
Depressive Symptoms and Violence Exposure: Contributors to Repeat Pregnancies Among Adolescents

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ABSTRACT

Depressive symptoms and violence exposure (VE) often cooccur and have been recognized to influence childbearing; contribution to repeat pregnancy is unclear and examined in this article. This cross-sectional, descriptive, study screened for depressive symptoms and VE among 193 adolescent mothers at a large county hospital in Southwestern United States. Repeat pregnancy and depressive symptoms characterized one-third and one-quarter of adolescents, respectively. Despite minimal disclosure of VE, repeat pregnancy was significantly influenced by child abuse and past traumatic life experiences. Assessments and interventions with adolescents should focus on frequency of repeat pregnancies and symptoms of depression and VE. Nurses and childbirth educators are poised to offer birth control information and education, support, and resources highlighting depression and VE to adolescents.

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Despite a recent decline, adolescent pregnancy continues as a social and public health issue. In the United States, the most recent increase occurred between 2005 and 2007 showing an increase from 39.7 per 1,000 births to 41.5 per 1,000 births. A recent decline illustrated by an all-time low for childbearing adolescents in 2012 showed 29.4 per 1,000 births (J. A. Martin, Hamilton, Osterman, Curtin, & Mathews, 2013). African American and Hispanic adolescent birth rates also declined but continued to be higher than among White adolescents with 44% per 1,000 and 46.3% per 1,000,

respectively, as compared to White adolescents at 27.4% per 1,000 births (J. A. Martin et al., 2013).

Between 10.6% and 50% of adolescents will experience pregnancy 12–24 months following a previous pregnancy (Pfitzner, Hoff, & McElligott, 2003). In 2006, for example, 19% of adolescent births were repeat births (Child Trends, 2008). In 2010, little decline was noted, and 18.3% of adolescent mothers 15–19 years of age experienced a repeat birth according to the National Vital Statistics data (L. Gavin et al., 2013). The exclusion of abortions, stillbirths, and miscarriages from this

huge data source does not provide detail of the true repeat pregnancy rate.

Past or current depressive symptoms may influence initial and repeat childbearing among adolescents. A history of depression may characterize more than 50% of adolescents (Tzilos, Zlotnick, Raker, Kuo, & Phipps, 2012), with little ethnic/racial difference (Centers for Disease, Control and Prevention [CDC], 2010). Reliable and valid screening tools such as the Edinburgh Postnatal Depression Scale or the Beck Depression Inventory indicate that current depression for childbearing adolescents ranges between 18.5%–56.6% prenatally and 10%–50% following birth (Figueiredo, Pacheco, & Costa, 2007; Meltzer-Brody et al., 2013; Salazar-Pousada, Arroyo, Hildalgo, Perez-Lopez, & Chedraui, 2010; Schmidt, Wiemann, Rickert, & O'Brien-Smith, 2006).

Depression commonly associates with VE (Barnet, Liu, & DeVoe, 2008; Holden, McKenzie, Pruitt, Aaron, & Hall, 2012). Although most research tends to focus on physical violence, adolescents report emotional, physical, and sexual violence perpetrated by family members, current or former partners, and gang group members (Renker, 2003). Although likely the most common form of violence, emotional or psychological violence frequently cooccurs with other forms of violence, such as partner violence (Alleyne-Green, Coleman-Cowger, & Henry, 2012). The exact frequency of emotional abuse in childbearing adolescents is hard to examine. Madigan and collaborators (2014) conducted a small study among 61 adolescents transitioning to parenthood. With an intent to explore emotional abuse (defined as rejecting, abandonment, and terrorizing), a footnote provided a disclaimer that because all the adolescents but one reported experiencing emotional abuse, the variable was omitted from the final statistical analysis.

Estimates of physical and sexual adolescent violence range widely between 8%–57% for physical violence and 14%–43% for sexual violence (Hickman, Jaycox, & Aronoff, 2004). Suggesting little change or reduction in VE, ranges of a decade ago are similar to recently reported ranges of child abuse, partner violence, and sexual abuse for both childbearing and nonchildbearing adolescents (Alleyne-Green et al., 2012; Bonomi, Anderson, Cannon, Slesnick, & Rodriguez, 2009; Haglund, Belknap, & Garcia, 2012; Kennedy, Bybee, Kulkarni, & Archer, 2012; Meltzer-Brody et al., 2013). Yet, pregnant adolescents and young mothers have been seen to

experience higher rates of physical and sexual violence than nonchildbearing adolescents (Lesser & Koniak-Griffin, 2000).

Numerous studies have noted connections between depressive symptoms, VE, and pregnancy among adolescents (A. R. Gavin, Lindhorst, & Lohr, 2011; Sickel, Dillard, Trickett, Putnam, & Noll, 2014; Tzilos et al., 2012). Yet, limited research describes the influence of VE and depression on repeat pregnancies. A rare, longitudinal study over a 16-year period explored depression, violence, and repeat pregnancies among 1,838 adolescents entering and reentering a program for pregnant teens in Salt Lake City, Utah (Pfitzner et al., 2003). More than 10.6% ($n = 194$) of the adolescents experienced a second pregnancy and four of those adolescents experienced a third pregnancy with birth intervals averaging 21.8 months. Repeaters were younger at entry into the program, Latinos or with Latino partners, more likely to self-report suicide gestures/ attempts and reported a history of mental health illness. Although numerous adolescents (55%) experienced symptoms of depression and/or physical or sexual violence (30% and 39%, respectively), only suicide gestures/attempts and history of mental health illness was shown to significantly influence a repeat pregnancy (Pfitzner et al., 2003).

Published studies investigating adolescent repeat pregnancies may not include an assessment of depression and VE, recruit only one age or ethnic/racial group, or overlook gravidity, thereby leading to an erroneous disparity between number of pregnancies (gravidity) and live births (parity). The purpose of this study was to (a) describe the prevalence of depressive symptoms and VE among age and ethnically diverse adolescents and (b) examine the influence of depressive symptoms and VE on repeat pregnancy measured via gravidity and parity.

LITERATURE REVIEW

Adolescence is marked by sexual maturation and heightened sexual risk behaviors (Alleyne-Green et al., 2012), which may lead to an unintended pregnancy (Green et al., 2005). However, the period of adolescence includes a wide range of ages illustrative of developmental differences seen in judgment, problem solving and decision making ability, and coping strategies. According to the American Academy of Child and Adolescent Psychiatry (2004), adolescents are commonly categorized into early (ages 10–14 years), middle

(ages 15–16 years) and older adolescents (ages 17–21 years). Because most repeat pregnancies are among older adolescents, two age categories were created for this study: 13 to 16 years and 17 to 19 years (older).

Sociodemographic factors contributing to repeat childbearing among adolescents include age as well as ethnic/racial group and other individual or family characteristics. Older age adolescents may more frequently report marriage or cohabitation, thereby increasing the desire for a baby (Ryan, Franzetta, Manlove, 2005). Adolescents of African American and Hispanic ethnic and racial groups demonstrate differences in sexual risk behaviors and levels of support for early age partnerships, childbearing, and marriage (Alleyne-Green et al., 2012; Ryan et al., 2005). Pregnancies may ensue because of partner control over the use of birth control (Miller et al., 2007). Family characteristics influencing an adolescent's childbearing choices can include younger partner age or having a mother who was a pregnant adolescent (Salazar-Pousada et al., 2010).

Depression and Pregnancies

The incidence of a major depressive disorder among nonpregnant adolescents ranges between 8% and 15% (U.S. Department of Health and Human Services [HHS], 2008; Young, Miller, & Khan, 2010). Childbearing adolescents' risk for depressive symptoms prenatally and during postpartum is higher than for nonchildbearing adolescents and for childbearing adults (Figueiredo et al., 2007; Lanzi, Bert, & Jacobs, 2009). Young age, previous history of depression, low income, minority status, and prior pregnancies are recognized risk factors for prenatal depression (Li, Liu, & Odouli, 2009). Depression prior to an initial pregnancy can continue prenatally and into an extended postpartum period (Dietz et al., 2007).

Preexisting depression has been shown to lead to early age childbearing (Eshbaugh, Lempers, & Luze, 2006; Schmidt et al., 2006) and increased risk for repeat pregnancies (Barnet et al., 2008). The risk of having a repeat pregnancy within 2 years postpartum has been shown to be nearly 40% greater among depressed adolescents than nondepressed adolescents (Barnet et al., 2008). Barnet and collaborators (2008) suggested a lack of condom use by depressed adolescents increased the likelihood of a repeat pregnancy. However, the role of depression on childbearing is unclear. A rare, longitudinal study over 12 years

by Kovacs, Krol, and Voti (1994) reported that pre-adolescents and early age adolescents ranging from ages 8 to 13 years who reported a history of depression were less likely to become pregnant. Reduced social interactions and a decreased libido were suggested as lessening the adolescents' desire for sexual activity. One study among adolescent mothers in Grades 7 through 12 revealed that depression, in and by itself, was not the causative factor for early childbearing but rather that depression was associated with the adolescent's socioeconomic background, school performance, family structure, and previous sexual experience (Mollborn & Morningstar, 2009).

The risk for a major depressive episode increases with witnessed violence or physical or sexual assault (Kilpatrick et al., 2003). Prenatal depression was found to increase fivefold and postpartum depression to increase fourfold among lower income, English- and Spanish-speaking adolescents reporting a history of violence (Meltzer-Brody et al., 2013). Physical or sexual violence, as a partner, child, or witness, experienced either within the family or outside the family, has been found to be associated with the risk for early childbearing (Lovisi, Lopez, Coutinho, & Patel, 2005; S. L. Martin et al., 2006; Rodriguez et al., 2008).

Violence Exposure and Pregnancies

Adolescents often choose not to disclose VE and frequently misperceive violent relationships as not violent (Haglund et al., 2012; Schnurr, Lohman, & Kaura, 2010). When describing partner violence, adolescents may speak of a "playful violence" versus a "real violence," and until significant pain or injury is sustained, specific acts of violence may not be seen as serious (Herrman, 2013). However, estimates record between 10% and 40% of American adolescents experience partner violence (Haglund et al., 2012). One large study revealed that 21% of 570 childbearing adolescents experienced partner violence, in which 15% of these adolescents were multiparas (Harrykissoon, Richert, & Wiemann, 2002). Additional findings by Harrykissoon and collaborators (2002) noted more Black and Latina adolescents than European Americans reported partner violence and that partner violence peaked

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around 3 months postpartum. Both pregnant and parenting adolescents have been found to be particularly vulnerable to violent partner relationships (Sussex & Corcoran, 2005), frequently assuming the role as both perpetrator and victim (Newman & Campbell, 2011). Relationship violence during the adolescent years can contribute to pervasive family violence; economic dependence; and poor infant outcomes, such as preterm and low birth weight infants (Glass et al., 2003; Herrman, 2009; Miller et al., 2007; Silverman, Raj, & Clements, 2004). For adolescents experiencing a second pregnancy, preterm birth rates increase (Khashan, Baker, & Kenny, 2010).

A frequently examined precursor to dating violence has been the experience of childhood physical violence (Fang & Corso, 2007). Child abuse reports vary among adolescents and can include sexual, physical, or emotional abuse. In a recent study by Tzilos and collaborators (2012) of primarily nulliparous adolescents ($n = 116$), 53% experienced sexual or physical abuse. In one of the few published studies to look at child abuse among repeat childbearing adolescents, Jacoby, Gorenflo, Black, Wunderlich, and Eyler (1999) found high sexual abuse (35%) and physical abuse (44%) rates. Nearly half (43.6%) of the adolescents reporting either sexual or physical abuse had experienced a repeat pregnancy within 1 year. Nearly two-thirds (63.2%) of the adolescents experienced an additional pregnancy within 18 months (Jacoby et al., 1999). A more recent work revealed an association between past childhood sexual abuse and a 2.2-fold increase in the likelihood of adolescent pregnancy (Noll, Shenk, & Putman, 2009). Crittenden, Bovis, Rice, Taylor, and Olds (2009) examined the influence of an attitude or culture of violence on repeat pregnancy. Nearly half (41.5%) of the responding adolescents ($n = 345$), ages 12–19 years, who reported a need to use physical force to settle differences and show importance, experienced a repeat pregnancy within 24 months of a previous birth (Crittenden et al., 2009).

Interpersonal violence is frequently interlaced with community violence (Dalla, Marchetti, Sechrest, & White, 2010). Community related violence such as witnessing attacks on others through the use

of weapons has been shown to influence repeat childbearing. Among 581 adolescent mothers, ages 12–18 years, approximately 35% had experienced community violence and of those, 42% had experienced a repeat pregnancy within 24 months (Raneri & Wiemann, 2007).

Despite a reported frequency of depressive symptoms and VE among childbearing adolescents, a gap in the literature exists describing the influence of depressive symptoms and VE on repeated childbearing among adolescents. Therefore, we explored the following research questions:

1. What is the prevalence of depressive symptoms and VE among age and ethnically/racially diverse adolescents by gravidity and parity?
2. How much influence do depressive symptoms and VE yield in the prediction of repeat pregnancy (gravidity and parity) among age and ethnically/racially diverse adolescents?

VE yielded information on child abuse, partner violence, and past life experiences (identified as traumatic but outside of interpersonal violence). Within our adolescent sample, we defined repeat pregnancy as having more than one pregnancy regardless of the pregnancy interval.

METHODOLOGY

Design

Research questions were addressed via a cross-sectional, descriptive study. The goals within this design are to identify and describe a phenomenon of interest and acquire knowledge in an area where little research has been done (Groves, Burns, & Gray, 2013). This study is part of a larger longitudinal study examining adolescent psychological birth trauma across 9 months postpartum.

Sample and Setting

Institutional review board approval was obtained from both the academic and hospital settings. All adolescents were approached within 72 hours of birth from one of two postpartum units of a large, public hospital in Southwestern United States for possible enrollment in the study. Inclusion criteria included any adolescent 13–19 years of age who spoke either English or Spanish. Recruited adolescents were predominately bilingual Latinas with smaller subsamples of Black and White adolescents. Responses from 193 postpartum,

multiethnic adolescents ages 13–19 years were obtained.

Measurement Tools

Adolescents were requested to complete the following: (a) a demographic tool assessing the study variables of gravidity and parity, additional selected demographics (age, ethnic/racial group, marital status, and education), and VE and (b) the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987). Specific yes/no questions assessing VE included (a) Is there a personal history of child abuse? (b) Is there a history or current abuse by a partner? and (c) Have you had any past life experiences that were very traumatic to you?

The EPDS was developed to assess depressive symptoms over the last 7 days. Ten questions are scored as 0, 1, 2, or 3, creating a minimum score of 0 and a maximum score of 30. Authors of the EPDS determined cut-off scores of 10 as indicative of symptoms of *minor* depression and 13 and above as indicative of symptoms of *major* depression (Cox et al., 1987). Birkeland, Thompson, and Phares (2005) reported a Cronbach's alpha of .83 among adolescent populations 15–19 years of age for the EPDS. Reliability established for this study was .81. Additional information related to use of the EPDS for diverse adolescent groups has been published elsewhere (Anderson, 2010).

Procedures

Several hospital staff nurses, identified as informal members of the research team, aided in the recruitment of potential subjects. As part of the ongoing larger study, staff in-services kept the staff aware of the research aim and goals. Posters were placed in labor and delivery and postpartum units reminding staff of the study. For adolescents younger than the age of 18 years, self-assent and consent via parent or guardian, were required and obtained prior to involvement in the study. Adolescents 18 years and older consented for themselves. A copy of the consent was provided to the adolescent/guardian and to the researcher. Adolescents were contacted by either the PI or a registered nurse graduate research assistant (GRA) for data collection. The number of GRAs varied by semester: between one and five. All GRAs received a 3-hour orientation by the PI about study objectives, data collection methods, measurement tools, sensitive data, and procedures prior to the collection of data. Data collection took

approximately 45 minutes per subject. Data collectors remained in the room during the completion of the paper copy surveys in case of questions and provided resources and referrals as needed. A medical staff member (physician) of the research team and the PI were available for follow-up or intervention as needed, such as with verbalized thoughts of harm to self or infant. Community resources focused on depression were also provided. Following enrollment into the study, all adolescents upon request received printed information on parenting and newborns in their preferred language. Questionnaires and consents were stored separately at the PI's academic institution in a locked filing cabinet. Policy at the institution requires data to be kept for 3 years.

Data Analysis

Percentages and frequencies described the younger (13–16 years) and older (17–19 years) adolescent demographically and the prevalence of depressive symptoms and VE by gravidity and parity. For descriptive purposes, depressive symptoms were defined as minor (10–12) and major (13 and above) per the authors of the EPDS. Differences for repeat pregnancies among groups that reported depressive symptoms or VE were examined using analysis of variance (ANOVA). The outcome variable of repeated pregnancy (measured as gravida and parity) was recoded as 0 and 1 because of the small number of multigravid and multiparous adolescents, with 0 equal to one pregnancy/living child and 1 equal to two or more pregnancies/living children. Logistic regression was performed to determine the extent to which repeat pregnancy, measured as gravidity and parity, was predicted by depressive symptoms and VE. The model alphas were set to .10 as is recommended by Hosmer and Lemeshow (2000) for pilot data submitted to logistic regression. Multicollinearity diagnostics, including tolerance and variance inflation factor values, were well within normal limits.

RESULTS

Fifty-eight (31.5%) responding adolescents reported more than one pregnancy with 46 adolescents (25.4%) reporting more than one living child. For 16 (8.6%) adolescents, the most recent pregnancy was reported as a third or fourth pregnancy; however, only 8 of these adolescents reported the current birth as resulting in a third or fourth living child. Repeat pregnancy and ethnic/racial identity were

not significantly associated. Yet, Latina, $F(4) = 2.91$, $p = .02$, older, $F(6) = 2.40$; $p = .02$, adolescents reported the most pregnancies. A significant difference was also found in the number of live births by age, $F(6) = 2.82$, $p = .01$. Adolescents, typically Latinas (59.5%), reported a mean age more than 17 years and single status (83.1%). Age and marital status were significantly associated, $\chi^2(6) = 11.88$, $p = .06$. Most held age-appropriate education ($p = .001$) with 23% of adolescents indicating a completion of high school and/or some college. Demographics for the total sample as well as differences between younger and older adolescent groups can be found on Table 1. A breakdown of demographics by age (13–16 years and 17–19 years) was provided solely for comparisons for the reader because of potential

differences in pregnancy histories but was not a primary focus of research attention.

More than a quarter of the sample (26.7%) reported depressive symptoms classified as either minor (10.7%) or major (16%) with significant distinctions by both number of pregnancies, $F(18) = 2.43$, $p = .002$ and living children, $F(18) = 1.91$, $p = .01$. A higher percentage of adolescents with more living children reported depressive symptoms. Table 2 provides percentages of both minor and major depressive symptoms by gravidity and parity. Younger adolescents did not report higher EPDS scores than older adolescents. However, significant differences for depressive symptoms among ethnic groups were found, $F(3) = 3.53$, $p = .01$, specifically between Black and Latina adolescents ($p = .08$).

TABLE 1
Descriptive Statistics for Young and Older Adolescents

Demographic Variable	<i>M/SD/Mdn</i>	Total Sample		13- to 16-Year-Olds		17- to 19-Year-Olds	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Age (years)	<i>(M/SD = 17.9/1.43)</i> <i>Mdn = 18.00</i>	<i>(N = 193)</i>		<i>(n = 31)</i>		<i>(n = 162)</i>	
13		3	1.5	3	9.7	—	—
14		4	2.1	4	12.9	—	—
15		11	5.7	11	35.5	—	—
16		13	6.7	13	41.9	—	—
17		12	6.2	—	—	12	7.4
18		65	33.8	—	—	65	40.1
19		85	44.0	—	—	85	52.5
Gravidity	<i>(M/SD = 1.41/0.68)</i> <i>Mdn = 1.00</i>	<i>(N = 184)</i>		<i>(n = 31)</i>		<i>(n = 153)</i>	
1		126	68.5	28	90.3	98	64.1
2		42	22.9	3	9.7	39	25.4
3		14	7.6	—	—	14	9.2
4		2	1.0	—	—	2	1.3
Parity	<i>(M/SD = 1.300/0.581)</i> <i>Mdn = 1.000</i>	<i>(N = 182)</i>		<i>(n = 31)</i>		<i>(n = 151)</i>	
1		136	74.6	30	96.8	106	70.2
2		38	21.0	1	3.2	37	24.5
3		6	3.3	—	—	6	4.0
4		2	1.1	—	—	2	1.3
Ethnicity/race		<i>(N = 190)</i>		<i>(n = 31)</i>		<i>(n = 159)</i>	
Latina		113	59.5	22	71.0	91	57.3
Black		50	26.3	7	22.5	43	27.0
White		24	12.6	2	6.5	22	13.8
Asian		1	0.5	—	—	1	0.6
Other		2	1.1	—	—	2	1.3
Marital status		<i>(N = 183)</i>		<i>(n = 31)</i>		<i>(n = 152)</i>	
Married		31	16.9	1	3.2	31	20.3
Single		151	82.6	30	96.8	121	79.7
Other		1	0.5	—	—	—	—
Education	<i>(M/SD = 11.37/1.41)</i> <i>Mdn = 12.00</i>	<i>(N = 165)</i>		<i>(n = 26)</i>		<i>(n = 139)</i>	
7th–12th grades		127	76.9	26	100	101	72.7
High school graduate or college		38	23.1	—	—	38	27.3

TABLE 2
Minor and Major Depressive Scores by Gravidity and Parity (N = 187)

Depression ^a	Gravidity				Parity			
	Multigravida n = 62		Primigravida n = 125		Multipara n = 52		Primipara n = 135	
	n	%	n	%	n	%	n	%
Minor scores 10–12	5	8.0	10	8.0	7	13.4	13	9.6
Major scores 13 and higher	12	19.3	18	14.4	10	19.2	20	14.8

^aSome missing data for completion of the Edinburgh Postnatal Depression Scale.

Black adolescents reported the highest rate (mean) of depressive symptoms. Yet, overall mean EPDS scores averaged below the minor depressive symptom level at 5.5, 6.10, and 8.16 for White, Latina, and Black adolescents, respectively.

Disclosure of violence was less than expected with 7.7% of the adolescents reporting child abuse, 4.6% reporting partner violence and 15.5% reporting other past traumatic life experiences. Adolescents offering additional information related to a past traumatic life experience verbally described witnessed acts of violence such as a drowning or shooting of a family member or friend. No adolescent specifically noted witnessing of violence between parents. Child abuse was significantly reported by more White adolescents, $\chi^2(3) = 15.98, p = .001$; other categories of VE were similar between ethnic/racial groups. None of the three categories of VE was found to associate with age or depressive symptoms (EPDS scores). However, *p* values of significance ranging between $p < .001$ and $.006$ reflected relationships between the three categories of violence. Frequencies for disclosed child abuse, partner violence, or other past traumatic life experiences by gravidity and parity are provided in Table 3. Several pregnancies and living children differed by history of child abuse, $F(1) = 5.30, p = .02$ and $F(1) = 5.45, p = .02$, respectively.

Four predictor variables—depressive symptoms, child abuse, partner violence, and past traumatic life experiences—were used in the analysis. Unexpectedly, depressive symptoms did not significantly predict gravity or parity. No category of VE was found to significantly predict the adolescent’s number of pregnancies. However, both child abuse and past traumatic life experiences were found to significantly predict adolescent parity. Adolescents with a history of child abuse were more than 3.5 times more likely to have more than one living child, adjusted odds ratio (OR) = 3.63, 95% confidence interval (CI) [0.91, 14.4], $p = .07$. Interestingly, 67% of adolescents reporting a past traumatic life experience were less likely to have more than one living child, OR .326, 95% CI [0.09, 1.14], $p = .08$ (Table 4).

DISCUSSION

Nearly one in three adolescents reported a repeat pregnancy. Although the research team was unaware of the adolescents’ exact birth intervals, this finding supports other research findings indicating that up to 50% of adolescents may experience a repeat pregnancy (Pfitzner et al., 2003). Adolescents reporting more than one pregnancy and living child were typically, however, the older adolescents, several of which reported they were married. Repeat births

TABLE 3
Violence Exposure by Gravidity and Parity

Violence Exposure	Gravidity				Parity			
	Multigravida n = 63		Primigravida n = 130		Multipara n = 53		Primipara n = 138	
	n	%	n	%	n	%	n	%
Child abuse	7	11.1	8	6.1	6	11.3	9	6.5
Partner violence	2	3.1	7	5.3	2	3.7	7	5
Past traumatic life experiences	8	12.6	22	16.9	5	9.4	25	18.1

TABLE 4
Logistic Regression Analysis of Depressive Symptoms and Violence Exposure^a by Parity

Model	Adjusted		95% CI
	OR	p	
Edinburgh Postnatal Depression Scale (EPDS)	1.048	.193	[0.977, 1.124]
History of child abuse	3.638	.066*	[0.918, 14.408]
Past traumatic life experiences	0.326	.079*	[0.094, 1.140]
Constant	0.277	.000	

Note. OR = odds ratio; CI = confidence interval.

^aPartner violence was omitted from the model because of size <5.

*p < .10.

for some adolescents may reflect a normative value. A younger age pregnancy has been found to be viewed as a positive event by one in four Latina adolescents (Ryan et al., 2005). Latinas tend to initiate sex slightly later in their relationships but use fewer contraceptives (Ryan et al., 2005). This adolescent sample contained a higher percentage of older, Latina adolescents; therefore, findings may have favored adolescents involved in an early age marriage/partnership desiring children. The setting of a public county hospital may reflect the extraneous variable of socioeconomic status.

Despite a recent decline in pregnancy rates overall, unintentional pregnancies among adolescents have remained unchanged (Mosher, Jones, & Abma, 2012). Of interest in this study was the noted disparity between gravidity and parity percentages suggesting voluntary (therapeutic) or spontaneous pregnancy terminations for several adolescents. Reasons for fetal loss were unknown for this sample. National data on adolescent pregnancies, however, reveal that 27% of pregnancies end in induced abortions, 16% of pregnancies end in miscarriages or stillbirths, and 57% of pregnancies end in live births (Upadhyya, Breuner, & Trent, 2012). Additional data reported by the CDC (2013) notes an ethnic/racial distinction for minority adolescents as relates to abortions. Irrespective of age, Hispanic and non-Hispanic Blacks have higher rates of abortions than their White counterparts: 17.8%, 28.2%, and 8.1% per 1,000 births, respectively.

It is unknown if the adolescents in this study had a chronic history of depression; yet, more than a quarter of the adolescents reported current depressive symptoms. In addition, use of the EPDS as a measurement reflects depressive symptoms of the

past 7 days, which may suggest prenatal depression for these adolescents. Adolescents in this study reporting major depressive symptoms reported more pregnancies and living children. However, whether symptoms of depression influenced the number of pregnancies or the number of pregnancies influenced depressive symptoms is unknown.

An initial pregnancy can foster depression among adolescents (Hodgkinson, Colantuoni, Roberts, Berg-Cross, & Belcher, 2010; Lanzi et al., 2009). Continuing depression postpartum may lead to a subsequent pregnancy and a cycle of depression. One large study (N = 623) found that more than 50% of adolescent mothers experienced moderate to severe depressive symptoms up to 1 year after birth (Schmidt et al., 2006). Depression and rapid repeat pregnancies (within a 2-year interval) have been found to be associated (Barnet et al., 2008). Failure to find depressive symptoms as a significant predictor of either gravidity or parity in this study was unexpected but may reflect the small number of multigravida/multipara adolescents or the overall lower mean of depressive symptoms found. Pfitzner and collaborators (2003) also reported a lack of significance between repeat pregnancy and depression unless adolescents reported suicidal attempts or gestures.

Associations between depression and ethnic/racial background remain unclear (N. I. Gavin et al., 2005). However, high depression rates among Black and Latina adolescents have been associated with lack of partner support and higher acculturation levels (Bauman & Summers, 2009; Eshbaugh, 2006). In one large study (N = 692), Black adolescents were found to have fewer moderate to severe depressive symptoms initially but higher rates of recurrence, up to 48 months postpartum, when compared with Latina and White adolescents (Schmidt et al., 2006). This increased window of depression for Black adolescent mothers may increase the vulnerability to repeat childbearing and signal an increased need of attention, education, and follow-up posthospital discharge. Of particular relevance for the Black woman, research has shown a “weathering effect” where depression becomes worse over the years because of an accumulated stress burden, socioeconomic marginalization, and discrimination (Luke et al., 2009). For minority adolescents, coping with racial discrimination, acculturation, and comfort with self-identity may directly and/or indirectly associate with childbearing and depression (Brown,

Meadows, Elder, 2007; Coonrod, Day, & Balcazar, 2004; Ruiz et al., 2012; Umana-Taylor & Updegraff, 2007) and requires additional examination.

Failing to find an association between depressive symptoms and age is a consistent finding with other studies. Among 751 adolescents representing 44.3% of young mothers younger than the age of 18 years, younger adolescent mothers were not found to be more depressed than older adolescent mothers (Eshbaugh, 2006). An integrative review of the literature by Reid and Meadows-Oliver (2007) examining adolescent postpartum depression among adolescents 19 years and younger noted inconsistencies among numerous demographics, including age. Yet, a limitation of many of these adolescent studies, including this study, may include the higher mean age of the adolescent sample.

Commonly, depression cooccurs with VE across age groups (Bauman & Summers, 2009; Kilpatrick et al., 2003; Records & Rice, 2007). Additionally significant relationships have been found between categories of VE including relationships between early childhood maltreatment, partner violence, and community violence (Dalla et al., 2010; Sumner, Wong, Dunkel-Schetter, Myers, & Rodriguez, 2012). Although this study also indicated relationships between the categories of VE, child abuse was disclosed more often by the adolescents in this study than partner violence. The higher prevalence of child abuse for the childbearing White adolescent ($n = 24$) suggests this as an important area of needed research with larger samples. Both sexual assault and abuse histories have been associated with higher engagement in risky sexual behaviors and self-destructive behaviors (Green et al., 2005). In the Green et al. (2005) study, the "Abuse group," showing the most sexual risk behaviors, had more lifetime partners and higher rates of pregnancies and abortions. In this study, child abuse was noted to predict parity; however, a wide 95% CI suggests caution in interpretation. It was unknown if child abuse was physical, sexual, or both. The association between childhood sexual abuse particularly and adolescent pregnancy and childbearing has been noted (Sickel et al., 2014). Abuse-specific reasons for a tendency toward early sexual behavior were noted years ago and included possible early unwanted sexual behavior and subsequent acceptance of such behavior as a manner of personal connection (Finkelhor, 1988). Yet, VE alone does not lead to increased adolescent childbearing. Family-related risk factors such as

early parental separation or an absent father have also been found to relate to an increased pregnancy risk (Thompson, Bender, Lewis, & Watkins, 2008; Wahn & Nissen, 2008). Maternal perceptions of decreased organization and control in abusive family environments have also been found to influence adolescent pregnancy and childbearing (Sickel et al., 2014). Information regarding the family was unknown for adolescents in this study.

The failure in this study to find partner violence as a significant influence on either gravity or parity most likely reflects the sample size. Only a small percentage of adolescents reported partner violence and less than five adolescents reporting multiple pregnancies and children reported partner violence. Dating violence has been found by other researchers to characterize more than half of adolescent pregnant and postpartum mothers (Harrykissoon, 2002; Miller et al., 2007). The lack of disclosure of partner violence by adolescents is complex including a fear of being separated from significant others, having their children taken away, being punished by the child welfare or criminal justice system, or perpetrator threats (Renker, 2006). In this study, these may be reasons for nondisclosure among the study adolescents. Furthermore, feelings of embarrassment or the lack of time (with only one contact time) to develop trust with the adolescent to feel comfortable in discussing VE may not have been sufficient for a true disclosure.

The study adolescents more readily reported past life experiences of a traumatic nature than personal abuse. They witnessed traumatic events in the community occurring to friends and family members. Reactions to the traumatic experiences varied by adolescent. Although not reported in this study, Kennedy and collaborators (2012) found that 85% of Black, nonchildbearing, adolescents witnessed partner violence between the parents; 49% witnessed injuries from parental partner violence severe enough for the adult to require the need for a doctor. Research connecting witnessing of violence, either in the community or between parents, and childbearing is limited. One study suggested an association between the witnessing of community violence and early repeat childbearing (Raneri & Wiemann, 2007). In this study, past traumatic life experiences was also found to contribute to parity. Interestingly, however, adolescents experiencing past traumatic life experiences were 67% less likely to have more than one living child. This finding in

this study, although somewhat unexpected, may reflect most of this study's sample of primiparous adolescents (nearly 75%). Additional research is needed to determine the influence of past traumatic life experiences, including witnessing of community violence and partner violence between parents, on childbearing and parity.

Limitations

This study had several limitations including sample bias and sampling method. Convenience sampling within a largely Latina setting generated an older, mostly Latina adolescent sample and does not allow for generalizability to other adolescent groups. Latina values and norms regarding childbearing may have influenced the study's findings. The partner's age was unknown and frequent age disparities among Latino couples has been shown to place younger Latinas at an increased risk of unprotected sex and an unintended early pregnancy (Frost & Driscoll, 2006).

The age of study adolescents ranged from 13 to 19, but most adolescents were either 18 or 19 years of age. Several of these older adolescents (17%) were married or in a committed relationship with perhaps a realistic desire to have additional children. Even younger Latina adolescents may have been partnered. The 2002 National Survey for Family Growth reported that nearly 10% of Latina women, aged 15–19 years cohabitate with a partner (HHS, 2010). Only a small number of adolescents disclosed a history of VE which is below reported estimates by other researchers. Questions related to VE were yes/no only and without clarifiers. Responses were based on the minimal number of disclosures and the adolescents' perceptions of what VE was to them, thereby, possibly decreasing the true rate of partner violence. In addition, for a few adolescents, family members were reluctant to leave for questioning; therefore, the questions related to all VE were omitted. Significant to the large subsample of Latina adolescents, a meta-analysis of works has suggested that the Latina's acceptance of a subordinate role in a machismo culture fuels a need to protect the partner; therefore, leading to a lower rate of disclosure of partner violence (McGee, 1997). It is unknown if this traditionalist view mirrors the

Latinas in this study; however, a large number of Latina adolescents reported birth and early years of life in Mexico.

Important baseline information was unknown related to VE, childbearing history, and depression. The type of child abuse was unknown and the influence of sexual versus physical or emotional abuse on childbearing may be different. Repeat childbearing was defined as more than one birth for the adolescent without reflection of the birth interval. Interval of birth could have varied between adolescents and not signify a rapid repeat pregnancy which is defined by a two year interval between pregnancies. Clinical depression measured via a screen for depressive symptoms rather than a DSM-V based diagnostic might have provided a less accurate picture of depression across the sample and influenced the outcome differently. Also unknown was a history of depression or past treatment(s) received. Finally, a cross sectional design prevented long term capture of the influence on childbearing from a continuation of depressive symptoms and VE. Missing data approximated 7% of data.

Nursing Implications:

Practice, Education, and Research

Practice. Nurses need to conduct comprehensive assessments of, provide both written and verbal education/information to, and facilitate follow-up for all young mothers. Screening adolescents for symptoms of depression and VE is essential at each prenatal visit, in labor and birth, and postpartum. Short, easily administered screening tools such as the EPDS or the Abuse Assessment Screen (AAS) developed by McFarlane, Parker, Soeken, and Bullock in 1992 are available to assess both current depressive symptoms and partner violence and can be incorporated into the initial history. A history of depression and child physical, sexual, or emotional abuse may be identified by specifically directed questions of the adolescent. Information related to contraception options, depressive symptoms, and categories of VE should be provided to all adolescents in written and verbal form and offered at childbirth classes, at prenatal visits, and in obstetrical hospital units. Ideally, a system for follow-up by nurses and social workers should be in place for additional resources and postpartum monitoring of depression and VE at their peak time occurrence. Peaks around the third month postpartum have been suggested for both partner violence and depression (N. I. Gavin

Screening adolescents for symptoms of depression and VE is essential at each prenatal visit, in labor and birth, and postpartum.

et al., 2005; Harrykissoon et al, 2002) justifying the importance of follow-up.

Disclosure rates for VE among childbearing adolescents can be low, especially for partner violence. Building trust and rapport with the adolescent may need to be done initially and gradually. Assessment of partner violence must be done in privacy without children or significant others in attendance at all contact points. Parental absence is needed for true reports of child abuse by the adolescent as well. When assessing adolescents for partner violence, clarity of the term *dating violence* can be enhanced by asking specific questions. Questions such as “Have you ever received a bruise from your partner when hit by hand or other object” or “Have you ever been made to feel little, unworthy, or stupid” may lead to additional disclosures. Specific questions, requesting more than yes-or-no answers can also provide information related to other VE such as community or witnessed violence.

Education. Nurses and other health-care providers need to be able to adequately educate and manage this patient population. When the pregnant adolescent enters the hospital, the nurse needs to be ready to evaluate the situation and act, giving support, providing education, and making referrals as needed. Additional screening tools are available on the web and can be googled by name and function for description and use in practice. If violence is disclosed, or expected, state law may require mandatory reporting, or at a minimum, mandatory referrals and resources. Every nurse must know the state laws regarding this situation. Nurses who know the associations between VE and depression on repeated childbearing; the most effective birth control options for adolescents; and community resources for depression, violence, and parenting are prepared to best help the adolescent and facilitate a follow-up plan with social workers or other professionals as needed.

Research. Nurses and other health-care providers also may conduct research related to the needs of these adolescents. Larger samples of White and Black adolescents are needed to assess the prevalence of VE and depression as related to repeat pregnancies. Longitudinal studies are important to see the trauma trajectory of abused adolescents over time and gain insight into peak depression rates, accurate accounts of VE, repeat pregnancies

as well as abortion rates, and infant outcomes. The prevalence of repeat pregnancies is not declining as fast as initial birth rates for adolescents and requires practice and research attention.

CONCLUSION

Repeat pregnancy and depressive symptoms characterize more than 25% of adolescents. VE, although only minimally disclosed, was noted to be an influence-increased parity. Perinatal assessments with childbearing adolescent mothers should include exploring VE and symptoms of depression. Nurses and childbirth educators are poised to offer information and education on birth control, depression, and VE; support; and community resources to all adolescents.

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