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RESEARCH ARTICLE

Demographic Characteristics Associated with Pregnant and Postpartum Youth Referred for Mental Health Services in a Community Outreach Center

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Abstract

Objective: *Pregnancy in youth is considered high risk from a number of different standpoints. At present, limited data has explored demographic factors associated with Canadian cohorts of pregnant and postpartum youth seeking mental health services.* We aimed to describe demographic characteristics associated with pregnant and postpartum youth and young adults referred for mental health services in the community and to compare this with data drawn from a hospital-based perinatal mental health clinic. **Method:** Patients were recruited at a young parents' outreach center (YPOC) in a large urban Canadian city. The patients completed questionnaires at the time of initial assessment. The number of attended and missed appointments was tracked and compared to a hospital-based control group in an effort to determine whether the community-based clinic would result in fewer missed appointments. **Results:** A total of 28 patients were assessed at the YPOC. The mean age of all participants was 19.4 years (+/-2.3years) as compared to 18.57 years (± 1.81 years) for the hospital-based group. Rates of poverty were high, and high school completion and level of social support low for many patients. Patients attending the YPOC clinic missed fewer appointments overall. **Conclusions:** Pregnant and postpartum adolescents and young adults possess multiple risk factors across various domains that threaten short and long term health outcomes. Establishment of outreach mental health clinics may help minimize barriers to care as demonstrated in the present study by fewer missed appointments and should be investigated further as a means of improving mental health access and outcomes.

Key Words: youth, adolescence, perinatal, pregnancy, risk factors, access

Résumé

Objectif: *La grossesse chez les adolescentes est considérée à risque élevé d'un certain nombre de points de vue différents. À l'heure actuelle, des données limitées ont exploré les facteurs démographiques associés aux cohortes canadiennes d'adolescentes enceintes et en postpartum qui cherchent à obtenir des services de santé mentale. Nous visions à décrire les c*aractéristiques démographiques associées aux adolescentes et aux jeunes femmes enceintes et en postpartum adressées à des services de santé mentale dans la communauté, et à les comparer avec des données tirées d'une clinique de santé mentale périnatale en milieu hospitalier. **Méthode:** Les patientes ont été recrutées dans un centre d'approche pour jeunes parents (CAJP) d'un grand centre urbain canadien. Les patientes ont répondu à un questionnaire au moment de leur évaluation initiale. Le nombre de rendez-vous respectés et manqués a été suivi et comparé avec celui d'un groupe témoin en milieu hospitalier en vue de déterminer si la clinique communautaire aurait moins de rendez-vous manqués. **Résultat:** Au total, 28 patientes ont été évaluées au CAJP. L'âge moyen de toutes les participantes était de 19,4 ans (+/-2,3 ans) comparativement à 18,57 ans (± 1.81 an) pour le groupe en milieu hospitalier. Les taux de pauvreté

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étaient élevés, et ceux d'études secondaires terminées et de soutien social étaient faibles pour beaucoup de patientes. Les patientes de la clinique du CAJP ont manqué moins de rendez-vous globalement. **Conclusions:** Les adolescentes et les jeunes femmes enceintes et en postpartum présentent de multiples facteurs de risque dans divers domaines qui menacent les résultats de santé à court et à long terme. La création de cliniques de santé mentale d'approche peut contribuer à minimiser les obstacles aux soins comme le démontre la présente étude par le nombre réduit de rendez-vous manqués, et devrait faire l'objet de plus de recherche comme moyen d'améliorer l'accès à la santé mentale et les résultats.

Mots clés: *adolescente, adolescence, périnatal, grossesse, facteurs de risque, accès*

Background

Mental illness arising in the antenatal and postpartum period is common in pregnant and postpartum youth although little prospective research has been conducted. Perinatal mental health disorders are common across all ages, occurring in up to 16% of women (Gavin et al., 2005). Estimates suggest 5-16% of women will experience a mood disorder (e.g. depression) during pregnancy and up to 9.6% will be diagnosed with major depressive disorder postpartum (Gavin et al., 2005). Perinatal anxiety disorders are estimated to affect approximately 9% of mothers (Ross & McLean, 2006). Young mothers face significant stressors across multiple domains and are at heightened risk for mental health (MH) concerns (Vigod et al., 2014; Hodgkinson, Beers, Southammakosane, & Lewin, 2014). In fact, research has demonstrated that adolescent mothers are twice as likely to have postpartum depression as compared to adult mothers (Birkeland, Thompson & Phares, 2005). A recently published Canadian retrospective cohort study found that almost 11% of teen mothers endorsed clinical rates of depression using the Edinburgh Postpartum Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987) at three weeks' post-partum and that the rate climbed to 20% by three months postpartum (Thompson et al., 2015). In addition to depression, early childbearing has been shown to be associated with an elevated risk of anxiety, substance abuse, trauma, intimate-partner violence, post-traumatic stress disorder, and suicidal ideation (Ross & McLean, 2006; Pinzon & Jones, 2012; Hodgkinson et al., 2014).

Professional guidelines, practice points, proposed models of care, and clinical reviews originating from multiple sources have addressed the prevalence and severity of MH issues in the peri-partum period in youth, but the body of prospective literature available to guide best practice in this area remains limited (Pinzon & Jones, 2012; Ruedinger & Cox, 2012; Fleming et al., 2015; Hodgkinson et al., 2014). Of the research that has been conducted to date, studies have focused on depression, attachment, substance abuse, and to a lesser extent, suicidality. A recent document (2015), prepared by the Canadian Paediatric and Adolescent Gynaecology and Obstetricians (CANPAGO) committee proposed 23 recommendations describing the needs and evidence-based practice specific to care of the pregnant adolescent in Canada. The first of those recommendations suggested (among other things) that health care providers attempt when possible to use a model that provides youth an opportunity to address all of their needs at one site (Fleming et al., 2015). Given treatment challenges in this population, described interventions have been typically non-traditional and integrated into non-clinical settings (Hodgkinson et al., 2014). Additionally, there are noted barriers to care by women with perinatal mental health concerns, which may be because of their under diagnosis (Austin & Priest, 2005) and/or perceptions of stigma (Goodman, 2009). No Canadian study has prospectively focused on mental health access in this cohort and there is limited available data that describes demographic factors associated with mental health involvement in Canadian cohorts of pregnant and postpartum youth.

Few dedicated perinatal mental health outreach services exist for pregnant or postpartum youth within Canada and seemingly North America. In an attempt to better serve the medical needs of the outlined population in our city, a multidisciplinary outreach clinic was established at a young parent outreach center (YPOC) with partnerships from Family Medicine, Pediatrics, Obstetrics, and Psychiatry. The outreach center is housed within a social service agency that provides a full range of programs, including schooling, and services for young pregnant women and mothers up to age 25 years, as well as fathers, infants and young children. By offering support in various domains, the center promotes education, empowerment, and skills attainment in an attempt to optimize health throughout pregnancy and outcomes thereafter. The Agency believes strongly in core values that include: Pregnancy and early parenting are times of opportunity for personal growth; Young parents are capable of building strong, nurturing and healthy families; and that Children have rights as individuals. In addition to the Young Parent Outreach Centre, individuals can seek added support by way of an on-site residence (St. Mary's Home, 2016). The hospital-based MH perinatal clinic provided services at a tertiary care health center to pregnant and postpartum women (up until one year) for any new or pre-existing MH concern.

The primary purpose of this study is to describe demographic characteristics associated with pregnant and postpartum adolescents and young adults referred for mental health services at the YPOC and to compare this with adolescent and young adult data drawn from a hospital-based MH perinatal clinic. We were also interested in ascertaining the similarities and differences between our sample and those described in other published studies. Finally, we sought to determine

whether the introduction of the MH outreach clinic would result in better access and less barriers to care.

Method

Procedure

Patients were recruited at the YPOC described above, which was located in a large urban Canadian city. Physicians from the obstetrical service, adolescent health clinic, or family health care team referred participants and enrollment took place over a one-year period. Patients were included if they were between the ages of 16-25 years, provided informed consent, and completed questionnaires before initial assessments were undertaken. In order to compare rates of attended visits and missed appointments between the YPOC clinic and the traditional hospital-based model of care, a control sample was used. These individuals were drawn from patients initially referred to the hospital from the YPOC before MH services were available on-site at the YPOC. In an attempt to match the number of patients as best as possible in both groups, a three-year window was required for identification of sufficient control patients.

Patients at the YPOC and hospital site completed an initial intake with a psychiatric nurse and were then assessed individually by a perinatal MH psychiatrist. A single psychiatrist completed all sessions at the YPOC where as a team of three psychiatrists (including the YPOC-designated physician) completed assessments and follow-up appointments at the hospital site. Individual treatment was tailored to patient needs, including counseling, the prescription of psychotropic medication and referrals to additional health care professionals, where indicated.

Data Analysis

Data was analyzed using descriptive statistics in SPSS version 19 (IBM corporation, USA). Descriptive statistics were used to calculate frequencies, percentages, and means. Our institution's research ethics board approved the study.

Results

Intervention Group: A total of 28 patients participated – 17 young adults (between the ages of 19 and 25) and 11 adolescents (between the ages of 16 and 18). The mean age of all participants was 19.4 years (+/-2.3years). Patients were classified at the first session as either antenatal, postpartum, or loss (fetal demise at any point during the pregnancy). Of the young-adult participants, 13 were antenatal and four were postpartum. With respect to the adolescent participants, 11 were antenatal and one was postpartum. There were no participants who miscarried or lost their infant in either group. The current study reports on demographic data of participants recruited in the first year of study, which coincided with the official introduction of on-site MH services at the YPOC (September 2013 – September 2014).

Comparison Group: Twenty-one patients were assessed and participated in a program evaluation between 2010 and 2012 in the hospital setting. Of those participants, 12 were adults and nine were adolescents. Socio-demographic characteristics of the sample are presented in Table 1.

Pertaining to educational status, almost 70% of those assessed had not completed high school. In fact, just 10% of the sample had graduated at the time of first assessment. Rates were similar in both groups. Eighty percent of the intervention sample reported living with an annual household income < $20,000 as compared to 2/3 of those assessed at the hospital. Relating to social supports, 29% of the YPOC clinic sample was single at the time of assessment as compared to 65% of those in the hospital cohort. Approximately 2/3 of participants in the prospective sample continued to be in relationships with the baby's biological father (this data was not available for the hospital cohort). Similar rates of participants had given birth to at least one other child previously, although very high proportions in both groups had since lost custody of the child(ren). A similar proportion of both groups acknowledged ongoing involvement with the Children's Aid Society (Child Welfare) at the time of their first assessment.

In terms of living arrangements, the YPOC residence was the most likely cited living arrangement for those assessed at the outreach satellite clinic where as the hospital group were most likely to live at home with parents. A greater proportion of patients in the YPOC cohort acknowledged living with their spouse/ partner as compared to the hospital-based group.

In an attempt to determine whether the satellite clinic improved access, the number of sessions attended was captured and compared to a cohort of patient's that sought services through the traditional hospital-based perinatal mental health program. Although there were no differences noted in the total number of sessions attended at either site, a significantly higher proportion of patients missed appointments at the hospital (M=0.71) setting as compared to the YPOC (M=1.43) ($p<005$, d=-0.65, CI= -0.09, -1.02) (Table 2).

Discussion

Pregnant and parenting adolescents and young adults commonly face increased stressors in multiple domains. This occurs partly as a result of disadvantaged circumstances, but is also likely related to factors such as increased rates of depression, developmental delay, sexual and/or physical abuse, along with other mental health related conditions (Singh, Darroch, & Frost, 2001; Harden, Brunton, Fletcher, & Oakley, 2009; Francisco et al., 2008; Al-Sahab, Heifetz, Tamim, Bohr, & Connolly, 2012; Noll, Shenk, & Putnam, 2009; Coll, Vohr, Hoffman, & Oh, 1986; Vigod et al., 2014).

Table 1. Sample socio-demographic characteristics

Variable	YPOC participants n=28	Hospital participants n=21
Mean age ± SD (yrs.)	19.43 ± 2.27	18.57 ± 1.81
Age range (yrs.)	16-25	16-23
	%	%
Educational level	n=28	n=15
Did not graduate from high school	67.9	66.7
High school diploma	10.7	13.3
Some college/ post-high school	14.3	13.3
Completed college	3.6	6.7
Completed university/ post graduate degree	3.6	0.0
Family income ($)	n=25	n=17
>100,000	0.0	11.8
60-79 000	4.0	5.9
40-59 000	4	11.7
20-39 000	12	5.9
< 20 000	80	64.7
Marital status	n=28	n=21
Single	28.6	65.0
Married	3.6	5.0
Common-law	39.3	30.0
Other[1]	28.6	--
Baby's father is current partner	64.3	--
Number of children at home	n=12	n=12
One	75.0	33.3
Two	16.7	58.3
Three	0.0	8.3
Four	8.3	0.0
Custody of 1 or more of their children	58.3	50.0
	n=28	n=20
CAS involvement	42.9	40.0
Attending school at YPOC	21.4	--
Housing	n=28	n=17
YOPC Residence	39.3	23.5
With spouse/partner	32.1	11.8
Alone	14.3	5.9
With parents/family	10.7	35.3
With in-laws and partner	3.6	11.8
With roommate(s)/friend(s)	--	11.8

[1]Boyfriend, dating, in a relationship, and 'it's complicated'

Table 2. Mean number of attended and missed appointments

Variable	YPOC Attended Appointments (N=28)	Hospital Attended Appointments (N=21)	YPOC "No Show" Appointments (N=28)	Hospital "No Show" Appointments (N=21)	Significance
Mean (SD)	3.14 (2.07)	3.81 (3.82)	0.71 (1.01)	1.43 (1.29)	$p < 0.05$
Median	2.0	2.0	0.0	1.0	
Mode	2.0	2.0	0.0	1.0	
Range	1 - 8	1-15	0 – 4	0 - 5	

Research suggests that the factors that result in teen pregnancy are diverse. Poor educational engagement, lower educational attainment, as well as educational disability have all been noted in patients included in previous studies (Harrison, Weinstangel, Dalziel, & Moreau, 2014). Although an academic achievement center was available at our YPOC, less than one quarter of patients were enrolled in active schooling at the time of study initiation. Two-thirds of patients included in our sample had not completed their high school diploma, despite the fact that the average of both samples was above 18 years. As a comparison, Canadian statistics demonstrate that 77% of the population graduates high school in Canada between the age 18-19 years. This proportion increases to 90% in those aged 20-24 years (Statistics Canada Labour Force survey, 2010). It has been shown that the proportion of youth that continue to attend schooling but have not yet graduated decreases dramatically as age increases. Although not a specific objective of our study, it would be important to better understand the educational trajectory of young mothers over time in order to better comment on risk as well as opportunities for support that exist in this area. Further exploration of the factors that affect educational attainment pre and post pregnancy would be useful to better ascertain how programs might integrate increased levels of support with an understanding that failing to complete high school substantially increases the risk of financial hardship and other stressors, such as repeat teenage pregnancy (Meade & Ickovics, 2005).

In addition to educational disadvantage, adolescent mothers have higher rates of poverty as compared to adult mothers (Deal & Holt 1998; Hillis et al., 2004). Like education, the issue of household income is influenced by a number of different factors. Since most patients do not have high school diplomas, the majority of individuals that attain employment will do so in entry-level positions or those that pay minimum wage. Given that many patients (30% in the community cohort, 65% in the hospital cohort) were single, further study that explores the correlation, if any between factors such as available support, support utilized, and education and employment status would improve our understanding of how such considerations affect overall outcomes.

Since the majority of patients assessed were antenatal at the time of first visit, it is unlikely that the issue of childcare contributed in a meaningful way to rates of unemployment or income (at least in those with no other children at home).

The high rate of single mothers is not unique to our study, as previous research has demonstrated that teenage pregnancy increases the likelihood of single parenthood compared to older mothers (Coley & Chase-Lansdale, 1998). It is unclear why the proportion of single patients was so much higher in the hospital cohort than the community cohort.

Adolescent mothers often cite inadequate social support as a stressor (Deal & Holt, 1998; Colletta, 1983; Logsdon, Birkimer, Ratterman, Cahill, & Cahill, 2002; Logsdon, Birkimer, Simpson, & Looney, 2005). Higher levels of social support in pregnancy are associated with less depressive symptoms at one year (Brown, Harris, Woods, Buman, & Cox, 2011). Moreover, low perceived family support and living outside the family home have also been associated with other risk factors, including sex without condoms, sexually transmitted diseases (STDs), contraception refusal, and repeat pregnancy (Meade & Ickovics, 2005). Only 11% of the YPOC sample lived at home at the time they were assessed. Although the proportion living at home was higher in those assessed at the hospital, it is unclear how this finding influenced other findings. Further, although we classified visits as antenatal, or postnatal, a more detailed gestational timeline might provide additional information as to whether patients were more (or less) likely to reside with parents as the due date drew closer. It should be noted that 40% of each group reported involvement with the Children's Aid Society (Child Welfare), of which the majority of involvement occurred antenatally.

As shown in previous research, our study documented that a significant proportion of youth had previously given birth. Meade & Ickovics systematic review of sexual risk among American pregnant and mothering teens showed documented rates of repeat pregnancy as high as 44% within 12 months and up to 63% in 18 months. Even in cases where

contraception was provided immediately postpartum up to 25% of samples studied had become pregnant again by 12-15 months postpartum. Further, it is known that with each additional birth, the likelihood of suboptimal medical care, school drop out, unemployment, and dependence on social assistance programs increases (Akinbami, Schoendorf, & Kiely, 2000).

Outside of better characterizing our patient population, we sought to determine whether the implementation of a community-based clinic would result in fewer missed appointments. Although the median and mode of appointments were equal, the community-based clinic patients were significantly less likely to miss scheduled appointments. Although other variables including patient satisfaction, level of distress/impairment, and therapeutic engagement with the provider could be considered potential confounders, initial outcome data has not suggested this to be a critical factor. Future study could also examine adherence across all providers at the YPOC to try and better understand any other confounding variable not addressed in the present study. Assuming that these issues could be controlled for, it helps justify the need to "go to the patient" as opposed to relying on the "patient coming to us." Given the reality that a proportion of patient's included in this study would be considered at especially high risk given the demonstrated need for housing, financial constraints, and child protection services involvement, an opportunity to access a continuum of care located centrally at one site offers patient's added stability and ideally a chance at improved outcomes. Although the total number of appointments was equal, less missed appointments might suggest a less interrupted and more continuous treatment course, which in turn could also potentially increase the likelihood of improved overall outcomes. Further work is necessary to better understand the clinical significance of this finding. Given the risks associated with teen pregnancy, it is becoming increasingly clear health care providers need to find innovative ways to offer care in the hopes of optimizing outcomes. Our ability to contribute to a "one stop shop" model of care delivery has demonstrated that community-based services offer pregnant and parenting youth an opportunity to access mental health assessment and ongoing support and treatment in a variety of domains.

Limitations of the current study include small sample size as well as data variables that could be more completely defined. We did not conduct analyses specific to 16-18 years or 18-25 years outside of that reported, but with a larger sample this could be examined. The study has strengths in that the intervention was prospective and we were able to provide a comparison of services offered in two distinct settings. Further, our study builds upon an extremely small body of data specific to the Canadian health care experience. Moving forward, it will be important to better understand how these patients engage with treatment and ultimately progress throughout pregnancy, the postpartum, and beyond. Implications for practice utilizing a model described herein are immense in that patients are offered an improved opportunity for care using a multi-disciplinary, collaborative care model that is non-judgmental, welcoming, and developmentally and trauma informed. Ongoing research that examines short and long term outcomes in mother and child will help to better inform how biological, psychological, and social contributions can better support the patient and ultimately result in optimized care and outcomes.

Acknowledgements / Conflicts of Interest

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