td>
<td>25.0 (3)</td>
<td>21.4 (3)</td>
</tr>
<tr>
<td>4 (None)</td>
<td>66.7 (44)</td>
<td>70.0 (28)</td>
<td>58.3 (7)</td>
<td>64.3 (9)</td>
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<td>Willingness to change (n = 67)</td>
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<tr>
<td>0 (None)</td>
<td>26.9 (18)</td>
<td>27.5 (11)</td>
<td>25.0 (3)</td>
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</tr>
<tr>
<td>1</td>
<td>23.9 (16)</td>
<td>27.5 (11)</td>
<td>25.0 (3)</td>
<td>13.3 (2)</td>
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<tr>
<td>2</td>
<td>49.3 (33)</td>
<td>45.0 (18)</td>
<td>50.0 (6)</td>
<td>60.0 (9)</td>
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<td>Help seeking (n = 67)</td>
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<tr>
<td>0</td>
<td>7.5 (5)</td>
<td>7.5 (3)</td>
<td>0 (0)</td>
<td>13.3 (2)</td>
</tr>
<tr>
<td>1</td>
<td>6.0 (4)</td>
<td>5.0 (2)</td>
<td>16.7 (2)</td>
<td>0 (0)</td>
</tr>
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<td>9.0 (6)</td>
<td>7.5 (3)</td>
<td>0 (0)</td>
<td>20.0 (3)</td>
</tr>
<tr>
<td>3</td>
<td>25.4 (17)</td>
<td>22.5 (9)</td>
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<td>26.7 (4)</td>
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<tr>
<td>4</td>
<td>19.4 (13)</td>
<td>20.0 (8)</td>
<td>33.3 (4)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>5</td>
<td>22.4 (15)</td>
<td>20.0 (8)</td>
<td>16.7 (2)</td>
<td>33.3 (5)</td>
</tr>
<tr>
<td>6 (None)</td>
<td>10.5 (7)</td>
<td>17.5 (7)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

**Prevalence of PTSD**

Participants reported an average PCL-5 score of 37.1 (SD = 16.6) (Table 2). Forty women (59.7%) had a PCL-5 score of at least 33, which is the recognized cut-off value for defining the presence of PTSD diagnosis (Table 2). The prevalence of PTSD was quite similar between the three groups.
Table 2
Medical characteristics of study participants (n = 67)

<table>
<thead>
<tr>
<th></th>
<th>ALL (N = 67 % (n))</th>
<th>Maison des Femmes (N = 40 % (n))</th>
<th>MHC-1 (N = 12 % (n))</th>
<th>MHC-2 (N = 15 % (n))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score ≥ 33</td>
<td>59.7 (40)</td>
<td>57.5 (23)</td>
<td>60.0 (9)</td>
<td>66.7 (8)</td>
</tr>
<tr>
<td>Self-rated Global health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Bad</td>
<td>10.6 (7)</td>
<td>12.5 (5)</td>
<td>9.0 (1)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Bad</td>
<td>23.3 (16)</td>
<td>20.0 (8)</td>
<td>36.4 (4)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>Quite Good</td>
<td>25.8 (17)</td>
<td>25.0 (10)</td>
<td>27.3 (3)</td>
<td>26.7 (4)</td>
</tr>
<tr>
<td>Good</td>
<td>31.8 (21)</td>
<td>35.0 (14)</td>
<td>18.2 (2)</td>
<td>33.3 (5)</td>
</tr>
<tr>
<td>Very Good</td>
<td>7.6 (5)</td>
<td>7.5 (3)</td>
<td>9.0 (1)</td>
<td>6.7 (1)</td>
</tr>
<tr>
<td>Emergency Room visit(s) in the past 6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40.3 (27)</td>
<td>47.5 (19)</td>
<td>25.0 (3)</td>
<td>33.3 (5)</td>
</tr>
<tr>
<td>Active Smoker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>26.9 (18)</td>
<td>27.5 (11)</td>
<td>33.3 (5)</td>
<td>16.7 (2)</td>
</tr>
<tr>
<td>AUDIT-C ≥ 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7.5 (5)</td>
<td>10.0 (4)</td>
<td>6.7 (1)</td>
<td>0</td>
</tr>
<tr>
<td>Use of Psychotropic Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19.4 (13)</td>
<td>20.0 (8)</td>
<td>20.0 (3)</td>
<td>16.7 (2)</td>
</tr>
</tbody>
</table>

Health and substance use outcomes

Around 40% of participants (n = 26) self-rated their global health as a good or very good. The same percentage of participants reported consulting at an emergency room in the past 6 months.

Less than 30% (n = 18) of women were regular smokers, and only 7.5% of participants had a problematic alcohol use with an Audit-C score greater than or equal to 4, one out of five women used psychotropic drugs.

Qualitative data
For this pilot study, nine women have been interviewed (6 in the MdF, 3 in the MHC-1) (Table 3).

<table>
<thead>
<tr>
<th></th>
<th>Age (years)</th>
<th>Employment</th>
<th>Duration of the violence (years)</th>
<th>Marital status</th>
<th>Number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>MdF1</td>
<td>27</td>
<td>Inactive</td>
<td>3</td>
<td>Unmarried</td>
<td>1</td>
</tr>
<tr>
<td>MdF2</td>
<td>37</td>
<td>Active</td>
<td>6</td>
<td>Single</td>
<td>1</td>
</tr>
<tr>
<td>MdF3</td>
<td>41</td>
<td>Inactive</td>
<td>6</td>
<td>Single</td>
<td>0</td>
</tr>
<tr>
<td>MHC1</td>
<td>34</td>
<td>Active</td>
<td>9</td>
<td>Single</td>
<td>2</td>
</tr>
<tr>
<td>MdF4</td>
<td>43</td>
<td>Active</td>
<td>unknown</td>
<td>Single</td>
<td>3</td>
</tr>
<tr>
<td>MdF5</td>
<td>48</td>
<td>Inactive</td>
<td>13</td>
<td>Single</td>
<td>1</td>
</tr>
<tr>
<td>MdF6</td>
<td>34</td>
<td>Active</td>
<td>3</td>
<td>Single</td>
<td>0</td>
</tr>
<tr>
<td>MHC2</td>
<td>55</td>
<td>Inactive</td>
<td>2</td>
<td>Single</td>
<td>1</td>
</tr>
<tr>
<td>MHC3</td>
<td>30</td>
<td>Active</td>
<td>1.5</td>
<td>Single</td>
<td>1</td>
</tr>
</tbody>
</table>

They were aged 27 to 55 years old (mean age: 38.8), six were employed. Seven women had at least one child. Only one was in a couple, and they have suffered from domestic violence between 1.5 and 13 years (mean: 5.4 years) (Table 3).

With regard to the perception of difficulties encountered by the women victims of violence, four main themes emerged from the thematic analysis: a feeling of loneliness, the need to be listened to, the specificity of the symptoms of the victims-survivors, and the difficulties in accessing healthcare (Fig. 1).

“I spend all day long alone like this, with my thoughts, I don't know where to go, and I'm still turning in circles…” (MHC1)

“In fact I think we should be in a bubble with psychologists all the time [laughs] to be listened and to feel that we're not alone.” (MHC2)

“We need real professionals, who understand what we're going through” (MdF5)

“I wanted to go to another support group but I've been told that I have to wait because there are too many people… I cried not because there was no room for me but because we are so many, and there is no room for anyone…” (MdF3)

With regards to the perception of the specific care of the MdF, six main themes emerged. Four of them correspond to the four themes developed in Fig. 1: social networking, multidisciplinary approach, specialized listening, healthcare facilities, and the other two themes highlight additional advantages provided by the MdF: evasion, and “feeling at home” (Fig. 2).
“We live in a society where we are forced to believe that women are our competitors... But here we are sisters.” (MdF5)

“That’s what interested me here, being able to get out of my head and to concentrate on a physical activity [...] it makes it possible to find an appeasement, what I call a “air bubble” so I can restart” (MdF4)

“I’m in a house here, it’s a house that is made for us [...]. There’s a roof like a house, I mean it’s friendly, at first I said to myself “what am I doing here?” [...] and finally every time I come I can say everything, I feel like it won’t come out the walls, I feel like whatever I say I won’t be judged”. (MdF6)

**Discussion**

This study highlights the very substantial (66%) prevalence of PTSD symptoms in a sample of women who have experienced IPV and consulting at Family Planning Centers in the Parisian region.

**Prevalence of PTSD**

These results are consistent with those reported by other authors who have described an association between the exposure to IPV and the presence of PTSD (18,19). The prevalence of PTSD among victims-survivors of IPV varies depending on the studies and on the tool used to quantify PTSD, ranging from 33 to 84%, with a mean of 61% (20).

To assess the benefit of a multidisciplinary and cooperated approach on the mental health of the victims-survivors, as the MdF provides, a comparison between the three centers a few months after the inclusion with a repeated measure of PTSD would be advisable. The fact that the prevalence of PTSD at inclusion is nearly the same between the three centers in our study seems to eliminate the bias of centers, and encourages us to consider a larger comparative trial aiming to compare the MdF long-term impact on the mental health of victims-survivors with the one of standard-of-care structures. We were unable to contact a majority of women from the MHCs six months after inclusion, whereas two out of three women from the MdF had been reached. This could reinforce the fact that women may approve the care provided by the MdF more than the one provided by non-dedicated structures, but it will be an additional difficulty for a subsequent comparative trial.

**A multicomponent model**

The MdF is a structure that provides multicomponent trauma-informed and holistic care. Getting out of IPV is a process with multiple stages (21). Our qualitative results reinforce the fact that MdF seems to fit to the needs of the victims-survivors throughout their trajectory. MdF supplies essential interventions recommended by the WHO to prevent VaW (22). Theses interventions correspond to models presented as highly efficient to improve the mental health of IPV survivors (23). On the top of that, respondents also described the MdF as a warm place where they could escape from reality, a new concept that needs to be explored in the future.

**Strengths and limitations**
This is the first French study assessing the prevalence of PTSD in victims-survivors of IPV in MHCs and the MdF, being the first French structure dedicated to the care of women victims of violence. The high prevalence of PTSD outlined in our study justifies the need for launching larger quantitative and qualitative researches on the mental health of the victims. Indeed, this mixed-method study will serve as a pilot study for a larger comparative trial, the AVEC-L study, that aims to assess the impact of the MdF on victims’ mental health outcomes comparatively with the impact of non-dedicated structures.

However, this study has several limitations. Firstly, it was conducted in health facilities and therefore does not include women in IPV situations who do not have access to healthcare or those who face significant barriers to seeking care. Nevertheless, we do not believe that our population is biased towards more advantaged women. Indeed, even though limited, our sample embraces a wide range of situations, with 53% of women born outside of France, 37% having social security coverage reserved for those with no or limited social security coverage, suggesting that the facilities where the study was conducted have a broad recruitment base. Further, we did not collect data on other stressful or traumatic events. Moreover, health outcomes measured in this study are based solely on the women’s self-reported perceptions, rather than on possibly more valid clinical observations.

Conclusions

Our study showed a high prevalence of PTSD at initial care in the coordinated MdF center and in two non-coordinated centers among victims-survivors of IPV, and assessed the specific needs of the victims-survivors. This may serve as a basis for a larger study of the long-term impact of specialized care of the MdF on PTSD compared to the care in non-specialized structures.

Given the links between violence and women’s mental health found in this study, recommendations to encourage clinicians to inquire about their patients’ experiences of violence should be maintained. However, health care providers also need to be properly trained and informed to refer identified violence victims to appropriate adequate and trauma informed care. Future research needs to study the effect of trauma informed interventions such as the one offered at MdF on women’s mental health.

Abbreviations

FPC
Family Planning Center
IPV
Intimate partner violence
MdF
Maison des Femmes
MHC
Municipal Health Center
PTSD
Post-Traumatic Stress Disorder
VaW
Violence against Women
WHO
World Health Organisation
Declarations

Ethics approval and consent to participate

The Committee for the Protection of Persons of Ile de France 6 provided ethical approval for this study (reference number 92-19 NI Cat.3, file number 19.12.10.36712).

Trained research assistants ask every participant for a written informed consent before recruitment.

All methods were carried out in accordance with relevant guidelines and regulations or Declaration of Helsinki.

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and analyzed during the current study are not publicly available due to their containing information that could compromise the privacy/safety of research participants but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

NR, FE-K and MB conceived and designed the experiments. NR and FE-K performed the literature review. AB, LY, LF and GH collected the data. ND and NR analysed the data. NR and FE-K wrote the paper. ND, MB, SM and GH reviewed the paper.

Each author has confirmed compliance with the journal's requirements for authorship.

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**Figures**

![Diagram of Perceived Difficulties Encountered by Victims-Survivors of Violence](image)

**Figure 1**

Perception of the difficulties encountered by the victims-survivors of violence
Figure 2

Perceptions of the specific care of the Maison des Femmes