CHILD GUARDIANSHIP IN A CANADIAN HOME VISITATION PROGRAM FOR WOMEN WHO USE SUBSTANCES IN THE PERINATAL PERIOD

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ABSTRACT

Background
Retaining guardianship of one's infant is often a priority for pregnant women who use substances, and may be beneficial to infants when they are safe in their mothers' care. Previous studies from the United States have identified several maternal psychosocial characteristics associated with the ability to keep an infant free from abuse or neglect; however, little is known about the impact of multiple risk factors on guardianship, particularly in Canadian intervention programs.

Objective
To describe maternal characteristics associated with child guardianship among pregnant women at risk of an alcohol and/or substance exposed pregnancy who attended a Canadian home visitation program.

Methods
Guardianship status at 6 months post-enrolment was extracted from a provincial program's records for all women enrolled between November 1999 and May 2005 (n=64). Bivariate analyses were performed to determine client characteristics most likely to have retained guardianship.

Results
At follow-up, 70% of participants were guardians of the index infant. Higher income, more prenatal care, no history of sexual abuse, better alcohol and psychiatric scores, and fewer risk factors on a cumulative risk index were significantly associated with retaining guardianship at 6 month follow-up ($p<0.05$).

Conclusions
Retaining child guardianship may be the greatest challenge and opportunity for women experiencing problems in multiple domains of their lives, including those associated with substance dependence. Programs targeted at women who use substances while pregnant may best assist mothers to retain guardianship of their infants by supporting clients to address the complex social and health problems often found in conjunction with addictions.

Key words: *Pregnancy, child welfare, substance-related disorders, prenatal exposure delayed effects*

While prenatal substance use has been linked to pregnancy complications, decreased fetal growth, preterm delivery, infant neurobehavioural defects, neonatal withdrawal syndrome, and Fetal Alcohol Spectrum Disorders[1-6], continued use in the postnatal period is also detrimental to infant development. Parents who abuse substances are more likely to have problems with domestic violence, have less positive interactions with their child, be overly harsh in disciplining their children, inadequately supervise their children, and provide less intellectual stimulation for their children.[7] Parenting and child rearing may also be

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complicated by the parent's own early childhood problems, poor adult family and social relationships, legal troubles, financial issues, or physical and mental health concerns, all problems found in high rates among women who abuse drugs or alcohol while pregnant.[8-19] Substance abuse has been linked with an increased risk for child maltreatment and neglect.[20-22] Canadian statistics suggest that children with one or more parent who has substance abuse problems are more likely to experience physical or sexual abuse, with one study reporting that 26.9% of children born to parents who abused substances retrospectively reporting severe abuse compared to 11.5% of other respondents.[23]

The association between maternal substance use and parenting difficulties are reflected in high rates of involvement with Child Protective Services (CPS) and the consequent placement of infants and children in foster or kinship care.[10,16,24] Studies of American programs targeted at women with perinatal substance abuse problems have found that 23-62% of children are placed outside of the home within the first year after birth.[25-30]

Although CPS must protect children's well-being, it is thought to be in the child's best interest to remain in the care of his or her parents when the risk of maltreatment or neglect is low.[37] Multiple disruptions in custody and changes of caregiver are detrimental for children with and without prenatal substance exposure[24], and are thought to be especially harmful for children with FASD.[31] When risk of maltreatment or neglect is low, maternal custody is associated with better cognitive outcomes in 6 month old infants[28,32] and increased completion of substance abuse treatment among mothers.[33] Retaining or regaining guardianship has been described as an incentive for seeking substance abuse treatment [1,19,34,35] while fears of custody loss have been a deterrent to accessing care among pregnant women.[34-36] In Alberta, a child cannot be removed from a living parent unless the child is neglected, abandoned, abused physically, sexually, or emotionally by the parent, or the parent is unable or unwilling to protect the child from abuse. Furthermore, it must be deemed that "other less disruptive measures are not sufficient to protect the survival, security or development of the child".[37] Many substance-abusing parents provide adequate care to their children, and even more may employ strategies to mitigate the impact of their substance use on their child.[19,34,38] Several American studies[25,27-30] and one Swiss study[39] have explored factors linked to successful retention of child custody among perinatal substance users. Although findings have varied, younger maternal age[27], infants being born to term[29], better child development test scores at 6 months[28], use of prenatal care[27,30], better mental health[29,30], lack of previous involvement with child welfare[27,29], maternal education[26,40], race[27], being married[26], lack of marijuana use[26], having fewer children[27], not smoking[29], drinking more frequently[29], absence of maternal history of emotional neglect, physical neglect or rape[30], owning one's own home[27], having experienced fewer negative life events[29], having fewer miscarriages[40], and having one or more close friends[29] have been linked to lower rates of involvement with CPS, lower rates of child abuse and neglect, or custody retention among women who used substances while pregnant. Nair and colleagues (2003) found that a cumulative stress rating composed of maternal depression, domestic violence, non-domestic violence, family size, homelessness, incarceration, absence of partner, life events, psychological status, and severity of drug use variables was associated with higher parental stress and risk of child maltreatment.[41]

Home visitation programs have been developed as a prevention strategy that addresses the various psychosocial factors that contribute to and exacerbate the effects of prenatal substance abuse.[42] These programs not only aim to help women stop substance use before delivery, but continue to provide support to the family into the postnatal period and early childhood years.[9,11-13,43-46]

Programs pairing professional or paraprofessional advocates with high-risk families have been found beneficial to both maternal and child welfare.[47,48] The positive effect may be greater in populations lacking access to universal health care.[48] Although studies of home visitation programs serving high-risk families[49] --and specifically women who use substances while pregnant[50]-- have yielded mixed results, there are indications of improved maternal emotional responsivity[11], maternal abstinence[44], enrolment in substance abuse treatment[46], infant development[12],

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overall maternal and child well-being[42] and a reduction of further substance exposed pregnancies.[44]

Retaining custody of one's child is of primary importance to many women enrolled in perinatal treatment programs and thus, must be an important consideration in the delivery of client-centred care.[34,36] Although the primary goal of some home visitation programs may be preventing alcohol-exposed pregnancies through sobriety and family planning, helping women provide a safe postnatal caregiving environment and fulfill the requirements of CPS contracts are secondary objectives that benefit both the woman and the substance-exposed infant.

Previous investigations regarding child custody in relation to characteristics of pregnant women who abuse substances have been conducted predominantly in the United States, and results may not reflect Canadian settings where child protection laws and systems differ[51], where health care is publicly funded, and where the cultural composition of the population is different. Little research has been conducted using administrative data in non-research settings, such as community-based programs. Understanding the predictors of child custody loss and the role of cumulative risk factors may assist in early identification of mothers and babies at risk of separation and inform program planning to help families succeed in staying together safely. This study aims to explore variables that may contribute to successful custody retention among Albertan women who use substances while pregnant within community based home visitation programs.

METHODS

Study Design

Participants' data were gathered retrospectively from the Catholic Social Services FASD Programs located in Edmonton, Alberta. This home visitation program serves women who have delivered, or who are at high risk of delivering, a child with FASD, or who are at risk due to other adverse life events related to substance abuse. The program model is based on the Parental-Child Assistance Program (P-CAP), a home visitation model developed by Grant and colleagues at the University of Washington.[42] Briefly, at-risk women are referred to the program by a variety of outside agencies, such as Child & Family Services, physicians, and community health clinics. Clients are paired with specially trained paraprofessional advocates who work with women to build links with and between the various community services they require to address their individual needs. Issues addressed by the home visitation support can range from basic needs, abstinence from substance use, parenting concerns, child welfare requirements, personal health problems, birth control, domestic violence, self-esteem, and problems in personal relationships. The advocates often support women in negotiating relationships and communication with CPS. The model is based on relational theory, emphasizing the importance of interpersonal relationships in women's addiction, treatment, and recovery.[42] Paraprofessional advocacy can continue up to three years post-admission, regardless of a client's outcomes.

A retrospective cohort design was employed, entailing entry and analysis of the Addiction Severity Index (ASI) data routinely collected upon admission to the participating program, and follow-up data collected at 6 months post-enrolment. The cohort included 107 women serially admitted to the program between November 1999 and May 2005. This project was situated within a larger multidisciplinary study examining the research value of the program's routinely collected clinical data.[52]

Measures

The ASI is a semi-structured interview designed by McLellan[53] and colleagues for the measurement of outcomes in drug and alcohol treatment. It assesses lifetime and past 30-day problems in seven domains: Medical, Employment, Alcohol use, Drug use, Legal, Family & Social, and Psychiatric. Composite scores as well as subjective therapist rating scales exist for each domain.[53,54] Composite scores have been shown valid in a variety of populations.[53-55] The participating home visitation program used a modified version of the ASI (Fifth Edition) available in the public domain, adapted by the original P-CAP program for a pregnant and/or postpartum population. This version contains additional questions on family planning, biological children, alcohol and drug use during pregnancy, and service use.[56] Individual

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demographic and lifestyle characteristics were collected as components of the ASI. Follow-up questionnaires were also developed for the P-CAP program, and covered a range of topics including substance use, alcohol and drug treatment, access to services, birth control practices, financial circumstances, and index infant guardianship among many potential changes in the woman's life over the time period.[57]

Data Collection

Face-to-face ASI interviews were conducted by paraprofessional advocates upon entry to the programs. Paraprofessional advocates conducted follow-up assessments at 6 months post-admission. Original data were photocopied from program records, anonymized, and entered into SPSS 14.0.[58]

Cumulative Risk Analysis

The measures of risk used were adapted from those reported by Nair and colleagues for the ASI.[41] Risk factors were coded as "0" if they were not present, and "1" if they were present, and all 10 factors were summed to compose a Cumulative Risk Score with a maximum value of 10 and a minimum value of 0. For individual risk domains, see Table 1.

TABLE 1 Definitions of cumulative risk domains adapted from Nair et al.[41]

Risk Domain	Definition
Maternal Depression	Clients were asked if they had "experienced serious depression in the past 30 days" for a duration of two weeks or more
Partner Violence	All women who reported that they were currently experiencing either physical, sexual, or a combination of abuses from their partners were counted as experiencing partner violence.
Current Life Violence	Clients reported whether any family member, employer, neighbour or other persons had physically or sexually abused them in the past 30 days.
Family Size	Any woman with 4 or more biological children in her care was counted as having a large family size.
Homelessness	Any woman who reported her current housing situation as either "Homeless (without shelter)" or "Transient, emergency shelters" was counted as being homeless.
Incarceration	Any woman who had spent 1 or more days in the past 30 as being detained or incarcerated or who had reported being jailed in the past 30 days was counted as incarcerated.
No Live-In Partner	Any woman who did not report currently living with their sexual partner was counted at risk.

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Alcohol Severity	Any woman above the 75th percentile on the ASI Alcohol Severity composite score was counted at risk.
Drug Severity	Any woman above the 75th percentile on the ASI Drug Severity composite score was considered at risk.
Psychiatric Severity	Any woman scoring above the 75th percentile on the ASI Psychiatric Severity composite score was considered at risk.

ASI: Addiction Severity Index; Higher scores indicate greater severity

Statistical Considerations

ASI composite scores were calculated as per the ASI *Composite Scores Manual.*[55] Missing data were not imputed. A woman was considered the guardian of her child if she had legal custody of the child and lived with the child for at least 5 of the 6 months at follow-up. She was considered as not having custody if the child lived with another relative, was in foster care, or was adopted, or had lived with the mother for less than 5 months. Women who had an infant who died were not included in subsequent analyses of guardianship.

For comparisons between outcome groups, the Fisher's exact test was used for categorical variables and a t-test was used for continuous variables. The *a priori* level of significance for all tests was set at α=0.05. Multiple comparison adjustments were not used due to the exploratory nature of this study and all data is reported as exact p values for consideration by the reader.[59,60] All analyses were conducted using STATA S/E Version 10.0.[61]

RESULTS

Over the five year period, 107 program clients completed the ASI. Of these women, 6 month follow-up data was available for 84 (78.5%). Women without follow-up data were more likely to have at least one close friend, a criminal record, and to have someone providing them financial support when compared to women for whom follow-up data was available. At 6 month follow-up, 2 women had experienced a spontaneous abortion (2.4%) and 10 were still pregnant (11.9%).

Data concerning guardianship were missing for 8 additional women (9.5%). None of these women were included in further analysis, leaving 64 clients in the analysis group (76.2%). Fifty-five (69.6%) of the women had legal custody and had been the guardian of their index child for at least 5 of the 6 months at follow-up. The remaining 24 women had guardianship of their index child for an average of 1.5 months (+/- 2.0 months). Other guardians of the children included foster placements (n=12), extended family (n=6), adoptive care (n=1), or their biological father (n=1).

Individual Risk Factors

Of the demographic variables measured, only income in the 30 days preceding intake differed significantly between women who did and did not have guardianship of their child 6 months later (Table 2). Women with an income over $500.00 during the month prior to admission were more likely to be the guardian of their child. Maternal age, education, marital status, race, and previous involvement in child protective services did not differ significantly between groups.

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TABLE 2 Demographic information

	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
	Mean	**(sd)**	**Mean**	**(sd)**	
Age (years)	25.6	(5.1)	25.0	(5.0)	0.650
Education (years)	9.8	(1.7)	9.5	(1.3)	0.650
Income in past 30 days ($)	1074.85	(909.79)	544.85	(275.88)	0.014
	N	**(%)**	**N**	**(%)**	
Income in the past 30 days is ≥$500	38	(93)	11	(55)	0.001
Income in the past 30 days is ≥$1000	12	(29)	0	(0)	0.006
Income from welfare received in past 30 days	33	(80)	18	(90)	0.474
Involvement in sex trade in past 3 years	15	(36)	10	(45)	0.311
Race					
Indian	17	(45)	13	(59)	0.489
White	9	(24)	5	(23)	
Métis	8	(21)	4	(18)	
Other	4	(10)	0	(0)	
Client has moved 3 or more times in past year	26	(62)	11	(52)	0.589
Living Arrangement					
Partner/Spouse	15	(36)	8	(36)	0.523
Family/Relative/Friend	9	(21)	2	(9)	
Alone	7	(17)	5	(23)	
Controlled environment	0	(0)	1	(4)	
No stable arrangement	11	(26)	6	(27)	
Never married	33	(80)	17	(77)	0.755
Valid drivers license	11	(26)	2	(9)	0.189
Client was in foster care as a child	28	(67)	12	(55)	0.418
One or more of client's other children live in someone else's care	19	(45)	13	(59)	0.739
Number of children living with client (mean/SD)	2.3	(1.5)	2.5	(1.3)	0.597
Charged with 1 or more criminal offense	33	(83)	21	(100)	0.084
Client is on probation/parole	10	(24)	6	(27)	0.769
Chronic medical problems	13	(32)	8	(38)	0.777

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Women with and without guardianship did not differ by primary substance of abuse, substance use during the 30 days prior to intake, lifetime substance use, or use of substances during pregnancy (Table 3). Women who were abstinent from drugs at follow-up were more likely to be the guardian of their child; however, abstinence from alcohol was not significantly associated with guardianship. Women who maintained guardianship of their children attended more prenatal care appointments, especially in their third trimester, and were more likely to have seen a Public Health Nurse in the year before program intake (Table 4). Women did not differ significantly in the use of other health care and social services.

TABLE 3 Substance use and infant guardianship

	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
Consumed any alcohol in past 30 days	14	(35)	8	(36)	1.00
Consumed alcohol to intoxication in past 30 days	3	(8)	4	(19)	0.226
Consumed alcohol during pregnancy	25	(62)	15	(68)	0.784
Used multiple drugs in past 30 days	4	(10)	6	(29)	0.075
Used multiple drugs during lifetime	31	(82)	15	(75)	0.734
Smoked in past 30 days	33	(79)	19	(95)	0.146
Smoked during pregnancy	35	(92)	19	(90)	1.00
Client was abstinent from drugs at 6 months	37	(80)	9	(45)	0.008
Client was abstinent from alcohol at 6 months	32	(71)	13	(59)	0.409

TABLE 4 Health and social service use and infant guardianship

	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
	Mean	**(SD)**	**Mean**	**(SD)**	
Prenatal visits in 1st semester	1.0	(1.4)	1.4	(2.3)	0.440
Prenatal visits in 2nd semester	3.1	(2.6)	2.2	(2.2)	0.176
Prenatal visits in 3rd semester	5.9	(3.4)	2.9	(2.7)	0.003
Total prenatal visits	9.9	(6.5)	6.0	(5.6)	0.047
	N	**(%)**	**N**	**(%)**	
Family health care provider	32	(78)	12	(67)	0.517
Public Health Nurse	22	(63)	4	(25)	0.017
Mental health service	5	(15)	2	(13)	1.00
Domestic violence services	6	(19)	4	(27)	0.704
Other health care services (i.e. dentist, physical therapy, eye doctor, etc)	21	(57)	10	(53)	0.784
Alcoholics Anonymous or Narcotics Anonymous	12	(33)	6	(33)	1.00
Other support group (i.e. social, church group)	7	(22)	3	(17)	0.730
Food bank or other food programs	23	(64)	13	(65)	1.00
Clothing supplies	18	(55)	11	(61)	0.770
Public housing	4	(13)	4	(25)	0.413

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TABLE 5 Psychological status, history of abuse, and social support

	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
	N	**(%)**	**N**	**(%)**	
Psychiatric diagnosis	11	(31)	4	(27)	1.00
Psychological or emotional problems in 30 days before intake	15	(37)	13	(68)	0.028
Experienced physical abuse as a child	25	(60)	12	(57)	1.00
Experienced sexual abuse as a child	25	(60)	18	(90)	0.019
Experienced emotional abuse as a child	27	(69)	12	(60)	0.784
Experienced any abuse as a child	34	(81)	21	(95)	0.147
Currently in abusive relationship	8	(19)	3	(14)	0.113
Has 1 or more close friends	25	(60)	10	(45)	0.304
Someone contributes to client's support (i.e. cash, housing, food)	23	(55)	6	(27)	0.063

Women who were not guardians of their children were more likely to have experienced psychological or emotional problems in the month before program admission, and were more likely to have been sexually abused during childhood (Table 5). There were no significant differences between the groups in terms of social support or other types of abuse.

On average, baseline ASI Composite Scores were elevated in women who had lost guardianship of their children compared with women who remained guardians, indicating a greater severity of problems in all domains (Table 6). However, only psychiatric and alcohol scores differed significantly between groups.

TABLE 6 Addiction Severity Index severity scores at program admission

	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
ASI subscales	**Mean**	**(SD)**	**Mean**	**(SD)**	
Alcohol	0.11	(0.15)	0.27	(0.30)	0.033
Drugs	0.11	(0.11)	0.18	(0.09)	0.056
Legal	0.17	(0.37)	0.29	(0.28)	0.241
Medical	0.08	(0.19)	0.22	(0.32)	0.126
Family & Social	0.21	(0.18)	0.30	(0.23)	0.100
Psychiatric	0.17	(0.19)	0.38	(0.24)	0.002
Employment	0.90	(0.16)	0.96	(0.12)	0.111

ASI: Addiction Severity Index; Higher scores indicate greater severity

Cumulative Risk

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For the Psychiatric, Alcohol and Drug severity ASI composite scores, the 75th percentile fell at 0.46, 0.23, and 0.17 respectively. These values were used as the cut-off points above which a woman was considered to have a particular risk factor. The remaining variables were categorically present or absent. Cumulative risk scores ranged from 0 to 6 out of a possible 10 risk factors. The distribution of the risk scores is shown in Table 7. The mean baseline cumulative risk score differed significantly between women who did and did not have guardianship of their child at follow-up.

TABLE 7 Cumulative risk scores at program admission

Number Risk Factors Present[1]	Client was guardian at 6 months (N=55)		Client was not guardian at 6 months (N=24)		p-value
	n	(%)	n	(%)	
0	7	(17)	0	(0)	
1	15	(36)	1	(5)	
2	9	(21)	6	(28)	
3	7	(17)	6	(28)	
4	3	(7)	4	(18)	
5	1	(2)	3	(14)	
6	0	(0)	2	(9)	
Mean (SD)	1.69	(1.28)	3.36	(1.40)	<0.001

The 10 possible risk factors included maternal depression, partner violence, current life violence, large family size, homelessness, incarceration, lack of live-in partner, and alcohol, drug, and psychiatric problem severity

DISCUSSION

Within a cohort of clients of an Albertan home visitation program, custody retention at six months post-admission was comparable to that found in an American study (66%)[28], and even exceeded rates in two studies of postpartum placements among women who used opiates[39] and cocaine[25] during pregnancy (58% and 62% respectively). However, it is unknown to what extent these outcomes reflect program impact, and to what extent they result from differing child welfare policies and practices, differing social, health and economic policies, and other systemic issues including, geographic and cultural factors, that often influence the availability and accessibility of services. Two Canadian studies have found comparable rates of custody retention to be 63%[45] and 53%[62] among preschool aged children. Regardless of program impact factors, it can be inferred that at least 30% of women who used substances while pregnant remained unable to provide safe homes for their infants, even with the assistance of a home visitation program.

Unlike previous studies, demographic variables such as maternal age[27,29], education[26], race[27], and marital status[26] were not associated with guardianship at follow up. Prior involvement with child welfare was also seemingly independent from guardianship, unlike previous reports[27,29], as were substance use at baseline, types of substances used, and age of initiation of substance.[28,29] However, these negative findings may be related to sample size, as some of these studies had more participants and may have had a greater power for the detection of small differences. Significant associations between abstinence from substances other than alcohol and child guardianship were only seen at 6 months, while severity of alcohol problems at baseline were also associated with retention of guardianship. This finding is of particular concern, as the women enrolled in this program and others in Alberta have rated treatment for alcohol addiction as unimportant.[52] Of addictive substances, alcohol is also the teratogen with the greatest documented effect.[1] Addiction treatment for both alcohol and other substances may be interdependent with the goal of guardianship retention, as women in other studies have reported child custody retention as a motivator for

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addiction treatment.[1,34,35] Understanding this link may be a first step in motivating women to pursue alcohol addictions treatment.

Income in the month preceding admission was associated with custody, which has not been found in studies of similar populations.[30] The link between custody and financial resources may be that poverty increases the stress for a parent, thereby increasing the chance of parental frustration and abuse, or it may be that scarcity of other resources such as utilities and food decrease the quality of the home environment.[63,64] Alleviating the effects of severe poverty may be an important program goal for service providers, and severe poverty and income instability may be indicators that a family requires more intensive intervention.

The relationship between custody status and psychological distress is consistent with previous studies, which have found that women with more problems on the Brief Symptom Index (BSI) are more likely to lose custody of their substance-exposed infant.[29,30] Maternal psychiatric problems, and in particular depressive symptoms, may lead to withdrawal from the infant, irritability and hostility, and increased stress, which in turn, may increase the risk of child neglect and abuse.[65] Although rates of psychological problems differed between the two groups, there were no statistical differences between rates of diagnosis or mental health services use. Nonetheless, mental health assessments, referrals, and/or treatment play an important part in services targeted to this population.

Although this study found a relationship between history of sexual abuse and guardianship outcomes, this finding contradicts other studies in similar population from Minnes and colleagues.[30] However, these investigators did find that rape, emotional neglect, and physical neglect were more common among women without custody of their children in the postpartum period. Women who have suffered traumatic events or who have been abused or neglected by their own parents may be less able to form secure attachments with their children, and therefore may be more likely to become abusive or neglecting parents.[66] Addressing mental health problems and trauma may be key to improving custody outcomes in this group of women. Consistent with other studies, increased prenatal care was associated with retention of guardianship at follow-up.[27,30] The theoretical link between these variables is unclear. Being unable or unwilling to attend prenatal care may reflect a variety of other challenges in a woman's life, such as economic problems, housing instability, or depression, all factors which may also impact ability to adhere to CPS case plans or the incidence of child abuse itself.[67] The average number of visits attended by the women who maintained guardianship of their infant actually exceeded the minimum eight visits recommended by the Society of Obstetricians and Gynecologists of Canada (SOGC), which is a positive indication.[68]

Although only Alcohol and Psychiatric ASI composite scores statistically indicated greater problem severity among women who did not have custody of their children at follow-up, these clients showed a non-statistical increase in problem severity in all domains measured. This finding is consistent with the differences in cumulative risk scores found between the two groups. Nair and colleagues[41] found that a greater cumulative risk score was associated with greater parenting stress and risk for child maltreatment. Experiencing stressors in a variety of life domains may translate into parenting stress and increased likelihood of abuse and placement outside of the home. Women with complex lives may have more difficulty following through with CPS plans and in providing safe homes for their infants.

Limitations

Although the results of these analyses have important implications for home visitation programs targeted to Albertan women who use substance perinatally, there are some important limitations. A larger sample size would allow for the use of multivariate statistics, such as logistic regression, to determine which variables are the best predictors of guardianship of the target child at follow-up. Non-significant trends were seen in many of the variables, which may not have been statistically detected because of a lack of power as a consequence of small sample size. Nonetheless, expansion of sample size would have been difficult in a retrospective study given the capacity of the program studied. Expanding the cohort by including admissions over a longer period of time might have increased the impact of confounding variables such as changes in

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programming, demographics, and policy over time.

Problems of small sample size were exacerbated by the loss of 21.5% of the cohort to follow-up. It is unknown what proportion of this loss was due to attrition, as details of discharge from program were not recorded. However, difficulties in retaining women who abuse substances perinatally in treatment have been widely documented.[69] Prospective studies on home visitation programs serving this population have reported attrition rates between 4 and 37%.[9,11,13,43,46] Further research is needed to understand why women leave these programs and who is at the highest risk of attrition. This knowledge may help to better tailor services to meet this particularly high-risk subpopulation's needs.

A further limitation of this study was that the reasons for guardianship loss were unknown. Clients may or may not have been perpetrators of abuse, and strategies for helping women at risk of being abusive and helping a woman whose family members or partners may be abusive towards children would be substantially different. Furthermore, there may be substantial differences between parents who abuse, neglect, or abandon their children.[65] Future Canadian research in this area should gather data on the reasons for guardianship loss.

CONCLUSIONS

The majority of Albertan women enrolled in a perinatal substance abuse home visitation program were able to maintain guardianship of their infant; however, despite the support of this program and comparable American endeavours, many clients remain unable to provide safe homes for their children. Characteristics differentiating women who maintained custody and those that did not included higher income, better mental health, lower rates of history of sexual abuse, abstinence from drugs, and increased involvement in prenatal care. Women who experienced adverse conditions in multiple domains of their life at program admission were at greater risk of losing guardianship of their infant.

Disruption in care has been associated with poor child development, and maintenance of guardianship is often a priority for pregnant and parenting women served by substance abuse treatment programs. Many of the risk factors for custody loss identified in this study are modifiable or may be alleviated. Therefore, further investigation is needed to understand how to best support women in maintaining child custody without compromising the safety and best interests of their children. Given the complexity of the issues faced by women at risk of custody loss, preconception interventions might be most successful in both preventing substance-exposed pregnancies and promoting healthy parenting in the postnatal period. Understanding how and why women become addicted to substances and their obstacles to abstinence, as well as the links between substance abuse, poor parenting, and the other risk factors explored here, will help to improve screening for women at risk of guardianship loss and to appropriately target Canadian programs for this population. In addition, identifying and addressing the antecedents of substance abuse during pregnancy, including domestic violence and poverty over the life course of women, will require collaboration between policy-makers, social service and health care providers, and individual intervention programs. Interventions must continue to address a wide variety of obstacles women face in achieving abstinence and in parenting in order to make a positive impact on the lives of women at risk of substance exposed pregnancies and their children.

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