Addiction in Maternity: Mixed Methods Study on Substance Use During Maternity, Access to Services and Perceptions of Addiction in Maternity.

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Introduction

It is hard to imagine raising a child in a community faced with poverty, homelessness, precarious housing, overrepresentation in HIV statistics, sex trade workers and a lowered life expectancy (Canadian HIV/Aids legal Network, 2005; Spittal et al, 2006). The Downtown Eastside (DTES) in Vancouver, British Columbia is a stark and all too real example of a community left to deal with enormous social challenges, ones that are not conducive to raising a child and having a family. In the DTES, pregnancy and motherhood are often seen as a burden for women. Furthermore, it is difficult to live in violent, abusive relationships, but if those are combined with drug use, trauma, mental challenges and poverty, it’s hard to escape.

In the DTES, the drug scene is open and apparently thriving with estimations in 2003 by a capture recapture analysis performed by Vancouver Costal Health (VCH); the regional Health Authority in Vancouver, that around 4,700 of the DTES 16,275 residents (almost 30%) are injection drug users (IDUs). “Insite” the safe injection site in the DTES is known to be used by 8000 individuals. Those who use injection drugs have an increased risk of contracting blood borne diseases including Hepatitis B, C and HIV (Miller et al, 2007; Mohammadzadeh et al, 2007; Heimer et al, 2002). Women in the DTES face severe health consequences as a result of substance use, high rates of sexual abuse, exploitation and violence (El-bassed et al, 2001). Female Intravenous Drug Users (IDUs) have rates of mortality almost 50 times that of the province’s female population (Spittal et al, 2006) and are often engaged in indoor (working from within a brothel or private residence) or street level (considered survival) sex work. The sex work and drug market can overlap, leading to a higher likelihood of unprotected sex in order to insure a transaction (Gossop et al, 1995) or physical and sexual violence from clients or partners (El-Bassel et al, 2001). In terms of treatment, women-centered programming is virtually non-existent and this impacts women’s access to care. Women who use illicit drugs face stigmatization from society at large, which can affect the way they interact with the services that are available to them (Hanking, 2008; Kamarulzaman et al, 2008).

The development of problematic substance use and mental disorders can be related to sexual and physical abuse. In turn, women are more vulnerable to sexual assault and abuse while under the influence of substances. Trauma and re-traumatization are common (Gossop et al, 1995) and during pregnancy these risks and consequences are magnified (Murphy & Boyd, 2007). Further, women face social stigma, discrimination, and fear of losing their children, deterring them from seeking help (Macrory & Boyd, 2007). Lack of childcare and transportation are additional factors, which create barriers to access services. The consequences of addiction, and treatment not sought, can be expected to become even more profound as they carry forward to compromise the health and welfare of infants born to substance using mothers.

For women living with addiction and mental health issues the news of a pregnancy can be impossible to bear. 10-12% of pregnant women are diagnosed with a major depressive episode (often as a postpartum depression) while up to 70% of women report some depressive symptoms during or shortly after their pregnancy (British Columbia Reproductive Care Program, 2003), increasing the likelihood for a women in the DTES developing depressive symptoms post-delivery. The high standards for personal conduct applied to all pregnant women can seem impossible. No one feels this scrutiny, suspicion and punishment more acutely than women who use illicit
drugs (Beckett, 1995; Kearney, 1995; Kearney et al, 1994; Lieb & Sterk-Elifson, 1995; Murphy & Rosenbaum, 1999; Siegel, 1997). Because addicted women contravene the socially accepted norms set for them, they are subject to judgment and often experience discrimination. The experience of disclosing to providers or others, one’s status as a drug-using woman is difficult, as it often has negative repercussions for the woman. (Hanking, 2008; Kamarulzaman et al, 2008; Kearney et al, 1994; Murphy & Rosenbaum, 1999). This results in women avoiding any potential services provided for them, such as prenatal care and thus increasing the dangers on the unborn child.

The numbers of potential dangers to the fetus significantly increases in women who have precarious living conditions, limited or no emotional support and are exposed to multiple teratogens such as tobacco, alcohol and drugs. The dangers of tobacco smoking and alcohol on fetal development are widely known. While tobacco smoking is linked to low birth weight (Adamek et al 2007), alcohol consumption is linked to the far more serious fetal alcohol syndrome (FAS), which could result in organ dysfunction, growth defects, learning disabilities, a lower than average IQ and cranial dysmorphology (Eustace et al, 2003). Taking illicit drugs such as heroin, cocaine or methamphetamine during pregnancy can also place the fetus in real harm with low birth weight and neonatal withdrawal syndrome (Ackerman et al, 2010). In the longer term, the effects of the drugs taken while in-utero are unclear. Some studies have found that children born to heroin dependant mothers or fathers suffer significant neurological impairment and have higher rates of hyperactivity and behavioral difficulties (Ornoy et al, 2006). Also, children with drug using parents are more likely to use illicit substances themselves (Johnson & Leff, 1999). However, there is also strong evidence that the role of the environment the child grows up in attributing to these outcomes. Melchiior, 2007, found that children growing up in low socioeconomic environments are a predictor for increased risk of substance dependence and poor physical health in adulthood.

As result of the mothers substance use during pregnancy, many infants are born with withdrawal symptoms, also known of Neonatal Abstinence Symptoms (NAS). Methadone substitution is often used as part of a plan for opiate dependence, however, NAS from methadone often require medical treatment after birth. Substitution or other pharmaceutical treatments should usually be paired with psychosocial support. Voucher-based incentives have helped to promote abstinence in pregnant women who smoke (Higgins et al, 2004; Donatelle et al, 2000) and also for enhancing attendance in treatment programs for women who are taking methadone (Jones et al, 2001) or cocaine-dependant women. Social support intervention, reinforcement, incentive programs, group and individual counseling can all be used to improve outcomes (Jones, 2006; Elk et al, 1995; Higgins et al, 2004; Donatelle et al, 2000). The most successful approaches that take a combined approach to recovery are known to be effective.

Pregnancy and motherhood present excellent opportunities to intervene and help women in communities such as the DTES or comparable living conditions. As the women are likely to seek health care for their unborn child, an opportunity presents itself to offer and provide help in the form of addiction treatment, social and psychological care, as well as to provide education and teach basic parenting skills. For all potential parents, pregnancy is a serious life event. Whether it is a positive or a threatening event relates very much to community and professional support the parent has access to.

Vancouver has more to offer in terms of innovative services then many other communities, but much more is needed. Women in Vancouver who are using drugs during pregnancy may be able to access care through:

1. Fir Square unit at BC Women’s Hospital. Fir Square was established in 2003 and is the only unite of its kind in Canada. This unit caters to women who have problematic substance use during pregnancy. There are five ante partum and six post partum beds, helping to care for the immediate health of the child and create a discharge plan to help mothers get in touch with services in the community and ensure they have the support they need to raise a child. The
overall goal of Fir Square is to help the mothers keep their babies rather than have the child placed in the care of the Ministry of Children and Family. This is done through parenting classes, addiction and trauma counseling, and detoxification and stabilization programs. Unlike many other units that deal with substance-exposed newborns, the newborns are kept in the same room as the mother to help develop better bonding.

2. Sheway. This community service is for the pregnant women in the DTES community and includes regular General Practitioner (GP) care. Sheway, opened in 1993 and is a community-run program for pregnant women who use drugs, and women who have children under 18 months of age. It offers a range of social services from medical and nutritional care to access to music therapy as well as First Nations specific programs. They also provide lunches, run a food bank and offer counseling for the women enrolled in the program. Due to funding restrictions the services offered by Sheway are limited to 120 women.

3. Crabtree Corner Housing. Crabtree Corner is located in the same building as Sheway, although they are separate organizations. Crabtree Corner Housing provides transitional housing for pregnant women, new mothers, and women who are hoping to reconnect with their young children. The 12 available units provide women with support with their current and past substance use.

Outcomes and Goals

By reaching out to substance using women during pregnancy, the potential to provide comprehensive addiction treatment, prenatal care, social care and unmet housing needs is significantly increased. In order to explore the special needs of drug-using mothers, we conducted a quantitative and qualitative examination of the experiences, perceptions and attributes of women struggling with substance use/dependence during maternity. Our goal was to determine the accessibility and effectiveness of available resources, and the optimal strategy for changes in the support system for this vulnerable population.

As a long-term goal, we hope to develop rational and comprehensive psychosocial support strategies to augment potential pharmacological interventions for women struggling with substance abuse/dependence in the perinatal period. Such improved and tailored support strategies during pregnancy and early motherhood are expected to lead to reduced psychiatric comorbidity, and improved experiences of pregnancy and motherhood, leading to improvements in psychosocial outcomes for both mother and child. It is proposed that an initial social investment in intensive and comprehensive perinatal substance abuse/dependence treatment should have a significant positive impact on long-term health and social outcomes, as well as reduced demand on the community for health care and social services.

This study described the experiences of pregnancy and early motherhood for currently and/or former substance abusing/dependent mothers. We particularly interested in the circumstances of mothering, including histories of trauma, psychiatric comorbidity, addiction, and psychosocial histories. Within these domains, we tried to establish a timeline of each participant’s life history, particularly as it relates to their pregnancies and experiences of early motherhood; up to 5 years postnatal. We also delineated the mothers’ perceptions of psychiatric, medical, addiction, and social support resources available to them before, during and following pregnancy, as well as weaknesses identified by the services users. Finally, we investigated the link between past experiences such as their child custody status, involvement with their children, current psychopathology, substance use, employment, educational status, and the nature of their current social support system, to their current outcome. As a result
of this study we have gained a more comprehensive understanding of the experience and impact of substance
dependence and mental health in pregnancy, and therefore, we hope to identify tailored psychosocial interventions
that may serve as an adjunct to established pharmacological approaches.

The purpose of this study is to:

1. Support the women and their children through raising awareness on a very sensitive issue,

2. Have an exploratory look at the support they receive and what services may be needed,

3. Prepare and help clinical projects with evidence, and

4. Develop an interventional research design for early interventions in this population.

The generous grant from the Carraresi Foundation in Memory of Augusto Carraresi made this exploratory first
step possible.
Methods

Design, setting and participants

The Addiction in Maternity project was a descriptive retrospective study conducted in Vancouver, British Columbia between June 2009 and March 2010 among drug-using mothers. Eligible participants included mothers who were struggling with substances during pregnancy or early motherhood, had given birth in the past 5 years, and were 19 years of age or older at the time of screening. Child custody status and current addiction or type of substance dependence did not bear any influence on eligibility. A total of 33 mothers were screened according to DSM-IV criteria for current or lifetime substance dependence or substance use during their most recent pregnancy. The study received approval from the University of British Columbia and Providence Health Care ethics board.

Study recruitment posters were placed in a variety of settings that provided services to mothers struggling with addiction (i.e. BC Women’s Hospital, Vancouver Coastal Health Clinics, Downtown Eastside Women’s Centre). The research team also presented the study design and recruitment strategy to the staff of Sheway, the primary service provider for substance using mothers in Vancouver. From this meeting, it was suggested that the interviewers become more familiar with the study population by engaging in some of the activities during Sheway’s drop-in hours. In the initial recruitment period, the interviewers helped with child minding, organizing and distributing donations, food and other supplies, as well as accompanying some mothers and children to the park. The interviewers also set up a display booth during high volume drop in hours, presenting information about the study and screening interested mothers.

It was expected that once a small sub-group of participants had been successfully recruited through the above activities, the technique of snowball sampling would increase the sample. Snowball sampling involves the recruitment of new participants through referrals from previously enrolled participants (Kemmesies, 2000). The purpose of this sampling technique is to maximize the recruitment of participants from hard-to-reach populations, such as the current population of interest. At the end of each interview, participants were given the cards detailing the contact information of the study coordinator, and asked to share that information with any other women they thought might be eligible to participate. Realistically, only a few women were recruited through this method, in spite of the fact that many women were enthusiastic about the study and supportive of the recruitment process.

We had also planned to request the assistance of some outreach mental health teams to recruit potential participants, as they would be better able to locate and access these hard-to-reach populations. We connected with outreach staff from other studies, and received two referrals for eligible participants.

Interviews and questionnaires were conducted in private rooms at Sheway and Fir Square, as well as in participant’s homes to provide flexibility and comfort for participants. All participant documents were kept confidential by remaining in sealed envelopes on the interviewers’ person until the end of the interview shift. At the end of the shift all documents were stored in locked filing cabinets at the St. Paul’s Hospital main site.

Measures

This exploratory study collected data by combining qualitative techniques with quantitative instruments. Upon initial contact with participants, the research coordinator screened participants according to eligibility criteria. All 33 screened females met these criteria, and consented to participate in the study. Data are available for 31 of the 33 consented participants, as 2 females were unable to attend their scheduled appointment time, and could
not be reached to re-schedule. After providing written and informed consent, participants were asked to complete a series of standardized and validated self-report questionnaires followed by a semi-structured interview. The questionnaires required approximately one hour and the face-to-face interview varied in length of time (30 minutes to 1 hour) to complete. Participants received an honorarium of $20 per hour of participation.

**Questionnaire**

The purpose of the questionnaires was to gather objective information about participants current sociodemographic data, mental health status, substance use history, childhood abuse experiences, adult abuse experiences, and health services use currently and during pregnancy. Information collected in the questionnaires also guided the topics covered during the interviews. The questionnaire package was administered to all participants (n=33).

**Instruments included:**

a. **Demographic and Health Services Perceptions:** This survey was designed by the research team to garner a comprehensive description of the sample. Participants’ perception of health care resources and access to health care was a central component of this survey.

b. **The Symptom Checklist-90-R (SCL-90-R)** is a 90-item self-report questionnaire assessing psychological distress and symptoms of psychopathology during the past 7 days on nine different dimensions: somatisation, obsessive-compulsive, depression, anxiety, phobic anxiety, hostility, interpersonal sensitivity, paranoid ideation, and psychoticism. Each item is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). Additionally, three global indices can be obtained which reflect the severity of impairment: The Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST) (Derogatis 1997).

c. **The Childhood Trauma Questionnaire – Short Form (CTQ-SF)** (Bernstein et al., 2003) is a retrospective self-report inventory that assesses different types of maltreatment on five subscales: emotional abuse, emotional neglect, physical abuse, physical neglect, and sexual abuse. The CTQ has been shown to yield reliable and valid retrospective assessments of childhood abuse and neglect in substance-abusing adults with excellent test-retest reliability (31, 32) The questionnaire includes five items for each subscale as well as three items to assess minimization/denial. Each of the 28 items is rated on a 5-point Likert-type scale. For each subscale, the severity can be categorized as: none, low, moderate, severe, or extreme..

d. **Post-traumatic stress disorder Checklist-Civilian Version:** The PCL-C is a short self-report measure, which includes 17 items that are derived from the DSM-IV diagnostic criteria B, C, and D of the Post-Traumatic Stress Disorder. Each item can be answered on a 5-point Likert Scale indicating the level of distress that co-occurred with each PTSD symptom during the past 30 days, ranging from 1=not at all to 5=extremely. Hence, the total score for the measures ranges from 17-85. This is a tool validated for assessing PTSD symptoms in a non-military setting, (Weathers, 1994).

e. **Maudsley Addiction Profile (MAP):** The MAP is a brief questionnaire designed for substance abusing and dependent individuals, appraising problems in substance use, and health risk behavior over the past 30 days (Marsden et al, 1998).
f. CAGE: The CAGE is a 4-item questionnaire designed to screen for alcohol problem drinking (Ewing, 1984). Two or more positive answers are considered as an indicator of problem drinking.

g. Adult Trauma Question: is a single question survey designed to screen for experiences of abuse (sexual, physical, emotional) in adulthood. This allowed us to evaluate the types of trauma that occur for women struggling with substance use. The question is as follows: “as an adult, did any family, friends, or any other (stranger/acquaintances) abuse you”.

**Interview**

The aim of the face-to-face interview was to gather information from participants’ subjective experiences and life histories, as they relate to motherhood, psychiatric co-morbidity and substance abuse/dependence. The interviews were structured according to a topic guide (see Appendix). Interviews were administered until the point of data saturation (when no new information is garnered) and were completed for 27 of the 31 participants.

The interview domains were:
1. Participants’ pregnancy narrative,
2. Children’s post-natal outcomes,
3. Past mental health, substance use, and support networks,
4. Substance use during and after most recent pregnancy,
5. Childhood trauma history, and
6. Services: access, needs and perceptions.

Audio recordings of each interview were obtained, and transcribed. Transcripts were developed in Microsoft Word, by an independent technician, from the audio recordings and interviewers notes to produce a verbatim account of each interview. Identifying information was omitted from all recordings and notes to preserve the confidentiality of participants.

**Analysis**

For the quantitative part of the study, descriptive analyses were performed for frequencies and means values. Comparisons were carried out using Student’s t, Mann-Whitney U and Kruskal–Wallis tests for comparisons of means and Chi Square tests for comparisons of frequencies, depending on variable distribution.

The transcribed interviews were imported to a qualitative analysis software package, NVivo by QSR. The interviews were read and coded according to a thematic framework developed by the interviewers. During the coding process, interviews were modified and adjusted as novel themes emerged. Nodes were created from these themes and organized into the main categories relating to our research questions, extracting specific and detailed themes. Frequencies of coded themes and categories were extracted and described using select quotations.
Results: Quantitative Findings

Social circumstances in the last month

A total of 31 participants completed the questionnaires. The average age of women participating in this study was 31.9, and 16 (51.6%) identified themselves as First Nations/Aboriginal (Table 1). Participants’ marital status was single (n=14; 45.2%), or partnered (n=14; 45.2%). The majority of the women interviewed had some high school education or higher; 13 women had some high school and 2 had received their high school diploma, 8 women had some college, 4 were college graduates and one women had attended graduate studies. In general, women had some form of housing: 7(22.5%) had Public Housing, 11(35.4%) had subsidized housing, 8(25.8%) rented or owned, and 3(9.6%) reported not having any housing at the time of the interview. One participant reported currently working at a paid job, one reported working in the sex trade and none reported currently relying on illegal activities as source of income. Income from government support programs was reported by 28 (90.3%), however only 8 (25.8%) participants felt that they had enough financial support more than half of the time.

While growing up, 21(67.7%) participants reported having been in foster care at some point in their childhood and adolescence. Currently, 21(67.5%) and 18(58.1%) reported having some contact with their parents and siblings, respectively. Close long lasting relationships in life were mostly held with partners, children and friends. Only 11(35.5%) reported having this type of relationship with their fathers.

### TABLE 1: SOCIO-DEMOGRAPHICS

<table>
<thead>
<tr>
<th>Age (mean and standard deviation)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31.9</td>
<td>5.50</td>
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</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
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</tr>
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<tbody>
<tr>
<td>White</td>
<td>15</td>
<td>48.4</td>
</tr>
<tr>
<td>First Nations/Aboriginal</td>
<td>16</td>
<td>51.6</td>
</tr>
<tr>
<td>Black, African-Canadian</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>East Asian</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>South Asian</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Southeast Asian</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>West Asian</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hispanic, Latin American</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
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<th>%</th>
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<tr>
<td>Single</td>
<td>14</td>
<td>45.2</td>
</tr>
<tr>
<td>Divorced</td>
<td>2</td>
<td>6.5</td>
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<tr>
<td>Widowed</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Married</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Partnered</td>
<td>8</td>
<td>25.8</td>
</tr>
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<table>
<thead>
<tr>
<th>Education</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less grade 4</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Grade 5 to 8</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td>Some high school</td>
<td>14</td>
<td>45.2</td>
</tr>
<tr>
<td>High school diploma</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>Some College</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>College grad</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Grad studies</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>----------------------</td>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>6.5</td>
</tr>
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</table>

**Housing**

<table>
<thead>
<tr>
<th>Public Housing</th>
<th>7</th>
<th>22.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsidized</td>
<td>11</td>
<td>35.5</td>
</tr>
<tr>
<td>No housing</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td>Rent/own</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>Working at a paid job</td>
<td>1</td>
<td>3.2</td>
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</table>

**Source of Income**

<table>
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<tr>
<th>Governmental</th>
<th>28</th>
<th>90.3</th>
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</thead>
<tbody>
<tr>
<td>Employment</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Employment insurance or Workers Compensation</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Support from your family, friends</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Panhandling, squeegee</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Selling personal items</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Artistic activities on the streets</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Current Sex work</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>12.9</td>
</tr>
</tbody>
</table>

**How often she feels have enough money**

<table>
<thead>
<tr>
<th>More than half of the time</th>
<th>8</th>
<th>25.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half of the time</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td>Less than half of the time</td>
<td>15</td>
<td>48.4</td>
</tr>
<tr>
<td>Does not know</td>
<td>2</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**Foster Care**

<table>
<thead>
<tr>
<th>Living in Foster Care at any time</th>
<th>21</th>
<th>67.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact with parents</td>
<td>21</td>
<td>67.7</td>
</tr>
<tr>
<td>Contact with siblings</td>
<td>18</td>
<td>58.1</td>
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</tbody>
</table>

**Have close, long lasting, personal relationships with**

<table>
<thead>
<tr>
<th>Mother</th>
<th>21</th>
<th>67.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>11</td>
<td>35.5</td>
</tr>
<tr>
<td>Sibling</td>
<td>20</td>
<td>64.5</td>
</tr>
<tr>
<td>Partner</td>
<td>24</td>
<td>77.4</td>
</tr>
<tr>
<td>Children</td>
<td>25</td>
<td>80.6</td>
</tr>
<tr>
<td>Friends</td>
<td>24</td>
<td>77.4</td>
</tr>
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**Medical Services**

<table>
<thead>
<tr>
<th>Have a health care card</th>
<th>31</th>
<th>100.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a regular medical doctor/nurse practitioner</td>
<td>27</td>
<td>87.1</td>
</tr>
<tr>
<td>Feels have enough health care support and services to meet her needs</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Feels baby’s needs are being met with enough health care support &amp; services</td>
<td>28</td>
<td>90.3</td>
</tr>
</tbody>
</table>
### Treatment in the prior 30 days

<table>
<thead>
<tr>
<th>Service</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methadone treatment</td>
<td>11</td>
<td>35.5%</td>
</tr>
<tr>
<td>Self help group</td>
<td>7</td>
<td>22.6%</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>5</td>
<td>16.1%</td>
</tr>
<tr>
<td>Detox</td>
<td>1</td>
<td>3.2%</td>
</tr>
<tr>
<td>Mental Health team</td>
<td>8</td>
<td>25.8%</td>
</tr>
<tr>
<td>Inpatient treatment(hospital)</td>
<td>9</td>
<td>29.0%</td>
</tr>
<tr>
<td>Community support worker</td>
<td>16</td>
<td>51.6%</td>
</tr>
<tr>
<td>Addiction treatment</td>
<td>13</td>
<td>41.9%</td>
</tr>
<tr>
<td>Counselor or Psychologist</td>
<td>14</td>
<td>45.2%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>16.1%</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

### Social circumstances during pregnancy

Participants’ situations during their pregnancy are described in Table 2. Women gave birth at a mean age of 22.6 (SD=5.54). The majority of participants had one or two children (n=13; 41.9%), 10(32.3%) had three children, and 8(25.8%) participants had 4 to 8 children. Currently, 9(29.0%) participants do not have custody of any children; 16(51.6%) have custody of one child, and 6(19.3%) have custody of 2-4 children. During their pregnancy, 19(61.3%) mothers reported having support from the baby’s father and 21(67.7%) received support from social services. Most of them had a regular medical practitioner during the pregnancy 21 (87.1%) and felt they had enough health care and support services 23(74.2%).

Housing situation and sources of income for participants during their pregnancy were substantially different from their current situation. Currently only 3 women have no housing, and 26 have some form of housing whereas, during their pregnancy, no housing was reported by 11(35.5%) women, and the remaining were living in subsidized, public or rent/own. During their pregnancy, only 6(19.4%) women worked at a paid job, while government income was reported by 28(90.3%) women. Similarly 28(90.3%) of women reported currently receiving their income from the government. Sex work or illegal activities were mentioned as sources of income by 15(48.4%) women; sex work was reported by 9(29.0%) and illegal activities by 11(35.5%) of women.
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maternal Age (mean and standard deviation)</strong></td>
<td>22.6</td>
<td>5.54</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Housing</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Subsidized</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>No housing</td>
<td>11</td>
<td>35.5</td>
</tr>
<tr>
<td>Rent/own</td>
<td>10</td>
<td>32.3</td>
</tr>
<tr>
<td>No answer</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worked at a paid job</td>
<td>6</td>
<td>19.4</td>
</tr>
<tr>
<td><strong>Source of income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Governmental</td>
<td>28</td>
<td>90.3</td>
</tr>
<tr>
<td>Employment</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>Employment insurance or Workers Compensation</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Support from your family, friends</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Panhandling, squeegee</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>Selling personal items</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td>Artistic activities on the streets</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Sex work</td>
<td>9</td>
<td>29.0</td>
</tr>
<tr>
<td>Illegal activities</td>
<td>11</td>
<td>35.5</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td><strong>Total Number of Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>Two</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Three</td>
<td>10</td>
<td>32.3</td>
</tr>
<tr>
<td>Four</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Five</td>
<td>2</td>
<td>6.5</td>
</tr>
<tr>
<td>Six</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Eight</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Total Number of Children in Custody</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>9</td>
<td>29.0</td>
</tr>
<tr>
<td>One</td>
<td>16</td>
<td>51.6</td>
</tr>
<tr>
<td>Two</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Three</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Four</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Support received</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatives</td>
<td>14</td>
<td>45.2</td>
</tr>
<tr>
<td>Friends</td>
<td>15</td>
<td>48.4</td>
</tr>
<tr>
<td>The baby’s father</td>
<td>19</td>
<td>61.3</td>
</tr>
<tr>
<td>Your boyfriend</td>
<td>9</td>
<td>29.0</td>
</tr>
<tr>
<td>Social services</td>
<td>21</td>
<td>67.7</td>
</tr>
<tr>
<td>No support</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Had a regular medical doctor/nurse practitioner</td>
<td>27</td>
<td>87.1</td>
</tr>
<tr>
<td>Felt had enough health care support and services to meet her needs</td>
<td>23</td>
<td>74.2</td>
</tr>
</tbody>
</table>
Current services accessed and drug use

All participants reported having a BC Care Card, indicating each participant is enrolled with a Medical Service Plan (MSP), however possession of a BC Care Card does not grant any one special services. More importantly, most of the participants (n=27; 87.1%) currently have a regular medical doctor or nurse practitioner, indicating current access to health care. Throughout the sample many women considered their babies’ health care needs were currently being met (n=28; 90.3%); however, only 5 women (16.1%) felt they have enough health care support and services for themselves.

In the last 30 days, 13(41.9%) participants reported being in addiction treatment, and 11(35.5%) reported to have been on Methadone. 16 participants also received services from community support workers (51.6%). Regarding mental health services, 14(45.2%) participants had received services from a counselor or psychologist, 8(25.8%) were seen by a mental health team, and 5(16.1%) by a psychiatrist.

20 participants were found to have a problem with alcohol, with a mean for the sample of 1.9 for the CAGE assessment. Tobacco was the most often reported substance used in the past 30 days, with 27(87.1%) women smoking on average 26.4(SD=9.03) out of the 30 days. Stimulant use was reported by 12(38.7%) women, of whom 9 smoked crack on average 9.6(SD=11.46) out of 30 days, and 5 used cocaine powder on average 9(SD=12.19) out of 30 days (only 2 of whom injected it), and 5(16.1%) smoked crystal methamphetamine on average 9.4 (SD=11.52) out of 30 days. Heroin use in the last 30 days was reported by 4(12.9%) women. Substances used in the last 30 days are shown in Table 3.

<table>
<thead>
<tr>
<th>TABLE 3: CURRENT DRUG USE IN THE PAST 30 DAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td>Alcohol</td>
</tr>
<tr>
<td>Heroin</td>
</tr>
<tr>
<td>Cocaine Powder</td>
</tr>
<tr>
<td>Crack Cocaine</td>
</tr>
<tr>
<td>Cannabis</td>
</tr>
<tr>
<td>Crystal methamphetamine</td>
</tr>
<tr>
<td>Tobacco</td>
</tr>
<tr>
<td>Days injected drugs</td>
</tr>
<tr>
<td>Times injected</td>
</tr>
</tbody>
</table>

N = 32

* M &SD = average number of days in the past 30 days that an individual who indicated some form of substance use were using the described substance.
Participants current mental health and history of abuse and neglect

Participant’s symptom profile in the prior month revealed a pattern and magnitude to be considered in the clinical range (Table 4). Symptomatic distress levels were moderate to high-moderate for these participants. Scores in almost all areas of the SCL-90-R were beyond the clinical diagnostic threshold. Participants have reported at least one symptom in a mean of 44.7 (SD= 21.26) items (items scored above zero) and overall intensity of distress was 1.01 (SD= 0.64) as per the SCL-90-R Global Severity Index. A total of 6 (25.8%) participants had symptomatic responses for PTSD following DSM IV diagnostic criteria (i.e. scored higher than 50). All of them reported sexual abuse during childhood and almost of them reported severe emotional and physical abuse and neglect.

TABLE 4: CURRENT MENTAL HEALTH SYMPTOMS

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>37.5</td>
<td>14.57</td>
</tr>
<tr>
<td>SCL-90-Somatization</td>
<td>1.2</td>
<td>0.71</td>
</tr>
<tr>
<td>SCL-90-Obsessive-Compulsive</td>
<td>1.2</td>
<td>0.94</td>
</tr>
<tr>
<td>SCL-90-Interpersonal Sensitivity</td>
<td>1.0</td>
<td>0.72</td>
</tr>
<tr>
<td>SCL-90-Depression</td>
<td>1.3</td>
<td>0.77</td>
</tr>
<tr>
<td>SCL-90-Anxiety</td>
<td>0.9</td>
<td>0.81</td>
</tr>
<tr>
<td>SCL-90-Hostility</td>
<td>0.9</td>
<td>0.69</td>
</tr>
<tr>
<td>SCL-90-Phobic Anxiety</td>
<td>0.6</td>
<td>0.69</td>
</tr>
<tr>
<td>SCL-90-Paranoid Ideation</td>
<td>0.9</td>
<td>0.72</td>
</tr>
<tr>
<td>SCL-90-Psychoticism</td>
<td>0.5</td>
<td>0.51</td>
</tr>
<tr>
<td>SCL-90-Global Severity Index</td>
<td>1.0</td>
<td>0.65</td>
</tr>
<tr>
<td>SCL-90-PositiveSymptomTotal</td>
<td>44.7</td>
<td>21.27</td>
</tr>
</tbody>
</table>

N = 32
Childhood abuse is presented in Table 5 as per the CTQ. The results of the CTQ revealed high levels of multiple traumatization. The data are largely overlapped indicating that many women were faced with multiple types of abuse as children.

**TABLE 5: HISTORY OF ABUSE**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Childhood Abuse - (none &amp; low vs. other)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>21</td>
<td>67.7</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>17</td>
<td>54.8</td>
</tr>
<tr>
<td>Sexual Abuse (none vs. any)</td>
<td>24</td>
<td>77.4</td>
</tr>
<tr>
<td>Emotional Neglect</td>
<td>20</td>
<td>64.5</td>
</tr>
<tr>
<td>Physical Neglect</td>
<td>17</td>
<td>54.8</td>
</tr>
<tr>
<td><strong>Adult Abuse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotionally</td>
<td>27</td>
<td>90.0</td>
</tr>
<tr>
<td>Physically</td>
<td>23</td>
<td>76.7</td>
</tr>
<tr>
<td>Sexually</td>
<td>16</td>
<td>53.3</td>
</tr>
<tr>
<td><strong>Severe Childhood abuse among women with DSM-IV PTSD (n=8)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>6</td>
<td>75.0</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>5</td>
<td>62.5</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>7</td>
<td>87.5</td>
</tr>
<tr>
<td>Emotional Neglect</td>
<td>6</td>
<td>75.0</td>
</tr>
<tr>
<td>Physical Neglect</td>
<td>5</td>
<td>62.5</td>
</tr>
</tbody>
</table>

N = 32
Results: Qualitative Findings

Participants’ pregnancy narrative

One of the aims of the study was to allow participants to describe in their own words, and without guiding their discourses, their pregnancy course and perinatal period. The idea was to provide a space where women could choose how to describe their experiences without our intervention. However, participants did not engage in a ‘narrative’ as we expected, and soon showed certain discomfort with this request. Hereafter, as we realized this was not a suitable method, prior to conducting the interviews, participants were given the option to provide a narrative or have the interviewer ask open-ended questions guiding the participant through the various structured topics. The latter method was employed as all participants preferred this approach.

Children’s postnatal outcomes

During interviews, participants were encouraged to comment about the delivery (women were fairly narrative about this topic), baby’s physical health outcomes, opportunities for bonding, and child custody outcomes. There was variability in outcomes within each of these topics.

Physical health

Physical health outcomes were positive for the majority of infants delivered. Fourteen mothers’ mentioned their baby as healthy, and two described poor health outcomes. Despite the fact that the majority of infants were born with some manageable withdrawal symptoms, mother’s perceptions of her baby’s health outcomes tended to be positive and to consider any poor outcomes to be normal, in light of her drug use. When asked about these babies’ health, many mothers responded with general comments, such as:

“...she was healthy, she was good.”

With close supervision and treatment from the physicians and nursing staff at Fir Square, many infants’ outcomes improved. One mother described the weight fluctuations of her son, and another described some withdrawal symptoms.

“...he lost a lot of weight though...just over 13%. I haven’t been able to give him any of my breast milk, he’s on a special formula to help him gain weight...like he would gain like 10% and then lose 15%....”

“I was there for like a month, because my baby was a methadone baby. So when she was born, she was shaky and had diarrhea.”

In the most severe case, the baby’s condition was critical since she was born prematurely with undeveloped lungs:

“...lungs didn’t develop enough, she still had four more months to go. But the drugs didn’t help at all...I went up there like three weeks later because I didn’t want to see her like that [...]. She was on life support. Her stomach was cut out of her and placed in a bag sitting on her...she had wires coming out of her. She had 5 blood transplants in a week.”
Questions regarding how maternal-child bonding was fostered, especially in a context where mothers are often stigmatized by society for being unfit, were also part of the topic guide. Interviewers often enquired about opportunities for breast feeding, holding, and developing attachment. Eight mothers mentioned having opportunities to bond with their babies. Of these women, 6 mentioned breast-feeding, and 7 mentioned receiving positive support from Fir Square staff that assisted with this process and any concerns mothers had. During several of the interviews, mothers demonstrated these bonding skills, such as holding the baby at all times and making eye contact. One mother actively tried to develop a healthy attachment style with her daughter, as a result of recognizing the negative experiences from her own upbringing.

“I bond with my daughter a lot, totally different from how I was brought up. I sing to my daughter, I play the guitar. It’s kind of weird, I was trying to bond, and my mother wouldn’t allow that. So I never want to parent like my mom.”

For women who knew they would not be able to gain custody of their baby or for those going to foster care or being adopted, maternal-child bonding was often not sought.

“I chose not to breastfeed... I think it would be better if he just stays on formula because I’m trying to go in treatment. So it would be easier for the foster parents to watch him for that moment.”

When asked if she had a chance to hold her baby after delivery, one mother replied:

“I don’t, I didn’t want to.”

In addition, use of language and referring to the baby, as “it” was an indication of distancing herself from the infant as well as the emotions pertaining to the loss of a child.

“I got a couple pictures the nurses took of it, but no I did not get to see it again.”

Child custody

Child custody status was also assessed in the administered questionnaires. Mothers were asked to list the number of children they had, their date of birth and whether these children were in their care (Table 2). During the qualitative interviews, experiences with the Ministry of Children and Family Development (MCFD) were emphasized when discussing baby’s post-natal outcomes. Fourteen mothers discussed child custody, 12 of which were in reference to the MCFD. Comments about the MCFD were generally negative; 9 mothers discussed having concerns with the MCFD, their procedures, and the outcomes. For these women, almost as soon as their baby was born, the MCFD had a strong presence, which evoked a sense of fear and anxiety toward the potential loss of custody. For many, this reaction was the result of previous involvement with the MCFD; however, for those women having their first child, the MCFD’s presence was a surprise and elicited feelings of powerlessness and confusion.
“So, I was totally blindsided by it all. I was pretty shocked, and upset about the whole situation. Scared, defensive, lots of suffering. Cause I, I didn’t know. It was like what are you talking about? Right, so, but it’s been, they’ve been very helpful. They wound up being supportive but I was sitting at the meeting going, hey and now you’re advocating for me?”

“I thought they were gonna take her away from me. I always have that fear. But whatever, I guess that’s what happens when you get one kid taken from you.”

“Every single meeting I’ve had with the Ministry, I’ve cried.”

Three mothers experienced positive outcomes as a result of their interaction with the MCFD, and often related this to having one MCFD worker who was very helpful.

“I’m one of the few people that the baby is in my custody. Which I’m so thankful for...”

“I probably wouldn’t be where I am today, but I had an awesome social worker.”

One mother, who had previous experience with the MCFD, suggested that in order to improve the custody outcomes, it is beneficial to have a positive relationship with your social worker.

“The one thing that I found, when a social worker gets involved, it’s good to work with them, not against them.”

Two women also discussed how they understood and recognized the importance of the MCFD in protecting their children, and strived to be able to demonstrate their ability to care for their children in order to maintain custody.

“They’re giving me one chance, if I fuck up they’ll take the baby. Which, I don’t blame them cause of my history.”

“Worker seems pretty fair; I appreciate their job, I understand their job, and it’s really important.”

“It’s important to stay together too, but at the same time, being an addict is a disease”.

Two mothers mentioned feeling that it was unclear what they had to do in order regain custody, the MCFDS expectations of the mothers were often inconsistent and often seemed to be subjective and always changing.

“So I did everything myself and I addressed all the issues they wanted me to address – the addiction, then I got myself a trauma counselor, treatment centre...and later on the Ministry said, ‘OK well now you need to get your own place, or you can’t have your daughter back’ and I did it and it was a shock...”

“You know you can do everything that they want you to, even before they ask you to do it...and it’s never enough.”

For two women who were actively using drugs during pregnancy and who had a negative rapport and history with the MCFD, the loss of their children was definite.
“...the ministry came, and they said ‘this is a cocaine baby, and you’ve got a history’”.

“Well right away, before even thinking about anything, they were like ‘oh, we’re gonna apprehend your baby’...because of my whole past history when I was a kid and all.”

Past mental health, substance use, and support networks.

The purpose of this section was to address history of mental health symptoms and diagnoses, substance use, and support received before their most recent pregnancies and whether such experiences impacted the most recent pregnancy.

Mental health

Participants were asked to describe any past mental health issues. Ten participants reported diagnoses of mental health issues, and 4 had a family history. However, responses were not very clear since it seemed participants had limited understanding and recognition of these symptoms, their needs, and potential impact on substance using patterns. Many women mentioned histories of conditions such as Fetal Alcohol Spectrum Disorder (FASD), anxiety and depression. When asked about past mental health and psychological care one participant briefly discussed her treatment at a psychiatric facility.

“...at the age 11 I was in a psychiatric ward... for three month... my mom... she figured I had issues... they gave me pills, I don’t really remember everything”.

One participant described her suicide attempts and the resulting link to her involvement with the MCFD;

“I tried to killing my self a number of times. So the Ministry was involved with my life at a very young age.”

Another participant described being on disability benefits for mental health problems, but when asked further about what particular mental health issues she had she replied;

“I don’t know. Mental health [Chuckle].”

Often the interviewers would give examples of various mental health issues that are faced by substance using women in order to better explain what they meant by mental health issues. Some participants would simply reply with a yes, to the described symptoms or disorders. For example when an interviewer asked whether a physician or psychologist had diagnosed a participant with psychological problems such as anxiety and depression; the participant replied “Depression. Anxiety, yeah”. This raises questions of validity, and weather or not this was a leading question, or had they actually been diagnosed with depression and anxiety.

When participants were asked about previous mental health issues, they often described psychological symptoms but had rarely been diagnosed. Depression was a common symptom they experienced due to previous traumatic events, feelings of sadness due to the apprehension of their child by MCFDS, and related to a late discovers of their pregnancy.

“A little bit of depression. Like since my kids got apprehended.”
“I felt a lot of depression because I couldn’t see my daughter.”

Many women also described feelings of anxiety upon the knowledge of their pregnancy and during the weeks leading up to their delivery.

“I was feeling a lot of anxiety”

Family history of mental health was only briefly discussed in the interviews, and often the participants replied with a simple ‘yes’ to the question, however some gave a little more detail.

“Yeah mental health does run in my family. My mom’s diagnosed with schizophrenia.”

“My mom has depression. She takes Prozac.”

“...My mom was very depressed when we were kids...”

When asked about mental health, one woman was unsure of any formal diagnosis, but felt she had some cognitive impairments.

“Kind of... my mind doesn’t connect to my hands when I want to do stuff...like I can do school and stuff, and I can do stuff off the top of my head, but that doesn’t connect with this [pointing to her hands].”

Substance use

Mothers reported using several psychoactive substances. In the interviews, crack cocaine or cocaine was mentioned in 22 of the interviews, followed by heroin (14 interviews), crystal meth and marijuana (6 interviews each). Poly substance use was frequent, and therefore some women were using more than one type.

Initiation and age of first drug use varied greatly between mothers. Age of first use of any substance ranged from 10 to 36 years, and for those who used at a young age, there seemed to be great influences in the family and household that led to usage.

“I was 16, my father was a dealer”.

“...crack, I knew what it was because my mom did it...”

“It was in my home. My brothers were doing it...so I figured if I do what they’re doing...they’ll spend time with me again”.

Drug environments, social influences, accessibility and cost of the drugs also seemed to greatly influence mother’s substance use initiation.

“I was dancing in a strip club, before [I became addicted] it was a drug scene, and then it ended up turning into just having enough energy to go to work.”
“I started drinking, I ended up snorting heroin consistently cause it was there. I always had a supply of it and I knew how to get it cheap...”

“I think it was just the people I was hanging out with.”

Partners or boyfriends were also a significant source of influence.

“Actually I never grew up with crack...I started with my ex-boyfriend and he broke up with me because I turned into a crack head. And yet he was the one that got me into it.”

“I tried it the one day, and then I did it again the next day...even though it made me sick, and I didn’t like it, he [boyfriend] was doing it, and I wanted to be a part of it...”

Four women discussed how they had experienced significant life events (i.e. traumatic events, abusive experiences, family deaths) that led to their initial use of substances. When one woman was asked about any early life events that influenced her substance use, she replied:

“Just the abuse.”

Two women reported being abducted, and indicated that this was the primary cause of their drug use. For one woman, her abductor was an unknown man who had previous criminal charges.

“I went from being a supervisor in a mental health facility to a homeless crack head”

For the other woman, an abusive boyfriend locked her in their apartment for several days, injecting her with drugs.

“He locked me up and stole all my bank cards, and fed me crack cocaine and got me addicted...”

Support before pregnancy

Support before pregnancy was an important area of discussion, since substance using women are often isolated and have few positive relationships. A total of 12 mothers discussed having no support in the time period before pregnancy, 4 discussed having negative influences and support networks, and 5 discussed having positive support. These mothers were resourceful in recognizing their need for social support networks and relationships, and had friends, family members, partners, and community services in their networks. One of the mothers who had positive support, described the close relationship she and her children’s foster mother had developed.

“I have another relationship with one of this [her children’s] foster mom, and she’s been there for 10 years giving me the support.”

Another mother had received the support of her building manager.

“My manager of my apartment building, she did the application and everything for me. Because I guess they’re connected to Atira as well...she’s been a really good support too, my manager, she’s awesome.”
Grandmothers or aunts were mentioned by three women as great sources of support, particularly for Aboriginal/First Nations participants. In addition, two women mentioned the support of their friends.

“My grandma and me are really close.”

“I’m gonna continue going to meetings because I’ve been going to the Avalon Centre, and they have child minding while you’re in the meeting. So that’s really good. And I have my girlfriends who will pick me up and drive me there.”

Community service providers were often recognized as the primary sources of support and positive relationships.

“Oh, I got lots of support, Sheway, Crabtree, and it’s awesome”.

Women also discussed being involved in unhealthy relationships and social networks, which provided poor or negative support. Many of these involved family, ‘party friends,’ ‘bad relationships,’ and ‘stigma’ received from service providers.

“I moved back with my mom, and told her everything, and she found out about my drug use, and kicked me out on the street. I had no support.”

Many women became further entangled in their addictions and the drug scene of the DTES by the lack of adequate care from the community services and service providers.

“I went to the Main street jail. And when they [the police department] let me go, I had nowhere to go, but Hastings...I was completely and totally depressed. I didn’t have my son, didn’t have my family...and so there I began with the crack and heroin.”

Substance use during and after most recent pregnancy

Of the 25 women who mentioned substance use during pregnancy, 10 discussed a period of abstinence, 15 mentioned continuation and 15 mentioned a decline. Overlap between these categories of use is common, especially since many women moved in and out of periods of use during and after their pregnancy. In addition, many women did not receive confirmation of their pregnancy until the second trimester, and only then decreased their substance use.

“I was actively using when I found out I was pregnant...and by the time I found out I was 5 months pregnant.”

“Pretty well up until the fourth month I didn’t realize I was pregnant cause I was using right [chuckle]. I didn’t pay attention to the fact that I had all the signs...when I felt movement I went for an ultrasound... and it was then [I knew I was pregnant] it was the guilt after that...it was then I quit the drugs, but I kept smoking [tobacco] and I’d have a couple drinks...”.

Women’s perceptions of substance use during pregnancy and the impact on the fetus varied greatly. Three women thought that only certain substances caused negative health outcomes or that substance use was dangerous at only particular periods of the pregnancy.
“I couldn’t do crystal meth, because crystal meth could maybe harm my baby, so I’d do crack.”

“I knew I was pregnant, I told everybody, but they didn’t want me drinking. They didn’t care about crack cause it doesn’t have the same thing that alcohol does to a baby…the addiction itself. I smoked [crack] all the way up until I ended up in labour.”

Some women described mistaking the symptoms of pregnancy with withdrawal symptoms, or the drugs causing the symptoms they may have felt.

“ I didn’t realize I was pregnant [at] first cause I was using [drugs]”

One women recommended education on substance use during pregnancy;

“ What I needed was maybe some films on what drugs does to your baby, cause I didn’t know. I didn’t realize It would be that bad. If I would have known more about it, I wouldn’t have used while I was pregnant.”

Current substance use (i.e. post-delivery)

Current substance use was also assessed with quantitative tools (see table 2). At the time of the interviews, 18 women discussed their current use of substances, 8 women were still using, 5 had ceased substance use, and 5 discussed concerns of relapsing. For many of the women interviewed, delivery had taken place very recently, therefore it is a possibility that many will have improved long term outcomes.

Substance use treatment over all time periods (before, during, post pregnancy)

Substance use treatment was addressed during the interview in discussions regarding services accessed by the women. Eight women mentioned their use of detox services, and 6 women mentioned substitution treatment, primarily MMT. Few women discussed treatment post-pregnancy, which may be because for many of the participants, the time lapse between delivery and the interview was, and they may have currently been at Fir Square, receiving some treatment and counselling.

Childhood trauma history

Childhood trauma history was explored using a standardized instrument. Although the majority of women had experienced some form of childhood abuse (see Table 5), nearly all were uncomfortable discussing any aspects of these experiences during the interviews. When asked if they thought any childhood experiences had affected their substance use, a few participants responded:

“A lot of sexual abuse”.

“Just the abuse.”

“I know now that looking back I must have been depressed. Totally depressed and I must have had a stress disorder since I was a little kid. I mean I was raped at four.”
Access and needs in care were assessed in the questionnaires and at several points throughout the interview. During interviews, the goal of this topic was to understand any barriers to care, unmet needs, and perceptions or attitudes while in care. Participants discussed having used a variety of services both during and after their most recent pregnancy. Services ranged from those specializing in pregnancy and addiction (i.e. Sheway and Fir Square) to those that provide housing (i.e. Crabtree Corner), addiction counselling (i.e. Detox, Aurora Treatment Centre), victims services (i.e. Battered Women’s), community health centres (i.e. Ravensong), and outreach services (i.e. Street Nurses, Carnegie). For the present evaluation, we focused on the services used during and immediately after pregnancy.

During their most recent pregnancy, 16 mothers mentioned using Fir Square. Though all but one participant used Sheway and/or Fir Square during the pregnancy, delivery and post-natal periods, information available in the transcripts does not clearly convey this. There are 9 interviews where access to Fir Square during the perinatal period is clear. These mothers had access to all hospital and ancillary services provided (i.e. parenting classes, individual counselling, group therapy, etc.). Additionally, these women were receiving proper nutritional support, and had stable living conditions during that time.

There were six women who accessed Fir Square immediately after delivering their babies through BC Women’s Delivery and Labour unit. These mothers were referred to Fir Square due to complications in their pregnancy and/or the impact of their current substance use on the baby. Although not considered patients of the hospital, mothers were permitted to stay in the specialized unit as an accompanying family member at Fir Square while the babies were in recovery.

Mothers who accessed Fir Square at any point during the perinatal and post-natal periods had very positive comments about the staff and services received. Fifteen mothers made comments in reference to their treatment at Fir Square, such as:

“They’re awesome here”, “the best place in the world”, and “supportive.”

Within these positive experiences, comments about the impact Fir Square had on their lives were also made.

“...turned out really good for him and me, because I to go to treatment...making new friends, going to meetings. It totally turned my life around...”

“...if it wasn’t for this program, she [her baby] would either be dead or both of us would be...”
Two mothers mentioned the role Fir Square had in their ability to retain custody of their children.

“...I wouldn’t have my baby right now if it wasn’t for them...”

“...this is an awesome program, and I couldn’t have done it without it...

Not only did Fir Square have positive impacts on babies’ health outcomes, but for one woman in particular, it was a life saving experience.
“I met so many girls here that are saved, but there’s a lot that aren’t, a lot just leave. But there’s girls like Rachel*. She’s young, she’s going home with her baby. You know, because of this place.”

Six mothers mentioned two types of negative experiences at Fir Square, which were primarily related to the hospital’s policy that the baby is the patient in this unit:

1. Limited recognition of the family unit and patient as a whole. Some fathers wanted to be involved and available during this time, but were not considered in any aspect of the program;

   “...count all three [i.e. mom, dad, and baby] as one...”

2. Once the baby is born and for those taken into care, there was a lack of continuation of services for the mothers.

   “...as long as the baby was in the hospital, I wasn’t really needed”.

   “For people who are pregnant and have drug problems, I really recommend to have your baby at Fir Square. And I recommend during the pregnancy to stay at Fir Square, even if your boyfriend can’t stay with you...”

Limitations

When interpreting the present findings, it is important to acknowledge that the recruited participants had access to Sheway and Fir Square’s services. In the context of these services, pregnant women had greater access to a number of services such as housing, psychosocial services, social workers, parenting classes, access to donations, nutrition, and to name just a few. Participants were asked about their housing situations during their most recent pregnancy, as well as their current housing situation. While pregnant, 35.5% were homeless; after accessing services at Fir Square and Sheway, only 9.7 remained homeless after their babies were born. This is a marked improvement, and likely the result of having access to housing outreach coordinators at Sheway and Fir Square.

Additionally, because recruitment was focused on the downtown eastside (DTES) and those facilities that serve this population in Vancouver, the present findings can be used to describe the needs and perceptions of women we reached. However, broadening these findings to women who delivered and accessed services outside of the DTES, who did not use Sheway or Fir Square, and other communities in BC and Canada may be difficult.
Case Study

The following case studies provide an in-depth description of the women interviewed in this study and their experience of addiction in maternity.

CASE STUDY 1- KAREN M001
AGE 29

Karen came to her interview 5 months pregnant and glowing with the hope of being able to go home from the hospital with her second baby. When Karen had her first child in August of 2008, she was actively using crack cocaine and had experienced a number of traumatic events both before and during that pregnancy. Karen, a graduate from SFU, had taken a job working at a bank after completing her studies. For a young adult, Karen had all that she needed; an education, a good job, a car, savings and her own apartment.

In 2004, Karen met her boyfriend, who would later become her abuser, and lead Karen down a path of severe trauma and loss. Karen lost her job, her friends and family and became addicted to crack cocaine.

“…I was so bruised I couldn’t go to work, I couldn’t speak, he locked me up and stole all by bank cards and fed me crack cocaine and got me addicted. For seven days and nights straight the first time, and I was a mess. I didn’t know my name, I didn’t know anything anymore…and he would threaten me…he drugged me and got me raped in my own house…all I knew was crack cocaine because he got me hooked…”.

When the police finally took Karen’s cries for help seriously, her boyfriend was arrested, and she moved back home with her estranged mother in Richmond. When Karen told her mom about the series of events that took place and her addiction to crack cocaine, her mother threw her out onto the streets. Alone and without any social support, Karen was homeless and struggling with her addiction and the memories of abuse.

Karen would eventually end up on the streets in the downtown eastside, working in survival sex trade and continuing to use crack cocaine. When signs of pregnancy started to show, Karen checked into a detox centre, where she was confirmed to be 5 months pregnant. Karen was referred to Fir Square, but because of her severe
addiction was in and out at least 8 times before her delivery. At 38 weeks pregnant, Karen relapsed and was attacked and raped on the streets in the downtown eastside.

“…when the paramedics came, I was bleeding, I thought I had lost my baby and I received pretty bad treatment…”

Karen was brought to BC Women’s Hospital- through the Emergency Department, where nurses and physicians are not necessarily trained in high-risk pregnancies or addictions. Furthermore, the police were called, and arrived at the hospital to question Karen about the rape that had just occurred.

“…they brought the cops in and the cops kept harassing me, saying ‘Oh, were you using drugs?’…”

Without any social support, having just been sexually assaulted, detoxing, and afraid that her unborn baby had died, Karen was left alone in the delivery room, experiencing the pains of natural childbirth for her first time. The nursing staff seldom checked on her, comforted her, and even installed her epidural improperly. Karen delivered a healthy baby girl, who was taken from her arms almost immediately and handed over to her mother’s custody by social workers, against the advice of staff from Fir Square.

Karen has now been jumping through a number of hurdles to regain custody of her first daughter. Karen, who had the skills necessary to advocate for herself, was able to find a lawyer, safe housing and treatment for both her trauma and substance use.

“…so I did everything myself and I addressed all the issues they wanted me to address the addiction, then I got myself a trauma counselor, treatment centre…but the Ministry [of Child and Family Development] kept changing the finish line…”

Karen’s experience is similar to many of the women in Vancouver’s DTES who are struggling with substance abuse, histories of childhood trauma, and continued victimization and abuse in their adulthood. Karen, however, is a young woman who has an education and the ability to seek out and demand services for her needs. The majority of women in Karen’s situation do not have the necessary experience or skills to voice out their needs in the midst of substance use and trauma recovery, and therefore, are often left with their backs against the wall with no ability or strength to fight for their children. The antagonist in this situation is the loss of their children, leaving mothers in a state of despair, where her only comfort is her drug.

Inherent in Karen’s tragic story is the lack of compassion and empathy from both hospital staff and the Ministry of Child and Family Development (MCFD). If Karen had been brought directly to Fir Square, a facility that specializes in high-risk pregnancies for substance using mothers, the MCFD would likely not have been involved right away, and Karen, who is now strong and clean, would have full custody of her daughter, living in her safe housing outside of the city, and building a healthy relationship with her daughter. This demonstrates the significant need and importance of hospital centers such as Fir Square, in delivering healthy babies who are able to room-in with their mothers during the first weeks of life.
CASE STUDY 2: CHANTELLE M013
AGE 26

For many of the women who come to Fir Square, it is an opportunity to receive prenatal and postnatal care in a non-judgmental, harm reduction-based facility. It is often their last chance for survival. Chantelle grew up in Powell River, and early on in her life, was abused physically by her mother’s boyfriend. Chantelle recalls suffering from severe depression from the age of 10, and believes this is what led her to associating with a group of ‘party friends’. At 13, Chantelle left her family home and at age 15, Chantelle was heavily addicted to heroin and cocaine, using both every day. This was the same time she became pregnant with her first child, and after delivering, relinquished full custody to the baby’s father so that she could check into a treatment facility. Even after months of treatment and one year of being clean, the pains of giving up her first child led her back to using heroin and cocaine.

Chantelle soon became pregnant again, and immediately stopped using. After staying clean and maintaining custody of her second child for the first two years of his life, Chantelle faced a very difficult decision, due to a bad relationship that she had just started. Police and social workers gave Chantelle an ultimatum of either giving her second child up for adoption or giving him to his birth father, who had also been physically abusive to her.

“…And I didn’t want him to grow up with a dad that was gonna beat on him. So I gave him up for adoption…And um, yeah that absolutely destroyed me…”

Chantelle describes the last time she saw her second child, “…the last time I saw Ryan, he had both his arms out screaming for me. Mommy don’t go! Don’t go! That’s the last time I seen my son. So, um, he’s almost six now. He was two and a half when that happened…” She is determined to not lose another child for fear that the only outcome would be death; “… I won’t live through another child being taken from me. I won’t. And I died from having my son taken from me, I had contracted endocarditis…”

After her second child had been taken from her, Chantelle immediately turned to heroin and cocaine again, as self-medication.
“…just kept using. Yeah I didn’t want to feel that. And, so that’s why if they take her away, that’s my life gone. I mean, I don’t think I’d make it through losing another child. There’s no way…”

Chantelle’s current pregnancy was seen as extremely high-risk due to the amount of heroin and cocaine she had been using in the first few months of pregnancy. As well, there were no services in Powell River for women with her complex needs. Chantelle came to Vancouver, knowing that Fir Square was her last chance for survival, for adequate substance use treatment, and for the health of her and her baby.

Though Chantelle thinks that more facilities like Fir Square need to be available all over the province of BC, and in Canada, she knows that if she hadn’t left Powell River, she might end up using again, and likely be dead. Now she only wishes that there were better housing options available so that mom and baby can be discharged from Fir Square together.

“…I have to go somewhere that can supervise me for 24-7. So I had a hell of a time finding a place that could accommodate that. I was hoping to find a foster home that would take the two of us. Couldn’t find one though. So um, I’m going to a transition house. I think there should be, definitely more foster parents that are willing to take babies and their mothers. Because, um, it doesn’t do the babies any good, especially babies that are withdrawing to be separated from the mothers. I think more and more out reach workers would be helpful too, that aren’t, related to the Ministry [of Child and Family Development] that are gonna take your kids. Outreach workers that don’t have that kind of power, you know…And, I think, more money would be helpful. And, um, also more places like Fir… Cause like this is the only facility in, I think, BC that, is willing to do this…”
CASE STUDY 3: LISA M010
AGE: 30

Lisa is a single 30-year-old aboriginal mother who has recently been employed part-time. When asked her if she had participated in other research studies before, Lisa indicated that this was one of the ways in which she was able to give back to the community, and hopefully, her experiences would be able to create some change in other women’s lives. Lisa was particularly happy to participate in this project, since so many of her friends and relatives are young mothers still struggling with drugs.

Lisa was born and raised in Edmonton, and began abusing alcohol when she was twelve years old. She lived in foster care for a period of time during her adolescence, and experienced both emotional and sexual abuse during her childhood. At 23 she was introduced to crack cocaine. So many of her friends and relatives were using that it was impossible for her to see any other lifestyle or want to seek help.

Lisa has three children now. Her first two boys are both in her custody and still live in Edmonton. The eldest lives with Lisa’s aunt. After her second child was born, Lisa relinquished full custody to his father. A few years later, and at 8 months pregnant, Lisa and her new partner moved to Vancouver. Though they moved to Vancouver to try to start a life together with their baby and get clean, they ended up partying and Lisa used drugs throughout her entire pregnancy. Lisa recalls how she felt during this pregnancy:

“…I was just so broken and this little girl up here is my baby, and I was like uh she’ll love me unconditionally. So I always talked to her in my belly, and said you know mommy’s gonna do good, mommy’s gonna love you and keep you…”

Approximately 10 days before she delivered, Lisa went to Sheway and met Dr. Hunt who recommended she come to Fir Square immediately. Her delivery went very well; her baby girl was born with no difficulties or effects from her substance use. When Lisa first held her baby girl, she knew that she was so lucky to have this baby, and finally felt like she was ready to commit to a positive change. Lisa and her social worker met during the first few days post-delivery and agreed that as long as Lisa complied with drug screening and had a safe, drug-free place to live, that she could keep the baby.

Unfortunately, what the social worker didn’t know, because Lisa didn’t tell her, was that her partner was physically abusive. At one point after her delivery Lisa had to place a restraining order on him. Despite this, she continued to see him and his family whenever she needed to get high.

“…when baby was 2.5 months old, I just had enough. I kept getting black eyes and stuff and fat lip or something and I was just tired of being abused and my daughter seeing that you know…”

At 9 months postnatal, she hit her rock bottom. After drinking all morning, she and her partner had a physical
altercation. Lisa, her ex, and the baby all came to the hospital. All of them were ok and quickly discharged. Lisa was unable to press charges because she violated the restraining order she had placed on him by going to his house that morning. Lisa ended up in jail over night and the baby was removed from Lisa’s custody for 30 days. During this time Lisa made the decision to get clean and stay away from her partner and his family.

Lisa’s daughter is now 29 months old, and they are both doing very well. Lisa has built a strong support network for herself, which has been really helpful for maintaining strength and abstinence. Aside from the support of the aboriginal community and other mothers, she is also part of the “Mentorship Group/Program”, where she has her own mentor and now has become one for others. Lisa was one of the fortunate women who qualified for second stage transition housing, which is apartment-style living that allows women and their children to be housed for longer while they transition to independent housing. Without this, Lisa is sure she would have had to rely on her ex-partner and his family, which could result in a continued cycle of substance use and likely, the loss of another child. Lisa strongly believes that Vancouver needs more safe/recovery housing for women with children, and it would be beneficial for this housing to be located outside of the downtown eastside and complimented by better bus ticket programs, so that women can still participate in their programs and access services.

Lisa also believes that social workers need to be more holistic in their approach, and have a better understanding of the larger picture. These women are addicts for a reason, and often suffering from trauma including physical, sexual, and emotional abuse and need a better plan upon leaving Fir.
CASE STUDY 4: MICHELLE M011  
AGE: 29

For many mothers struggling with substance use, accessing services for either themselves or their children’s needs is not a feasible solution because of the fear of having their children apprehended. In addition, many women have had negative experiences with social support services during their own childhood and early adult years. Michelle spent a significant amount of time in and out of foster care as a child. She never knew her father, and her mother was a heavy alcohol and drug user. Michelle has FASD, and despite knowing how mothers’ substance use can impact the unborn fetus, she continued to smoke rock daily during her most recent pregnancy. The years of experiencing abuse, working in survival sex trade, being on the streets, having no support (except her pimp), and losing custody of her previous two children, made it very challenging for Michelle to want help.

Before Michelle and her partner had her second child, they were already making a great effort to clean up. At three weeks, when they found out she was pregnant, they stopped using substances, found adequate housing, and took care of their physical health.

“…We were straightening out, we were looking for an apartment. And then I got pregnant. We stayed home every day. We weren’t doing drugs. We got food everyday. And cooked every day. [sigh] I took care of myself, very well. And, no slips, at all. It was completely straight, the whole pregnancy… And I had clean urine samples throughout my pregnancy. And they still took my baby away. I was scared to go out and look for services because I was afraid of people, telling, telling them [MCFD]…”

This was not enough though, because when Michelle, who was now on methadone and not accessing any other services, went to get her ultrasound, her pregnancy was reported. Michelle recalls her delivery and experience with the MCFD only two hours after her baby was born.

“…An ambulance came, and just cause I’m on methadone, social services was called immediately. Right? Cause they said she must be a drug addict. They didn’t find it, they said that they found cocaine and alcohol in my urine, which was crap. We didn’t do nothing. I was totally clean…”
Discussion

This report summarizes the current situation and the services available to women who were or currently are substance users. The results of this study support the need for increased and continued services for pregnant substance using women, as well as additional services in the postnatal period.

Demographic results

The results of the demographic portion of the questionnaire revealed consistent findings for women in the DTES (Urban health research initiative of the British Columbia Center for Excellence in HIV/AIDS, 2009). The housing situation varied greatly from pre-pregnancy to post-pregnancy. The majority of the women were considered precariously housed before their pregnancy, and often during the early stages of their pregnancy. However, once they had gained knowledge of their pregnancy, they began to seek various services, some of which offered subsidized housing. As a result, many women lived at Fir Square for a few weeks before they delivered their baby. Also, many women were living in Crabtree housing for the first few months of their maternity. The support of these services has helped many women to have stable housing. The reported income during pregnancy (48% sex work or illegal activity and 90% government income) signify an overlap in income, demonstrating the financial constraints these women feel they are under, resulting in the need to seek extra income. It is important to note that although government income is not particularly generous, the need for extra income is perhaps related to their addiction and, therefore the primary spending outlets are illicit substances.

Access to care and services

At the time of the interviews, only one participant had reported no form of treatment in the past 30 days. One possible outcome from the women’s involvement in pre- and post-natal care is their continued access to care. Many women may have avoided social and health care in the past for fear of stigma and poor treatment, however due to their pregnancy they felt pressure to seek medical care. Lack of a health card presents significant barriers to health care access (Butters & Erickson, 2003). However, all the women in this study had care cards, and therefore limited use and or lack of access cannot be attributed to lack of provincial healthcare coverage. Perhaps many women are continuing with their treatment plan primarily to please the MCFD in order to regain or maintain custody of their children. In addition, this may be related to the limited services these women feel are available to them. A future study could look into the gap between the current services provided and the needs of these women.

As demonstrated in this study, many women reported a positive experience of the services they accessed and care they were given. This fosters a positive relationship with the health care and social care system, thereby increasing the likelihood they will return and use these services in the future. Nevertheless, only 5% of the women reported feeling that their health care needs were met. The remaining 95% of women did not feel their health care needs were met and this presents an inconsistency with the positive experience so many women reported in this study. This inconsistency presents the gap between the current services provided and the needs of this population. Further investigation explaining this gap is needed.
Experiences using a narrative interview method.

The difficulty in employing the narrative method of interviewing can likely be explained by negative past experiences, the stigma and the shame which is associated with drug addicted pregnant women. Many of these women may have trust issues from negative perceived experiences with the MCFD and/or with family members. They may have learned to cope with this by taking the time to assess the situation before becoming vulnerable and sharing their stories. It is likely that the participants’ comfort level increased as the interview went on. For example, around the midpoint of the interview, the women were asked about the time when they delivered, and it was at this point that the women became quite vocal and gave a long narrative of their experience. In the future, when working with a highly marginalized population such as substance abusing mothers, it is important to slowly gain their trust and make them feel safe and comfortable in order to learn from their experiences. As a result of this study semi-structured and structured interviews are the preferred interview method for this group. Experience working with this population is also an asset.

Services used and perceptions

As a result of admittance to Fir Square, many of the women were counseled on parenting skills, such as positive bonding skills. Literature clearly demonstrates that bonding has positive short-term (decrease in Post partum depression) and long-term effects for both the mother and the baby (Luthar, 2005). The women’s demonstration of these abilities during the interviews illustrates one of the many positive outcomes from a short stay at Fir Square. The women at Fir Square were not only learning valuable skills but also using these skills and understanding the importance of them. These bonding skills are reinforced by the facility’s policy that a mother is to be with her baby at all times.

One common attitude among the women interviewed was the negative views towards the MCFD, and the MCFD’s strong presence immediately after birth. For the few women who did have positive comments towards the MCFD, it was determined they had an exceptional MCFD worker on their team. The lack of clarity the women receive on what constitutes risky behavior and the steps they needed to take in order to maintain or gain custody of their child was consistent among all the women in the study. A suggestion for the MCFD would be to build more constructive relationships, and employ clear and consistent conversational communication style in order to develop a positive relationship of cooperation and teamwork with these women.

Children’s health outcomes

The infants’ physical health outcomes were consistent with the literature describing the effects of opiates and cocaine use during pregnancy (Keegan et al, 2010). The long-term health effects of prenatal cocaine exposure are unclear. Some studies report an association with poor growth, poor cognitive ability and a range of other physical and mental abilities (Ackerman et al, 2010). However, environmental factors such low socioeconomic status (SES), poor nutrition and quality of education all have similar effects on cognitive function, mental abilities, growth and other physical factors. As many women in this study engaged in poly substance use, it is difficult to control for the effect of individual substances. The environment the children live in is also a variable and uncontrollable factor. Even though our sample was limited to 5 years post delivery, many women interviewed did not have children older than 2 years of age and, therefore we are unable to predict long term health outcomes for these children based on the substances used by their mothers.
One interesting result from the qualitative portion of the study was the consistent positive perspective the women felt with regard to their childrens’ post-natal health. Even the women whose babies’ were currently being treated for neonatal withdrawal syndrome, felt their childrens’ health was ‘good.’ Perhaps, this is an outcome of living in a world of illicit drug use, poverty, adult abuse and childhood abuse resulting in a skewed perception of health on the part of these mothers.

**Substance use**

The reported current form of substance use as measured by the MAP is consistent with the literature. However, it provided us with minimal information. We did not ask about drug use before and during the pregnancy in the questionnaire and, therefore have only a glimpse of their drug use from the qualitative analysis of the interviews. For future studies, it would be beneficial to include both current and past drug use. We were unable to make accurate assessments of continued abstinence from substance many of the women were still in care at Fir Square resulting in optimistic outlooks for their futures.

The high report of crack cocaine and poly substance use is consistent with the literature on drug use in the DTES (Urban health Research initiative of the British Columbia Center for Excellence in HIV/AIDS, 2009). The results of the qualitative analysis revealed that all but 2 of the women had previous exposure for some form of illicit drug. Many had a family history of drug use and witnessed their parents or siblings using and/or dealing drugs. Others had a friend or boyfriend who encouraged them to start using illicit drugs. Escalation to substance dependence varied among all the women interviewed. Further research should be done understand illicit drug initiation in women on the DTES.

Many women sought substance use treatment at some point, including detoxification centers and substitution therapy. Many women described their feelings of not wanting to return to the DTES after release from a treatment centre for fear of experiencing triggers that make abstinence difficult, but accessing transition housing was challenging.

**Mental health and trauma**

The limited knowledge these women had of their past mental health demonstrated the low level of both formal and informal education these women have related to mental health. In reality, many of these women have various mental health issues. For example, the majority of the women in this study had elevated levels of psychological distress, 100% had a history of traumatic events, and 25% showed symptoms of PTSD. In spite of these results, the women were unlikely to seek help for these issues because they did not feel a need to seek treatment. Limited usage of mental health services may be linked to poor knowledge own mental health status.

The results for abuse and trauma were consistent with current literature. The women in this study reported high levels of abuse, and elevated psychological distress according the SLC-90. High levels of PTSD were also found in the women who had a history of abuse. Current literature has clearly outlined that women who have experienced any form of abuse and trauma in childhood are more prone to experience sexual abuse as adults. Research indicates that trauma and PTSD are strongly correlated (El- Bassel et al, 2001; Grella et al, 2005; Marcenko et al, 2000). These results outline the vulnerability of this population of women and reinforced the need for psychological care and trauma counseling.
Childhood trauma was a difficult subject to discuss with the women in this study. However, many were found it interesting that many of the women had a good understanding of the impact of their childhood traumatic experiences as a factor leading them to substance use. Continued trauma counseling is required within an integrated treatment model for concurrent substance use and mental health disorders.

Social support

Women who had some form of support whether from a family member or through the social and/or medical services, described a more positive experience during their pregnancy. This reinforces the importance of providing support services to pregnant women in order to ensure more positive outcomes for mothers and their children, as support is an incredibly important factor in care and recovery; as these services were often the source of support for many of the women in this study.

Limitations of existing services

As a result of discussing substance use during pregnancy and the baby’s health outcomes, it was evident that many women had little detailed knowledge of the effects of substance use on the fetus. Nevertheless, it was clear many had some knowledge since once they had learned about their pregnancy many significantly reduced their drug intake while some abstained or tried to abstain. Education for these women, in particular, was very limited on the effects of substance use. Educational materials regarding substance use and the effect on pregnancy would be valuable to assist women on the DTES to make healthy decisions and engage in healthy behaviors. A future study could look into the current knowledge held by women in the DTES, and therefore make an assessment on where the education gaps are.

One participant in the study suggested that women who seek additional welfare payments as a result of their pregnancy should be encouraged to take some courses on healthy behaviors during pregnancy and the effects of substance use on the fetus in order to receive the additional benefits.

It would be optimal to increase access to pregnancy testing and encourage frequent testing for women in the sex trade in particular. Many of the women in this study did not know they were pregnant until the 5th month, and only then did they alter their drug using habits. Perhaps, had they learned about pregnancy at an earlier stage, they might have sustained or decreased their drug use.

This study originally intended to assess the effectiveness of various support networks and interventions currently available in the community. However, as recruitment primarily took place through the current available services (Sheway and Fir Square), our sample consisted of women who accessed these services. Therefore we were not able to make comparisons between women who and those who have not used these two services. The women in the study did give positive feedback about Sheway and Fir Square.

Some differences were found in the womens’ experience at Fir Square. Often, the experiences differed depending on time of arrival to Fir Square; i.e. before delivery or during delivery. Women who arrived at Fir Square before they delivered their babies tended to have a better overall experience than women who accessed Fir Square after delivery. This may be due to the fact that the women who entered Fir Square post delivery had many preconceptions regarding the treatment of substance using women and, therefore over-interpreted any negative attitudes directed toward them as significantly worse.
Some women had positive relationships with their baby’s father and wanted them to be involved in the treatment process as well. However they felt the services at Fir Square were limited for their male partners. Although some men were given a cot so they could sleep in the same room as the mother and baby, they were not given access to parenting classes, counseling, or food programs. Services should be family focused; recognizing that substance use does not affect just the individual mother but the whole family. The objectives of such a service must focus on preserving the integrity of the family as a functional unit.

Although this is not the responsibility of Fir Square, a second area lacking in services is housing for substance using women, their babies and partners one year after the birth of their child. Although there is high demand for the existing facilities such as Crabtree Corner, resulting in only short term assistance. Currently they can only be used on a short-term basis due to the high demand. Continued support for housing is strongly needed to continue the care for both the mothers and babies, in order to continue the help them maintain substance free lives these women are trying to maintain. Overall the current services provided for substance using mothers are receiving positive feedback from the women in the study. However it is important to note that these services are primarily during the first year of the perinatal stage, where as resources past the 1st year of the child’s life are insufficient.

Additionally, this study revealed the limited number of services currently provided for this high-risk population. For example, 87% of the women were smoking tobacco putting them and their children at risk for additional health problems such as cancer, lung diseases, and sudden infant’s death syndrome (SIDS). The current evidence-based clinical practice guidelines for the treatment of tobacco dependence (Fiore et al., 2008) recommends that each smoker should receive at least a brief smoking cessation intervention by each health care professional at each visit. However, although the majority of our study participants were in regular contact with the health care system, none of the women mentioned having received such an intervention. Evidence-based treatment recommendations include intensive cognitive and behaviour based treatment for substance use, and long term relapse prevention interventions. The majority of our study participants reported receiving basic addiction treatment such as detoxification services and substitution treatment and were given access to health services which were not specialized in the treatment of substance use disorders. Also, their limited knowledge about their own mental health may indicate that they have never been formally assessed or received treatment for mental health disorders, which was surprising considering their regular contact with the health care system. This observation indicates the need for specific training for health care professionals who work with substance using individuals.

Within the opportunities and constraints of the available services, every woman should receive the best available intervention, which ideally consists of a comprehensive, family-based approach with long term treatment and community support. A wide variety of evidence-based psychosocial and medical treatments are currently available for the treatment of substance use disorders. To date researchers have not been able to identify the optimal treatment for pregnant women who use substances and struggle with mental health issues. Therefore, the choice of therapy should be based on the needs of the individual client.
Recommendations

Recommendation for future practice

This study demonstrates that existing specialized services provided to substance using mothers are well perceived. All of these services are operating at capacity and struggle to support more clients. Continued and greater financial support from governments and health authorities is needed to expand and develop more services for this high-risk population. For example, because of funding restrictions, Sheway is only able to support 120 women. Similarly, Crabtree Corner housing has a limited number of suites available, and therefore can only provide women with a short term housing solution. Short-term housing is only part of the solution providing temporary relief. The question remains after someone has accessed short term housing, “Where to next?”. Supportive housing for women with small children or for young families with mental health and addiction challenges is an important gap that needs to be addressed.

Service provision currently focuses on a short period of time, i.e., the pregnancy and a brief postpartum period. However, researchers and clinicians acknowledge the chronic nature of addiction and the need for adopting a long-term model of support in this high-risk population (McLellan et al., 2000; O’Brian 2008). Long-term housing and support services are needed to care for both the mothers and their children. We, therefore strongly recommend that support be given beyond the current 18-month period. In Germany, several programs have successfully provided an effective alternative to foster care by providing long-term support for family members with drug and/or alcohol problems.

If one were to take a best practice approach with this population, the following suggestions would require increased support from government. This approach would greatly benefit substance abusing women, their children and the fathers.

Firstly, it would be essential to have available multidisciplinary and comprehensive services for pregnant women with substance use and mental health problems, and their family members. Trauma informed care is of special importance. These services may include: prenatal and pediatric care, substance abuse and mental health treatment, medical care, social services, parenting education and support, family/couple counseling, nutritional services, and vocational/educational training.

Secondly, because children from high-risk families are vulnerable to poor physical and mental health, resulting in early involvement with the justice system, a full range of services including early intervention, support programs, health, and mental health services is needed.

Thirdly, an integration of specialized support programs for families who struggle with addiction would strongly benefit this population. Current child, youth, and adult services should be aligned to better serve to whole family. Therefore, these services need to establish a referral system with an emphasis on collaboration and coordination between the service providers. Collaboration would also entail the development of integrated treatment programs that account for the different needs such as psychotherapy with a focus on substance use, mental health, trauma, and child care and parenting skills counseling.

Fourthly, all individuals and institutions within in the health care system that provide support to substance abusing mothers require continuous and advanced training which is consistent and long-term. Training should include information on assessment and treatment of substance use, mental health disorders, and concurrent disorders.
Fifth, assessment of trauma should be implemented as part of existing programs. To provide needs-adapted care, patient outcomes would require monitoring.

Optimally, pregnant women with current or previous substance use problems would receive an intensive psychiatric and psychosocial assessment. Upon completion of the assessments women ought to be informed (in a non-judgmental way) about the results of the assessment as well as associated consequences and complications.

By reducing the current stigma associated with substance use in pregnant women, the threshold to access comprehensive mental health and substance abuse interventions and services would be lowered. Reducing the stigma would also develop an environment where relationships are respectful, non-judgmental, and sensitive towards women’s needs and problems. Rather than judgment or skepticism regarding their ability to recover, the women need hope and encouragement.

**Recommendations for future research**

Firstly, continued research with a focus on a Canadian population is needed. Although there are some data on Canadian substance using women, the majority of the current research is from the United States of America. It would be important to obtain results representative of a Canadian population.

Secondly, qualitative research on substance abusing women is needed and would strongly benefit future intervention strategies. The results of this study support a follow-up intervention to test the appropriateness of the findings. The women in this study responded well to the qualitative interview and, overall, most of the women enjoyed the opportunity to tell their story to an attentive listener. This is an excellent format to develop a relationship with these women and an opportunity find out what types of services they would use.

This study demonstrated that reaching out to substance abusing women during their pregnancy is an opportunity to intervene and give care to both the unborn child and the mother. This perspective needs to be expanded in order to develop the best possible services for substance using women and their children.
Clinical and other initiatives connected to this research

1. “Dream weaver” trauma specific care for women with multiple challenges.
   In 2009, a trauma specific program was initiated and developed for women who were treated in the Burnaby Centre and have a severe history of traumatic experiences. The development of the clinical model was co-chaired by Dr. Krausz and the program was informed by the presented research.

2. Trauma informed care in the Burnaby Centre for Mental Health and Addiction.
   The Burnaby Centre a better understanding of the needs of female clients which was developed based on the principles of trauma informed care.

3. Teaching efforts to increase awareness of the needs of substance using pregnant women.
   Dr. Abrahams, the medical director of Fir Square, and Dr. Krausz were involved in international seminars on addiction, trauma and pregnancy.

   In Vancouver in 2009, the topic of the needs of substance using pregnant women was presented and discussed. At the second conference in 2011, further exploration and discussion regarding trauma and addiction took place. There was a focus on childhood and adolescence trauma at the conference.

5. Trauma assessment as part of research in vulnerable populations.
   In all surveys (BC Homeless survey) trauma assessments (CTQ etc.) were included
Researchers and staff involved in the study

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