

Depressive Symptoms, Substance Abuse, and Intimate Partner Violence among Pregnant Women of Diverse Ethnicities

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Abstract: This study examines the relationship between self-reported depressive symptoms, substance abuse and intimate partner violence among 602 African American, Hispanic, White, Asian American, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander pregnant women who are clients of the Augusta Partnership for Children, Inc., a nonprofit collaborative that works with agencies, organizations, and individuals to improve the lives of children and families in Augusta-Richmond County, Georgia. Descriptive statistics and significant relationships among selected variables using correlation and regression analyses were conducted. Findings are intended to inform strategies for community-based programs better to assist women of diverse ethnicities with addressing depression, substance abuse, and intimate partner violence during their pregnancies, with the ultimate aim of improving health and mental health outcomes for women and children.

Key words: Depressive symptoms, substance abuse, intimate partner violence, pregnant women, ethnicity.

For many women, pregnancy is a time that engenders a myriad of interrelated psychosocial and emotional issues, some of which may be stressful. It may be even more challenging for underserved pregnant women who may struggle with handling difficult life circumstances and complex socio-environmental problems such as poverty, deleterious housing/neighborhoods, poor educational and employment opportunities, and meager access to high-quality health and mental health care. Complications experienced by women during pregnancy are frequently associated with the presence of depression, substance abuse, and/or intimate partner violence (IPV).^{1,2} Experiences of

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depression, substance abuse, or IPV have been found to contribute to low birth weight, preterm births, increased pain, increased discomfort during pregnancy and during childbirth, an increased presence of stress hormones (cortisol and catecholamine) in the mother and the child, and ongoing mental health issues for women and behavioral problems in children.^{1,3} History of substance abuse and/or IPV has been found to be a risk factor for depression during and/or after pregnancy.⁴ The interrelatedness and intricacies of these three psychosocial and behavioral issues may be overwhelming for low-income pregnant women with limited access to adequate resources that may aid them in addressing such problems. Furthermore, untreated depression, substance use, and /or issues related to intimate partner violence can have a negative impact on the health and well-being of mother and baby. It is critical that prenatal programs and services geared to support ethnically diverse, underserved, and/or at-risk pregnant women screen for depressive symptoms, substance use, and experiences of interpersonal violence that may subsequently be used to further facilitate appropriate referrals to address these problems.

Moreover, co-occurring instances of depression, substance abuse, and/or IPV among pregnant women may elevate their risk for maladaptive pregnancy issues, and subsequent psychosocial and behavioral health problems.^{4,5,6,7} Although research is limited on pregnant women of diverse ethnicities, depression, substance abuse, and IPV may be considered contributors to the high frequency of adverse birth outcomes, particularly premature birth and low birth weight, experienced by these women and their children.

The research question for this investigation is, "What are the experiences of depression, substance abuse, and/or IPV among pregnant women of diverse ethnicities who attend a community-based program?" Furthermore, the investigation provides insight about a community-based program, Augusta Partnership for Children, that strives to use culturally appropriate methods to provide support, referral for treatment for mental and behavioral health issues, and tailored case management assistance to their clients through community-based resources.

Depression. Unaddressed depression during pregnancy, often due to a lack of identification or treatment, has been found to contribute to numerous negative health outcomes. Suicide, smoking, drinking and drug use, poor nutrition, increased discomfort during pregnancy (i.e., nausea, shortness of breath, abdominal pain, gastrointestinal issues, and dizziness), and overall poor maternal health are common among depressed pregnant women.^{1,8,9} Prevalence rates of depression among pregnant women range from approximately 12–24%, with approximately 13% of pregnant women taking antidepressant medication.^{3,4}

Screening for depression during pregnancy has been recommended by scholars; in one review of depression among pregnant and postpartum women it was suggested that clinical assessments for depression by primary care physicians be a routine part of care.¹ Standards for the treatment of women with depression during pregnancy are limited due to ethical constraints that limit the scientific evaluation of pharmacotherapy during pregnancy, but guidelines have been established that are generally followed.^{1,3} A modified treatment plan for women who may become pregnant or who are at risk for depression has been suggested to allow for proper treatment of symptoms and to prevent adverse birth outcomes.¹ Treatment guidelines for pregnant, pre-conceptual,

pharmacotherapy-receiving and non-pharmacotherapy receiving women are provided, suggesting the need to evaluate each case individually and treat accordingly.

Substance abuse. Current research on substance use and abuse among pregnant women has examined the effects of drug use on the mother and fetus, treatment, prevention and intervention strategies.^{10,11} Many women are able to stop using drugs and alcohol during pregnancy, yet there are some women who do not do so.¹² Substance use among pregnant women has increased in the United States over the last 30 years.¹⁰ Any use and abuse of multiple substances is also a concern, particularly since negative outcomes due to substance use include spontaneous abortion, fetal growth restriction, preterm delivery, ectopic pregnancy, congenital anomalies, and can lead to disruption in mother/child attachment.^{2,10,13}

There is a persistent focus on the use of alcohol and smoking/tobacco use within the current literature.^{2,10,14} Some additional research has also examined amphetamine/methamphetamine use, cocaine, opiate use (heroin and methadone) and marijuana.^{2,10,15,16}

Effective treatment for substance use and abuse requires treating symptoms of withdrawal and specialized treatment and care from a team of professionals.^{10,16} Since addictive behaviors are largely preventable and occur simultaneously with a number of internal, environmental, and social concerns, a number of efforts have been taken to prevent substance use among women of child-bearing age through interventions or programs that aim to increase knowledge and influence healthy behaviors. Current treatments include prevention and intervention programs, replacement therapies, and counseling services. In general, multifaceted approaches are necessary to identify, treat, and prevent substance use among pregnant women in order to protect women and unborn children.

Intimate partner violence. Intimate partner violence (IPV) during pregnancy affects women globally.^{17,18} Approximately 5.2% of pregnant women in the U.S. experience IPV annually (with ranges between 4%–8%) and 15%–20% worldwide, with more than half experiencing IPV prior to pregnancy.^{6,19,20}

Current research has primarily focused on the prevalence and impact of IPV on pregnant women and their children. A history or experience of IPV during pregnancy has been found to be associated with a number of health concerns and health behaviors including: smoking, drinking, depression, post-traumatic stress disorder (PTSD), drug use, homicide, and suicide among pregnant women and contributes to preterm birth rates, low birth weight, increased risk for infectious complications, and an absence or delay of prenatal care.^{17,19,20,21} Intimate partner violence during pregnancy also contributes to mental health disorders.^{5,6} Current research has also examined physical abuse but a number of studies have also considered other types of abuse (such as psychological, sexual, or verbal abuse) as well.^{5,21}

Recommendations have been offered that all pregnant women be screened for IPV since not all types of IPV are easily identified; however, these recommendations are not widely followed, which may lead to low detection rates.²² There are widely available and valid IPV screening tools available in many formats (e.g., oral interview, self-report, computer-based) that are appropriate for a variety of cultures and women, but there is a lack of agreement among practitioners on the best method.²³ Accurate and adequate assessment of IPV also takes care and understanding on the part of the

health professional and cultural differences and factors can play a key part in identifying the problem.^{5,19,23}

Summary. Although research has identified various methods for identification and treatment of women who experience depression, substance abuse, and/or IPV, few studies have fully examined appropriate methods for handling these issues among pregnant women of diverse ethnicities. Understanding some of the unique challenges associated with a myriad of psychosocial, socio-cultural, environmental and familial demands among ethnically diverse pregnant women can help community-based support programs with establishing best practice strategies to identify culturally responsive methods for assessment, diagnosis, and treatment. Such methods might be utilized by community-based organizations and health and human services agencies that promote prenatal education and care for this population of women, which may ultimately enhance their mental and physical health and well-being.

Methods

This was a cross-sectional study that included self-report assessment during pregnancy and post-pregnancy among women who were served by the Augusta Partnership for Children (APC), through its Healthy Start Initiative in 2005–2009. The study is program evaluation of service delivery activities that were provided by the APC. Participants consented to engage in programmatic activities including behavioral assessments. While no formal university-based institutional review board approval was required for this quality improvement program evaluation, the APC's community-based evaluation committee reviewed and approved the project evaluation protocol. Part of this committee's charge is to review and consider ethical issues associated with the implementation of any proposed community assessment activities.

Procedures. The self-report information regarding depression, substance abuse, and intimate partner violence exposure was a part of the routine intake process used by program staff at the time of client enrollment into the APC. In particular, face-to-face individual private interviews were conducted by case managers with each woman to ascertain background information and to screen for depressive symptoms, substance use, and intimate partner violence. The interviews were conducted on two occasions. First, during each woman's prenatal program enrollment into APC (which typically occurred during the first trimester of her pregnancy) and second, approximately one to three months following the delivery of the baby. There was variability regarding the months of pregnancy and post-pregnancy during which assessments were made due to the differences among participants in time of enrollment in the APC and availability after the delivery of the baby.

Description of the Augusta Partnership for Children. The APC is a 501(c)3 non-profit collaborative that works with several agencies, organizations, and individuals to improve the lives of children and families in Augusta-Richmond County, Georgia. The collaborative represents businesses, government offices, educational institutions, health care facilities, faith-based institutions, social service agencies, youth organizations, and private citizens dedicated to promoting the overall health and well-being of local individuals and families. The mission of the APC is to develop and sustain

partnerships that provide services to improve the lives of children and families; and the vision is for the children in the local community to have the tools and support to become healthy, educated, and responsible adults.

One of the primary aims of the APC Healthy Start Initiative is to match social services with those who need them and to provide services where none exist by addressing specific issues identified while clients and case managers work together. A multitude of data about educational, socio-cultural, health, and psycho-social issues are collected and analyzed from many of the APC Healthy Start clients in order to develop culturally centered and tailored intervention plans to aid in servicing their needs. Moreover, services for clients are strategically coordinated through a referral system that reinforces and supports the programs of the many different partners and collaborators of the APC. In partnership with collaborating agencies, APC has emerged as a lead organization in the local community that has taken the initiative to bring several community-based organizations together. One of its primary aims is to address the following key goals: (1) improve the lives of children and families, (2) strengthen the community through collaboration, and (3) strengthen the community through sustainability.

Program participants. Recruitment of program participants was conducted through partners at local hospitals, clinics, and physician's offices; the Richmond County Health Department; Richmond County Department of Family and Children Services; schools; and other local community programs that provide services to the target population. In hospitals, maternal and child health/perinatal staff refer women who are identified as having needs when they present to the hospital for emergency services as well as those women who have delivered a high-risk baby or had a maternal complication during pregnancy and/or birth. Neonatal intensive care unit nurses and social service personnel refer high-risk infants to APC.

Physician's offices and other providers/partners also refer teens/women who are high-risk or in need of psychosocial support. Teens are also recruited *via* an APC High Risk Case Manager assigned to local high schools as well as referred by school staff and administrators. APC staff also set-up table displays with information on the initiative and maternal health issues and talks with potential program participants at school fairs, community fairs and events, and at the request of partners hosting resource fairs. Referrals are also from current program participants and potential clients (self-referrals).

Central to the mission of APC is to use quality assurance approaches to coordinate services, advocate for clients, remove barriers to accessing services, and decrease duplication of efforts thereby maximizing services. Referrals are made to local community health and/or social service providers based on the specific needs that are identified by the client based on assessment outcomes.

Assessment measures. All of the self-report assessment tools that were used in the study have adequate reliability and validity psychometric properties, have been previously utilized in studies with ethnically diverse populations, and they were available in English and Spanish for use by APC clients. The following is a description of the assessment measures utilized in this study.

Edinburgh postnatal depression scale. The Edinburgh Postnatal Depression Scale²⁴ was used to assess depression among the sample of women. This measure is a 10-item screening tool used to identify depression among pregnant and/or postpartum women.

Responses may be scored 0, 1, 2, or 3 according to the increased severity of the identified depressive symptom. Each response to the question is summed together for a total score. A score 0–9 may indicate the presence of symptoms of distress that may be short lived and are not likely to interfere with day to day ability to function at home or at work. A score of 10–12 indicate the presence of symptoms that may be discomforting. A score of 13+ should be further evaluated and referred to a prenatal mental health specialist.

Woman abuse screening tool. The Women Abuse Screening Tool (WAST)²⁵ was used to ascertain exposure to intimate partner abuse among the sample of women. The WAST is an eight-question tool that is used to identify and assess women experiencing emotional and/or physical abuse by their partner. Participants are asked to rate the frequency of various feelings and experiences associated with abuse on a scale of 1 (often) to 3 (never). The scores are summed. A total score of 4 or more indicates exposure to IPV.

Alcohol and drug use/abuse. The Drug Abuse Screening Test (DAST)²⁶ includes 28 self-report items designed to be used in a variety of settings to provide a quick index of drug-related problems. For the current program, a modified version of the DAST was used to query women about their use of alcohol and/or drugs during any past time period in the life and during pregnancy. They were also asked about their primary partner's history of alcohol and/or drug use and their perceptions of their partner as an addict. Frequencies of self-report indicators (yes or no) to the questions were reported.

Data analysis. All data was analyzed using the Statistical Package for the Social Sciences (SPSS-18). Descriptive statistics and relationships among selected variables using Pearson correlation and regression analyses were conducted. Findings are intended to inform strategies for community-based programs to assist pregnant women with addressing depression, substance abuse, and intimate partner violence during their pregnancy, with the ultimate aim of improving health and mental health outcomes for women and children.

Results

The findings from this program are based on results from women who were enrolled in the APC Healthy Start Initiative over a four-year period. Some of the program participants did not respond to all of the questions queried on the various assessment measures and questions; thus information gathered and presented does not reflect the responses of the entire sample of 602 women. Thus, missing data on questionnaires was not included in any statistical analyses that yielded the following outcomes.

Program participant demographics. The total program sample included 602 women with the following reported races/ethnicities: American Indian/Alaska Native (n=4), Asian (n=6), African American (n=428), Multi-racial (n=1), Native Hawaiian/Pacific Islander (n=2), White (n=48), and Hispanic (n=109). Ages of participants ranged from 11 to 45 years, with a mean age of 24 years (SD 5.99). The primary languages spoken in the sample were 82.4% English (n=490), Spanish (n=103, 17.3%), and only two women (0.3%) reported "other" as their primary language. These results are indicated in Table 1.

Marital status. Among program participants, approximately 83% of participants reported they were single (n=499), approximately 11% reported being married (n=67),

Table 1.**PARTICIPANT DEMOGRAPHIC INFORMATION**

Demographic Variables	N	%
Age Range		
17 & under	27	4.5
18–25	331	55.6
26–35	209	35.1
35 & over	28	4.7
Race/Ethnicity		
American Indian/ Alaska Native	4	.7
Asian American	6	1
African American	428	71.6
Multi-Racial	1	.2
Native Hawaiian/Pacific Islander	2	.3
White	48	8.0
Hispanic	109	18.2
Marital Status		
Married	67	11.1
Single	499	82.9
Separated	12	2.0
Divorced	10	1.7
Highest Education Completed		
Elementary School	28	4.8
Middle School	76	13
Some High School	150	25.6
High School	222	37.9
GED	28	4.8
Some Vocational Training	14	2.4
Some College	50	8.5
College Degree	18	3.1
Primary Language		
English	490	82.4
Spanish	103	17.3
Other	2	0.3
Pregnant at Time of Program Enrollment	594	98.7
Post-Partum at Time of Program Enrollment	8	1.3

N=602

while 1.7% reported they were divorced (n=10), and 2% reported being separated (n=12) from their partner. These results and findings are indicated in Table 1.

Education. Approximately 37% of respondents (n=222) reported completion of high school or completion of a GED program (n=28, 4.8%) and other women indicated completion of some high school (n=150, 25%). Some women (n=76; 13%) reported

their highest educational attainment as middle school; completion of elementary school was reported by 28 women (4.8%). Fifty (8.5%) women reported having completed some college, while only a few women ($n=18$; 3.1%) had completed college and still fewer ($n=14$; 2.4%) indicated completion of some vocational training as their highest level of education. These results are included in Table 1.

Pregnancy at program enrollment. The majority of women (98.7%) indicated that they were pregnant at the time of program enrollment. (See Table 1.)

Employment and household income. Over half of the program participants (67%) reported being unemployed with the other 36% reporting being employed. A vast majority of participants ($n=514$, 88%) reported an income of \$0–\$10,830 per year. Several women ($n=38$, 6.5%) reported annual incomes of \$10,830–\$14,570. Some women ($n=8$, 1.4%) reported an annual income of \$14,571–\$18,310. Eight women (1.4%) reported \$18,311–\$22,050, while only two (0.3%) reported \$25,791–\$29,530, one (0.2%) reported \$29,531–\$33,270, and two (0.3%) women reported \$33,271–\$37,010). These results are included on Table 2.

Health insurance. A majority of the participants ($n=530$, 90%) reported having health insurance, while only 10% ($n=59$) were without. Among those who reported having

Table 2.
PARTICIPANT DEMOGRAPHIC INFORMATION

Demographic Variables	N	%
Employment Status		
Employed	213	36
Unemployed	379	64
Household Income		
\$0–\$10,830	514	88
\$10,831–\$14,570	38	6.5
\$14,571–\$18,310	11	1.9
\$18,311–\$22,050	8	1.4
\$22,051–\$25,790	8	1.4
\$25,791–\$37,010	5	.8
Health Insurance		
Insured	530	90
Uninsured	59	10
Type of Health Insurance		
Private	18	3.1
Medicaid	427	73
Peach Care	7	1.2
Other Type of Health Insurance	75	12.8
No Health Insurance	58	9.9

N=602

health insurance, Medicaid (n=427, 73%) was the most frequently reported followed by other (n=75, 12.8%), private (n=18, 3.1%), and Peach Care (1.2%). These results are included on Table 2.

Participant/partner drug and alcohol use. Among the sample of women in this program, only a few women (n=44) reported information concerning drug and alcohol use for themselves and/or their partner. Specifically, 24 women reported using drugs or alcohol during pregnancy, 15 women reported using drugs or alcohol in the past, 20 women reported that their partners used drugs or alcohol, and 20 women suspected that their partner(s) were addicted to drugs and/or alcohol. These results are indicated in Figure 1. Women that expressed problems handling substance abuse and/or alcohol were referred to a specialized community based health and human service agency that addresses such issues and/or to a healthcare facility for treatment.

Depression. Participants were provided a pretest and posttest Edinburg Postnatal Depression Screening (EDS) Measure. Overall the mean pre-test score was approximately 7 (SD=5.68) with a range of scores from 0 to 24. The mean post-test score for all participants was 6.76 (SD=5.33) with scores ranging from zero to 23. These scores show a slight decrease in presence of symptoms between pre- and post-tests for all age groups except 35 and over who showed a slight increase in scores. Mean scores suggest that overall participants showed some symptoms of distress that may be short-term and unlikely to interfere with day-to-day functions. Scores from 10–12 signal the need for a follow-up test and possibly additional screening. Scores of 13 and over signal that participant are very likely to be suffering from a depressive illness and should receive additional assessment and clinical assistance. Within the sample 30.4% (n=266) of participants scored 10 or higher during the pre-test and 24.4% (n=47) scored 10 or higher during the post-test. There were no significant differences by age

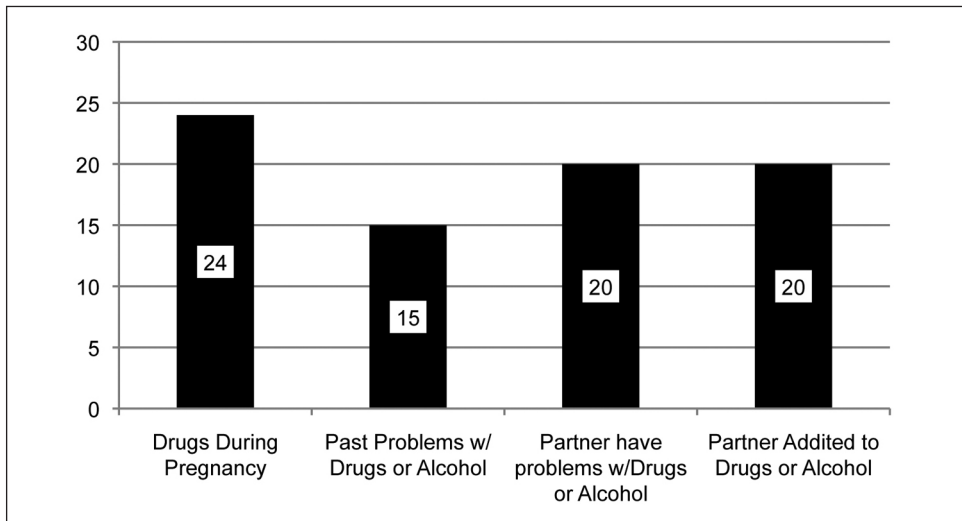


Figure 1. Client and partner drug or alcohol use.

n=44

range in scores, but participants 17 and under reported a higher mean score than the older age groups during the pre-test ($m=8.33$, $SD=4.46$), while participants 36 and older reported higher post-test scores ($m=7.17$, $SD=3.76$). These results are presented in Table 3. Any woman who screened positive for depression was referred for further assessment and treatment at a mental health care facility.

Intimate partner violence. Participants were also provided an intimate partner screening tool, the Women Abuse Screening Tool (WAST). Positive answers to the first two questions signal general relationship issues and the need to finish asking all the questions. The WAST includes questions such as "Did arguments ever result in hitting, kicking or pushing?" Questions were scored as 0 (never), 1 (sometimes), and 2 (often). A score of 4 or more has been found to be indicative of experiences of intimate partner violence. Within the sample approximately 6% of women reported experiencing intimate partner violence. Women who indicated experiences with intimate partner violence during the previous 12 months were referred to a community-based social service agency for care.

Relationships between depression, substance abuse, and intimate partner violence. Pearson correlation analyses were conducted to determine the relationship between depression screening scores, drug/alcohol use by participant and partner, and experience of intimate partner violence. As shown in Table 4, EDS pre-test scores were found to be significantly positively associated with post-test scores, self-reported violence, participant drug/alcohol use during pregnancy and during the past, as well as partner drug/alcohol use ($r=.542$, $.267$, $.165$, $.189$, and $.144$, respectively, $p\leq.001$). Other significantly positive relationships were also identified. Self-reported violence and drug/alcohol use by the participant during the past ($r=.110$, $p\leq.05$) and partner drug/alcohol use ($r=.192$, $p\leq.001$). Drug/alcohol use during pregnancy was significantly positively associated with participant drug/alcohol use during the past, partner drug/alcohol use, and partner being an addict or alcoholic ($r=.468$, $.310$, and $.161$ respectively, $p\leq.001$). See Table 4.

Table 3.

**MEAN AND STANDARD DEVIATION FOR PRETEST
AND POSTTEST SCORES FOR EDINBURG DEPRESSION
SCREENING INSTRUMENT BY AGE RANGE**

Age Range	Pretest	Posttest
All Ages	7.01 (5.68)	6.76 (5.33)
17 & Under	8.33 (4.46)	5.60 (5.30)
18–25	7.01 (5.57)	6.84 (5.69)
26–35	6.85 (6.04)	6.75 (4.84)
36–45	6.77 (5.35)	7.17 (3.76)

N=602

Table 4.**PEARSON CORRELATION COEFFICIENTS FOR PRE- AND POST DEPRESSION SCORES, DRUG/ALCOHOL USE BY PARTICIPANT AND PARTNER, AND EXPERIENCE OF INTIMATE PARTNER VIOLENCE**

	Pre- Depression Score	Post- Depression Score	Self Reported Violence	Drug/ Alcohol Use During Pregnancy	Drug/ Alcohol Use During Past	Drug/ Alcohol Use by Partner	Addict/ Alcoholic Partner
Pre- Depression Score							
Post- Depression Score	.542**						
Self Reported Violence	.267**	.255**					
Drug/Alcohol Use During Pregnancy	.165**	.176*	.076				
Drug/Alcohol Use During Past	.189**	.164*	.110*	.468**			
Drug/Alcohol Use by Partner	.144**	.060	.192**	.310**	.336**		
Addict/ Alcoholic Partner	.065	.090	.047	.161**	.214**	.525**	

* $p < .05$ ** $p < .001$

In general, the following significant relationships were ascertained:

Depression and IPV. A significant positive relationship was found between depression and intimate partner violence during pregnancy ($r = .26$, $p < .001$) and after delivery of baby ($r = .25$, $p < .001$).

Depression and substance abuse. A significant positive relationship was found between depression and substance abuse during pregnancy ($r = .16$, $p < .001$) and after delivery of baby ($r = .17$, $p < .001$). A significant positive relationship between depression during pregnancy and substance abuse of partner was also indicated ($r = .14$, $p < .001$).

Substance abuse and IPV. A significant positive relationship was found between substance abuse by partner and interpersonal violence ($r = .19$, $p < .001$) towards the mother.

Regression analysis. A multiple regression analysis was conducted predicting pre depression scores with self reported violence, substance abuse, age and education entered stepwise. Regression analysis for pretest depression scores showed that self-reported violence, education, and a history of participant drug/alcohol use predicted approximately 39% of the variance in reported score. This final model is found significant in improving ability to predict depressive score outcome. Positive relationships are found between EDS scores, self-reported violence, and history of drug/alcohol use, and a negative relation is found between education and EDS scores. See Table 5.

Discussion

There is a critical lack of information concerning depression, substance abuse, and intimate partner violence relative to ethnically diverse pregnant women. Research has not consistently nor systematically examined the unique concerns that may relate to some of the complex issues that elevate these women's risk for depression, substance abuse, and intimate partner violence in a comprehensive assessment of the context that may influence these women's mental health, emotional condition, and overall general well-being. Women of diverse ethnicities, particularly during pregnancy, are not frequently confronted with isolated stressors, but with a constellation of issues that can engender stress. Problematic psychosocial and behavioral health issues were detected among the current program's sample of women; which may in part indicate that some of these women and their children were at risk for health difficulties and

Table 5.
**REGRESSION ANALYSIS PREDICTING PARTICIPANT'S
PRE-TEST DEPRESSION SCORES**

	<i>R</i>	<i>B</i>	<i>SE b</i>	β
Step 1				
Constant	.271	6.53	.25	
Self Reported Violence		6.71	1.06	.271**
Step 2				
Constant	.348	8.31	.42	
Self Reported Violence		6.58	1.04	.266**
Education		-.55	.11	-.219**
Step 3				
Constant		8.15	.42	
Self Reported Violence	.385	6.14	1.03	.248**
Education		-.54	.10	-.216**
Past Drug/Alcohol use		5.65	1.41	.166**

** $p < .001$

N=602

possible challenges in the future. However, the scope of this program was limited to self-reported information about experiences related to depression, substance abuse and intimate partner violence, and no additional information about health and birth outcomes was ascertained.

Nevertheless, it was critically important that among women who screened positive for depression, substance abuse, and/or intimate partner violence that a referral to an appropriate treatment facility was provided. Tracking and monitoring of follow-through among clients was conducted as a part of the APC's case management strategy. However, some women did not adhere follow up on suggested referrals that might have assisted them with problematic situations. For example, some women may have had difficulty identifying adequate childcare, transportation to a treatment facility, and/or personal challenges in accepting the need for specialized care. It is essential that programs aimed to support pregnant women of diverse ethnicities use a comprehensive and culturally centered approach to assisting them in a multifaceted way. It is not enough to simply make a referral to a mental and/or behavioral health care professional and assume that the appointment will be kept. Rather, intense follow-up, tracking, and monitoring, and use of non-traditional methods of support may be helpful for this population. For example, a community health worker (CHW) model/approach may be advantageous. Community health workers, also known as *promotoras*, lay health workers, or community health advisors, are trusted members of their communities that provide community-based health and education services and vital links between health systems and communities.²⁷ Community health workers could be trained by staff at community based organizations and agencies that provide prenatal and postnatal support services to facilitate mental and behavioral health care needs, such as providing reminders about appointment days/times with providers, assistance with eliminating barriers (e.g., transportation, childcare problems) to completing appointments with providers, and identifying other community resources (e.g., housing, employment, educational opportunities) that may ease challenging life circumstances that may in part be barriers to help-seeking for their mental and behavioral health problems.

The help-seeking literature²⁸ suggests two internal conditions that are fundamental for seeking support: (1) recognizing a problem as undesirable, and (2) seeing the problem as unlikely to go away without help from others. Research has indicated that there can be real or perceived barriers to help-seeking, and some of the issues may relate to cultural attitudes, previous unsatisfactory contacts with professional caregivers, issues of confidentiality, gender role socialization, a belief that nothing or no one can help, fears of negative repercussions such as being institutionalized, a lack of knowledge of helpful resources, and resources that are inaccessible or too costly.²⁹ Thus, among vulnerable pregnant women, the situation may be further compounded by the lack of perceived need to seek help for depressive symptoms, substance use, and/or intimate partner violence and it not being a personal health priority that warrants immediate attention. The significant findings identified about depression, substance abuse, and intimate partner violence for this study's population of women is lower than reports in other studies^{30,31,32,33} of outcomes among similarly at-risk group of women. This may in part be due to an underreporting. Our findings reinforce the need for prenatal screening, education, and preventative measures for such high-risk populations of women.

Furthermore, these three psycho-social and behavioral health conditions continue to

be a public health problem and are complicated by a myriad of socio-cultural, economic, environmental, and psychosocial issues. Considerations should be given and action taken to allow for women at risk for these conditions to seek help earlier without fear of negative repercussions or marginalization, so that the proper precautions, treatment, and preparations can be made during pregnancy. It may be helpful for professionals working with clients to identify the specific issues (e.g., childcare, transportation, stigma about help-seeking for services) that may be barriers to seeking help, and to subsequently work with the clients to resolve the identified issues. Multifaceted options that utilize the skills of many professionals are needed to provide the most comprehensive and appropriate care needed to address the complex concerns of pregnant women, particularly from underserved communities. Treatments and interventions should be well-planned using as complete a history as possible and addressing as many problems as necessary. Furthermore, appropriate prevention and screening tools are imperative to further support women prior to and during pregnancy. Fortunately, culturally relevant assessments and guidelines are available and aim at ensuring that accurate detection and appropriate resolution of these types of problems are a reality.³⁴ Identification and referrals to appropriate supportive community based agencies are necessary by health care and case management professionals who care for pregnant women since they are in a unique position to offer assistance. There are several community-based interventions that have been successful in the promotion of empowerment of women and strategies that may help to prevent future incidences of depression, IPV, and substance abuse among pregnant women.

It is our contention that model programs and services including those offered by the Augusta Partnership for Children (APC) help to support women at risk for these types of problems. In particular, the APC's role in facilitating referrals to community organizations that may be able to help these women with various issues reinforces the agency's commitment to support their future health well-being. Additional prevention approaches are needed as well as more empirical data to determine specific, culturally-centered strategies for improving the recognition of depression, substance abuse, and intimate partner violence for pregnant women of diverse ethnicities.

Consequently, it is crucial that careful attention be paid to heightening awareness about screening for and treatment of depression, substance abuse, and intimate partner violence among pregnant women of diverse ethnicities. It is essential that models for the prevention and the promotion of mental wellness among ethnically diverse women from diverse sectors of the community be constructed.

Limitations. There are several limitations to the study. In particular, the findings are generalizable only to a modest sample of pregnant women from a relatively rural community. Additionally, only a few women reported intimate partner violence and history of substance use, which was considered during statistical analyses which limits the inferences that can be made about the entire sample of women. Because the interviews were conducted face-to-face with an APC agency case manager, women may not have reported substance use and experiences of intimate partner violence because of fear of repercussions (e.g., report of information to a child protective services agency). Furthermore since all data obtained from participants were self-reported (gathered from face-to-face interviews) some women may have opted to give socially desirable responses.³⁵

Notes

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