BRIEF REPORT

Examining sources of Social Support and Depression Prevention Among Pregnant Youth Experiencing Homelessness: Outcomes of a Seven-City Study

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Abstract

Young adults experiencing homelessness (YAEH) with pregnancy history are at higher depression risk. Receiving social support is protective for depression in pregnancy. This study differentiates social support sources associated with depression by pregnancy history among YAEH.

Using a subsample of data collected from YAEH in seven US cities that were collected through REALYST, we conducted stratified logistic regression models (by pregnancy history) to identify support sources associated with depression. Logistic regression analysis including the interaction term (i.e., pregnancy history x support sources) using the full sample was then conducted.

A higher proportion with pregnancy history reported depression compared to those without. Support from home-based peers was significantly associated with reduced depression risks among YAEH with pregnancy history, but not among youth without. Home-based supports were less frequently indicated by homeless female youth with pregnancy experience.

Home-based social support is protective against major depression for YAEH with pregnancy experience. Findings of this study suggest that interventions addressing depression among YAEH should take their pregnancy history and social support sources into consideration. Specifically, for YAEH with pregnancy history, facilitating supportive social ties with home-based peers may be promising in reducing their depression risks.

Keywords Homelessness · Youth · Young adults · Pregnancy · Mental health ·
Depression · Social support

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Introduction

Young adults experiencing homelessness (YAEH) are up to eight times more likely to have been pregnant compared to their housed peers (Begun, Combs, Torrie, & Bender, 2019; Crawford, Trotter, Hartshorn, & Whitbeck, 2011; Morton, Dworsky, & Samuels, 2017). Regardless of housing status, pregnancy is associated with an increased risk for adverse mental health, including depression (Biaggi, Conroy, Pawlby, & Pariante, 2016; Crawford et al., 2011). Little research has examined associations among depression, pregnancy history, and youth homelessness (Finfgeld-Connett, 2010; Hodgson, Shelton, van den Bree, & Los, 2013).

Receipt of social support may be protective in reducing depression risk among YAEH, including those with pregnancy history (Barman-Adhikari, Bowen, Bender, Brown, & Rice, 2016; Devereux, Weigel, Ballard-Reisch, Leigh, & Cahoon, 2009). Social support theory posits that receiving supports through ones' social relationships may serve as a "source of strength," which may protect individuals from adverse health and mental health outcomes, including depression (De la Haye et al., 2012; Johnson, Whitbeck, & Hoyt, 2005; Lee & Goldstein, 2016). Rice and Milburn's (2007). Seminal research found significant associations between mental health outcomes and peer relations and promoted future studies informed by social support theory. Subsequently, studies find that support from pro-social peers and home-based peers may be protective in reducing YAEHs' depression risks in general (Barman-Adhikari et al., 2016; Johnson et al., 2005; Lee & Goldstein, 2016).

Whether and how sources of social support may differ between YAEH with versus without pregnancy history regarding their depression risk remains unclear (Barman-Adhikari et al., 2016; Crawford et al., 2011; Cronley & Evans, 2017). The purpose of the current study is to explore and differentiate YAEH sources of social supports for those with or without a pregnancy history and associated depression outcomes. Informed by the social support theory, this study seeks a nuanced understanding of this topic.

Results from this study may guide researchers, educators, healthcare professionals, and community leaders to develop interventions tailored to YEAH. Examining differences in depression prevalence in YAEH with or without a pregnancy experience adds to the limited body of literature. Exploring sources of social support can inform interventions, policies, and practices to prevent or reduce the experience of depression for this vulnerable population.

Methods

This study examined the homeless youth risk and resiliency survey data, a cross-sectional project involving a convenience sample of 1,426 young adults accessing homelessness service agencies across seven US cities, Los Angeles, Denver, Houston, New York, Phoenix, San Jose, and St. Louis (Santa Maria et al., 2019). The parent project collected personal (e.g., demographic information, pregnancy history, mental health status) and social network data via self-administered computer-assisted anonymous personal and network surveys.

Participants

Young adults accessing services from collaborating homeless service agencies, who were (1) between 18 and 24 and (2) currently experiencing homelessness/unstable housing, were eligible for the parent project. In accordance with the purpose of the study, we include respondents who completed the personal and social network surveys and whose birth sex was female, including those identifying as cisgender female, transgender-male, nonbinary, or genderqueer (n=485). Each study site obtained Institutional review board approvals. Detailed methods of the REAYLST study are reported elsewhere (Santa Maria et al., 2019). Among YAEH in the study, 46.4% (n=225) had a pregnancy history. Respondents were predominantly of racial minorities (Black: 48.2%; multi-racial or other: 25.6%); approximately 4.3% identified as gender minority; 40.4% identified as a sexual minority (i.e., lesbian, gay, questioning, or others); and over half had experienced homelessness for at least a year.

Measurements

Outcome Variable Self-reported depression was dichotomized based on youths' responses to the question, "Has a doctor or mental health provider ever diagnosed you with major depression?" (1=yes).

Independent Variables Independent variables include pregnancy history (dichotomous variable; 1=had ever been pregnant, including current or miscarriage) and social support sources. In the survey, respondents nominated five individuals with whom they interacted in the past 3 months. Respondents were then asked about their relationship with each of these individuals (i.e., network member types) and whether they had received any supports (i.e., advice, borrowed money, material things, or sought information) from these individuals in those 3 months. Network member types included relatives, home-based peers (i.e., peers they knew from before experiencing homelessness), street peers (i.e., peers known from the street or homelessness service agencies), intimate partners, and service providers. We then derived dichotomous variables depicting YAEHs' social support sources (i.e., 1= at least one specified network member type providing social support). Other background characteristic variables include study site, age, race/ethnicity, sexual orientation, adverse childhood experiences, hard drug use, and homelessness duration (refer to Table 1 for coding details).

Analysis

Chi-square analyses were used to test for differences between respondents with versus without pregnancy history on their social support sources. Consistent with previous literature (Wenzel et al., 2012), we conducted 10 separate logistic regression

Table 1 Demographics and differences on depression and social support sources between young adult experiencing homelessness (YAEH; n=485) with pregnancy experience vs. without pregnancy experience

	YAEH with Pregnancy Experience (n=225)		YAEH without Pregnancy Experience (n=260)		χ^2 or t
	n (%)	Mean (SD)	n (%)	Mean (SD)	
Outcome Variables					
History of Depression	111 (49.3)		102 (39.3)		5.0*
Background Characteristic Variables[b]					
Study Cities					31.7***
Los Angeles	29 (12.9)		26 (10.0)		
Denver	21 (9.3)		20 (7.7)		
Houston	50 (22.2)		34 (13.1)		
New York	37 (16.4)		56 (21.5)		
Phoenix	36 (16.0)		24 (9.2)		
San Jose	32 (14.2)		40 (15.4)		
St. Louis	20 (8.9)		60 (23.1)		
Age		21.1 (2.1)		20.0 (1.8)	5.8***
Race/Ethnicity					8.6*
White	29 (12.9)		42 (16.2)		
Black	87 (38.7)		111 (42.7)		
Latinx	40 (17.8)		52 (20.0)		
Other or Multiracial	69 (30.6)		55 (21.2)		
Gender Identity[c]					
Gender Minority	1 (0.4)		20 (7.7)		
Cisgender Female	224 (99.6)		240 (92.3)		
Sexual Orientation					1.0
Lesbian, Gay, Questioning, or Others	83 (36.9)		113 (43.6)		
Heterosexual	142 (63.1)		147 (56.4)		
Lifetime Homeless Duration (1 yr. or more)	131 (58.2)		116 (44.6)		7.5**
Adverse Childhood Experiences		5.4 (2.9)		5.0 (2.9)	0.8
Hard Drug Use	85 (38.3)		68 (26.2)		7.6**
Independent Variables					
Social Support Sources					
At least one relative in the network who provided social supports	122 (54.2)		133 (51.2)		0.5
At least one home-based peer in the network who provided social supports	45 (20.0)		74 (28.5)		4.6*

models (with background characteristics controlled), stratified by pregnancy history, to examine relationships between social support sources and depression. In these models, for each support source that was significantly associated with depression in only one group (and thus suggestive of differences in the association of the social support source with depression based on pregnancy history), we tested significance of

Table 1 (continued)

	YAEH with Pregnancy Experience (n=225)	YAEH without Pregnancy Experience (n=260)	χ^2 or t
At least one street-based peer in the network who provided social supports	54 (24.0)	55 (21.2)	0.6
At least one intimate partner in the network who provided social supports	87 (38.7)	85 (32.7)	1.9
At least one service provider in the network who provided social supports	33 (14.6)	37 (14.2)	0.0

Note. [a]Chi-Square analyses were only conducted to examine differences between YAEH with pregnancy experiences vs. those without on the outcome of interest and sources of social supports. Control variables are coded as follows. Study cities (nominal variables); age (continuous), race/ethnicity (nominal; 1=White, 2=Black, 3=Latinx, and 4=Other or Multiracial), sexual orientation (dichotomous; 1=heterosexual), lifetime homeless duration (dichotomous; 1=had experienced at least 1 year of homelessness in lifetime), adverse child hood experiences (continuous; 10 items are rated on dichotomous scale, with higher sum scores indicating more adverse childhood experiences), and hard drug use (dichotomous; 1=had used any hard drugs, including crack, cocaine, methamphetamine, ecstasy, heroine, or spice in the past 30 days).[c]With only 4.3% of the respondents self-identified as gender minority (i.e., transgender-male, nonbinary, or genderqueer), and only 1 had pregnancy experiences, gender identity (dichotomous; 1=cisgender female) was not included in the analysis* p<0.05; **p<0.01

the observed difference using an interaction term (i.e., pregnancy history times social support source) in a regression model for the combined sample of YAEH with and without pregnancy history while controlling for background characteristic variables.

Results

YAEH differed significantly by pregnancy history with respect to depression. YAEH with pregnancy history reported, as opposed to those without, a higher rate of depression (49.3% vs. 39.3%), $\chi^2(1)=5.0$, $p<0.05$. A greater percentage of YAEH without pregnancy history than those with pregnancy history reported having at least one home-based peer in the network who provided social supports (28.5% vs. 20.0%), $\chi^2(1)=4.6$, $p<0.05$. However, there is no difference between YAEH with pregnancy history and those without regarding other social support sources, including support from relatives, street-based peers, and intimate partners (Table 1). The multivariate logistic regression analysis stratified by pregnancy history is depicted in Table 2. The stratified analysis suggested that having at least one home-based peer providing social support was significantly associated with depression among YAEH with pregnancy history but not among YAEH without (OR = 0.40; 95% CI = 0.18, 0.90). However, the interaction term was not significant in the final model with the combined sample.

Discussion

Consistent with previous literature, YAEH with pregnancy history may be at greater risk of depression than those without (Biaggi et al., 2016; Crawford et al., 2011). A lifetime perspective suggests that YAEH with depression and pregnancy history

Table 2 Results of multivariate logistic regressions[a] examining the association of social support sources with depression, among young adult experiencing homelessness (YAEH; n=485) with pregnancy history and those without pregnancy history, controlling for background characteristic variables[b,c]

	YAEH with Pregnancy History (n=225)		YAEH without Pregnancy History (n=260)	
	OR	95% CI	OR	95% CI
Social Support Sources				
At least one relative in the network who provided social supports	1.10	0.59, 2.07	1.65	0.94, 2.90
At least one home-based peer in the network who provided social supports	0.40	0.18, 0.90*	0.94	0.50, 1.75
At least one street-based peer in the network who provided social supports	0.86	0.41, 1.79^	1.30	0.66, 2.56
At least one intimate partner in the network who provided social supports	1.24	0.66, 2.36	1.32	0.72, 2.39
At least one service provider in the network who provided social supports	2.28	0.91, 5.70	0.84	0.39, 1.84

Note. [a]Each social support source was examined in a separate model to avoid multicollinearity problems. [b]Background characteristic variables, including study sites (Reference category: Loa Angeles), race/ethnicity (reference category: White), sexual orientation, lifetime homeless duration, adverse childhood experiences, and hard drug use were included in all models. [c]In the final multivariate logistic regression model using the combined sample of YAEH with and without pregnancy history, the interaction term (i.e., at least one home-based peer in the network who provided social supports x pregnancy history) was not significant (OR=0.39; 95% CI=0.14, 1.03) when controlling for background characteristics. The main effect of pregnancy history is significant (OR=1.42; 95% CI=1.07, 1.89). However, the main effect of social support from home-based peers is not significant (OR=1.34; 95% CI=0.93, 1.94). ^$p<0.10$ * $p<0.05$

are at increased risk for perinatal mood and anxiety disorders beyond depression; moreover, their children are at risk for poor physical and mental health, psychosocial, and developmental outcomes (Kieling et al., 2011). The receipt of social support, specifically from home-based peers, may be protective against major depression among YAEH with pregnancy history. Notably, fewer YAEH with pregnancy history had home-based peers to count on for social support compared to YAEH without pregnancy history. Only the association between YAEHs' receipt of social support from home-based peers and depression was significant. Perhaps it is quality of these relationships that buffer against YAEHs' experiences of depression in tandem with pregnancy history rather than quantity. Indeed, with pregnancy a significant life event, being able to still maintain such pro-social ties (Rice et al., 2007) while unstably housed may be critical in decreasing depression risk. This finding also suggests need for additional exploration of social support theory to understand protective and risk factors associated with network composition for YAEH with a pregnancy history (Barman-Adhikari et al., 2016). Whereas sample size may contribute to the non-significance of other tested interactions, results nonetheless reflect the critical importance of facilitating YAEHs' abilities to maintain meaningful contact with their home-based peers (Barman-Adhikari et al., 2016; Devereux et al., 2009). Doing so may require enhanced resources that provide YAEH with greater access to technology and transportation to assist in maintaining such ties amidst housing instability (Morton et al., 2017; Rice et al., 2012). Future studies that explore the importance of

home-based peer characteristics (e.g., gender identity, sexual orientation, relationship type, risk behaviors, for what types of support is sought, and mode of interaction) will be useful in understanding protective relations for YAEH with a pregnancy history (Barman-Adhikari et al., 2016; Cronley & Evans, 2017). Additional research might explore formats to engage YAEH with pregnancy history and their closest home-based peers, perhaps through peer support models, such that YAEH could benefit from connecting to others with similar lived experiences of homelessness, pregnancy, and depression, while also developing a larger network of caring home-based peers (De la Haye et al., 2012; Devereux et al., 2009; Lee & Goldstein, 2016; Rice et al., 2012).

Limitations

As a cross-sectional study, variables used in this study did not specify when youths' pregnancy or depression experiences occurred (i.e., before, during, and/or after experiences of homelessness), hence the ambiguity of time sequence. Further, there is the threat of recall bias for self-reported data. Future research controlling for temporality or using more reliable and validated measures will contribute to this area of study. There may be utility in examining such nuances in youths' experiences, including the exploration of "upstream" opportunities to prevent pregnancy and enhance positive mental health outcomes among young people through investigations of models by which social support and peer-to-peer communication about wellness, pregnancy prevention, and healthy relationships may be developed (Begun et al., 2019; Morton et al., 2017; Santa Maria et al., 2019).

Conclusions

This study underlines an urgent need to identify effective strategies for improving the lives and outcomes of YAEH while noting some promising ways future research may engage YAEH and their social networks. Results from this study imply that home-based peer support is critical for those with depression and pregnancy history. These findings support future research, policy initiatives, and interventions to further target sources of social support for YAEH with pregnancy history for the prevention and reduction of depression.

Abbreviations
YAEH Young Adults Experiencing Homelessness

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