

Copyright  
by  
Pamela May Recto  
2018

**The Dissertation Committee for Pamela May Recto Certifies that this is the  
approved version of the following dissertation:**

**Mental Health Literacy of Mexican-American Adolescents:  
Examining their Knowledge, Beliefs, and Attitudes  
About Perinatal Depression**

**Committee:**

---

Jane Dimmitt Champion, Supervisor

---

Michael Mackert

---

Lorraine Walker

---

Cara Young

**Mental Health Literacy of Mexican-American Adolescents:  
Examining their Knowledge, Beliefs, and Attitudes  
About Perinatal Depression**

**by**

**Pamela May Recto**

**Dissertation**

Presented to the Faculty of the Graduate School of  
The University of Texas at Austin  
in Partial Fulfillment  
of the Requirements  
for the Degree of

**Doctor of Philosophy**

**The University of Texas at Austin**

**August 2018**

## **Dedication**

To my love and best friend, Eldridge. Thank you for running this race with me.

## **Acknowledgements**

I would like to thank my advisor, mentor, and dissertation chair, Dr. Jane Dimmitt Champion, for being my unceasing source of encouragement these past three years. You were always discerning of those times when I needed to be pushed and challenged. I never felt alone because I knew I had your utmost support. At times, when I felt the immense pressure of my studies, you always knew what to say to help me muster up the courage to get through another day, week, and semester. Saying thank you is not enough to express my gratitude. Nonetheless, thank you for your patience, graciousness, and enthusiasm. I will forever be thankful for your mentorship. I will remember the pearls of wisdom and advice you have given me. Your relentless pursuit for knowledge and passion for research is contagious and has certainly passed on to me. Your wisdom and intelligence motivate, embolden, and inspire me. You are an example of the kind mentor I would like to be one day.

To the committee members, Dr. Cara Young, Dr. Michael Mackert, and Dr. Lorraine Walker, your support has meant the world to me. Your work is awe-inspiring and I am grateful to have been surrounded by such brilliant minds. You have challenged me and expanded my way of thinking, consequently providing direction in my research. Thank you for selflessly imparting your knowledge and insight. You were always available for consultation and patiently answered my questions no matter how simple or modest it seemed.

I would like to thank the School-Aged Parenting Program, Healy Murphy Center, and San Antonio Independent School District for standing behind me and my research project. I would especially like to thank Doug Watson and Diana Centeno, the social

workers, and school nurses who worked with me during recruitment and data collection. Thank you for so easily accepting me into your schools, for making me feel like part of the team, and for your tireless work with the young mothers throughout the San Antonio school district. Your work may go unnoticed at times, but your influence on young mothers last a lifetime. I would also like to acknowledge the participants who opened their hearts and gave their time with the purpose of helping young mothers who are suffering from perinatal depression. Thank you for sharing your stories.

I am thankful to the Robert Wood Johnson Foundation, University of Texas at Austin, and all my professors for supporting me these past three years. Thank you for making it possible for me to pursue a doctoral degree. I owe you a debt of gratitude for this unforgettable experience. It was truly an honor. I am grateful for the opportunity, and thankful for all the memories. What a journey this has been.

Finally, I express my deepest gratitude to my family, friends, and husband for their unconditional support and love. To my parents who instilled in me the value of hard work, persistence, and power of prayer, thank you for the countless “meals on wheels” you have provided during those busy school nights. To my parents-in-law for their thoughtful inquiry of my progress in school and my sister who always beamed with pride when she spoke of me, you encouraged me to never give up. I am eternally blessed to have the best friends who made me laugh and kept me grounded in my values, you brought joy to my heart. And to my loving husband, there are not enough words to describe how much you mean to me. You are my world and my rock. You are the best thing that has ever happened to me, I love you dearly.

## Preface

The following document is a dissertation in a nontraditional format. It is based upon five projects: a quantitative review of the literature, a secondary analysis of existing quantitative data, a theoretical paper, an instrumentation study, and a qualitative study. This body of work utilized various methods in order to understand the phenomenon of adolescent mental health literacy concerning perinatal depression.

The dissertation is organized into eight chapters. Chapter one is an overview, describing implications of perinatal depression among adolescents, psychosocial and cultural dimensions of perinatal depression, significance of research concerning perinatal depression, and proposed research questions. Chapter one also includes the proposed plan for the final dissertation project.

Chapter two is a systematic review of the literature on perinatal depression titled, “Psychosocial Risk Factors for Perinatal Depression among Female Adolescents: A Systematic Review” (Recto & Champion, 2017). This paper examined risk factors for perinatal depression among adolescents during pregnancy and postpartum period. A literature search was conducted from five databases from 1995-2016. A total of 17 studies matched the inclusion criteria. The systematic review described study designs, sample characteristics, reliability of depression instruments, and potential risk factors for perinatal depression. Lack of social support, perceived stress, prior history of depression, and history of sexual or physical violence were most frequently identified as potential risk factors for perinatal depression. Additional risk factors include the adolescent’s

perception of her pregnancy, family criticism, self-efficacy, self-esteem, substance use, parental stress, community violence, and anxiety.

Chapter three is a secondary analysis of quantitative data from a randomized controlled trial titled, “Psychological Distress and Associated Factors among Mexican American Adolescent Females” (Recto & Champion, 2016). At study entry, 46.4% (n=214) of participants self-reported ever experiencing a pregnancy (ever-pregnant), while 53.6% (n= 246) self-reported never experiencing a pregnancy (never-pregnant). Comparisons by pregnancy status were conducted. More ever-pregnant adolescents were older and reported dropping out of school than never-pregnant adolescents. Additionally, more ever-pregnant adolescents reported “thinking” in Spanish, reading and speaking in Spanish, and speaking Spanish with friends. Adolescents reporting never-pregnancy status experienced greater sexual and physical violence, substance use, and psychological distress compared to ever-pregnant adolescents. Findings support the need for mental health literacy as a component of sexual health among Mexican-American adolescent females experiencing interpersonal violence, high-risk sexual behavior, and pregnancy.

Chapter four is titled, “Assessing the Mental Health Needs of Pregnant Adolescents: Health Literacy Frameworks to Guide Research and Practice” (Recto, Champion, & Mackert, 2016). This paper compared a health literacy framework developed by Paasche-Orlow and Wolf (2007), with Jorm’s (2000) mental health literacy framework. Using Walker and Avant’s (2011) criteria, both frameworks were examined for origin, parsimony, meaning, generalizability, testability, logical adequacy, and



usefulness. The authors also proposed a health literacy conceptual model using Paasche-Orlow and Wolf's, and that of Jorm's frameworks.

Chapter five includes the results of an instrumentation study titled "Assessment of Mental Health Literacy among Perinatal Hispanics" (Recto & Champion, 2017). The study assessed the mental health literacy of female adolescents during pregnancy and postpartum period (n = 30) using a modified mental health literacy scale (MHLS). The MHLS is a 33- item survey which includes each component from Jorm's mental health literacy framework. Findings show moderate mental health literacy among pregnant and postpartum Hispanic adolescents. However, further examination of each subscale revealed limited knowledge regarding professional help and fewer positive attitudes concerning mental health disorders among adolescents who reported never having perinatal depression. Results from this study identified the need to examine the mental health literacy of pregnant and postpartum adolescents through in-depth interviews.

Chapter six and seven will report findings from the final project. It is comprised of two papers from a qualitative descriptive study. Using the mental health literacy framework, the author conducted semi-structured interviews with 20 pregnant and postpartum Mexican-American adolescents. Chapter six is titled, "Mexican-American Adolescents' Perceptions about Causes of Perinatal Depression, Self-Help Strategies, and How to Obtain Mental Health Information." Chapter seven is titled, "We don't want to be judged": Perceptions about Professional Help and Attitudes Towards Help-Seeking among Pregnant and Postpartum Mexican-American Adolescents," and examined ability to recognize perinatal depression, knowledge and beliefs about professional help, and

attitudes that influence recognition and help-seeking. Content analysis via deductive and inductive analysis were used to analyze data. Using the mental health literacy framework, categories and subcategories are presented. Finally, chapter eight is a brief summary of research and practice implications from all five projects within this dissertation.

**Mental Health Literacy of Mexican-American Adolescents:  
Examining their Knowledge, Beliefs, and Attitudes  
About Perinatal Depression**

Pamela May Recto PhD

The University of Texas at Austin, 2018

Supervisor: Jane Dimmitt Champion

The purpose of this dissertation was to examine the mental health literacy of Mexican-American adolescents concerning perinatal depression. The final project is a qualitative descriptive study via deductive and inductive content analysis. Categories and subcategories are presented using the mental health literacy framework. Participants were recruited from urban high schools in Southwestern United States. Twenty pregnant and postpartum (perinatal) Mexican-American adolescents between the ages of 15 and 19 years participated in this study. Interpersonal conflict was the most common cause of depressive symptoms as adolescents described strained relationships with the father of the baby and family members. Emotional and instrumental support were most important to adolescents in alleviating stress and depression. Family members and their significant other were individuals that adolescents turned to for support. Family members, the internet, health providers, and mothers who had previously experienced perinatal depression were mentioned as sources of mental health information. However, those who indicated internet sources were unable to explain how information would be verified for accuracy.

Although participants were able to identify symptoms of depression, many expressed difficulties in recognizing depressive symptoms. Recognition was facilitated

through self-appraisals and appraisal of others. Adolescents who experienced criticism due to their pregnancy status were apprehensive about discussing depressive symptoms as many feared it would lead to more criticism and judgement. Cultural beliefs surrounding motherhood influenced perceptions about depression. Participants often ignored or minimized their symptoms as mothers were often regarded as strong, resilient figures within the family unit. In regards to perceptions about health professionals and treatment, results were somewhat mixed. Adolescents were ambivalent or unfamiliar with treatments and some believed pharmacologic treatments were not beneficial. Participants overwhelmingly expressed that empathy and warmth facilitated professional help-seeking. Health care providers were seen as knowledgeable, but it was important for adolescents to first establish rapport before disclosing their mental health concerns.

Utilization of the mental health literacy framework provided a comprehensive description of Mexican-American adolescents' perceptions about perinatal depression. Consideration of sociocultural environment, values, and beliefs are indicated during interactions with and development of interventions for perinatal Mexican-American adolescents.

## Table of Contents

<b>List of Tables</b> .....	xviii
<b>List of Figures</b> .....	xix
<b>Chapter 1: Overview</b> .....	1
Introduction.....	1
Background and significance .....	2
Sensitizing framework .....	4
Definitions.....	5
Definitions pertaining to methodology .....	6
Assumptions.....	7
The Final Project of the Dissertation: A Qualitative Descriptive Study.....	7
Research aim and questions .....	8
Methods.....	9
Design .....	9
Sample and setting .....	10
Data collection procedures.....	11
Data analysis .....	13
Trustworthiness.....	15
Data saturation .....	17
Protection of human subjects .....	18
Data management.....	18
Summary .....	19
<b>Chapter 2: Psychosocial Risk Factors for Perinatal Depression among Female Adolescents: A Systematic Review</b> .....	20
Abstract .....	20
Introduction.....	21
Methods.....	23
Results.....	25
Characteristics of the sample .....	25

Study designs .....	27
Instruments used to measure depression.....	28
Potential risk factors .....	29
Discussion .....	34
Practice recommendations .....	37
Research recommendations .....	38
Conclusion .....	39
Chapter 3: Psychological Distress and Associated Factors among Mexican-American Adolescent Females .....	40
Abstract .....	40
Introduction.....	42
Background.....	43
Mental health literacy .....	45
Methods.....	46
Design and sample .....	46
Theoretical framework.....	46
Results.....	48
Discussion .....	50
Conclusions.....	55
Chapter 4: Assessing the Mental Health Needs of Pregnant Adolescents: Health Literacy Frameworks to Guide Research and Practice .....	57
Abstract:.....	57
Introduction.....	59
Background.....	60
Purpose.....	61
Methods.....	61
Overview of Jorm’s mental health literacy framework .....	62
Analysis of Jorm’s framework.....	65
Overview of Paasche-Orlow and Wolf’s health literacy conceptual model.....	67
Analysis of Paasche-Orlow and Wolf’s health literacy model .....	71

Usefulness of frameworks in assessing pregnant adolescents' mental health needs .....	73
Results.....	77
Implications for practice .....	79
Conclusion .....	81
<b>Chapter 5: Assessment of Mental Health Literacy among Perinatal Hispanic Adolescents .....</b>	<b>82</b>
Abstract .....	82
Introduction.....	83
Background.....	83
Mental health literacy framework.....	85
Purpose.....	89
Methods.....	90
Results.....	92
Discussion .....	94
Practice implications .....	99
Conclusions.....	100
<b>Chapter 6: Mexican-American Adolescents' Perceptions about Causes of Perinatal Depression, Self-Help Strategies, and How to Obtain Mental Health Information .....</b>	<b>101</b>
Abstract .....	101
Introduction.....	103
Background.....	103
Mental health literacy framework.....	105
Methods.....	106
Design .....	106
Participants.....	106
Data collection .....	107
Data analysis .....	108
Results.....	109
Knowledge and belief about the causes of perinatal depression.....	110

Knowledge and beliefs of self-help strategies .....	112
Knowledge of how to obtain mental health information .....	115
Discussion .....	117
Practice implications.....	120
Conclusion .....	121
Chapter 7: “We don’t want to be judged”: Perceptions about Professional Help and Attitudes Towards Help-Seeking among Pregnant and Postpartum Mexican-American Adolescents .....	122
Abstract .....	122
Introduction.....	124
Mental health literacy framework and study purpose.....	126
Methods.....	127
Design .....	127
Participants and setting .....	127
Data collection .....	128
Data analysis .....	129
Results.....	130
Ability to recognize perinatal depression .....	131
Knowledge and beliefs about professional help and treatment .....	133
Attitudes about perinatal depression that influence recognition and help-seeking .....	136
Discussion .....	139
Practice implications.....	142
Conclusion .....	144
Chapter 8: Research, Practice, and Policy Implications .....	145
Research implications .....	145
Practice and Policy implications.....	146
Conclusions.....	148



Appendices.....	174
Appendix A: Sociodemographic and SASH Survey .....	175
Appendix B: Interview Questions.....	177
Appendix C: Mental Health Literacy Codelist .....	180
Appendix D: IRB Approval Letter .....	182
Appendix E: Reuse Permission.....	184
Appendix F: Reuse Permission.....	185
Appendix G: Reuse Permission .....	186
Appendix H: Reuse Permission .....	187
Appendix I: Modified Mental Health Literacy Survey.....	188
Appendix J: Reuse Permission.....	194
References.....	195

## **List of Tables**

Table 1.	Research Studies Identifying Psychosocial Risk Factors for Perinatal Depression in Adolescents .....	149
Table 2.	Demographic Comparisons of Ever and Never Pregnancy .....	156
Table 3.	Psychosocial and Situational Comparisons of Adolescents Ever- and Never- Pregnancy.....	157
Table 4.	Psychosocial and Situational Comparisons of Adolescents Ever- and Never- Pregnancy.....	158
Table 5.	Summary of Health Literacy Framework Analysis .....	159
Table 6.	Sociodemographic Characteristics of Hispanic Adolescents.....	161
Table 7.	ANOVA Results by Group and MHL Subscales.....	163
Table 8.	Responses for Each MHL Category .....	164
Table 9.	Overview of Categories, Subcategories, and Sample Quotes.....	167
Table 10.	Sociodemographic Characteristics of Mexican-American Adolescents .....	169

## List of Figures

Figure 1.	Flow diagram of the exclusion of literature .....	171
Figure 2.	Paasche-Orlow and Wolf's concept model for health literacy .....	172
Figure 3.	Modified health literacy concept model based upon Paasche-Orlow, Wolf's, and Jorm's frameworks.....	173

## Chapter 1: Overview

### INTRODUCTION

Perinatal depression is a major concern for pregnant and postpartum adolescents because it poses health risks for both the mother and infant such as preterm birth, low-infant birth weight, and poor maternal-infant attachment (American College of Obstetricians & Gynecologists [ACOG], 2015; Kinsella & Monk, 2009; Satyanarayana, Lukose, & Srinivasan, 2011). Perinatal depression, also referred to as maternal depression, is defined as symptoms of depression during pregnancy and postpartum period (ACOG, 2015). Symptoms include: appetite disturbance or weight gain/loss, sleep disturbance, fatigue or low energy, difficulty concentrating, low self-esteem or guilt, thoughts of death or suicide (ACOG, 2015).

Perinatal depression can be debilitating to adolescent mothers as it negatively affects her health, school performance, and relationships with peers, family, and her significant other. Perinatal depression often goes undiagnosed because symptoms are frequently attributed to ailments of pregnancy or postpartum (ACOG, 2015). Prevalence rates for perinatal depression range anywhere from 16% to 44% among adolescents (Hodgkinson, Beers, Southammakosane, & Lewin 2014). Additionally, Mexican-Americans and African-Americans experienced depression two to four years postpartum as compared to non-Hispanic White mothers (Mental Health America, 2008; Schmidt, Wiemann, Rickert, O'Brian Smith, 2006).

Despite the risks for mothers and newborns, less than half of adolescent mothers who experience perinatal depression receive treatment and mental health services (Ertel, Rich-Edwards, & Koenen, 2011). Barriers to treatment include misconceptions about perinatal depression and professional help available, inability to access mental health services, and fear of stigmatization (Lara-Cinisomo, Wisner, Burns, & Chaves- Gnecco, 2014; Jorm, 2012). Additionally, the adolescent's perception of perinatal depression are influenced by cultural beliefs and may affect her decisions for seeking help (Lara-Cinisomo et al., 2014).

### **Background and significance**

According to the United States (U.S.) Census Bureau (2015), Hispanics are the largest ethnic minority in the U.S. Hispanics are represented by groups of individuals living in various Latin countries (e.g., Mexico, Puerto Rico, Cuba, and Dominican Republic). However, individuals of Mexican descent make up the largest proportion of the Hispanic population (Lopez, Gonzalez-Barrera, & Cuddington, 2013). As such, Mexican-American female adolescents accounted for the highest birth rate (35.5 per 1000) among Hispanic adolescents (Martin, Hamilton, Osterman, Driscoll & Matthews, 2017). Despite the high fertility rates of Mexican-American female adolescents, there is limited information on their mental health during the perinatal period (Lara-Cinisomo, Girdler, Grewen, Meltzer-Brody, 2016).

Motherhood is a remarkable period of psychological, physiological, and biological transition in a female's life. For adolescents, this transition may be challenging

as they are concurrently establishing self-identify and autonomy (Nolen-Hoeksema & Hilt, 2009). Adolescent mothers who are learning how to negotiate their responsibility as daughter, student, friend, and partner may feel distress in their attempt to integrate these roles with motherhood (Birkeland, Thompson, & Phares, 2005). Shifting responsibilities from caring for oneself to caring for a newborn is a stressful task for adolescent mothers and may therefore increase their risk for perinatal depression (Hodgkinson et al., 2014).

Acculturation has been associated with perinatal depression among Hispanic mothers (Alhasanat & Giurgescu, 2017). Acculturation can be described as the degree by which an individual adapts to values, customs, and behavior of a host country (Berry, 1997). Acculturative stress occurs from the struggles adolescents face during the process of cultural adaptation (Berry, 2006). Adherence to culturally defined roles may differ across generations. Mexican-American adolescents who do not strongly identify with this role may find themselves in conflict with family members and partners who expect them to adhere to culturally defined roles (D'Anna-Hernandez, Aleman, & Fores, 2015). Acculturative stress coupled with interpersonal conflict may result in adverse mental health outcomes among pregnant and postpartum Mexican-American adolescents (D'Anna-Hernandez et al., 2015).

Adolescent pregnancy has been associated with lower educational achievement and lower incomes (Center for Disease Control and Prevention [CDC], 2013). Additionally, poverty rates are higher among Mexican-Americans (16.2%) as compared to non-Hispanic Whites (11.6%) (Macartney, Bishaw, & Fontenot, 2013). Thus, pregnant

and postpartum Mexican-American adolescents who are experiencing greater economic challenges may experience high levels of stress and adverse mental health outcomes such as depression (Lara-Cinisomo et al., 2014). According to Dashiff, Dimicco, Myers, and Sheppard (2009), adolescents' awareness of economic difficulties influences their quality of life and social adjustment, thus making them vulnerable to depression. Mexican-American adolescents are particularly vulnerable to depression when access to health care and daily necessities are limited or lacking for young mothers who must care for their newborn. Feelings of helplessness, shame, and inferiority from these financial challenges have a cumulative effect among Mexican-American adolescents over time that can lead to depressive symptoms (Dashiff, Dimicco, Myers, & Sheppard, 2009).

### **Sensitizing framework**

Jorm's (2000) mental health literacy framework guides this dissertation. It is defined as the individual's knowledge and beliefs about mental health disorders which facilitate its recognition, prevention, and management (Jorm, 2000). The mental health literacy framework has several components: a) ability to recognize specific mental health disorders; b) knowledge and beliefs about its risk factors and causes; c) knowledge and beliefs about self-help interventions; d) knowledge and beliefs about professional help available; e) attitudes which facilitate recognition and appropriate help-seeking; and f) knowledge how to seek mental health information (Jorm, 2000). Through the application of the mental health literacy framework, Mexican-American adolescents will be able to provide an overview of their knowledge and attitudes regarding perinatal depression, its

risk factors, professional help-seeking, self-help strategies, treatments, and how they obtain mental health information.

### **Definitions**

1. *Adolescence* is a developmental stage from onset of puberty until an individual achieves economic independence (American Psychological Association, 2002).
2. *Help-seeking* is an adaptive coping process of obtaining external assistance to cope with a mental health concern (Rickwood & Thomas, 2012).
3. *Mental health* is defined as the state of well-being by the individual in which they are able to reach their potential in order to cope with day-to-day stresses. It is also identified by the individual's ability to work productively and fruitfully in their community (World Health Organization [WHO], 2014).
4. *Mental health literacy* consists of individual knowledge and attitudes about mental health disorders that aids its recognition, management and prevention (Jorm, 2000).
5. *Perinatal depression* also commonly referred to as maternal depression, is defined as symptoms of depression during pregnancy and the first 12 months after delivery (ACOG, 2015).
6. *Perinatal period* begins at 22 weeks of gestation and lasts until childbirth (WHO, 2017).
7. *Postpartum period* is the period beginning after delivery lasting up to 12 months (Ricci, 2009).



8. *Psychological distress* is described as perceived inability to cope effectively, change in emotional status (e.g. anxiety, depression, irritability, withdrawal from others) and discomfort (e.g. sadness, anger, hostility) (Ridner, 2004).
9. *Self-Care* is the individual's instrumental knowledge, will, and skills in order to implement their plan of care (Paasche-Orlow & Wolf, 2007).
10. *Self-help strategies* are actions that an individual takes on their own to manage a mental health disorder (Jorm, 2000; O'Connor & Casey, 2015).
11. *Stigma* is the endorsement of prejudices and stereotypes, resulting in negative behaviors against a particular group of individuals (Corrigan, 2004).

#### **Definitions pertaining to methodology**

1. *Coding frame* is a structure from which the researcher views the data and consists of categories and subcategories (Schreier, 2012).
2. *Coding units* are parts or segments of data that is interpreted by the researcher with respect to its main category (Schreier, 2012).
3. *Deductive content analysis* is a concept- or theory-driven approach of analyzing data (Schreier, 2012).
4. *Inductive content analysis* is a data- driven approach of analyzing data (Schreier, 2012).
5. *Qualitative content analysis* a method of describing qualitative material through the development of categories and subcategories (Schreier, 2012).

6. *Qualitative description* is a method that offers a descriptive summary of participant's experiences and perceptions of a given phenomenon. The goal of qualitative descriptions is to stay close to the "surface" of the data while capturing the participants' experience (Milne & Oberle, 2005).
7. *Segmentation* is the process of dividing qualitative material in to smaller units (Schreier, 2012).

### **Assumptions**

The following are core assumptions of this dissertation:

1. Adolescent mothers' cultural values and beliefs shape their mental health literacy.
2. Adolescent mothers' interactions with family members, peers, and health care providers influence perceptions about perinatal depression and help-seeking.
3. Adolescent mothers are particularly sensitive to perceived judgement from others and may therefore hesitate to disclose depressive symptoms.
4. Shared decision making is one method of engaging and empowering adolescent mothers to achieve mental health outcomes.

### **THE FINAL PROJECT OF THE DISSERTATION: A QUALITATIVE DESCRIPTIVE STUDY**

The final project will be a qualitative descriptive study. Understanding the knowledge and attitudes of Mexican-American adolescents has important implications in preventing perinatal depression and improving mental health status during the perinatal period. This study sought to examine how pregnant and postpartum Mexican-American adolescents would be able to identify (either through self-appraisal or appraisal of others)

depressive symptoms, and what resources would be helpful in facilitating early recognition. This is important because previous research suggests that mothers often have difficulty recognizing the development of perinatal depression (Guy, Sterling, Walker, & Harrison, 2014). Because adolescents typically turn to informal sources for help (e.g. peers, family members, and partners) than formal sources (e.g. health care providers), the study will attempt to describe their motivations for help-seeking. Lastly, it is necessary to examine individual and societal influences to uncover the adolescent's attitudes surrounding perinatal depression. Such descriptions will help identify factors that impede or facilitate help-seeking and recognition of perinatal depression.

### **Research aim and questions**

There have been multiple endeavors to enhance health literacy among the general public since individuals are taking an active role in seeking and obtaining health information. The Institute of Medicine (2004) defines health literacy as the individual's ability to obtain, process and understand basic health information and services in order to make appropriate health decisions. While the importance of health literacy is acknowledged in the literature, mental health literacy has not been widely explored particularly in the realm of perinatal depression (Guy et al., 2014). The overall aim was to examine the mental health literacy of pregnant and postpartum Mexican-American adolescents concerning perinatal depression. The research questions are as follows:

***Research Question 1:*** How do pregnant and postpartum adolescents recognize the development of perinatal depression?

**Research Question 2:** What risk factors for perinatal depression are identified by pregnant and postpartum adolescents?

**Research Question 3:** How do pregnant and postpartum adolescents obtain information about perinatal depression?

**Research Question 4:** What are the perceptions of pregnant and postpartum adolescents concerning treatments and health care providers?

**Research Question 5:** What types of self-help strategies do pregnant and postpartum adolescents find helpful to prevent and manage depression?

**Research Question 6:** What are the attitudes of pregnant and postpartum adolescents that facilitate recognition and help-seeking for perinatal depression?

## **Methods**

### ***Design***

Qualitative description is a methodological approach that seeks to understand the why, what, when, and where of individual experiences and events (Lambert & Lambert, 2012). The goal of qualitative description is to capture the individual's perceptions particularly when a straightforward description of a phenomenon is desired (Sandelowski, 2000). Moreover, qualitative description is suitable when a theoretical framework is applied to describe the views of the participants. Thus, qualitative description using content analysis will be used to address the study purpose. The proposed study is situated within a post-positivist epistemology. A post-positivist view acknowledges that theories are utilized and verified to help us understand the world

(Creswell, 2014). Thus, postpositivists engage in scientific inquiry by using a theory, collecting data that supports or refutes it, and then making revisions or additional tests (Creswell, 2014). Postpositivism is therefore appropriate as the researcher seeks to understand how Mexican-American adolescents ascribe individual, social, and cultural conditions concerning perinatal depression through the lens of the mental health literacy framework.

### ***Sample and setting***

Convenience sampling strategy was used to identify female adolescents for this study. Convenience sampling allowed the researcher to examine perceptions of pregnant and postpartum adolescents as it pertained to the study purpose and research questions mentioned above. Potential participants were recruited from parenting classes throughout urban high schools from the San Antonio Independent School District. The inclusion criteria included pregnant and postpartum mothers ( $\leq 1$  year) who self-identified as Mexican-American, and were between the ages of 14 and 19 years.

The researcher obtained parent/guardian consent prior to making contact with participants. Folders containing a letter explaining study purpose, consent forms, and the researcher's contact information were distributed to potential participants by the school nurse and social workers. After parent/guardian permission was received, the researcher provided study details and purpose to participants and obtained their assent. Participants who expressed a willingness to participate were asked to complete the assent form.

Participants over the age of 18 years signed their own consent form. Adolescents were contacted by the researcher to schedule a day and time for the interviews.

The study was conducted at the Healy Murphy Center and the School Age Parenting Program (SAPP) in San Antonio, Texas. Healy Murphy Center is an alternative high school that serves adolescents who have previously had challenges in succeeding in a traditional school environment. Healy Murphy Center offers a personalized curriculum to help students successfully graduate. Healy Murphy offers on-site counseling, childcare, and health services for pregnant and parenting adolescents who are attending the high school. SAPP provides support services to alleviate barriers that prevent pregnant and parenting adolescents from obtaining their high school diploma. Adolescents meet and work with social workers who help them obtain resources and services for pregnancy and childcare. SAPP and the Healy Murphy Center provide parenting classes to pregnant and postpartum adolescents in the San Antonio area. Interviews were conducted at a private conference room or unoccupied classroom at the Healy Murphy Center and SAPP.

### ***Data collection procedures***

After obtaining consent and assent, participants were asked to provide sociodemographic information. This questionnaire included items concerning marital status, age, years of education, and health history. Personal health history questions included number of previous pregnancies and number of children. The participants were

asked questions about personal history and treatment of perinatal depression (see Appendix A).

Acculturation was measured using four measures from the Short Acculturation Scale for Hispanics (SASH) (Marin, Sabogal, Marin, Otero-Sabogal, & Perez, Sable, 1987). These items measure language use at home, with friends and family, and whether the participant “thinks” in Spanish. SASH has been used extensively among individuals of Mexican descent residing in the United States and has a reliability of .92. Responses include a five-point scale where 1 is “Only Spanish” and 5 is “Only English”, with a midpoint of 3 “Both equally”. A cut point of 2.99 was used to differentiate participants who were less acculturated (average score between 1 and 2.99) and those who were more acculturated (see Appendix A).

After the sociodemographic survey was completed, the interview was conducted by the researcher. The researcher asked semi-structured questions (see Appendix B) to examine the participant’s mental health literacy. The following theoretical components of mental health literacy served as a guide to facilitate the interview: Ability to recognize depression, knowledge of how to seek mental health information, knowledge of risk factors and causes perinatal depression, knowledge of self-help strategies, knowledge of professional help available, and attitudes that promote recognition and appropriate help-seeking.

Interview questions were refined and expanded based upon findings from the interview. As needed, the researcher used follow up questions such as “tell me more

about...” or “can you elaborate further...” in order to clarify or expand upon each of the mental health literacy theoretical components. Some participants were interviewed more than once, with each interview lasting 45-60 minutes. A gift card in the amount of \$20 was given for each interview session.

In addition to face-to-face interviews, descriptive field notes were taken noting the participants’ behavior, dress, interview setting, time, and date of interview. Reflective field notes were also taken describing ideas, insights, and personal thoughts about what was observed during the interviews. Field notes were intended to give context and understanding of the culture, social situation, or phenomenon being studied, as well as allowing for self-reflection (Emerson, Frenz, & Shaw, 2011).

### ***Data analysis***

Interviews were audio recorded then transcribed verbatim and reviewed completely. Transcribed data were compared with the audio recording to ensure accuracy. Data analysis and management were conducted using Microsoft Word. Both deductive and inductive content analysis were used to analyze data. Qualitative content analysis (QCA) is appropriate as it is commonly used to systematically describe the meaning of qualitative data (Schreier, 2012). QCA involves the reduction of data that is assigned to categories and subcategories according to shared characteristics (Milne & Oberle, 2005). In this study, Schreier’s (2012) QCA techniques were used to conduct data analysis.



The researcher developed a coding frame, which is a method of structuring data in a way that captures the focus of the analysis via categories and subcategories (Schreier, 2012). When creating a coding frame, categories and subcategories can be developed through a combination of deductive and inductive approach. Deductive approach is the use of predetermined categories to code data that is theory-based (Schreier, 2012). The predetermined categories were based upon each mental health literacy component mentioned above. Inductive approach creates subcategories that are data-driven (Schreier, 2012). Thus, subcategories were created based upon common ideas or concepts from participants' responses within each mental health literacy category.

The transcript was read in its entirety and then segmented. Segmentation of data involves dividing the data, line by line, into coding units based upon topics covered by a portion of text (Schreier, 2012). Segmented data were assigned to the mental health literacy category for which it corresponded. A codelist containing descriptions and examples of each mental health literacy category helped the researcher determine which coding units qualified within each mental health literacy category (see Appendix C).

The second step of analyzation involved further examination of coding units within each mental health literacy category in order to create subcategories. Using an inductive approach, subcategories were created based upon common concepts that emerged within each mental health literacy category. Each coding unit was reduced to a phrase that summarized the passage using the participant's words; this was done repeatedly throughout each respective mental health literacy category (Schreier, 2012).

The researcher then examined the phrases and observed for common ideas or concepts. Phrases that shared a common idea were grouped together and a subcategory was assigned that described each group. According to Schreier (2012), subcategories serve as specifications of each main category. Therefore, each subcategory that was created specified meaning to the data with respect to each mental health literacy category. Mental health literacy categories represented a first, higher level and subcategories, a second and lower level category (Schreier, 2012).

### ***Trustworthiness***

Trustworthiness was achieved through four essential approaches as described by Whittemore, Chase, and Mandle (2001): a) integrity, b) criticality c) authenticity, and d) credibility.

Integrity refers to the researcher's ability to acknowledge their biases, and its influence in the research process (Whittemore, Chase, & Mandle, 2001). Integrity was accomplished through written reflective field notes as it allowed the researcher to reflect on her thoughts, biases, and ideas throughout the research process. Criticality was attained via audit trails through detailed memos documenting how decisions were made and justifications for those decisions during data analysis. A review of field notes and audit trails ensured the participant's perceptions were represented.

Authenticity, which is closely linked to credibility, involves giving attention to the voices of the participants and ensuring their perceptions are represented (Whittemore et al., 2001). Participants were encouraged to speak freely and discuss what they believed

was pertinent. Although a deductive approach was used initially to situate participant responses within the mental health literacy framework, authenticity was maintained by allowing subcategories to emerge based upon a data driven strategy. Repetitive immersion in the data also served as a way for emergence of concepts to be recognized. The researcher read and re-read the transcripts in order to critically appraise the relevance and fit of subcategories from the data (Milne & Oberle, 2005). A critical review of coding was on-going to ensure the subcategories emerged from the data.

Credibility refers to the believability of the study findings and establishing confidence by accurately depicting the participants' perceptions (Ravitch & Carl, 2016; Whittemore et al., 2001). Credibility was achieved through content validation with the dissertation chair to support concept production and coding issues (Elo & Kyngas, 2008; Ravitch & Carl, 2016). Sharing questions about the research process and study findings with the dissertation chair provided the researcher additional perspective on analysis and interpretation of data (Jeanfreau & Jack, 2010). Member checking was on-going during the interview. The researcher probed the participant to expand or clarify upon what was said and summarized major points at the end of the interview (Milne & Oberle, 2005). This provided participants the opportunity to reflect on the interview and agree or disagree with the summary while still in the context of the discussion.

Credibility also refers to a comprehensive account of data (Colorafi & Evans, 2016). To achieve this purpose, categorization and development of subcategories that adequately cover the data is essential (Graneheim & Lundman, 2004). Unidimensionality,

mutual exclusivity, and exhaustiveness was applied to achieve credibility of the coding frame (Schreier, 2012). Unidimensionality refers to each category reflecting one idea or concept (Schreier, 2012). The categories in the study were guided by components of the mental health literacy framework which represents its own unique concept, attributes, and characteristics. This was carefully detailed in the codelist. Exhaustiveness is another requirement and refers to the assignment of each coding unit to at least one category (Schreier, 2012). This ensured that participants' responses were well represented and that data were not inadvertently overlooked or excluded. Finally, mutual exclusivity was achieved when each coding unit only belonged to one subcategory within a mental health literacy category (Schreier, 2012).

### ***Data saturation***

Whittemore et al. (2001) associate saturation with thoroughness, which refers to having data adequacy and a comprehensive analysis. It is common for all data to first be collected and then analyzed later. Elo et al. (2014) suggest that it is easier to recognize saturation if data are preliminarily analyzed after a few interviews have been obtained. Therefore, preliminary analysis began after several interviews were conducted using the coding frame mentioned above. Analysis was ongoing while data was being collected from other participants. Interviews were structured to facilitate responses from multiple participants through a set of questions based upon the mental health literacy framework. Once the researcher reached the point of no new information or insight, then data saturation was reached (Morse, 1995). Additionally, once each of the categories and

subcategories of a coding frame have been addressed from the material or through the sensitizing framework, then saturation of data was achieved (Elo et al., 2014; Schreier, 2012).

### ***Protection of human subjects***

Approval from the Institutional Review Board (IRB) was obtained prior to study initiation (see Appendix D). Permission for study participation was obtained from legally authorized individuals. Assent was obtained from potential participants following permission from legally authorized individuals. Study purpose, procedure, and risks were explained verbally, in the flyer, letter, consent, and assent forms.

Adolescents were given the permission forms for their parent or legal guardian to read and sign. Adolescents were asked to return the signed form to the researcher prior to study initiation. After obtaining permission, assent was obtained from the participants. Emancipated minors provided their own consent for study participation. The researcher collaborated with the school's executive director, social worker, and school nurse to confirm emancipated minor status. Assent by participants and consent by emancipated minors were obtained after parenting class.

### ***Data management***

Participants were not required to provide personal identifiers in the questionnaire and during the interview. Therefore, their responses were anonymous. Participants were assigned an ID number known only by the researcher and the participants. A list was constructed with the assigned ID number, participant name, and contact information. This

list was kept in a locked drawer only accessible to the researcher. The ID number allowed the researcher to link the audio-recordings and transcripts to the individual participant. Other than the ID number, the transcripts did not contain personal identifiers that could potentially be linked back to the participant. Only de-identified data were retained and shared (with dissertation chair) for research purposes. Qualitative data in the form of interviews were audio recorded on two digital recorders and field notes were taken by the researcher on paper. Digital recorders, transcribed interviews, and field notes were kept in a locked cabinet only accessible to the researcher.

### **Summary**

The final project of this dissertation is a qualitative descriptive study. The study examined the knowledge and attitudes of Mexican-American adolescents concerning perinatal depression. Jorm's mental health literacy framework was used as a sensitizing framework. Significance and justification of the study were discussed. Additionally, repetitive immersion in the data, application of content analysis, field notes, memos, audit trails, were used to analyze data and achieve trustworthiness. Data management of de-identified data was described as well as efforts to reach data saturation.

## **Chapter 2: Psychosocial Risk Factors for Perinatal Depression among Female Adolescents: A Systematic Review<sup>1</sup>**

### **ABSTRACT**

Perinatal depression is a health concern among pregnant and postpartum adolescents as it may negatively impact fetal development and result in complications such as preterm delivery, low infant birth weight, and poor maternal-infant attachment. The purpose of this systematic review is to examine psychosocial risk factors for depression among adolescents during pregnancy and postpartum. A literature search was conducted from five databases from 1995-2016. A total of 17 studies matched the inclusion criteria. Lack of social support, perceived stress, prior history of depression, and a history of sexual or physical violence were most frequently identified as potential risk factors for perinatal depression. Additional risk factors include the adolescent's perception of her pregnancy, family criticism, self-efficacy, self-esteem, substance use, parental stress, community violence, anxiety, and African-American ethnicity. Research and clinical implications are indicated for adolescents at risk for perinatal depression.

***Keywords:*** *adolescent health, adolescent pregnancy, perinatal depression*

---

<sup>1</sup> Large portions of this chapter have been published as: Recto, P., & Champion, J.D. (2017) Psychosocial risk factors for perinatal depression among female adolescents: A systematic review. *Issues in Mental Health Nursing*, 38(8), 633-642, doi: 10.1080/01612840.2017.1330908. P.R contributed to the preparation, analysis, synthesis, and review of the manuscript. J.D.C contributed to manuscript preparation and review (see Reuse Permission, Appendix E).

## INTRODUCTION

Perinatal depression is one of the most common mental health disorders among pregnant and postpartum adolescents. It is a major concern during the perinatal (pregnancy and postpartum) period as it poses health risks for both the mother and infant (American College of Obstetricians and Gynecologists [ACOG], 2015; Hodgkinson, Beers, Southmmakosane, & Lewin, 2014). Pregnant women who have depression are three times more likely to experience preterm birth and four times more likely to deliver a newborn with low infant birth weight (ACOG, 2015; National Institute of Healthcare Management [NIHCM], 2010). In a review article by Kinsella and Monk (2009), depression during pregnancy was associated with poor emotional adjustment by their offspring during childhood that may extend into adolescence. During the postpartum period, depression has been associated with poor maternal-infant attachment (Satyanarayana, Lukose, & Srinivasan, 2011). Previous studies also suggest prevalence rates of perinatal depression are higher among adolescents (16 - 44%) as compared with pregnant and postpartum women (10 - 20%) and non-pregnant adolescents (5 - 20%) (Hodgkinson et al., 2014). Despite these findings, previous studies have primarily examined risk factors for perinatal depression among female adults. However, a small and growing number of studies are beginning to emerge on perinatal depression in adolescents.

Pregnancy and the postpartum period involve psychosocial and physiological changes. Mothers may not be able to differentiate symptoms of depression from



expected responses related to a woman's transition to parenthood (NIHCM, 2010). Perinatal depression, also commonly referred to as maternal depression, is defined as symptoms of depression during pregnancy and postpartum period (ACOG, 2015; NIHCM, 2010). The diagnosis for perinatal depression has been updated by the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association [APA], 2013). Perinatal depression is not a separate diagnosis in the DSM-5. Instead, patients are identified as having major depression with a specifier of "peripartum onset," which involves the time period for which the symptoms developed. The specifier identified as "peripartum onset" requires that depression occur during pregnancy or within a month of delivery (APA, 2013). In addition to depressed mood, loss of pleasure or interest, at least five of the following depressive symptoms must be present most of the day, every day, for a period of two weeks: weight gain/loss, sleep disturbance, fatigue or low energy, psychomotor retardation or agitation, difficulty concentrating, low self-esteem or guilt, and thoughts of death or suicide (APA, 2013).

Identification of adolescents who may be at risk for perinatal depression enables healthcare providers to initiate early treatment, surveillance and management. Healthcare providers who interact with female adolescents are provided a window of opportunity during pregnancy and postpartum period to assess, maintain, and manage the mental health of female adolescents. The purpose of this systematic review of the literature is to assess psychosocial risk factors for perinatal depression among female adolescents.

## **METHODS**

A previous integrative review has been conducted that assessed risk factors for postpartum depression among adolescents (Reid & Meadows-Oliver, 2007). Our review expands this previous work by focusing on a synthesis of findings from studies (1995-2016) and assessing psychosocial risk factors for depression among adolescents during both pregnancy and postpartum periods. This process provides inclusion of studies concerning risk factors for perinatal depression among adolescents over a 20-year time interval.

To maintain transparency and thoroughness, an adaptation of the PRISMA (2009) guidelines was used in this review. The following databases were searched for articles, abstracts, and dissertations from 1995-2016: PsycInfo, PsycARTICLES, Cinahl, Pubmed, and ProQuest Dissertation and Theses. Other articles were also hand-searched from the bibliographies of included articles. The following search terms were used in different combinations from the databases: prenatal OR antenatal AND postpartum depression OR postnatal period, perinatal depression, major depression OR depression (emotion), adolescen\*, pregnancy in adolescence (Mesh Terms). The inclusion criteria for the studies were as follows: 1) English language; 2) studies conducted only in the United States (U.S); 3) adolescent population between the ages of 13 and 21 years; 4) studies examining predictors or risk factors for depression during pregnancy or postpartum. Figure 1 illustrates the process for the systematic search of literature via a flow diagram.

A total of 1651 citations were obtained from the databases utilizing different combinations of the search terms. Of these, 1000 were non-duplicate articles. These were screened for relevance based upon its title and abstract as they pertained to the research questions posed for this review. A title and abstract screen was conducted as a preliminary step to determine if the article pertained to the topic of interest. It was determined that 807 of the articles did not meet our inclusion criteria. These articles were completely unrelated to perinatal depression or adolescents, not written in English, or discussed general perinatal information but not pertaining to depression. Articles were kept in for further detailed review if it did not provide sufficient information in their titles or abstracts for us to assess eligibility.

In the following procedure, full-texts were carefully reviewed from the remaining 193 articles. We excluded systematic reviews, editorials, and studies not related to perinatal depression among adolescents, had samples of females >21 years of age, and were not conducted in the U.S. The primary focus of the paper was to assess psychosocial factors associated with perinatal depression. Studies that primarily assessed biological or genetic risk factors were excluded. It was determined that 176 still met at least one of the exclusion criteria. Thus, a total of 17 descriptive studies remained that met the criteria for this systematic review. Data from the 17 studies were extracted and placed in a spreadsheet with corresponding headings that pertained to our study purpose. Data were then analyzed and synthesized for this review.

For this review we used the criteria for assessing risk of bias adapted from Brown et al's (2016) model-testing systematic review and meta-analysis. In addition to their criteria, an assessment of study designs was also included. Indicators for risk of bias in this paper are as follows: 1) sample selection, specification, and attrition rate; 2) study designs; and 3) overall reliabilities of depression instruments that were reported in the studies. Table 1 shows the research designs, setting, sample characteristics, instruments for the measurement depression, and risk factors from the 17 studies.

## **RESULTS**

### **Characteristics of the sample**

The sample sizes across the studies varied and ranged from 62 to 932 participants, with a median sample size of 125 participants. Ten of the studies had samples fewer than 150 participants (Barnet, Duggan, Wilson, Joffe, 1995; Birkeland, Thompson & Phares, 2005; Brown, Harris, Woods, Buman & Cox, 2012; Fagan & Lee, 2010; Kleiber, 2014; Koniak-Griffin, Walker, Traversay, 1996; Lesser & Koniak-Griffin, 2000; Logsdon, Hertwick, Ziegler, Pinto-Foltz, 2008; Tzilos, Zlotnick, Raker, Kuo, & Phipps 2012; Ventakesh, Phipps, Triche, & Zlotnick, 2014). Seven studies had more than 200 participants (Buzi, Smith, Kozinetz, Peskin, & Weimann, 2015; Edwards et. al., 2012; Gavin, Lindhorst, & Lohr, 2011; Koleva & Stuart, 2014; Nunes & Phipps, 2013; Meltzer-Brody et al., 2013; Schmidt, Wiemann, Rickert, & O'Brian Smith, 2006), and of these, three studies had samples of more than 500 participants (Koleva & Stuart, 2014; Nunes &

Phipps, 2013; Schmidt et al., 2006). The authors indicated that small sample sizes resulted from adolescents moving to a different city or state, inability to contact the adolescent, lack of interest in participation, lack of availability by the guardians or adolescents to sign consent forms, incorrect contact information, and insufficient time to complete surveys.

Among longitudinal studies, an attrition rate between 16% - 36% was found across all six studies (Brown et al., 2012; Edwards et al., 2012; Gavin, et al., 2011; Meltzer- Brody et. al., 2013; Nunes & Phipps, 2013; Schmidt et al., 2006). Brown et al. (2012) had the highest attrition and the lowest number of participants in their final sample. The retrospective study in this systematic review had a 61% response rate among adolescents who were surveyed however, their final sample consisted of a large diverse sample of 676 adolescents.

Most study participants were recruited from multiple community health settings and clinics. Eight studies indicated that participants were recruited from urban areas (Barnet et al., 1995; Brown et al., 2012; Edwards et al., 2012; Fagan & Lee, 2010; Gavin et al., 2011; Meltzer-Brody et al., 2013; Tzilos et al., 2012; Ventakesh et al., 2014). However, the remaining studies did not specifically indicate whether participants were recruited from urban or rural settings.

A majority of the studies indicated ethnic representation in their samples. Primarily non-Hispanic White, Hispanic, and African-American ethnicities were represented in the studies. A majority of studies had a high percentage of participants

(50% -80%) primarily represented by both African-American and Hispanic adolescents (Brown et al., 2012; Birkeland et al., 2005; Buzi et al., 2015; Fagan & Lee, 2010; Kleiber, 2014; Koniak-Griffin et al., 1996; Lesser & Koniak-Griffin, 2000; Meltzer-Brody et al., 2013; Nunes & Phipps, 2013; Schmidt et al., 2006; Tzilos et al., 2012; Ventakesh et al., 2014; ). A smaller proportion of participants indicated Asian or Native American (1% - 6%), or “Other”, biracial, or multiracial (3% - 18%) ethnicity across all studies. Two studies exclusively assessed risk factors among African- American female adolescents (Barnet et al., 1995; Edwards et al., 2012). One study did not indicate ethnic representation in the sample (Logsdon et al., 2008). Two studies had higher percentages of participants (53%, Gavin et al., 2011), (78%, Koleva & Stuart, 2014) who were primarily non-Hispanic White.

### **Study designs**

In this review, authors primarily used descriptive correlational, and regression study designs. One study was a retrospective cohort study that used a state database to randomly select adolescents to complete questionnaires about their previous perinatal experience with depression (Nunes & Phipps, 2013). Four studies were secondary analyses of data from intervention studies (Fagan & Lee, 2010; Koniak-Griffin et al., 1996; Lesser & Koniak-Griffin, 2000; Ventakesh et al., 2014). Six studies were cross-sectional (Buzi et al., 2015; Birkeland et al., 2005 ; Koleva & Stuart, 2014; Klieber, 2014; Logsdon et al., 2008; Tzilos et al., 2012) and six were longitudinal (Barnet et al., 1995; Brown et al., 2012; Edwards et al., 2012; Gavin et al., 2011; Meltzer-Brody et al.,

2013; Schmidt et al., 2006) with varying lengths of 6 weeks, 4 months, one year, 24 months, 48 months and 17 years postpartum.

Ten studies (Barnet et al., 1995; Birkeland et al., 2005; Brown et al., 2012; Fagan & Lee, 2010; Gavin et al., 2011; Kleiber, 2014; Nunes & Phipps, 2013; Logsdon et al., 2008; Schmidt et al., 2006; Ventakesh et al., 2014) specifically examined risk factors for depression during the postpartum period, four studies (Buzi et al., 2015; Koleva & Stuart, 2014; Tzilos et al., 2012; Koniak-Griffin et al., 1996) examined prenatal risk factors, and three studies (Meltzer-Brody et al., 2013; Edwards et al., 2012; Lesser & Koniak-Griffin, 2000) examined risk factors for depression during both the prenatal and postpartum period.

### **Instruments used to measure depression**

Seven studies (Birkeland et al., 2005; Brown et al., 2012; Fagan & Lee, 2010; Koleva & Stuart, 2014; Koniak-Griffin et al., 1996; Lesser & Koniak-Griffin, 2000; Logsdon et al., 2008) reported instrument reliabilities greater than .80 from their study sample, two studies (Buzi et al., 2015; Tzilos et al., 2012) indicated reliabilities greater than .80 from previous studies that used the instrument, and eight studies (Barnet et al., 1995; Edwards et al., 2012; Gavin et al., 2011; Klieber, 2014; Meltzer-Brody et al., 2013; Nunes & Phipps et al., 2013; Schmidt et al., 2006; Ventakesh et al., 2014) only indicated that the instrument has demonstrated good reliability from previous studies. Prevalence rates for depression varied across all studies. However, Brown et al. (2012) who used the

Center for Epidemiological Studies Depression Scale for Children (CES-D [C]) reported the highest rates of postpartum depressive symptoms in their sample (53% - 57%).

The instruments used to assess depression varied across the studies. The most widely used instrument was the CES-D, as it was utilized by authors from eight studies (Barnet et al., 1995; Brown et al., 2012; Buzi et al., 2015; Edwards et al., 2012; Fagan & Lee, 2010; Koniak-Griffin et al., 1996; Lesser & Koniak-Griffin, 2000; Logsdon et al., 2008). Three studies (Kleiber, 2014; Meltzer-Brody et al., 2013; Birkeland et al., 2005) used the Edinburg Postnatal Depression Scale (EPDS), and two others (Tzilos et al., 2012; Ventakesh et al., 2014) used the Children's Depression Rating Scale-Revised (CDRS-R). Other studies used the CES-D(C) (Brown et al., 2012), Beck Depression Inventory (BDI) (Koleva & Stuart, 2014; Schmidt et al., 2006), Brief Symptom Inventory (BSI) (Gavin et al., 2011), and a modified version of the Public Health Questionnaire (PHQ) (Nunes & Phipps, 2013).

### **Potential risk factors**

#### ***Lack of social support***

Lack of social support was significantly associated with prenatal depression in seven studies (Brown et al., 2012; Buzi et al., 2015; Edwards et al., 2012; Fagan & Lee, 2010; Koniak-Griffin et al., 1996; Meltzer-Brody et al., 2013; Nunes & Phipps, 2013). Three studies specifically assessed social support during the postpartum period (Brown et al., 2012; Fagan & Lee, 2010; Nunes & Phipps, 2013). Two studies examined social support during pregnancy (Buzi et al., 2015; Koniak-Griffin et al., 1996), and two other



studies assessed social support during both pregnancy and the postpartum period (Edwards et al., 2012; Meltzer-Brody et al., 2013).

Social support from the father of the baby was the primary focus in all seven studies. Social support was described in these studies as involvement by the father of the baby with newborn caregiving tasks (feeding, bathing, holding), provision of emotional support (encouragement or someone to talk to), and material support (financial support). Across these studies, involvement by the father of the baby was significantly associated with lower depressive symptoms. One study also examined the female adolescent's relationship with her own mother (Edwards et al., 2012). The findings of the study were that parent support was associated with fewer depressive symptoms during the postpartum period, while support from the father of the baby was associated with fewer depressive symptoms during pregnancy and postpartum. Fagan and Lee (2010) also found self-efficacy partially mediated the relationship between satisfaction with father involvement and postpartum depressive symptoms.

### ***History of physical and sexual violence***

Across studies, physical violence was defined as an act of physical aggression which included hitting, slapping, beating, shoving or being threatened with a weapon (i.e. knife or gun) (Buzi et al., 2015; Gavin et al., 2011; Lesser & Koniak-Griffin, 2000; Meltzer-Brody et al., 2013; Tzilos et al., 2012). Sexual violence was described in the studies as sexual behavior perpetrated against the adolescent mother. Some examples of sexual violence in the studies included rape, attacks on sexual parts of the body, child

molestation, forcing sex after physical violence has occurred, or treating one in a sexually demeaning manner (Buzi et al, 2015; Meltzer-Brody et al., 2013; Tzilos et al., 2012).

Authors specified the perpetrators as either a family member, parental figures (Lesser & Koniak-Griffin, 2000; Tzilos et al., 2012), or their partner (Buzi et al., 2015; Gavin et al., 2011). However, one study did not specify the perpetrators who enacted physical and sexual violence against the adolescent (Meltzer-Brody et al., 2013).

Physical and sexual violence were significantly associated with perinatal depression across five studies (Buzi et al., 2015; Gavin et al., 2011; Lesser & Koniak-Griffin, 2000; Meltzer-Brody et al., 2013, Tzilos et al., 2012). Meltzer-Brody et al. (2013) assessed physical and sexual violence during pregnancy and the postpartum period, and Gavin et al. (2011) examined physical and sexual violence during the postpartum period. Lesser and Koniak-Griffin (2000) found adolescent mothers with previous childhood physical and sexual violence had significantly higher perinatal depressive symptoms than adolescents without histories of childhood physical and sexual violence. Authors from four studies suggested the odds of experiencing perinatal depression were two to five times greater for adolescents with histories of physical and sexual violence (Buzi et al., 2015; Gavin et al., 2011; Meltzer-Brody et al., 2013; Tzilos et al., 2012). Over 50% of adolescent mothers in these studies indicated a history of physical and sexual violence.

### ***Previous history of depression***

Four studies found previous histories of depression were significantly associated with perinatal depression (Fagan & Lee, 2010; Gavin et al., 2011; Nunes & Phipps, 2013; Meltzer-Brody et al., 2013). Three studies found prenatal depression as a risk factor for postpartum depression (Fagan & Lee, 2010; Gavin et al., 2011; Meltzer-Brody et al., 2013). Nunes & Phipps (2013) also found adolescents who reported having depression the previous year prior to pregnancy had greater depressive symptomatology during the postpartum period. Overall, adolescent mothers with previous histories of depression had three- to four-fold increased odds of developing depression during the postpartum period (Gavin et al., 2011; Nunes & Phipps, 2013; Meltzer-Brody et al., 2013). Gavin et al. (2011) found depressive symptoms remained stable across a 17-year period for mothers who self-reported antenatal depression. A majority of studies included in this systematic review indicated they did not assess previous histories of depression in their samples.

### ***Perceived stress***

Three studies identified perceived stress as a potential risk factor for postpartum depression (Kleiber, 2014; Lesser & Koniak-Griffin, 2000; Logsdon et al., 2008 ). All three studies used the Perceived Stress Scale (PSS), which uses a global measure to assess the degree to which adolescents consider life situations to be stressful. Findings from these studies showed perceived stress to be strongly associated with postpartum depression ( $r = .62-.85$ ) (Klieber, 2014; Lesser & Koniak-Griffin, 2000; Logsdon et al., 2008). Logsdon et al. (2008) used a bioecological model to assess micro, meso, and

macrosystem risk factors for depression and found perceived stress, a microsystem variable, to be the strongest influence on postpartum depressive symptoms. Perceived stress accounted for the highest variance in depressive symptoms ( $R^2 = .48$ ) as compared to meso- and macro-system risk factors (Logsdon et al., 2008).

### ***Additional risk factors***

Studies also identified the following as potential risk factors: how positively the adolescent viewed her pregnancy (Meltzer-Brody et al., 2013), self-esteem (Koniak-Griffin et al., 1996), social isolation (Birkeland, et al., 2005), self-efficacy (Birkeland et al., 2005; Fagan & Lee, 2010), community violence, high levels of family criticism concerning pregnancy and parenting, African-American ethnicity (Buzi et al., 2015), anxiety (Kleiber, 2014) parental stress (Ventakesh et al., 2014), and substance use (Barnet et al., 1995; Tzilos et al., 2012).

Self-esteem accounted for 32% of the variance for depressive symptoms among pregnant adolescents (Koniak-Griffin et al., 1996). Koniak-Griffin et al. (1996) suggested the pregnant adolescent's self-esteem may have been influenced by the support she received from her significant other, thus preventing depression. Exposure to community violence, family criticism, and African-American ethnicity were identified by Buzi et al. (2015) who used a socioecological framework to assess multiple risk factors for prenatal depression.

Several studies reported varied results regarding ethnicity and perinatal depression. Buzi et al. (2015) found African-American adolescents were significantly

more likely to report moderate to severe depression during pregnancy. Schmidt et al. (2006) reported African-American and Mexican-American adolescents were at least two times more likely to report moderate to severe depression during the postpartum period. However, in two other studies there were no significant differences in perinatal depressive symptoms among various ethnicities in their sample (Koleva & Stuart, 2014; Nunes & Phipps, 2013).

## **DISCUSSION**

This review included 17 descriptive studies that assessed psychosocial risk factors for perinatal depression. Previous systemic reviews have focused on either prenatal or postpartum risk factors related to depression among adolescents. This systemic review is different as it synthesizes results related to risk factors for depression during both pregnancy and postpartum periods. Risk factors such as lack of social support, prior history of depression, perceived stress, and physical and sexual violence were frequently identified as potential risk factors for perinatal depression. Other risk factors also include the adolescent's perception of her pregnancy, high levels of family criticism, substance use, parental stress, perceived stress, self-esteem, self-efficacy, social isolation, community violence, anxiety, and African-American ethnicity.

A previous history of depression was significantly associated with perinatal depression across several studies. However, despite these findings, a majority of studies in the systematic review indicated they did not assess prior history of depression. Additionally, there were a limited number of studies that examined risk factors for

depression among pregnant and postpartum adolescents. Most of the studies found during our literature search only included female adults. More studies are indicated that examine these risk factors specifically among female adolescents given the alarming documented rates of depression in this younger population.

Physical and sexual violence were strongly associated with depression during pregnancy and the postpartum period. Multiple studies showed more than 50% of adolescents had previous histories of physical or sexual violence (Buzi et al., 2015; Gavin et al., 2011; Lesser & Koniak-Griffin, 2000; Meltzer-Brody et al., 2013, Tzilos et al., 2012). This percentage is concerning as pregnant adolescents with histories of physical and sexual violence are also more likely to engage in health risk behaviors such as the use of substances like marijuana and alcohol (Udo, Lewis Lmft, Tobin, & Ickovics, 2016). Health risk behaviors that begin during adolescence increase risk for chronic illnesses in adulthood (Udo et al., 2016). The extent to which physical and sexual violence and substance use coexist indicates a need for vigilant screening for these in addition to perinatal depression among pregnant and postpartum adolescents.

Adolescents who lack social support, have lower levels of self-esteem or self-efficacy, and report higher levels of stress were more likely to experience greater depressive symptoms. Feelings of inadequacy may create anxiety and stress in adolescents as they face the challenges of becoming a new mother. Kleiber and Dimidjian (2014) found an imbalance between the adolescent's parenting expectations and perceived available resources increases stress and contributes to symptoms of depression.

Participation of the father in newborn care can help an adolescent feel that the newborn's needs are being met, thereby enhancing self- efficacy (Fagan & Lee, 2010). As such, self-esteem and self-efficacy are mediated by social support (James, 2008; Koniak-Griffin et al., 1996). Helping the adolescent cultivate relationships with her significant other and family members may facilitate emotional and physical support and consequently increase self-esteem and self-efficacy. It is often through the appraisal of family members, peers, and their partners that perinatal depression is recognized and treatment is initiated by mothers (Guy et al., 2014). The inclusion of social support regarding education, prevention, and management of depression may improve help-seeking and early treatment among pregnant and postpartum adolescents.

African-American ethnicity was identified as a risk factor for prenatal depression (Buzi et. al., 2015). Similarly, Schmidt et al. (2006) found African-American and Mexican-American adolescents reported moderate-to-severe depressive symptoms extending up to two to four years postpartum. Despite high depressive symptoms among ethnic groups, a disproportionate number do not obtain mental health treatment (Glasheen et al., 2014). Surveillance and discussions about perinatal depression in community settings may provide education and resources for adolescents. Integrated health care systems where prenatal, postpartum, infant, and mental health care may be obtained provide convenience and accessibility for adolescents with perinatal depression (Harrison, Weinstangle, Dalziel, & Moreau, 2014).

Studies in this review used a variety of instruments for assessing depression among adolescents. A measure's clinical threshold for depression may be different if the instrument has not been validated among adolescents (Birkeland et al., 2005). In their systematic review, Walker, Gao and Xie (2015) found both the CES-D and EPDS have been validated across a wide range of samples. However, further testing of existing screening tools for populations such as adolescents, ethnic groups, and low-income women in the U.S. is indicated (Walker et al., 2015). It is important to consider that these depression instruments are screening tools. Their use should be supplementary and used in conjunction with a thorough history, physical, and careful judgement of healthcare providers in their diagnosis of perinatal depression (Young, 2012).

### **Practice recommendations**

Assessment of support from significant other and family members is indicated among health care providers as these are individuals adolescent mothers may depend upon for help during pregnancy and the postpartum period. Healthcare providers may want to assess sociocultural factors that influence how the adolescent and family members cope with her pregnancy (James, 2008; Meltzer et al., 2013). Shifting responsibilities from caring for oneself to caring for a newborn is a stressful task for young mothers. Interventions that include the adolescent's social support may improve communication and reduce conflict, thus preventing perinatal depression (Edwards et al., 2012).



Screening tools provide healthcare professionals important supplemental information for assessment of perinatal depression (Young, 2012). Assessments and referrals for perinatal depression among ethnic minority adolescents require review for appropriateness as disproportionately more of these adolescents are identified as having depression or do not obtain treatment referrals for perinatal depression. A comprehensive mental health history of pregnant adolescents is particularly important as this review indicated persistent and chronic depression during and after pregnancy. Ongoing assessments concerning substance use and physical/sexual violence as components of routine perinatal care provides health care professionals opportunities to initiate interventions promoting positive mental health outcomes for the adolescent mother and her infant.

### **Research recommendations**

There were a limited number of studies that examined risk factors among pregnant and postpartum adolescents. A majority of the studies found during the literature search included female adults. More studies are indicated that examine these risk factors specifically among female adolescents. There were few studies during the prenatal period as a majority of the studies assessed risk factors during the postpartum period. Therefore, a focus on the prenatal period is also recommended when assessing risk factors for perinatal depression.

Interestingly, most of the studies did not assess prior history of depression. This is an important consideration as prenatal depression is strongly associated with

postpartum depression. Participants from the studies were primarily recruited from urban community health settings. Studies assessing risk factors among rural adolescents are lacking. Rural settings are an important consideration as female adolescents in rural areas may not be able to access, or at least have more limited access to perinatal health care. An examination of risk factors and prevalence rates for perinatal depression are therefore indicated in rural areas.

There are several limitations to this systematic review. Our findings are dependent upon the results of the studies included in this review. Therefore, small sample sizes, secondary analyses, retrospective studies and non-randomized samples may have potentially biased the results of the studies. Cross sectional versus longitudinal studies may not provide an in-depth assessment of the interactions between risk factors and the development of depression. As such, this may limit the generalizability of our findings as a large number of studies in this review were cross-sectional. Studies from this review only assessed risk factors among pregnant and postpartum adolescents living in the U.S and therefore, findings may not be generalized to populations outside the U. S.

## **CONCLUSION**

Assessment of risk factors is critical in identifying pregnant and parenting adolescents who are at risk for perinatal depression. This systematic review identified some key findings that may provide direction for research and practice by identifying risk factors for perinatal depression among female adolescents as previous research has primarily focused on adult populations.

### Chapter 3: Psychological Distress and Associated Factors among Mexican- American Adolescent Females<sup>2</sup>

#### ABSTRACT

**Introduction:** Mental health literacy is a critical component of adolescent health enabling recognition, management, and prevention of psychological distress. Adolescents experiencing interpersonal violence, sexually transmitted infection and pregnancy are at particularly high risk for psychological distress mandating an assessment for determination of need for mental health resources.

**Method:** Secondary analysis of data collected via a control randomized trial among Mexican-American females (aged 14-18 years) (N=461) with history of interpersonal violence and sexually transmitted infection was conducted with comparisons of psychological distress by pregnancy status.

**Results:** At study entry 46.4% (n=214) self-reported ever experiencing a pregnancy (ever-pregnant) while 53.6% (n= 246) self-reported never experiencing a pregnancy (never-pregnant). Adolescents reporting ever-pregnancy status were older and school drop-outs. However, adolescents reporting never-pregnancy experienced higher sexual risk behaviors, substance use, interpersonal violence and psychological distress than

---

<sup>2</sup> Large portions of this chapter have been published as: Recto, P., & Champion, J.D. (2016). Psychological distress and associated factors among Mexican-American adolescents. *Hispanic Health Care International*, 14(4), 170-176, doi: 10.1177/1540415316676224. P.R contributed to the preparation, analysis, and review of the manuscript. J.D.C contributed to data analysis, manuscript preparation, and review (see Letter of Permission, Appendix F).

those reporting ever-pregnancy. A higher proportion of ever-versus never-pregnant adolescents were born in Mexico and preferred Spanish language indicating less acculturation.

**Conclusions:** These findings identify significant psychological distress among high risk Mexican-American adolescent females with and without a history of pregnancy. The implementation of mental health literacy intervention strategies as a component of sexual health interventions within public health settings is indicated.

*Keywords: Mexican/Latino youth, access to care, community health, reproductive health*

## INTRODUCTION

Adolescence is an optimal time in which healthy behavior patterns may be reinforced by providing adolescents with current knowledge concerning health promotion. Although generally healthy, the behaviors that adolescents develop ultimately impact their risk for chronic illness as adults (Healthy People 2020, 2015). As adolescents transition into adulthood and assume greater responsibilities, their health behaviors are illustrative of the impact of health literacy on decision-making and health outcomes.

The Institute of Medicine (2004) defines health literacy as an individual's capacity to obtain, process, and understand basic health information and services needed to make accurate health decisions. The purpose of enhancing health literacy is to convey knowledge that empowers the individual to identify, treat, and prevent illness (Guy et al., 2014). Mental health literacy has not been widely explored among pregnant adolescents, a population identified as at risk for psychological distress which can negatively impact health outcomes. Sociocultural factors including acculturation, attitudes toward mental health, accessible mental health resources, and health care behaviors may impact their mental health literacy (Silveira, Pekow, Dole, Markenson & Chasan-Taber, 2013; Fleuriet & Sunil, 2014; Hodgkinson, Beers, Southammakosane & Lewin, 2014; Jorm, 2012). Jorm (2000) introduced the term mental health literacy as "the knowledge and beliefs about mental disorders which aid their recognition, management, or prevention" (p.396). Mental health literacy is an important component of adolescent health because

it empowers them to seek assistance and early treatment thus promoting positive health outcomes.

Adolescent pregnancy has been associated with interpersonal violence and sexually transmitted infection and psychological distress (Hodgkinson et al., 2014). This is particularly concerning for Mexican-American female adolescents who have a relatively higher birth rate (41.7 per 1,000) as compared to other ethnicities (Martin, Hamilton, Osterman, Curtin & Matthews, 2015). The purpose of the secondary data analyses we present in this paper is to assess psychological distress among Mexican-American adolescents experiencing interpersonal violence and sexually transmitted infection or pregnancy for development of relevant mental health promotion materials to optimize mental health literacy for this vulnerable population. These findings may be particularly useful for community health nurses who are in a unique position to identify and address mental health literacy needs of these adolescents in mental health care settings.

## **Background**

Previous studies indicate that one in five adolescents between the ages of 16-24 years have a mental health disorder (Gulliver, Griffiths, & Christensen, 2010; Murphey, Vaughn, & Barry, 2013). Over half of these disorders emerge during adolescence, however a majority do not receive treatment (70%) and are reluctant to seek care (Schwarz, 2009). Adolescence represents a critical cognitive, physiological, and social developmental stage. Psychological distress is more likely to occur during adolescent

pregnancy because of parallel adjustment to these developmental tasks and physical changes occurring during pregnancy (Hodgkinson et. al., 2014). Adolescents with a history of psychological distress are more likely to experience a recurrence during pregnancy and the postpartum period (Glasheen, Colpe, Hoffman, & Warren, 2014).

Adolescent pregnancy has been associated with substance abuse with estimates ranging from 11%-52% (Hodgkinson et.al, 2014). While some studies have shown a decrease in substance use during pregnancy, Spears, Stein, and Koniak-Griffin (2010) however found that Hispanic adolescents were more likely to continue substance use throughout their pregnancy and postpartum periods. Siegel & Brandon (2014) found associations between higher levels of psychological distress and substance use among pregnant adolescents. Increased substance use among pregnant Mexican-American adolescents may be indicative of coinciding higher levels of psychological distress among this group.

Adolescent birth rates in the United States have declined in recent years, however, 3 in 10 female adolescents continue to experience pregnancy (Planned Parenthood Federation, 2013). These pregnancy rates vary by ethnicity with the highest rates continuing among Mexican-Americans adolescent females (Martin et al, 2015). Among these adolescents, acculturation may contribute to their risk for psychological distress as higher acculturation is related to higher levels of psychological distress (Cervantes, Padilla, Napper, & Goldbach, 2013; Fleuriet & Sunil, 2014; Hodgkinson et.al, 2014). Other environmental factors contributing to psychological distress among Mexican-

American adolescents include sexual risk behavior, interpersonal violence, and sexually transmitted infections (Champion, Collins, Reyes, & Rivera, 2009; Cuevas, Sabina & Bell, 2014; Newman & Campbell, 2011; Temple and Freeman, 2011).

### **Mental health literacy**

Mental health literacy involves the ability to recognize psychological distress, have knowledge and beliefs about its risk factors and causes, self-help strategies and professional help available. It also requires acquisition of attitudes which facilitate recognition and appropriate help-seeking and accessing of mental health information (Jorm, 2012). Assessing psychological distress among Mexican-American adolescents experiencing interpersonal violence, sexually transmitted infection or pregnancy has important implications for promotion of mental health literacy among these adolescents who represent a particularly vulnerable population for development of chronic mental illness as adults. Engagement is an essential component of adolescent mental health literacy accessible through public health clinics. These findings will be particularly useful for identification of relevant mental health literacy materials by nurses who are practicing in public health clinic settings in which these adolescents may access primary health care services.



## **METHODS**

### **Design and sample**

A secondary analysis of data collected as part of a control randomized trial of a behavioral intervention for adolescent sexual health promotion was conducted. Details concerning the primary study outcome, a reduction in sexually transmitted infection, and detailed reporting of the methods for implementation of the randomized controlled trial have been previously published (Champion, & Collins, 2012). Analyses reported in this article are based on self-reported data obtained from adolescent participants (14-18 years of age) primarily seeking sexual health care services at the metropolitan public health clinics. Participants included in this analysis were English-speaking, self-identifying as female gender and of Mexican-American ethnicity, with histories of sexually transmitted infection and interpersonal violence. Metropolitan health district clinicians referred potentially eligible participants for study enrollment. Approval from the Institutional Review Board was obtained from both university and metropolitan health district settings. Appropriate informed consent or assent was obtained at study entry, prior to a semi-structured interview conducted by research personnel to assess psychological distress and self-reported pregnancy. Assessment also included interpersonal violence, substance use, sexual risk behavior and acculturation.

### **Theoretical framework**

The AIDS Risk Reduction Model (ARRM) explains and predicts why individuals engage in risky activities and provides a framework for behavioral change to prevent and

reduce these behaviors (Boyer & Kegeles, 1991). The model is presented as an example of a social-physiological model that incorporates multiple psychological theories such as the Health Belief Model, self-efficacy theory, decision-making models, and diffusion of innovation theory (Boyer & Kegeles, 1991; Fishbein, & Azjen, 1975; Fishbein et al., 1992). ARRM theorizes that change efforts by the individual should include the following: 1) conceptualization of risk recognition, 2) commitment to risk reduction, and 3) processes for recognition and enactment of solutions (Boyer & Kegeles, 1991). ARRM has been found to be effective for sexual health promotion intervention development and was therefore utilized for study research design and questionnaire development. Extensive ethnographic fieldwork was carried out to modify the model for Mexican-American female adolescents for this study (Champion, & Collins, 2012).

### **Measures**

Ethnographic findings were used to create questions for this study conceptualizing sexual risk behavior and the context of substance use, psychological distress and interpersonal violence (Champion, & Collins, 2012). Psychological distress was measured with the SCL-90-R, a scale used successfully among adolescents in the past (Derogatis, 1994) (Cronbach alpha, .982). Alcohol and substance use (cocaine, crack, heroine, “uppers”, “downers”) were measured by a 12 item screen using questions on ever use of cigarettes, alcohol and substances (Cronbach’s alpha, .729). Interpersonal violence experience was measured by using the Abuse Screen for history of physical, sexual, and psychological violence. The Abuse Screen, is a 10-item screening tool used

for females with high-risk sexual behavior, and assesses sexual, physical, and psychological violence (Cronbach alpha, .82) (Champion, & Collins, 2012). Pregnancy was measured via self-report of “Have you ever been pregnant?” with response options of “yes” or “no.” Acculturation was measured by a 4 item (Cronbach alpha, .725) measuring language use with family, friends and at home as well as “thinking” in Spanish (Marin, Sabogal, Otero-Sabogal, & Perez-Stable, 1987). This measure has been used extensively to measure language use as an indication of acculturation among individuals of Mexican descent in the United States.

### **Analytic Strategies**

Data were reviewed for relationships among variables before utilizing statistical modeling to assess for effects. Descriptive statistics for the study variables included contingency tables, *t*-tests, and chi-square analyses to examine socio-demographic characteristics, psychological distress, substance use, sexual risk behavior, interpersonal violence and acculturation for Mexican-American female adolescents who had never-or ever-experienced a pregnancy.

### **RESULTS**

The study participants included in these analyses are 461 Mexican-American female adolescents between the ages of 14-18 years. They reported histories of high risk sexual behavior, psychological distress, substance use and interpersonal violence. At study entry 46.4% (n=214) self-reported ever-experiencing a pregnancy (ever-pregnant) while 53.6% (n= 246) self-reported never-experiencing a pregnancy (never-pregnant). A

summarization of comparisons of variables including psychological distress, sexual risk behavior, interpersonal violence and substance use is provided in Tables 2 to 4.

The average age of ever-pregnant adolescents was 16.82 years as compared to 16.29 years among those who were never-pregnant. Few adolescents were reportedly born in Mexico, however proportionately more ever-pregnant were born in Mexico than never-pregnant. More ever-pregnant adolescents reported speaking and reading in Spanish and preferred speaking in Spanish with friends. Significantly more ever-pregnant reported “thinking” in Spanish than never-pregnant adolescents.

Significantly more ever-pregnant adolescents were not attending school as compared to those never-pregnant. More ever-pregnant adolescents who were not attending school reportedly dropped out of school as compared to never-pregnant adolescents. Proportionately more ever-pregnant adolescents reported previously leaving home than never-pregnant adolescents.

All of the adolescents reported engaging in vaginal sex and most did not use condoms during intercourse. Ever-pregnant adolescents were younger at first sex with a male compared to never-pregnant adolescents. However, never-pregnant adolescents reported significantly higher sexual risk behaviors overall than ever-pregnant adolescents. Never-pregnant adolescents had significantly more male partners and more unprotected sex with males in the last year than ever-pregnant females. Although group differences were not significant, sexual behavior such as sex without birth control and anal sex was higher for never-pregnant adolescents.

Significant differences were identified between groups concerning sex with a female, group sex, and sex with friends with never-pregnant adolescents reporting these behaviors more often than ever-pregnant. Significantly more never-pregnant adolescents reported bisexual sexual preference than those who were ever-pregnant.

Self-reported histories of any interpersonal violence were high for both groups (85.1% ever-pregnant; 89.5% never-pregnant). Never-pregnant adolescents reported significantly more sexual and physical violence than ever-pregnant adolescents including molestation and forced sex without protection. However, proportionately more ever-pregnant adolescents reported forced first coitus and rape.

While adolescents in this study reported overall high levels of substance use, more never-pregnant adolescent reported use of a higher number of substances and had friends and family who use alcohol and smoke cigarettes. Significantly higher benzodiazepines and alcohol use was also reported by never- than ever-pregnant adolescents. Overall composite scores for psychological distress (SCL-90-R) (Derogatis, 1994), were also significantly higher for never- than ever-pregnant adolescents.

## **DISCUSSION**

Self-reported sexual risk behavior, substance use, interpersonal violence and psychological distress were high among these adolescents with relatively higher reports among never-pregnant as compared to ever-pregnant adolescents. Interactions by adolescents and their environment play a significant role in behavior (Sallis, Owen, & Fisher, 2008). Exposure of never-pregnant adolescents to an environment in which high

risk sexual behavior, substance use and interpersonal violence is prevalent may serve as a precursor to psychological distress. It is critical therefore to promote mental health literacy concerning psychological distress among both ever and never pregnant adolescent females experiencing interpersonal violence, substance use and high risk sexual behavior.

Self-reported interpersonal violence, among never-and ever-pregnant adolescents in this study is concerning considering their current level of psychological distress, substance use and the potential long-term effects lasting into adulthood (Spears et. al., 2010). Higher substance use was reported by adolescents who were never pregnant than adolescents who were ever-pregnant. This level of use is alarming as higher levels of psychological distress and resumption of substance use during later gestational status and postpartum periods has been identified among adolescents experiencing interpersonal violence (Spears et. al. 2015). Mental health literacy highlights the importance of assessing the individual's knowledge of self-help strategies for psychological distress. Therefore, engaging these adolescents in discussions about beneficial self-help strategies for coping with psychological distress, as well as continued assessment of substance use during the pre- and post-natal periods is imperative.

Never-pregnant adolescents in this study reported having more unprotected sex, more male partners, sex without birth control, group sex and sex with friends than ever-pregnant adolescents placing them at risk for pregnancy. Peers may positively influence adolescents by acting as a support system, however as seen in previous studies, it may

also result in greater dysfunction for adolescents (Kerr, Preuss & King, 2014; King-Jones, 2010). Peer pressure may be a driving factor for high risk sexual behavior among never-pregnant adolescents who relate sexual activity to a sense of belonging, or filling a void in one's life. In contrast, ever-pregnant adolescents in this study may be receiving attention and social support from peers and their significant others as a result of pregnancy, thus experiencing less psychological distress. Mental health literacy emphasizes the role of peers in facilitating help-seeking for psychological distress. It is therefore important to assess peer knowledge, attitudes, and beliefs concerning psychological distress to understand how peers respond to pregnant adolescents who are experiencing psychological distress.

More ever-pregnant adolescents in this study were born in Mexico and reported "thinking" in Spanish, signifying lower acculturation, than never-pregnant adolescents. Fleuriet and Sunil (2014) found more positive perceptions of pregnancy among less acculturated Mexican-immigrants than more acculturated Mexican-American women. Ever-pregnant adolescents in this study experienced lower levels of psychological distress perhaps as an outcome of positive cultural perceptions of pregnancy. Fleuriet and Sunil (2014) suggested that subjective social status accounts for variances in mental health outcomes elucidating why psychological distress may be lower for less acculturated pregnant Mexican adolescent females. An assessment of the cultural values, beliefs, and attitudes of pregnant Mexican-American adolescents concerning

psychological distress is indicated to more specifically tailor mental health literacy for individual plans of care.

Ever-pregnant adolescents experienced lower levels of psychological distress as a possible result of stronger social support from family members. Family integrity has been identified as a protective mechanism against the impact of stress (Cervantes et. al., 2013; Fleuriet & Sunil, 2014). Future studies concerning mental health literacy that are family-focused are indicated among pregnant adolescents. Jorm (2012) emphasized the importance of family members and support systems in helping adolescents recognize psychological distress and facilitating early help seeking. While, previous studies identified family members as having the strongest influence on help-seeking, significant others are often community health nurses, who are also an important source of social support. Their involvement in mental health literacy is critical for adolescents who experience limited family integrity and social support.

Both ever- and never-pregnant adolescents in this study experienced numerous types and varying levels of external stressors. Ever-pregnant adolescents reported higher rates of incarceration, forced first coitus, rape, and running away from home. Previous studies have suggested stress negatively impacts fetal development and results in complications during the pre- and post-natal periods for mothers and their infant. Studies examined by Kinsella and Monk (2009) also suggest that persistent psychological distress during pregnancy is associated with poor emotional adjustment during childhood that may extend well into adolescence. This impact on fetal development underscores the



need to recognize and manage psychological distress-among adolescent females during pregnancy. Community health nurses play a critical role in creating awareness and facilitating prompt help-seeking for psychological distress to prevent maternal and fetal complications during the pre- and post-natal periods.

Jorm (2012) suggested schools as optimal settings for improving mental health literacy among high-risk adolescents. However, only 63% of adolescents who give birth before 18 years obtain a high-school diploma or their GED (Planned Parenthood Federation, 2013). In this study, more ever-pregnant adolescents reported school drop-out than never-pregnant adolescents. Interventions for mental health literacy that include primary care-based health clinics may increase awareness, prevention, and management concerning psychological distress and ultimately prevent school drop-out. Addressing mental health literacy in this setting may assist adolescents to become more vigilant in recognizing signs and symptoms of psychological distress particularly during pregnancy. Chisholm et al. (2016) suggested that future research and interventions on mental health literacy require initiation during childhood and early adolescence rather than late-adolescence to improve knowledge and stigmatizing attitudes concerning psychological distress.

Lastly, participants from this study were primarily female Mexican-American adolescents, with a proportion born in Mexico or preferentially using Spanish versus English. It is important to remember that mental health literacy is predominantly a Westernized concept and may conflict with the cultural beliefs of pregnant adolescents.

Some cultures may lack words that describe symptoms of psychological distress, or associate these behaviors with spirits, curses and bad karma (Jorm, 2012). Consequently, preferences for treatment may vary among different cultures.

Mexican-American females have been described as more likely to seek care for psychological distress from health care providers whom they trust (Lara-Cinisomo et al., 2014) and to prefer forms of treatment such as meditating, exercise, and prayer over pharmaceuticals (Guy et al, 2014). Mental health literacy tools that take into consideration cultural preferences and linguistic diversity may be most effective when discussing management and treatment options for psychological distress.

## **CONCLUSIONS**

These secondary analyses have inherent limitations related to the context of this form of analysis. However, compelling findings from this study demonstrate the importance of developing strategies that will engage Mexican-American female adolescents experiencing psychosocial distress in mental health literacy particularly during pregnancy. Psychological distress related to multiple stressors including histories of interpersonal violence and substance use can negatively impact fetal development and may result in complications for both mother and child. Assessing these adolescents' knowledge of these risks is critical because it provides the context for which pregnant adolescents conceptualize mental health and personal susceptibility to psychological distress (Guy et al, 2014).

Mental health literacy can help these adolescents gain knowledge about the impact of psychological distress and empower them to act on that knowledge to achieve mental health and avert long-term consequences lasting into adulthood. Both ever- and never-pregnant adolescents in the study experienced multiple stressors in varying degrees, and present at risk for developing psychological distress due to the challenging environment in which they live. Inclusion of support systems such as primary care-based clinics in mental health literacy initiatives will help to prevent psychological distress among these adolescents, particularly during pregnancy.

Public health nurses are provided a window of opportunity during adolescence and during adolescent pregnancy, to assess, maintain, and manage mental health concerns. A comprehensive pre- and post-natal approach considering acculturation and the potential positive social outcomes of pregnancy is indicated among female Mexican-American adolescents. Assessment of knowledge, beliefs and attitudes of these adolescents concerning psychological distress as a component of sexual health interventions and resources that meet their needs is necessary to promote positive mental health outcomes.

## **Chapter 4: Assessing the Mental Health Needs of Pregnant Adolescents: Health Literacy Frameworks to Guide Research and Practice<sup>3</sup>**

### **ABSTRACT:**

**Background:** Psychological distress negatively impacts fetal development and may result in complications such as preterm delivery, low infant birth weight, and poor maternal-infant attachment during the postpartum period. Female adolescents may be experiencing environmental and psychosocial stressors during the pre- and post-natal periods that may predispose them to psychological distress. Health literacy has been utilized to assess the needs of individuals who have chronic illnesses. Mental health literacy however has not been assessed as extensively, particularly among pregnant adolescents.

**Purpose:** Analysis of two health literacy frameworks for assessment of relevancy for utilization among adolescents experiencing psychological distress.

**Methods:** Systematic analyses of health literacy frameworks by Anthony Jorm and that of Paasche-Orlow and Wolf are provided in this manuscript.

**Results:** Paasche-Orlow and Wolf's frameworks both provide useful approaches for assessing pregnant adolescent needs. A modified holistic, health literacy conceptual model, based on Paasche-Orlow, Wolf's and Jorm's framework is proposed.

---

<sup>3</sup> Large portions of this chapter have been published as: Recto, P., Champion, J. D., & Mackert, M. (2016). Assessing the mental health needs of pregnant adolescents: Health literacy frameworks to guide research and practice. *Research and Theory for Nursing Practice*, 31(2), 137-155. doi: 10.1177/1540415316676224 P.R contributed to the preparation, analysis, synthesis, and review of the manuscript. J.D.C and M. M contributed to the manuscript preparation and review (see Reuse Permission, Appendix G).

**Implications for Practice:** Assessing the mental health needs of pregnant adolescents requires a holistic approach. The modified conceptual model provides a basis for research and practice addressing health literacy and psychological distress among pregnant adolescents.

**Keywords:** *mental health, psychological distress, health literacy, pregnancy, female adolescents*

## INTRODUCTION

Psychological distress is defined as “the unique discomfoting, emotional state experienced by an individual in response to a specific stressor or demand that results in harm either temporary or permanent, to the person,” (Ridner, 2004, p. 539). Findings from previous studies suggest psychological distress negatively impacts fetal development and results in complications such as preterm delivery, low infant birth weight, and poor maternal-infant attachment during the postpartum period (Davalos, Yadon, & Tregellas, 2012; DeSocio, 2015; Li, Liu, & Oduli, 2009; Satyanarayana, Lukose, & Srinivasan, 2011; Siegel & Brandon, 2014). Previous studies have found that female adolescents have higher rates of prenatal depression as compared to female adults (Hodgkinson, Beers, Southammakosane, & Lewin, 2014; Siegel & Brandon, 2014). Pregnancy may be overwhelming for female adolescents who are simultaneously undergoing developmental and social changes while transitioning in their roles as mothers. Environmental and psychosocial stressors such as poverty, delayed or limited education, lack of social support, history of depression or anxiety, and unplanned pregnancy have been associated with psychological distress during the pre- and post-natal periods (Biaggi, Conroy, Pawlby, & Pariante, 2016; Hodgkinson et. al, 2014; Satyanarayana et. al., 2011). Personal barriers for seeking mental health care services include stigma, embarrassment, and an inability to recognize the development of psychological distress (Andrade et. al., 2014; Jorm 2012; Gulliver, Griffiths, & Christensen, 2010). Structural barriers such as limited accessibility to providers, lack of

coordination with the follow-up, and a complex referral process ultimately delays care and treatment of psychological distress (Andrade et. al., 2014; Byatt et. al., 2013).

Pregnant adolescents who experience psychological distress and barriers to mental health care services represent a particularly vulnerable population at risk for adverse pre- or post-natal health outcomes.

## **Background**

Maternal mental health is a primary concern during the pre- and post-natal period as it affects the well-being of the mother and the infant. Pregnant adolescents need to understand mental health information that will empower them to make health decisions for themselves and their infant. Health literacy is defined as “the degree to which individuals can obtain, process, understand and communicate about health-related information needed to make informed health decisions” (Berkman, Davis, McCormack, 2010, p. 16). Individuals with limited health literacy are more likely to have higher incidences of chronic illness, hospitalizations from preventable diseases, and delayed use of preventive services (U.S Department of Health and Human Services, n.d).

Understanding the knowledge, attitudes, and beliefs about psychological distress, and identifying facilitators and barriers concerning health literacy and health outcomes is necessary for promotion of mental health among female adolescents particularly during pregnancy and the postpartum period.

## **Purpose**

Various health literacy frameworks have been proposed in the past to address different illnesses and conditions. However, frameworks developed by Paasche-Orlow and Wolf (2007) and that of Anthony Jorm (2000) will be the focus of this manuscript. Although Jorm's framework exclusively focuses on mental health and may seem to be the most suitable approach, a comparison of his framework to Paasche-Orlow and Wolf's provides a constructive means to assess the mental health needs of pregnant adolescents. The purpose of this analysis is to 1) provide an overview of each framework and include research studies that have empirically tested them, 2) systematically analyze each framework, 3) discuss the usefulness of each framework as it relates to pregnant adolescents' mental health, 4) and propose a modified conceptual model based upon these frameworks.

## **METHODS**

PubMed, Cinahl, and PsycINFO data bases were used for a focused search of relevant publications written from the time interval inclusive of years 2000-2016. Peer-reviewed articles were selected that included the following search terms: *pregnant adolescents, psychological distress, mental health literacy, and health literacy*. There were approximately 300 articles from the original search and of these, 56 articles were used. Articles that were not written in English were excluded. Research studies concerning mental health literacy and health literacy were limited to authors who used Jorm's and Paasche-Orlow and Wolf's framework.



Walker and Avant's (2011) criteria was used to provide a systematic analysis of the strengths and relevancy of Jorm's and Paasche-Orlow and Wolf's frameworks for pregnant adolescents. These frameworks were examined for origin, parsimony, meaning, generalizability, testability, logical adequacy, and usefulness (Table 5).

#### **OVERVIEW OF JORM'S MENTAL HEALTH LITERACY FRAMEWORK**

Jorm (2000) defined mental health literacy (MHL) as “the knowledge and beliefs about mental disorders which aid their recognition, management, or prevention “(p.396). Jorm stated that the goal of MHL is to help individuals manage mental illness (MI) and caregivers to effectively provide them support and assistance (Jorm, 2012). MHL primarily focuses on a) knowledge of causes and risk factors of MI, b) recognition of the development of MI, c) knowledge and beliefs about risk factors and causes of MI d) knowledge of professional help and treatment options, and e) knowledge and beliefs regarding effective self-help strategies, f) mental health first aid skills to help individuals with MI or mental health crisis (Jorm, 2012).

#### ***Knowledge of risk factors and causes of mental illness***

Biologic factors, environmental stressors, and traumatic life events may increase an individual's risk for MI (Jorm, 2000). While knowing potential factors for MI is important, Jorm (2012) stated that prevention has been the least developed area of mental health. Exercise, relaxation, sleep, and family support were endorsed by health care providers and adolescents as preventive strategies for MI (Jorm, 2012). In a previous study, adolescents believed that avoiding stressful situations would be helpful; however,

health care providers did not believe that avoiding stressful situations would be helpful in preventing MI (Jorm, Morgan, & Wright, 2010). While these findings reflect helpful strategies in preventing MI, Jorm (2012) suggests an assessment is indicated concerning activities that individuals are actively practicing to prevent MI.

### ***Recognition of mental illness***

The onset of MI often emerges during the period of adolescence however, 70% of adolescents do not receive treatment (Schwarz, 2009). Lack of recognition is often the reason for delay in treatment of MI. Jorm argues that failure to receive treatment has detrimental consequences because the longer MI is left untreated, the poorer the outcomes for the individual (2012). Individuals are less likely to seek help when they normalize MI and label it as “life problem” or “stress” (Jorm, 2012). Olsson and Kennedy (2010) assessed adolescents’ ability to identify anxiety and depression by presenting students with brief gender-matched scenarios about adolescents experiencing distress. Few were able to correctly identify anxiety (27.5%) or depression (42.4%), while the majority (71%) believed that few MI community sources were available (Olsson & Kennedy, 2010).

### ***Knowledge of professional help and treatment options.***

Although mental health care providers are specialized in identifying and managing MI, adolescents prefer counselors, teachers, nurses, and general practitioners as sources of help (Guy et al, Leighton, 2010; Reavley et al., 2012). Opinions also vary concerning pharmacotherapy as some found it effective in managing psychological

distress, while others preferred counseling or cognitive behavior therapy (Guy et al., 2014). Individuals who knew a friend or had a family member with MI were more likely to have similar beliefs about treatment options and professional help available, than individuals who did not have peers or family members with MI (Yap, Reavley, & Jorm, 2012). Jorm (2012) suggested that providing comprehensive information about professional help and treatment options will help patients make informed decisions concerning mental health.

### ***Knowledge and beliefs of effective self-help strategies***

Various treatment options are available for individuals who have MI, but there are differences between public views and professional views concerning treatment. Jorm (2012) explains that self-help strategies may be helpful in combination with other treatment modalities. Multiple studies have suggested that individuals with MI often prefer self-help strategies such as eating healthy foods, exercise, prayer, and positive talk, and informal sources of help such as family members or peers (Andrade et.al, 2014; Guy et al., 2014; Reavley McCann, & Jorm, 2012). Although Jorm does not discount the use of self-help strategies, he cautions that some forms may be beneficial, but others (i.e., drinking alcohol) may worsen mental health outcomes for the individual. A previous study endorsed physical activity as a helpful strategy for individuals with MI (Jorm, Christensen, Griffiths, & Rodgers, 2002). It is therefore important for health care providers to carefully assess self-help strategies that are practiced by individuals.

### ***Knowledge and skills to give mental health first aid***

Mental health first aid is the provision of help by others to facilitate help-seeking for individuals having a mental health crisis (Jorm, 2012). The essential components of mental health first aid include assessing the situation, assisting with crisis, listening in a nonjudgmental manner, offering support and information, and encouraging the individual to seek help (Jorm, 2012). Nursing and medical students who took online and face-to-face classes about mental health first-aid skills showed improvement in first-aid skills, confidence, knowledge, and stigmatizing attitudes of MI (Bond, Jorm, Kitchener, & Reavley, 2015).

### **ANALYSIS OF JORM'S FRAMEWORK**

Anthony Jorm and colleagues initiated development of their domain-specific health literacy framework focusing on mental health in 1997. Their conceptualization of MHL evolved as an outcome of perceived neglect of mental health as an essential component of health literacy (Jorm, 2015).

Jorm's framework is straightforward and uses concise language to explain the concepts of MHL. The meaning of MHL is clearly stated and consistent throughout the framework. Jorm's framework is widely used in mental health as it is applicable for utilization among diverse populations and health care settings (Guy et al, 2014; Happell, Wilson, & McNamara, 2015; Yap et. al., 2010). Jorm's framework has been tested in various populations. This testing has occurred primarily through "vignette interviews" (Leighton, 2010; Olsson & Kennedy, 2010; Reavley et. al., 2012). Researchers present a

vignette of an individual with MI or psychological distress, and participants are asked questions about the vignette related to MHL. A 35-item MHL scale was recently developed via testing conducted primarily among adults (O'Connor & Casey, 2015).

While Jorm's MHL framework has logical adequacy, importantly, it does not emphasize health care access or utilization and patient-provider interactions. For example, pregnant adolescents may struggle to attend mental health care appointments in addition to their obstetric visits when they are unable to find transportation or have time conflicts related to school. Jorm's framework does not readily consider factors such as these as it is more focused on individual knowledge, and beliefs concerning MI that facilitate its recognition, prevention and management.

Jorm's framework (2012) discusses the importance of seeking help from mental health care professionals particularly for individuals who have moderate to severe mental health disorders. Adolescents with MI have been found to prefer nurses, teachers and counselors as formal sources of help (Reavley et. al., 2012). While it is important to assess pregnant adolescent's preferences for professional help for MI, studies specifically assessing the nature of patient-provider interactions in the context of mental health care are indicated for identification of potential communication barriers.

A potential limitation of Jorm's MHL framework is the implication for health care professional versus individual preference concerning treatment and management of MI (Jorm, 2000). Implications regarding alignment of individual beliefs with those of health care providers portray a relationship in which election of modalities contrary to

recommendations of providers is perceived as non-compliance or inappropriate self-care. This patient-provider relationship may leave individuals feeling frustrated and shamed should they choose not to comply with their health care provider recommendation for MI. While it is important to inform pregnant adolescents who are experiencing psychological distress of various treatment options, it is also beneficial to engage them in discussion of self-care management.

#### **OVERVIEW OF PAASCHE-ORLOW AND WOLF'S HEALTH LITERACY CONCEPTUAL MODEL**

Paasche-Orlow and Wolf used the National Institutes of Health's definition of health literacy as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (2007, p. S20). Although capacity and skill is an important component of health literacy, there are also contextual factors which affect health literacy. These include patient-level and system-level characteristics (Paasche-Orlow & Wolf, 2007). To illustrate this, Paasche-Orlow and Wolf's model in Figure 2 provides specific variables such as demographic, sociocultural, cognitive/physical skills as predictors of health literacy. Access and utilization of health care, patient-provider interactions and self-care are identified as mediators of health literacy and health outcomes through individual and external factors.

### ***Contributing factors of health literacy***

Paasche-Orlow & Wolf (2007) emphasized the importance of empirically testing variables to determine the nature of their relationship with health literacy. Culture has been described as an important predictor of health literacy as it influences the way in which patients view illness, self-care, and treatment (Davies, Bukulatjpi, Sharma, Davis, & Johnston, 2014). Educational resources were not found to be congruent with cultural preferences as patients desired interactive images versus text to illustrate how diseases affect the body (Davies et. al., 2014). Osborn (2011) found demographic factors such as age, education, and race to account for 34% of the individual's health literacy. Apolinario and colleagues (2015) found however, that when demographic factors were controlled, cognitive abilities were strongly associated with health literacy. These studies underscore the importance of assessing variables that may potentially influence health literacy. Paasche-Orlow and Wolf (2010) argue that failing to do so may lead to inaccurate assumptions about health literacy.

### ***Access and utilization of health care***

Accessing care by navigating complex health systems is a barrier for many patients. Poor communication in obtaining directions and confusing signposts often result in missed appointments when patients cannot easily find their health care provider's facility (Paasche-Orlow & Wolf, 2007). Groene and Rudd (2011) conducted health literacy environmental scans at 10 hospitals and found that external and internal sign posts were lacking, insufficient, or used confusing medical terminology. Health

environmental scans are important in creating a health literate facility, although studies are needed that capture the personal experiences of patients navigating through health care facilities (Groene & Rudd, 2011).

Use of health care can be confusing when an individual's health insurance offers plans with varying degrees of health care coverage, co-pays and deductibles. Paasche-Orlow and Wolf (2007) add that various nonprofit, for-profit, and government health insurance only add to the complexity. Utilization becomes frustrating when health care providers are suddenly out of network and medications are no longer covered by their insurance (Paasche-Orlow & Wolf, 2007). It is therefore not surprising to learn that individuals do not understand their health care coverage for services and associated access.

### ***Patient-provider interactions***

Patient factors such as lack of knowledge about a condition or disease may limit patient's interactions with health care providers (Paasche-Orlow & Wolf, 2007). During health care visits, patients may perceive health care providers to be short of time and subsequently feel "shamed" to ask for clarification concerning their condition or instructions given by the provider (Oates & Paasche-Orlow, 2009). The absence of questions may lead the health care provider to assume that patients have understood the plan of care even when this was not the case. This negative experience by patients may result in distrust, and pessimism towards health care providers (Paasche-Orlow & Wolf, 2007; Peek et. al, 2009).



The use of medical jargon makes it difficult to understand what is being explained and may only contribute to the growing pessimism patients feel about their health care. Paasche-Orlow and colleagues (2005) suggested using the “teach-back” method by health care providers to assess patient comprehension, as it also gives health care providers the opportunity to clarify any missed information. Tailored patient teaching through the use of various communication methods is helpful for patients who have different learning styles (Oates & Paasche-Orlow, 2009). Paasche-Orlow and colleagues (2005) found that patients with low health literacy levels showed significant improvement in managing asthma symptoms through the teach-back method and tailored patient teaching.

### ***Self-care behaviors***

Self-care reflects instrumental knowledge to manage health (i.e. knowing how to use an inhaler, or how to use a glucometer to check blood sugar) (Paasche-Orlow & Wolf, 2007). Individuals with limited health literacy may not have instrumental knowledge to manage their condition. As such, self-care requires patients to have the skill and capacity to perform their plan of care (Paasche-Orlow & Wolf, 2007). Individuals who lack instrumental knowledge may find it challenging to adhere to their treatment regimen. Self-efficacy and motivation have been described as important factors for individuals who need to maintain strict treatment regimens (Paasche-Orlow & Wolf, 2007). Osborn (2011) found that health literacy did not significantly affect self-efficacy, however, it was proposed that health literacy may exert an indirect effect on self-efficacy through knowledge.

Paasche-Orlow and Wolf (2010) suggest that extrinsic factors including support technologies, mass media, and health education can positively affect self-care behaviors. Sobel and colleagues (2009) used a multimedia tool to improve knowledge of asthma and found patients with marginal and adequate health literacy showed greater improvement than individuals with low health literacy. It was recommended that in addition to the multimedia tool, a secondary teaching approach (i.e. demonstration) would enhance learning among individuals who have low health literacy (Sobel et. al., 2009).

#### **ANALYSIS OF PAASCHE-ORLOW AND WOLF'S HEALTH LITERACY MODEL**

Paasche-Orlow and Wolf developed a health literacy conceptual model in 2007 to illustrate variables and mediators that affect health literacy and health outcomes. This conceptual model is clear and succinct. The model has been empirically tested in various populations using both qualitative and quantitative methods (Davies et. al., 2014; Oates & Paasche-Orlow, 2009; Osborn, 2011; Paasche-Orlow et.al, 2005; Sobel et.al, 2009). Their framework is broad and comprehensive, making it generalizable to diverse populations and health care settings (Davies et. al., 2014; Lee, Tsai, Tsai, & Kuo, 2010; Paasche-Orlow et. al., 2005). The meaning of health literacy is clearly stated within this model. However, Paasche-Orlow and Wolf admit that characterizing health literacy as a static concept is problematic. They emphasize that in addition to the individual's capacity and skills to use health-related information, health literacy is also influenced by contextual demands of patient- and system-level factors (Paasche-Orlow and Wolf, 2007).

Health literacy measurement is multi-faceted. Paasche-Orlow & Wolf, (2007) do not include functional (reading, writing, numeracy skills), interactive (communication and social skills) and critical (analyzation skills) literacy as important components of health literacy. There are multiple health literacy measurements for adolescents measuring various components of health literacy. Health literacy instruments for adolescents include the Health Literacy Measure for Adolescents (HELMA) and Rapid Estimate of Adolescent Literacy in Medicine (REALM-Teen) (Davis et. al., 2006; Ghanbari, Ramezankhani, Montazeri, & Mehrabi, 2016; Wolf et.al., 2006). HELMA may be used to assess functional, interactive, and critical health literacy but REALM-Teen only assesses reading and pronunciation skills (Ghanbari et. al., 2016; Wolf et. al., 2006).

Paasche-Orlow and Wolf's framework demonstrates overall logical adequacy with several limitations. Paasche-Orlow & Wolf (2007) acknowledge that their model cannot capture the array of variables that influence health literacy and health outcomes. For example, gender is not mentioned as a variable that can affect health literacy. Findings from a previous study suggested Korean females had higher levels of health literacy than Korean males concerning health care navigation, written health information, and medical forms (Lee, Lee, & Kim, 2015). Inclusion of specific demographic, socio-cultural, physical, and cognitive variables restricts the conceptual model as there may be other variables that impact health literacy.

Paasche-Orlow and Wolf's conceptual model illustrates unidirectional arrows suggesting that health literacy relates to health outcomes in a linear manner (Paasche-Orlow & Wolf, 2007). Paasche-Orlow and Wolf (2007) indicated that individuals live in a complex web of social networks that influence health-related decisions and health outcomes. Their conceptual model reflects general but to a lesser degree, these complex interactions of personal and external factors influencing health literacy and health outcome.

#### **USEFULNESS OF FRAMEWORKS IN ASSESSING PREGNANT ADOLESCENTS' MENTAL HEALTH NEEDS**

Assessing the mental health needs of pregnant adolescents requires a holistic approach. While Paasche-Orlow and Wolf's concept model provides a comprehensive approach, Jorm (2015) argued that a domain-specific health literacy framework leads to tailored interventions that meet the specific needs of a population. The authors will highlight aspects of each framework that are useful for assessing the needs of this vulnerable population.

Osborn (2011) found socio-demographic factors including ethnicity and age account for 34% of an individual's health literacy. Additionally, it has been suggested by multiple studies that adolescent pregnancy is associated with postponement of or delayed education (Diaz & Fiel, 2016; Penman-Aguilar, Carter, Snead, & Kourtis, 2013; Sullivan et. al., 2011). Having limited education may therefore lead to adverse mental health

outcomes related to lower health literacy, limited income, poverty, and inability to access mental health care services. Examining the relationship between socio-demographic factors, and health literacy among female adolescents is indicated considering disproportionately higher pregnancy rates among African-Americans and Hispanic female adolescents (U.S Department of Health & Human Services, 2016).

Jorm, Paasche-Orlow, and Wolf acknowledge the importance of understanding health literacy in the context of the individual's culture. Individuals from various ethnic backgrounds may not actively seek mental health care as a consequence of perceived negative connotations of psychological distress (Jorm, 2012). Hispanic mothers were found to perceive depression as a normal event even though experiencing high levels of stress and therefore, did not perceive it as an illness that warranted professional help (Lara-Cinisomo et al., 2014). Cultural attitudes may also determine how pregnant adolescents access and utilize health care services and modality of treatment. Lara-Cinisomo and colleagues (2014) found that Hispanic mothers often sought mental health services from health care providers who were recommended by friends and family members.

Paasche-Orlow and Wolf's concept model can be a valuable tool for developing mental health policies as it focuses on the challenges of health care access and utilization. Pregnant adolescents who are already reluctant to seek care may not receive any type of treatment if they cannot access mental health care services. Previous studies that focus on mental health access and utilization indicate lack of timely access, inflexible cost of

health services, geographic location, and insurance incompatibility as barriers for pregnant and postpartum women (Byatt et. al., 2013; Flynn, Henshaw, Mahen & Forman, 2010; Kim, et.al., 2010). Female adolescents may benefit from an integrated health care system where they are able to obtain prenatal, mental health, postpartum, and infant care (Harrison, Weinstangle, Dalziel, & Moreau, 2014).

Patient-provider interaction can be a significant facilitator or barrier for pregnant adolescents who are trying to access mental health-related information. Paasche-Orlow and Wolf (2007) suggested verbal and nonverbal communication as critical components in shared-decision making. Although mental health first-aid training is primarily used to help facilitate help-seeking for individuals experiencing a mental health crisis, it may also be a helpful tool for students who are planning to become health care providers to facilitate empathetic and supportive communication towards pregnant adolescents experiencing psychological distress.

Paasche-Orlow and Wolf recommend a “universal precaution” approach such as the teach-back method to ensure patient comprehension. Training of health care providers emphasizing tailored patient teaching and verification of patient knowledge related to health information is indicated (Paasche-Orlow, Schillinger, Greene, & Wagner, 2006). Avoiding the use of medical jargon, using multiple teaching modalities, and creating an environment where patients are comfortable to ask questions are strategies that facilitate patient-provider interaction (Oates & Paasche-Orlow, 2009). We agree with Jorm that individual beliefs, and attitudes should be considered when helping

pregnant adolescents as these may contribute to help-seeking and recognition of psychological distress.

Jorm, Paasche-Orlow, and Wolf have all discussed the benefits of using health information technology in preventing and managing illnesses. Pregnant adolescents use the internet as a resource for topics such as mental health, sexually-transmitted infection, pregnancy and birth control (Logsdon et. al., 2014). Websites that were easily accessible and navigable, and allowed them to interact with other users were often preferred by new mothers (Nellsch, Walker, Xie, & Vaugh, 2013). Developing interactive health technologies may be effective for pregnant and postpartum adolescents who prefer anonymity and privacy when managing psychological distress.

While obtaining health-related information online may be convenient, it is important to consider the implications of obtaining health information from the internet. Subramaniam and colleagues (2015) indicated that adolescents often have difficulty evaluating credible internet sources. This could have serious implications as adolescents may act upon these recommendations without determining the accuracy of its information. Additionally, the most common barrier identified by adolescents is the inability to comprehend the medical terms used on some websites (Subramaniam et. al., 2015). As a result, adolescents often “skimmed” through information and ultimately missed relevant information. These findings indicate the present challenges by adolescents in obtaining health-related information from websites.

## RESULTS

Both frameworks demonstrate potential for assessment of mental health needs among pregnant adolescents. We present a modified conceptual model that incorporates concepts of both health literacy frameworks for use among pregnant adolescents. Paasche-Orlow and Wolf's framework has been primarily adapted in the modified conceptual model along with components of Jorm's framework. We have also provided rationales for the modifications as illustrated in Figure 3.

Jorm's inclusion of beliefs and attitudes as important elements in recognizing, preventing, and managing psychological distress is conceptualized as "culture" in our modified model. Lara-Cinisomo and colleagues (2015) discussed the impact of cultural beliefs and attitudes in management and treatment of psychological distress. While we did not specifically include "beliefs" and "attitudes", we suggest in our model that these are part of the individual's culture.

Paasche-Orlow and Wolf (2007) postulate that it is impossible to include all variables that affect health literacy within a single model. We suggest the use of conceptual categories rather than specific variables as predictors of health literacy. The use of conceptual categories provides the opportunity for selectivity regarding inclusion of contextual rather than circumscribed variables within each category as predictors of health literacy.

Paasche-Orlow and Wolf utilize unidirectional arrows within their model to illustrate the relationships among patient-provider interaction, access and utilization of



health care services, and self-care behaviors. We postulate that relationships among these constructs are ongoing and interconnected. The modified health literacy model explicates this via bidirectional arrows between access and utilization of health care, patient-provider interaction, and self-care.

Testing of Jorm's framework indicated that individuals preferred the use of self-help strategies to manage psychological distress (Guy et al., 2014). We therefore included "self-help strategies" in addition to self-care. Self-help strategies are activities (i.e. exercise) endorsed by health care providers that the individual may conduct to improve MI. Self-care is the individual's instrumental knowledge (i.e. understanding when, how often, and which medications to take) to manage their health. Self-care/self-help strategies may enhance, or modify health literacy through self-efficacy, knowledge, and use of various health-information resources. Likewise, the quality of interaction between pregnant adolescents and their health care provider may improve or modify health literacy through increased knowledge concerning psychological distress. A bidirectional arrow was included in the modified concept model between patient-provider interaction and health literacy, as well as self-care/self-help strategies and health literacy to address these interactions.

The modified model proposes bidirectional arrows, signifying a reciprocal relationship between patient-provider interaction and health outcomes, as well as self-care/self-help strategies and health outcomes. Patient-provider interactions influence health outcomes; however, health care outcomes may also be affected by increased

patient-provider interaction as pregnant adolescents engage in shared-decision making. Similarly, as self-care and self-help strategies affect health outcomes, health outcomes may further motivate pregnant adolescents to engage in healthy behaviors that prevent or manage psychological distress.

A feedback loop was included in the modified model to illustrate the dynamic relationship between health outcomes to health literacy. This feedback loop illustrates that as health outcomes improve or change, health literacy is complimented. For example, a pregnant adolescent may unexpectedly find one self-help strategy more helpful than another in managing psychological distress thus resulting in improved mental health outcomes. An improvement in these symptoms may ultimately affect the pregnant adolescent's ability to understand, process, and make decisions about health-related information pertaining to psychological distress.

### **Implications for practice**

Previous studies consistently indicate stigmatization, embarrassment and inability to recognize psychological distress as barriers for seeking help (Andrade et.al., 2014; Jorm, 2012; Gulliver et. al., 2010). Health information technology has potential for providing accessibility, privacy, and knowledge that could prevent or manage psychological distress. Both frameworks have highlighted the use of web-based resources to address health disparities among pregnant adolescents with psychological distress.

Assessment of relationships between health literacy and patient-provider interactions may assist health care providers to engage pregnant adolescents concerning mental health. Peek and colleagues (2009) found those with low health literacy were less likely to engage in patient-provider interactions than individuals with marginal and adequate health literacy. Future studies examining implementation of universal precautions and tailored patient teaching may facilitate improved patient-provider interaction among pregnant adolescents who have limited health literacy.

Jorm (2015) emphasized that health literacy neglected mental health, and likewise, mental health neglected health literacy. There is substantial literature on health literacy and its impact on chronic illness such as diabetes or hypertension. Studies examining health literacy among pregnant adolescents with psychological distress are limited. This would be an important focus for research and practice as prenatal psychological distress has been associated with postnatal psychological distress (Satyanarayana et. al., 2011). While our proposed model is heavily influenced by Paasche-Orlow and Wolf's framework, we have incorporated aspects of Jorm's framework such as individual beliefs and attitudes, and self-help strategies as relevant factors that may affect pregnant adolescents' mental health status.

Previous literature has suggested the need for health literacy instrumentation among adolescents (Perry, 2014). Our modified conceptual model provides a foundation for development of instrumentation to assess the mental health needs of female adolescents during both pregnancy and postpartum periods.

## **CONCLUSION**

Assessment of mental health needs of pregnant adolescents requires a comprehensive approach. Our systematic analysis of Jorm and Paasche-Orlow and Wolf's health literacy frameworks has identified key directions for research, education and practice. Our overview of both frameworks can be utilized by those who are assessing the mental health needs of pregnant adolescents via a health literacy framework. We have identified previous studies that operationalized health literacy through empirical testing of each framework. Our systematic analysis assessed the feasibility for utilization of both health literacy frameworks for pregnant adolescents. Lastly, a modified conceptual model based upon Jorm's, and Paasche-Orlow and Wolf's frameworks has been proposed as a basis for research and practice concerning health literacy and psychological distress among pregnant adolescents.

## **Chapter 5: Assessment of Mental Health Literacy among Perinatal Hispanic Adolescents<sup>4</sup>**

### **ABSTRACT**

According to the United States (U.S.) Census Bureau, Hispanics are the fastest growing ethnic minority in the U.S. As such, Hispanic females have the highest birth rate (35 per 1000) among adolescents between the ages of 15 and 19 years. Despite high fertility rates, there is limited mental health information among Hispanic adolescents during the perinatal period. Perinatal depression is a major concern as it poses health risks for both the mother and infant. Adverse outcomes such as preterm birth, low-infant birth weight, and poor maternal-infant attachment may result from perinatal depression. However, less than half of Hispanic adolescent mothers who experience perinatal depression receive treatment. Previous research identified low mental health literacy as one of the primary reasons for the limited use of mental health services among ethnic minorities. This study assessed the mental health literacy of pregnant and postpartum Hispanic adolescents (n =30) using a modified mental health literacy scale. Implications for nursing practice are discussed to help improve mental health outcomes among pregnant and postpartum Hispanic adolescents.

---

<sup>4</sup> Large portions of this chapter have been published as: Recto, P., & Champion, J.D. (in-press). Assessment of mental health literacy among perinatal Hispanic adolescents. *Issues in Mental Health Nursing*, 38(12), 1030-1038, doi: 10.1080/01612840.2017.1349224. P.R contributed to the preparation, data collection and analysis, synthesis, and review of the manuscript. J.D.C contributed to data analysis, manuscript preparation and review (see Reuse Permission, Appendix H).

## **INTRODUCTION**

Perinatal depression is a public health concern due to its impact on the health of mothers and their infants (American College of Obstetricians and Gynecologists (ACOG), 2015; Blackmore & Chaudron, 2014). Previous research reports less than half of Hispanic mothers who experience perinatal depression receive mental health services (Ertel, Rich-Edwards, & Koenen, 2011). As such, Hispanics are the fastest growing and largest ethnic minority in the United States (The United States Census Bureau, 2015). Census estimate shows Hispanics have the highest birth rate among adolescents between the ages of 15 to 19 years (35 per 1000) (Martin, Hamilton, Osterman, Driscoll, & Matthews, 2017). Despite high fertility rates, there is limited information on Hispanic female adolescents' mental health during the perinatal period (Lara-Cinisomo, Girdler, Grewen, & Meltzer-Brody, 2016). Previous research identified low mental health literacy as one of the primary reasons for the limited use of mental health services among ethnic minorities (Jorm, 2012). Therefore, this study assessed the mental health literacy of pregnant and postpartum Hispanic adolescents.

### **Background**

Perinatal depression, also referred to as maternal depression, is defined as symptoms of depression during pregnancy and postpartum periods (ACOG, 2015; National Institute of Health Care Management (NIHCM), 2010). During the postpartum period, mothers may continue to experience depression within the first year of giving birth (Beck & Gable, 2001; Stuart-Parrigon & Stuart, 2014). Depressive symptoms may

include appetite and sleep disturbance, fatigue, difficulty concentrating, low self-esteem, guilt, and even thoughts of death or suicide (American Psychiatric Association, 2013). Adverse outcomes such as preterm birth, low-infant birth weight, and poor maternal-infant attachment may result from perinatal depression (ACOG, 2015; Kinsella & Monk, 2009; NIHCM, 2010; Satyanarayana, Lukose, & Srinivasan, 2011). Additionally, previous studies have indicated the persistent and chronic nature of depression well after pregnancy (Clout & Brown, 2015; Gavin, Lindhorst, & Lohr 2011; Woolhouse, Gartland, Mensah, Giallo, & Brown, 2016).

Biological and contextual cultural risk factors such as poverty, trauma (physical and sexual violence), discrimination, and acculturative stress have been identified as potential risk factors for perinatal depression among Hispanic mothers (Lara-Cinisomo et al., 2016). Other studies also report lack of social support and prior history of depression as risk factors for perinatal depression (Edwards et al., 2012; Meltzer-Brody et. al., 2013; Nunes & Phipps, 2013). There is limited research on the prevalence rates of perinatal depression among female Hispanic adolescents. Lara, Le, Letechipia, and Hochhausen (2009) found a prevalence rate of 32.4% among their sample of pregnant Mexican-American mothers. Additionally, Schmidt, Weimann, Rickert, and O'Brian Smith (2006) found Mexican-American adolescents were more likely to experience postpartum depression during their first year (2.6 odds ratio) as compared to African-American and non-Hispanic White adolescent mothers. It is therefore important to assess the knowledge, beliefs, and attitudes of Hispanic adolescents concerning mental

health disorders because it may explain how they manage and cope with perinatal depression.

Jorm (2000) defined mental health literacy (MHL) as “the knowledge and beliefs about mental disorders which aid their recognition, management, or prevention“(p.396). Jorm (2000) explained MHL is not only about the acquisition of knowledge concerning mental health disorders. Rather, it is the use of this knowledge that is accompanied by the possibility of taking action to benefit the individual’s own mental health (Jorm, 2000). The components of MHL include: a) recognition of the development of mental health disorders, b) knowledge of risk factors, c) knowledge and beliefs regarding effective self-help strategies, d) knowledge of professional help and treatment options, e) attitudes that influence recognition and appropriate help-seeking, and f) knowledge of how to seek mental health information (Jorm, 2000).

### **Mental health literacy framework**

#### ***Recognition of perinatal depression***

Hispanic female adolescents may not receive treatment for perinatal depression because of their perceptions of perinatal depression. As such, cultural beliefs play a role in how pregnant and postpartum Hispanic mothers identify depressive symptoms (Lara-Cinisomo, Wisner, Burns, & Chaves-Gnecco, 2014). Hispanics generally describe depression as *ataque de nervios* or “nerves”, and is manifested by excessive crying, restlessness, anxiety, and irritability (Maldonado-Duran, Munguia-Wellman, Lubin, & Lartigue, 2002; U.S Department of Health and Human Services and



U.S Public Health Services, 2001). Somatization of perinatal depression is common because this is more culturally acceptable among Hispanics (Lara-Cinisomo et al., 2014). Blackmore and Chaudron (2014) explained Hispanic mothers typically describe symptoms of perinatal depression as headaches, weight loss, fatigue, and loss of appetite. However, this can make the identification of perinatal depression more difficult for female adolescents as these symptoms may be attributed to ailments caused by pregnancy and the postpartum period (Flynn, Henshaw, O'Mahen, & Forman, 2010).

### ***Knowledge about the causes of perinatal depression***

Cultural beliefs also influence an individual's perception about what causes mental health disorders (Jorm, 2012). Adolescents often identify environmental stressors for perinatal depression but do not consider biological factors as a potential risk factor (Wahl, Susin, Lax, Kaplan, & Zatina, 2012). The most frequent causes of perinatal depression cited by pregnant and postpartum women include lack of social support, financial difficulties, relational problems with their significant other, stress related to caring for their newborn, and complications of childbirth (Fornos et al., 2005; Guy, Sterling, Walker, & Harrison, 2014).

Lara-Cinisomo et al. (2014) explained that Hispanic mothers typically perceive depression as a social rather than a medical condition. Consequently, mothers may attribute their symptoms as a normal reaction to stress and not perceive it as a condition that warrants professional help (Lara-Cinisomo et al., 2014). When symptoms are normalized and not acknowledged, individuals are less likely to engage in help

seeking for their mental health condition (Jorm, 2012). Therefore, an assessment of their knowledge about depression and its causes is important as these can impact prevention and management of perinatal depression among Hispanic adolescents.

***Knowledge and beliefs about professional help and treatments for perinatal depression***

Jorm (2012) suggested providing comprehensive information about professional help and treatment options as it will help mothers make informed decisions concerning their mental health. Previous research suggests adolescents preferred informal sources of help such as their significant other, peers, or family members (Guy et al., 2014; Reavley, McCann, & Jorm, 2012). However, Hayden, Connelly, Baker-Ericzen, Hazen, and McCue-Horowitz (2013) found Hispanic mothers were comfortable consulting with health care providers because they were able to understand their experience with perinatal depression. Previous research have also suggested that Hispanic adolescents value *confianza*, or trust, and often obtained mental health services from health care providers who were recommended and trusted by friends and family members (Fornos, et al., 2005; Lara-Cinisomo et al. 2014; Maldonado-Duran et al., 2002).

Opinions vary concerning treatment for perinatal depression. Hispanic adolescents are less likely to endorse the use of antidepressants than White, non-Hispanic adolescents (Stewart, Simmons, & Habibpour, 2012). Hispanic mothers prefer counseling or cognitive behavior therapy over pharmacotherapy (Lara-Cinisomo et al., 2014). Those who knew a friend or had a family member with a mental health disorder were more likely to have similar beliefs about treatment and professional help than individuals who

did not have peers or family members with mental health disorders (Yap, Reavley, & Jorm, 2012).

### ***Knowledge about self-help strategies***

Self-help strategies are defined as actions taken by an individual in order to manage their mental health disorder (Jorm, 2000; O'Connor & Casey, 2015). Individuals with mental health disorders prefer self-help strategies such as eating healthy foods, exercise, prayer, relaxation, and seeking out support from family members and peers (Andrade et al., 2014; Callister, Beckstrand, & Corbett, 2011; Reavley et al., 2012). Social support from family members is especially important among pregnant and postpartum Hispanic adolescents. *Familism* is a term used to refer to loyalty, reciprocity, and solidarity among members of a family (Sabogal, Marin, & Otero-Sabogal, 1987). Callister et al. (2011) found Hispanic mothers turn to family members when they experienced perinatal depression. Similarly, Guy et al. (2014) found family members and significant others were helpful in identifying perinatal depression among postpartum mothers.

### ***Attitudes that influence recognition and help-seeking for perinatal depression***

An individual's attitude concerning mental health disorders influences MHL (Jorm, 2000, 2012). Fornos et al. (2005) found Mexican-American adolescents believe individuals were responsible for falling victim to and managing depression. As a result, adolescents preferred self-help treatments than obtaining help from health care providers (Fornos et al., 2005). Among Hispanic families, the expected role of the female is to

provide care within the household (Leininger & McFarland, 2002). Thus, Hispanic mothers may feel shame and guilt if they are unable to care for their family and infant due to perinatal depression (Callister et al., 2011).

### ***Knowledge of how to seek mental health information***

Jorm (2000) emphasized the importance of having access to accurate mental health information. Guy et al. (2014) found that mothers obtain information about perinatal depression from family members who previously experienced perinatal depression. The internet is a convenient and confidential source of information about perinatal depression for adolescents. Nellsch, Walker, Xie, and Vaughan (2013) discovered that postpartum mothers use social networking and the internet as sources of mental health information because it allowed them to interact with other users. Further examination is indicated on knowledge of how to seek mental health information and preferences of how mental health information is received.

### **Purpose**

The MHL framework is gaining interest among researchers because it can be used to facilitate early recognition and help-seeking for individuals with mental health disorders. There is limited research available within this framework among pregnant and postpartum Hispanic adolescents. This study assessed the MHL of pregnant and postpartum Hispanic adolescents using a modified mental health literacy scale (MHLS). An assessment of MHL among Hispanic adolescents will augment an understanding of knowledge and attitudes concerning perinatal depression.

## **METHODS**

### **Methodology and study design**

This descriptive study used a cross-sectional design to assess the MHL of Hispanic pregnant and postpartum adolescents using a modified MHLS. A convenience sample of pregnant and postpartum adolescents was recruited from high schools participating in a parenting program in the San Antonio area. All students attending the parenting programs, who self-identified as Hispanic, were female adolescents between the ages of 14 to 21 years and attended the parenting program were eligible for the study. Adolescents were excluded if they did not self-identify as Hispanic and were >1 year postpartum. Our final sample size consisted of 30 participants.

### **Data collection procedures**

University IRB approval was received prior to study initiation. Social workers identified potential participants who met the study inclusion criteria. Social workers also assisted with assessments regarding parents or legal guardian awareness of their pregnancy status and need for study assent or consent as appropriate. Potential participants were approached during the parenting class. Following provision of information, informed consent and assent was obtained. Adolescents who agreed to participate were asked to complete the sociodemographic questionnaire and the MHLS.

## **Measures**

### ***Sociodemographic and health history questionnaire.***

Health history questions included pregnancy or postpartum status and number of children. Participants were asked to respond “yes” or “no” if they have ever been depressed during the perinatal period (pregnancy or postpartum period), knew anyone who has ever experienced depression, and if their health care provider discussed depression during the perinatal period. Additionally, participants were asked to list individuals who provide them emotional support.

### ***Mental health literacy scale (MHLS).***

Prior to its development, no instrument or measure has been used to assess each component of the MHL framework (O’Connor & Casey, 2015). The original MHLS was tested primarily among adults and demonstrated good reliability (Cronbach’s alpha .873) (O’Connor & Casey, 2015). The MHLS was modified for pregnant and postpartum adolescents prior to its use in this study via content experts, which included a mental health nurse practitioner, licensed counselor, registered nurse, and social workers with experience in adolescent health including pregnancy

The modified MHLS consists of 33 items (Appendix I). The modified mental health literacy scale omitted 2 items which assessed knowledge concerning personality disorders and dysthymia. Major depression was included in the modified MHLS, therefore dysthymia was omitted. Personality disorder was omitted as it was not consistent with study aims.

Modifications were made on items 1-6 of the MHLS. Gender-specific case scenarios were modified to reflect symptoms for the specified mental health disorders. Items with a 4-point Likert scale asked participants to indicate 1- very unlikely or very unhelpful to 4 – very likely or very helpful. Items with a 5-point Likert scale asked participants to indicate 1 – strongly disagree or definitely unwilling, to 5 – strongly agree or definitely willing. The total maximum score is 154, and total minimum score is 33. Higher scores indicate higher MHL. Cronbach’s alpha for this study was .80.

### **Data Analysis**

SPSS was the statistical software used for data analysis. Descriptive statistics including frequencies, percentages, and measures of central tendency were used to analyze the data. Chi-square analyses, t-tests, and one-way ANOVA were used to assess results from the modified MHL instrument. SPSS was used to transform variables to reflect minimum and maximum values of 0 to 100 for the overall MHLS scores and each subscale. This transformation facilitates interpretation of MHLS scores.

### **RESULTS**

Pregnant and postpartum (perinatal) Hispanic adolescents aged 14-20 years (n = 30) participated in the study of which 40% self-reported ever feeling depressed during the perinatal period. Comparisons by sociodemographic variables did not identify significant differences between adolescents who reported feeling depressed during the perinatal period (perinatal depression) and those who did not (Table 6). All adolescents were first time mothers with an average age of 17.57 years. A greater proportion of

postpartum than pregnant adolescents reported feeling depressed during the perinatal period.

More adolescents who did not report perinatal depression stated their health care provider did not talk to them about depression as compared to those who did report perinatal depression. Adolescents without reports of perinatal depression preferred turning to both family members and significant others during the perinatal period. In contrast, adolescents reporting perinatal depression preferred turning to family members only for emotional support.

Comparisons of MHL are presented in Table 7. Adolescents reporting perinatal depression had overall higher scores indicating greater ability to recognize mental health disorders and attitudes facilitating recognition and help-seeking. Overall, adolescents reported moderate MHL. However, adolescents who reported perinatal depression had significantly higher MHL than those without perinatal depression.

Responses for each MHLS item are presented in Table 8. A majority of adolescents were able to identify the person in each scenario as likely or very likely to have a mental health disorder. Although there were no significant differences, adolescents who reported perinatal depression had greater knowledge for identifying risk factors for mental health disorders than those without perinatal depression.

Most responded that cognitive behavior therapy would likely be helpful in managing mental health disorders. Adolescents reporting perinatal depression had greater knowledge of treatments available for mental health disorders than those without



perinatal depression. Comparisons by reports of perinatal depression did not identify any differences regarding knowledge of professional help. When asked if health care providers should divulge health information if the individual's situation is not life-threatening, only 37% disagreed.

Most adolescents reported knowing how to find mental health information through the use of a computer or phone. Adolescents who reported perinatal depression had greater knowledge of self-help treatments as compared to those who did not report perinatal depression. When asked if avoiding all activities or situations that make a person depressed or nervous is helpful, 43 % of the adolescents agreed.

Attitudes about individuals with mental health disorders were ambiguous. Nearly half of adolescents were uncertain whether individuals with mental health disorders were dangerous. A majority of adolescents were generally uncertain or not willing to move next door to someone, vote for a politician, or have a family member marry a person with a mental health disorder.

## **DISCUSSION**

Our study assessed the MHL of pregnant and postpartum Hispanic adolescents. Study results showed Hispanic adolescents had moderate mental health literacy. More postpartum adolescents reported ever feeling depressed as compared to adolescents who were pregnant. It is possible that postpartum adolescents experienced greater stress than pregnant adolescents in order to ensure the provision of health care needs for their newborn. Developing confidence in their ability to care for a newborn is a commonly

encountered and stressful task (Birkeland, Thompson, & Phares, 2005). It is therefore not surprising for adolescents to experience perinatal depression as a result of physical exhaustion, frustration, confusion, and social isolation during the postpartum period (Birkeland et al., 2005).

Significantly more adolescents who reported feeling depressed during the perinatal period had greater ability to recognize mental health disorders. This is consistent with previous studies that indicate having prior history of mental health disorders is associated with greater ability to identify characteristics of mental health disorders (Fonseca, Silva, & Canavarro, 2016; Dahlberg, Waern, & Runeson, 2008). Flynn et al., (2010) noted however, that new mothers had difficulties discerning if they were experiencing normal pregnancy or postpartum symptoms or perinatal depression. This underscores the importance of having ongoing discussions about depression with Hispanic adolescents during their health care visits. Early surveillance allows health care providers to initiate interventions that may promote positive mental health outcomes for the adolescent and her infant.

Compared to adolescents who reported perinatal depression, more adolescents who were not depressed stated their health care provider did not discuss depression. Walker, Murphey, and Xie (2016) found depression was often not discussed during health care visits despite women's acceptance of being screened for perinatal depression. Adolescents in our sample were uncertain about whether it was appropriate for health care providers to divulge mental health information to others, particularly if their

situation was non-life threatening. Their uncertainty may result in lack of trust for health care providers and explain why Hispanic adolescents are reluctant to seek help and admit to having feelings of perinatal depression. Hodgkinson, Beers, Southammakosane & Lewin (2014) reasoned that young mothers are hesitant to divulge mental health concerns because of fear information may be disclosed to others. Reiterating the importance of protecting privacy for non-life-threatening concerns may help establish trust and consequently facilitate help-seeking for Hispanic adolescents. Establishing *confianza*, or trust, is important among Hispanic adolescents. Therefore, it is critical to establish rapport with Hispanic adolescents in the context of empathy to alleviate any feelings of shame or embarrassment from perinatal depression.

Adolescents reporting perinatal depression preferred talking to family members when they had emotional problems. However, it is unclear whether they were involved with the father of the baby. Previous studies suggest strong associations between an adolescent mother's relationship with the father of the baby and perinatal depression (Edwards et al., 2012; Meltzer-Brody et al., 2013). In addition to being a support to pregnant and postpartum adolescents, healthcare providers may also assist them in fostering their social networks (Reid & Meadows-Oliver, 2007). Because of the importance placed on familism in the Hispanic culture, the inclusion of adolescent social support system regarding education, prevention, and management of depression may improve communication and cultivate relationships, thus preventing perinatal depression (Edwards et al., 2012).

Concerning knowledge of self- help treatments, adolescents indicated that it was helpful to avoid all situations that make a person nervous or depressed. Hispanic adolescents who perceived perinatal depression as a normal response to stress may avoid all stressful situations as a coping mechanism for perinatal depression. Jorm, Morgan, and Wright (2010) suggest that complete avoidance of stressful situations may actually potentiate the development of mental health disorders. Development of parenting programs that teach planned problem solving, negotiation, and conflict resolution may improve Hispanic adolescents' adaptability and management of stress and ultimately prevent perinatal depression (Fleuriet & Sunil, 2014; Myors, Johnson, & Langdon, 2001).

Although most adolescents reported having access to resources and knowing how to find mental health information, it is unclear whether the type of resources they used offered accurate information. The internet is widely used by adolescents to gather health information concerning symptoms, treatments, and etiology of illnesses. Reavley and Jorm (2011) assessed the quality of mental health information online and found most to be of low quality. Studies typically focus on evaluating the content of websites, but Jorm (2012) also suggests assessing its effects on users. Christensen, Griffiths, and Jorm (2004) conducted a randomized controlled trial to assess the effects of an internet-based cognitive therapy. Results indicated that the website reduced depressive symptoms and increased depression literacy (Christensen, Griffiths & Jorm, 2004). Taken together, the internet can be a useful tool for delivering information and interventions to potentially reduce health disparities among Hispanic adolescents. An assessment of the effects of

credible online information on Hispanic adolescent's mental health literacy and whether they would endorse internet-based interventions as a method for receiving treatment is indicated.

Significantly more adolescents who did not report perinatal depression had fewer positive attitudes about individuals with mental health disorders. Corrigan, Druss, and Perlick (2014) explained that some cultures may endorse negative stereotypes about individuals with mental health disorders. For example, a previous study found Hispanics were more likely to view individuals with mental health disorders as dangerous as compared to Non-Hispanic Whites (U.S. Department of Health and Human Services & U.S Public Health Services, 2001). Consequently, Hispanic adolescents may altogether avoid seeking help for perinatal depression because they do not want to be associated with these negative stereotypes.

Generalization of our study findings is limited by the cross-sectional sample size. Replication of this study to include a larger sample size is indicated. Findings of the current study do indicate the modified MHLS is a reliable tool for assessment of MHL among pregnant and postpartum Hispanic adolescents. Further testing of construct validity is recommended among adolescents of diverse ethnicities. Only self-reported histories of depression were obtained by asking the participants to respond "yes" or "no" if they ever felt depressed during the perinatal period. Thus, it cannot not be determined if the adolescents were experiencing depressive symptoms at the time the study was

conducted. Lastly, the sample consisted of pregnant and post-partum Hispanic adolescents. Generalization of findings is limited by the characteristics of this sample.

### **Practice implications**

Results from this study have implications for interventions to improve mental health outcomes for perinatal Hispanic adolescents. Our results show limited knowledge regarding services provided by health care providers. Nurses who interact with perinatal Hispanic adolescents are in an optimal position to discuss perinatal depression and the various types of professional services available to them. Health care providers in schools or pediatric clinics have been identified as potential gateways to mental health care since they serve as critical points in identifying perinatal depression (Hodgkinson, Beers, Southammakosane, & Lewin, 2014). Establishing rapport, assessing mental health concerns, and stress related to pregnancy and parenting would facilitate referrals to resources that would help the adolescent during the perinatal period.

Although adolescents in our study reported knowledge concerning mental health disorders including depression, ongoing assessments about perinatal depression should begin during pregnancy. More specifically, health care providers may need to support and help adolescents identify the onset of depressive symptoms because it is not easily recognized and may be mistaken for ailments during the perinatal period. Additionally, it is important to keep in mind that perinatal depression may be interpreted and described by perinatal adolescents within the context of the Hispanic culture.

Significant others and family members in our study were identified as primary support systems by Hispanic adolescents. When developing mental health interventions and education on perinatal depression for Hispanic perinatal adolescents, it is important to consider individuals she is most likely to turn to for help (Fonseca & Canavarro, 2017). Efforts to include the adolescent's support system may help reduce stigma surrounding perinatal depression and facilitate help-seeking.

## **CONCLUSIONS**

Application of the mental health literacy framework provided a broad description of Hispanic adolescent's knowledge and attitudes perinatal depression. Many of the findings were consistent with previous studies about Hispanic adolescent's knowledge and attitudes concerning depression. However, a few key findings were presented in the study. Mental health literacy is an important life skill that adolescent mothers can attain to prevent and manage perinatal depression. Childbirth classes and parenting programs may benefit from using this framework to help Hispanic adolescents achieve positive mental health outcomes early in the perinatal period. Additionally, interventions that take into consideration their cultural beliefs and values may be most effective in empowering and engaging Hispanic adolescents in mental health promotion.

## **Chapter 6: Mexican-American Adolescents' Perceptions about Causes of Perinatal Depression, Self-Help Strategies, and How to Obtain Mental Health Information<sup>5</sup>**

### **ABSTRACT**

#### **Abstract**

**Problem:** Perinatal depression includes minor and major symptoms of depression during the perinatal period. Previous studies suggest greater prevalence of perinatal depression among Hispanics as compared to non-Hispanic whites. Therefore, the purpose of this study is to examine the knowledge and beliefs concerning perinatal depression, self-help strategies, and how to obtain mental health information among pregnant and postpartum Mexican-American adolescents.

**Methods:** This qualitative descriptive study used deductive and inductive content analysis to analyze the data. In-depth interviews using semi-structured questions were conducted. A convenience sample of 20 pregnant and postpartum adolescents, self-identified as Mexican-Americans, between the ages of 15 and 19 years were interviewed.

**Results:** Interpersonal conflict and transition to motherhood were identified as contributing factors to perinatal depression. Emotional and instrumental support were most helpful to mothers. Health providers, mothers who had previously experienced

---

<sup>5</sup> This manuscript is currently being reviewed for publication. P. Recto contributed to data collection, analysis, synthesis, preparation, and review of the manuscript. J.D. Champion contributed to manuscript preparation and review.



depression, and the internet were indicated as sources of information for perinatal depression.

**Conclusion:** Assessment of sociocultural environment and cultural beliefs may be helpful in identifying risk or protective factors for perinatal depression. Thus, its consideration and inclusion in interventions are recommended to optimize mental health among perinatal Mexican-American adolescents.

**Keywords:** *mental health literacy, Mexican-American adolescents, perinatal depression*

## **INTRODUCTION**

Perinatal depression, which includes minor and major depressive episodes, can occur during pregnancy and up to 12 months postpartum (American College of Obstetricians and Gynecologists [ACOG], 2015). Adolescent pregnancy has steadily declined in previous years however, Hispanic adolescents between the ages of 15 and 19 years have higher birth rates (34.9 per 1000) as compared to non-Hispanic Whites (16 per 1000) (Center for Disease Control and Prevention, 2017). Prevalence rates of depression are disproportionately higher among Hispanics as compared to non-Hispanic Whites and African-Americans (Kleiber & Dimidjian, 2014). Additionally, higher acculturation was associated with greater risk for perinatal depression (Alhasanat & Giurgescu, 2017). Systematic review of the literature recommends examination of perinatal depression, particularly among adolescents (Recto & Champion, 2017; Reid & Meadows-Oliver, 2007). Thus, the current study examined the perceptions of Mexican-American adolescents concerning perinatal depression

### **Background**

*Familismo* is central to the Hispanic culture as it emphasizes loyalty and responsibility to family members (German, Gonzales, & Dumka, 2009). The literature suggests a negative association between perinatal depression and social support among adolescents (Kleiber & Dimidjian, 2014). Social support from family and their significant other often helped Hispanic mothers cope with depression (Lara-Cinisomo, Wisner, Burns, & Chaves-Gnecco, 2014). Social support consists of emotional, instrumental, and

informational support. Emotional support is comprised of expressions filled with encouragement and love, instrumental support refers to monetary assistance or help with childcare, and informational support refers to provision of advice and knowledge (Fleuriet, 2009). Copeland (2017) found emotional and instrumental aid as the most valued types of support among Hispanic adolescent mothers.

Family criticism has been identified as a potential risk factor for perinatal depression (Buzi, Smith, Kozinetz, Peskin, & Wiemann, 2015). Marriage and parenthood are social markers of adulthood (Mossakowski, 2011). When these events occur outside of cultural norms and expectations, adolescents may experience criticism and rejection from their families who desire achievement of educational and professional goals prior to childbearing. Family criticism may therefore result in diminished perception of social support, thus resulting in depression (Buzi et al., 2015).

Self-help strategies are actions taken by the adolescent to help them manage perinatal depression (Jorm, 2012). Other self-help measures often include planning for the arrival of their newborn, physical activity, and positive thinking. (Guy, Sterling, Walker, & Harrison, 2014). However, mothers may also engage in potentially harmful self-help measures such as drinking alcohol, smoking cigarettes, and marijuana use (Guy et al., 2014). Thus, an examination of knowledge and beliefs about self-help strategies may be useful in understanding how pregnant and postpartum Mexican-American adolescents cope with perinatal depression.

Logsdon et al. (2014) found adolescents turned to the internet, social media, their parents, and health care providers to obtain health information. Jorm (2000) emphasized the importance of quality control to ensure that accurate mental health information is delivered. Therefore, it is important to understand the adolescent's mental health literacy within the context of how they obtain mental health information as it could potentially affect help seeking decisions for perinatal depression.

### **Mental health literacy framework**

The experiences and thoughts of Hispanic adolescent mothers concerning perinatal depression are not frequently discussed in the literature (Copeland, 2017). Therefore, an examination of their perceptions about perinatal depression is warranted in order to engage and empower adolescent mothers towards positive mental health behaviors. Mental health literacy is defined as the knowledge, beliefs, and attitudes about mental health disorders that facilitates its recognition, management, and prevention (Jorm, 2000). The purpose of the current study was to examine components of the mental health literacy framework among pregnant and postpartum (perinatal) Mexican-American adolescents. These mental health literacy components include knowledge and beliefs about causes of depression, self-help strategies, and how to seek mental health information. The research questions are as follows: 1) What risk factors for perinatal depression are identified by perinatal adolescents? 2) What types of self-help strategies do perinatal adolescents find helpful to prevent and manage depression? 3) How do perinatal adolescents obtain information about depression?

## **METHODS**

### **Design**

We used qualitative description to examine the knowledge and beliefs of perinatal Mexican-American adolescents concerning perinatal depression. Qualitative description is ideal when the goal is to provide a description of a phenomenon and when a theoretical framework is applied to guide the purpose and focus of the study (Sandelowski, 2000, 2010).

### **Participants**

Approval from the university institutional review board was obtained prior to study initiation. Convenience sampling was utilized for this study. Perinatal Mexican-American female adolescents were recruited from parenting classes held in high schools across Southwestern United States (U.S.). Adolescents were recruited if they were between the ages of 14 and 19 years, self-identified as Mexican American, and were either pregnant or postpartum (up to one year). Authors collaborated with high school staff, nurses, and social workers to identify potential participants who met the study criteria. Additionally, they assisted with information regarding guardian's knowledge of the adolescent's pregnancy status. Flyers were distributed describing study purpose and details. Adolescents who expressed an interest in the study were sent home with a folder containing a letter from the author and permission forms. Following parent permission, assent was obtained for participants under the age of 18 years. Adolescents who were 18

years or older were able to provide their own consent for study participation. Contact information was obtained to schedule a date and time for the interview.

### **Data collection**

Adolescents were asked to complete a sociodemographic questionnaire (see Appendix A). The survey inquired about their marital status, age, years of education, and health history. Adolescents were asked to indicate number of pregnancies and children, as well as previous history or treatment of depression. Additionally, they were asked to specify either “yes” or “no” if they ever felt depressed during pregnancy or postpartum period.

The Short Acculturation Scale for Hispanics (SASH) was used to measure acculturation (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987). Four items measured the adolescent’s language use at home, with peers and family members, and whether they “think” in Spanish. This instrument has been used among individuals of Mexican descent who live in the U.S. Previous studies indicate good reliability ( $r = .893-.92$ ) (Marin et al., 1987; Ellison, Jandorf, & Duhamel, 2011). Participants chose a response from a five-point scale where 1 is “Only Spanish” and 5 is “Only English”, with a midpoint of 3 for “Both equally”. A cut point of 2.99 differentiated participants who were less acculturated (average score between 1 and 2.99) from those who were more acculturated (see Appendix A).

The mental health literacy framework was used by the authors to guide the interview. The authors used semi-structured questions based upon each mental health

literacy component listed above (see Appendix B). Interviews lasted approximately 45-60 minutes. Adolescents were interviewed in a private conference room or classroom and were given a \$20 gift card for study participation.

### **Data analysis**

Both deductive and inductive content analysis were used to analyze the data. Data analysis was conducted using Microsoft Word. Authors used Schreier's (2012) techniques to analyze the data. Deductive approach uses theory-based categories to code data. Predetermined categories were derived from Jorm's (2000) mental health literacy framework. The first author initially read the transcript in its entirety. Transcripts were then re-read and data was manually coded using the predetermined categories. A codelist of definitions, examples, and descriptions of each mental health literacy category was developed before data was collected (See Appendix C). The codelist determined which segments of data (coding units), qualified within each category. Progressive summarization was the method used to develop subcategories (Schreier, 2012). As each coding unit was assigned to its respective mental health literacy category, it was paraphrased or summarized. The first author reviewed and compared these summaries, eventually grouping them together based upon similarities. Summarization, comparison, and grouping were repeated until data was reduced. These summaries would ultimately be labeled, forming data-driven subcategories within each mental health literacy category (Schreier, 2012).

Trustworthiness was accomplished through repetitive data immersion. This ensured that subcategories accurately represented the participant's responses. Data were reviewed with the second author to verify and confirm grouping, summarization, and development of subcategories. The presence of two authors enabled reflexivity by helping them become aware of their impact during data collection and analysis (Malterud, 2001). Descriptive and reflective field notes were written after each interview. Additionally, analytic memos documented decisions concerning coding assignment and development of subcategories. An overview of categories, subcategories, and representative quotes are presented in Table 9.

## **RESULTS**

Twenty perinatal Mexican-American adolescents between the ages of 15 and 19 years were interviewed. All adolescents were U.S-born and had a mean SASH score of 4.37, indicating high acculturation. The mean age was 17.15 years. More than half of participants lived with their parents (60%), while others resided with the father of the baby. A majority spoke English at home (55%), with friends (70%), and reported "thinking" in English (60%). Participants primarily identified reading and speaking in English (50%) however, a small proportion indicated reading and speaking English and Spanish equally (25%).

Most adolescents in this sample reported first-time pregnancy (80%). A majority of adolescents reported feeling depressed during the perinatal period (85%). Many indicated their health care provider talked to them about depression during pregnancy or



postpartum period (70%). Only a small percentage reported obtaining professional help (25%) or using mental health treatment (15%). Table 10 presents sociodemographic and acculturation characteristics for the study sample.

## **Knowledge and belief about the causes of perinatal depression**

### ***Interpersonal conflict***

The most common cause of depression was perceived conflict between the adolescent and her family, or the father of the baby. Participants' families were often angry and had difficulties accepting her pregnancy status:

My mom was very upset and disappointed for a little while. If you don't have that support it's really hurtful and just brings you down more. My grandma was like, "You just ruined your life. You're not gonna finish school." When my mom and grandma told me that, I felt like my heart just shattered. They always used to say, "I'm proud of you" but I don't hear that anymore like how I used to hear it. Now they say, "You have to get out of school soon, you don't have a chance at doing this anymore because of your kid."

Participants explained being criticized by family members, particularly their parents, "They just kinda like, constantly throw it in my face, that I had a baby at a young age. So, my dad was like, 'You can't even take care of yourself,' basically putting me down."

Lack of involvement by their significant other and unstable romantic relationships often caused emotional distress. One adolescent described her relationship as being "toxic":

Well, with my relationship, it was really toxic. I know that. He was really controlling. Like, I would go out of my way for him, and I guess he wouldn't see it. He did cheat on me. He did. And that made me feel so, so low, so low...I was pregnant at the time, but like I said, I would blame myself...He said, I wasn't affectionate enough...He was really controlling of me, and I wouldn't see it. People would tell me I should leave... I was, I guess you could call it, I was blinded by love, or, I don't know.

Participants described the disapproving looks they received from outsiders. Isolation and loneliness were common as adolescent mothers expressed loss of friendships, “Once a young person gets pregnant, all her friends are really not around. They end up leaving and they do judge.”

### ***Transition to motherhood***

Transition to motherhood was marked by various experiences during the perinatal period. These include adjusting to physical changes in her body, learning how to care for a newborn, and coping with complications during the perinatal period. Participants identified hormonal fluctuations during pregnancy and dissatisfaction with body weight as potential causes of depression.

The physical demands were a contributing factor to depression for most adolescents. “There is a lot stress... it’s something new but also you’re not used to the environment or having someone 24/7 that you have to pay attention to, feeding, or burping—so it’s a lot.” One adolescent described the stress of balancing her day-to-day responsibilities in addition to being a new mother:

It would be like, finish school, but then start working...I was like, I’m gonna go to go school from 8:00 to 4:00 and then go to work at 5:00 to whatever time to 10:00, and at the same time you’re thinking, who’s my baby going to be with? What about this? What about that? Who’s going to do this or that while I’m at work?

Though most participants had healthy pregnancies and deliveries, a few experienced complications during the perinatal period. Adolescent mothers worried about their baby’s well-being which often added to the already burgeoning stress of becoming a parent. One

mother described her experience after her son was transferred to the neonatal intensive care unit (NICU) for breathing complications:

My son died for a couple of minutes. I was going into depression thinking that he wouldn't make it out of the NICU. I was also getting frustrated since my milk production decreased because I wasn't eating or anything.... It added more onto my plate than what I needed. I knew he wasn't doing so well and I wasn't producing milk and I wanted to give him what I had to make him better.

### **Knowledge and beliefs of self-help strategies for perinatal depression**

#### ***Activities that distract from depression***

Going out with friends, pampering oneself, and getting out of the house were commonly expressed by participants as ways to keep themselves from feeling depressed.

Participants viewed their newborn as motivation to finish school in order to provide a stable future for their baby, as one mother conveyed:

I'm surprised because I never thought I would get out of it (depression). Everything I do is for her. It's amazing how we can carry a human being and love it so much. Just seeing her, spending time with her... and not one negative thought would cross my mind. I'm taking care of myself and I'm doing everything right now that I can so my baby can have everything. I'm trying to finish school and all that stuff. Just thinking about the future and how it's gonna be with your baby.

Participants mentioned journaling, listening to music, and physical activity as self-help strategies. One participant also mentioned going to church in order to cope with depression:

I try to go every Sunday... When you go in, you forget about all your problems. You just have one thing to focus on, and that's just talking with God. The whole environment there is just really peaceful. You could cry all you want without being judged. No one would judge you there and that's just a nice feeling.

When asked to provide their opinion about using substances, most expressed that it may be used as a means to temporarily ease their worries. One adolescent gave an account of her experience prior to pregnancy:

Because I'm not gonna lie, I did it to myself, not while I was pregnant, but before when I was not mature. It was marijuana. You feel relaxed... It makes you forget about what's going on around you, especially when they have a lot going on already. For that moment it takes them away from all those thoughts.

Many disapproved of using substances and acknowledged that it was unhealthy for the mother and the baby. "In my opinion, they're crazy for turning to those things because it's gonna affect your child. They don't know how many disorders it can cause the child by drinking and smoking."

### ***Turning to others for support***

Despite the judgement and criticism adolescent mothers received from their family, they overwhelmingly identified them as individuals whom they turned to for knowledge, guidance, and support. The participant's own mother was regarded as the one individual who knew and understood her most. Extended family members such as aunts and grandparents were also identified as part of their support system. One participant described family support as "push power," giving her confidence to face future challenges. Those who were experiencing strained family relationships mentioned turning to friends for support.

Parents initially had difficulties accepting the adolescent's pregnancy status. However, adolescents who gained family support reported less stress and depressive symptoms than participants who received minimal support:

I don't get judgement from my mom anymore. I did at the beginning because she was so upset. But now, I don't... That's her flesh and blood. She grew up with them, that's your family. You're supposed to be able to talk to them about anything and go to them when you need something.

Following support from family members, support from the significant other or father of the baby was important to the participants. Several participants were living with the father of the baby and identified him as their main support system. For others, their teachers, the school nurse, and other pregnant or parenting adolescents were individuals they turned to for support.

Emotional support was most helpful to adolescent mothers. One participant explained her older sister encouraged and gave her hope:

One time I did get to talk to my older sister, the one who has been through the same situation. She encouraged me. She was like, "I know how you feel, you know. I've been through it." She said, "But you have to be strong and continue your education, because without that you wouldn't be anywhere and you shouldn't give up, no matter how bad like you're feeling or whatever people might be saying behind your back, losing friends, losing people. It's all about you and the baby and you can't be going through so much depression because that could affect you, and the baby.

Assistance with infant care and financial support were common examples of instrumental support. This type of support eased concerns, particularly when adolescents were still unable to return to work:

If she's stressing or depressed about the baby, like maybe she don't have money for the milk or Pampers...He (the father of the baby) was like, don't worry about working, just take care of the baby. I also have a social worker and she helps me. She asks me, "Does the baby need milk? Does the baby need wipes?" Just in case I don't have the money to get it and I'm not there stressing about it.

Schools played a vital role in allowing participants to continue with school. One mother was thankful for resources that were offered at her high school:

I think this school is just very helpful, period, about anything. And it doesn't matter if you're pregnant or not here. They always help you and always give you opportunities to do things. Because they want us to finish school, so they give us a lot of opportunities to make that happen. And the mothers here, like, they can put their child in daycare for free here.

Informational support helped adolescent mothers who had questions about maternal and newborn care. Participants who attended parenting classes verbalized the value of support groups because it served as a means to exchange information with mothers who were going through similar experiences.

### **Knowledge of how to obtain information about perinatal depression**

#### ***Multiple sources are used for mental health information***

Adolescents identified various sources for obtaining information on perinatal depression. These include internet search engines (Ex: Google), social media, depression websites, libraries, health care providers, and mothers who had previously experienced depression. One adolescent preferred looking at websites that were specifically developed for adolescent mothers and the father of the baby:

I think we should have like a teen section on that website or something. Yeah, or young moms. Because "teen moms" sound like rude...Most of the time, websites put "husband" or they put "a husband", and if you're a young mom and you're

single, then you obviously don't have a husband. You should have like a page for the baby's father.

When asked how adolescent mothers verified information from internet sources, most were simply unsure how to do so. "I wouldn't know how to respond to that, honestly. Because there could be like, this website that would look so perfect, and then it ends up being really bad. You don't know what's out there anymore." Some suggested reading reviews by individuals who visited the websites, while others suggested verifying the information with a health care provider. One adolescent explained that obtaining information about perinatal depression depended upon whether the mother felt comfortable divulging her symptoms or not. "I feel like it depends on how they feel. If they're insecure about it, it's not the thing they want, they'll probably look online. But if they trust the person, they'll go to someone."

### ***Media may be helpful or hurtful***

When asked if the media depicted an accurate portrayal of depressed mothers, responses were mixed. Some participants believed the media accurately depicted depressed mothers and may be helpful to those who were questioning whether they were experiencing depression:

But it's like, it's not fake, because I haven't seen no one be like, "Oh, it's really great, and I'm really happy, and I'm not stressed." Like, no, we all know you're stressed. So, it's really accurate, the media... You see it on TV and it's like I'm going through that too. I could relate to that kind of situation and I feel bad for her because it's like I understand you.

Others disagreed and explained that inaccurate portrayals of depressed mothers would only reinforce public stigma about depression, “I think it’s over exaggerated. They can label her again as crazy or that they’re afraid that she’s going to harm the baby.”

## **DISCUSSION**

The study consisted of 20 perinatal Mexican-American adolescents between the ages of 15 and 19 years. Participants were born in the U.S. and indicated high acculturation. Our results are consistent with previous studies on perceptions about causes of perinatal depression, self-help strategies, and how adolescents obtain mental health information. Findings for our first research question indicate interpersonal conflict as the most common cause of perinatal depression, as family members and significant others often had difficulties coming to terms with the adolescent’s pregnancy. Cultural and intergenerational conflicts during this development period may be common, particularly for adolescent mothers who are struggling to develop their identity while trying to navigate through age- and gender-defined responsibilities (Arredondo, Gallardo-Cooper, Delgado-Romero, & Zapata, 2014). Adaptations to these dynamic and complex sociocultural factors may explain potential causes of depressive symptoms for adolescents in this study.

In regards to our second research question, family members were often regarded as the primary source of support however, friends were sought for help when adolescents lacked support from their family or father of the baby. Several participants verbalized the father of the baby as their main support system. The inclusion of the father of the baby



during the perinatal period may facilitate positive psychosocial well-being for both the mother and father. Taken together, it is important to assess the status of the adolescent's relationships and her perception of motherhood as these could provide insight into potential sources of risk and protective factors for depression.

*Familismo* emphasizes interdependence among family members (Adames & Chavez-Duenas, 2016). Participants indicated high acculturation however, strong cultural values such as *familismo*, persisted. This is consistent with previous studies that perception of family members as providers of help did not change with acculturation status (Rangel, 2014; Sabogal, Marin & Otero-Sabogal, 1987). This may explain the overwhelming response by adolescents that family members were their primary source of support despite strained familial relationships. Adolescents may be encouraged to seek help beyond the immediate family to include that of uncles, aunts, grandparents, and even non-blood relatives since emotional and instrumental support were important to these young mothers. Health care providers can also serve as sources of informational and emotional support as the perinatal period presents opportunities for frequent interactions with adolescent mothers.

Participants expressed joy regarding their pregnancy and many looked to their babies as a source of motivation for finishing school and establishing careers. Solivan et al. (2015) identified self-efficacy, positive attitude, and motivation to achieve academic goals as protective factors in promoting positive health outcomes during the perinatal period. Strategies including the promotion of school attendance, online education, and

collaborations with local community colleges are indicated to facilitate completion of high school and post-secondary education (Sullivan et.al, 2011). Emphasis on education as an investment that will benefit mother and child may empower adolescents to engage in behaviors that facilitate educational attainment (Parker, Segovia, & Tap, 2015).

For our third research question, participants identified multiple sources for obtaining mental health information and did not express preference to one specific source. Online search engines and depression websites were mentioned as potential sources. Interestingly, most adolescents were not able to clearly articulate how they verified information. It is possible that adolescent mothers in our sample utilized other sources for obtaining information for perinatal depression. Thus, it may not have been necessary to seek online information, particularly if they are attending parenting classes where material on perinatal depression may have been discussed. Nonetheless, verification by health care providers is emphasized in order provide accurate information and avoid misconceptions about perinatal depression.

There are limitations to the current study. The study focused on perinatal Mexican-American adolescents. Therefore, the sample cannot be representative of all perinatal Hispanic adolescents. The authors of this study were not Mexican-American and this may have impacted how data was interpreted. Authors compared study findings with literature concerning mental health literacy, perinatal depression, and Mexican-American adolescents, thus reducing researcher bias during analysis.

## **Practice implications**

Research suggests addressing interpersonal factors, behavioral skills, and mother-infant relationship during interventions for perinatal depression (Kleiber & Dimidjian, 2014). However, understanding the adolescent's sociocultural environment is indicated prior to implementing interventions (Arredondo et al., 2014). Those who work with adolescents can utilize problem-solving techniques in order to help mothers cope with stress. For example, adolescent mothers may be asked to talk through decisions regarding various scenarios (Myors, Johnson, & Langdon, 2001). This technique permits discussions of situations and options that are pertinent to the adolescent's circumstance. Additionally, health care providers may encourage adolescents to identify resources that can be utilized as adaptive coping strategies during stressful times (Myors et al., 2001).

Strained relationships with families and their significant other contributed to depressive symptoms. Parenting classes may want to incorporate strategies for effective communication and conflict resolution as these could facilitate positive interactions with adolescent mothers and her family, as well as the baby's father. Attendance by the father of the baby in parenting classes is encouraged. Florsheim et al. (2012) incorporated interpersonal skill development for couples in a 10-week parenting program and found improved co-parenting and greater paternal engagement in child rearing. Previous studies suggest greater partner support is associated with lower emotional distress among mothers (Edwards et al., 2012; Stapleton et al., 2012). This underscores the importance of including the father of the baby during the perinatal period.

## **CONCLUSION**

Utilizing the mental health literacy framework allowed an in-depth description of Mexican-American adolescents' mental health literacy concerning perinatal depression. Assessment of sociocultural environment and cultural beliefs may be helpful in identifying risk and protective factors for depression. Thus, its consideration and inclusion in strategies and interventions are recommended to optimize mental health outcomes among perinatal adolescents.

## **Chapter 7: “We don’t want to be judged”: Perceptions about Professional Help and Attitudes Towards Help-Seeking among Pregnant and Postpartum Mexican-American Adolescents<sup>6</sup>**

### **ABSTRACT**

**Purpose:** The purpose of this qualitative study is to understand how depression is recognized, as well as perceptions of professional help and attitudes concerning perinatal depression among pregnant and postpartum (perinatal) Mexican-American adolescents.

**Design and Methods:** This qualitative descriptive study used deductive and inductive content analysis to analyze data. Categories and subcategories describing the mental health literacy of perinatal Mexican-American adolescents concerning perinatal depression are presented. A convenience sample of 20 perinatal Mexican-American adolescents between the ages of 15 and 19 years were interviewed. Participants were recruited from parenting classes across urban high-schools in Southwestern United States.

**Results:** Adolescents expressed difficulties in recognizing perinatal depression. Depressive symptoms were identified through self-appraisals or the appraisal of others. Establishing rapport with health care providers through empathy and kindness facilitated trust among adolescents. Fear of judgement was the most common response and

---

<sup>6</sup> This manuscript is currently in press. Large portions of this chapter will be published as: Recto, P., & Champion, J.D. (in-press). “We don't want to be judged”: Perceptions about professional help and attitudes towards help-seeking among pregnant and postpartum Mexican-American adolescents. *Journal of Pediatric Nursing*. doi:10.1016/j.pedn.2018.04.010. P.R contributed to data collection, analysis, synthesis, preparation, and review of the manuscript. J.D.C contributed to the manuscript preparation and review (see Reuse Permission, Appendix J).

prevented help-seeking. Lack of trust, normalization of depression, and reluctance with disclosing symptoms were also indicated by participants.

**Conclusions:** Stigma concerning perinatal depression was identified as a barrier for help-seeking among participants who were already experiencing criticism due to their pregnancy status. The quality of interactions with health providers may hinder or facilitate adolescents from professional help-seeking.

**Practice Implications:** Active engagement and collaboration with Mexican-American adolescents are indicated in identification and treatment of perinatal depression. Integration of mental health services in primary care settings is suggested to facilitate help-seeking for perinatal depression. Mental Health First Aid may be utilized to improve knowledge and decrease stigma concerning perinatal depression among Mexican-American adolescents.

**Keywords:** *mental health literacy, help-seeking, perinatal depression, adolescent health*

## **INTRODUCTION**

Perinatal depression affects one in seven childbearing women, making it one of the most common complications during the perinatal period (American Colleges of Obstetricians & Gynecologist [ACOG], 2015). Researchers estimate that 16% to 44% of adolescents experience perinatal depression (Hodgkinson, Beers, Southammakosane, & Lewin, 2014). Hispanics are currently the largest ethnic minority in the United States (U.S.), however, they face disparities in the recognition and treatment of depression (Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005; Stewart, Simmons, & Habibpour 2011). Ertel, Rich-Edwards, and Koenen (2011) found less than half of Hispanic mothers received mental health services for perinatal depression as compared to non-Hispanic Whites. Previous studies identified structural, attitudinal, and provider-related factors for help-seeking among pregnant and postpartum adolescents (Abrams, Dornig, & Curran, 2009; Fonseca, Gorayeb, & Canavarro, 2015).

### **Background**

Limited knowledge about perinatal depression may affect adolescent mothers' ability to recognize depression (Callister, Beckstrand, & Corbett, 2011). As such, perinatal depression often goes undiagnosed because the adolescent mother is unaware of their experience or may confuse symptoms as common ailments during pregnancy or postpartum period (ACOG, 2015). Structural factors pertain to circumstances beyond the individual's control, thus preventing or limiting positive health behaviors (Levy et al., 2014). These include distance to treatment location, work and school constraints, lack of

transportation, and limited access to health care (Flynn, Henshaw, O'Mahen, & Forman, 2010; Fonseca et al., 2015; Hodgkinson et al., 2014).

Attitudinal factors are concerned with personal beliefs and perceptions concerning perinatal depression and are shaped by cultural expectations and messages surrounding motherhood (Henshaw et al., 2011). Within the Hispanic culture, motherhood is a sign of prestige and is a highly respected role (Callister et al., 2011). Additionally, *marianismo* is a cultural value that exerts a strong influence in the socialization of Hispanic females by emphasizing the family's needs above her own (Adames & Chavez-Duenas, 2016). Because mothers are viewed as pillars of strength that maintain the family unit, adolescent mothers may ignore or hide depressive symptoms, such that her individual needs become secondary to the welfare of her newborn (Gloria & Rodriguez, 2000). Stigma occurs when stereotypes and prejudices are endorsed through discriminatory behavior against individuals with mental health disorders (Corrigan, 2016). Thus, negative perceptions about depression may also discourage adolescents from disclosing their symptoms for fear that they may be excluded by family and peers, or seen as incompetent mothers.

Help-seeking behaviors are influenced by the quality of interactions adolescent mothers have with health care providers (Abrams et al., 2009). Health providers may be perceived as distant when they focus only on the health condition and ignore the individual. *Respeto*, or respect is an important core value in the Hispanic culture and implies reverence particularly for individuals who are in positions of authority (Adames



& Chavez-Duenas, 2016). Hispanic adolescent mothers may not readily express their opinions or raise concerns about their health care provider's recommendations, being fearful that doing so might be perceived as *falta de respeto*, or lack of respect (Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002). As a result, adolescent mothers may be perceived as non-compliant if they discontinue treatment or health care visits. However, these behaviors are indicative of the adolescent's attempt to avoid conflict with health care providers (Adames & Chavez-Duenas, 2016). This underscores the importance of understanding cultural beliefs and attitudes concerning professional help and treatment preferences as it pertains to perinatal depression.

### **Mental health literacy framework and study purpose**

Disparities in mental health treatment and service utilization among Hispanic mothers indicate the need to examine factors that prevent help-seeking. Mental health literacy is defined as the knowledge, beliefs, and attitudes about mental health disorders that assists in its recognition, management, and prevention (Jorm, 2000). The aim of the current study was to examine components of Jorm's (2000) mental health literacy framework among pregnant and postpartum (perinatal) Mexican-American adolescents. These include recognition of perinatal depression, knowledge and beliefs about professional help, and attitudes that influence help-seeking and recognition. The research questions that will be explored are as follows: 1) How do perinatal adolescents recognize the development of perinatal depression? 2) What are the perceptions of perinatal

adolescents concerning treatments and health providers? 3) What are the attitudes of perinatal adolescents that influence recognition and help-seeking for depression?

## **METHODS**

### **Design**

Qualitative description was used to examine the perceptions of perinatal Mexican-American adolescents. The goal of qualitative description is to capture the individual's perceptions particularly when a straightforward description of a phenomenon is desired (Sandelowski, 2000). Moreover, qualitative description is suitable to guide the purpose and focus of this study due to the application of a theoretical framework (Sandelowski, 2010).

### **Participants and setting**

The authors obtained approval from the university institutional review board prior to study initiation. A convenience sample of perinatal Mexican-American female adolescents were recruited for this study from parenting classes across urban high schools in Southwestern U.S. Participants who were between the ages of 14 and 19 years, self-identified as Mexican American, and either pregnant or postpartum (< 1 year) were recruited for study participation. School nurses, social workers, and executive directors assisted with the identification of adolescents who met the study criteria. Social workers and school nurses also assisted with assessments regarding parent's awareness of their pregnancy status. Flyers about the study were distributed to potential participants.

Adolescents who were interested in the study were approached after their parenting class and informed of study details. A folder containing a letter from the investigator, information about the study, and permission forms were sent home with potential participants. Assent was obtained after receiving parent permission for adolescents under the age of 18 years. Consent was obtained for adolescents 18 years and older. Participants were contacted to verify a date and time for the interview.

### **Data collection**

After obtaining consent and assent, adolescents were asked to provide sociodemographic information. This questionnaire included items concerning marital status, age, years of education, and health history. Personal health history questions included number of previous pregnancies and number of children. The adolescents were asked questions about personal history and treatment of perinatal depression. Adolescents were asked to respond either “yes” or “no” if they ever felt depressed during the perinatal period (see Appendix A).

Acculturation was measured using four measures from the Short Acculturation Scale for Hispanics (SASH) (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987). These items measure language use at home, with friends and family, and whether the adolescent “thinks” in Spanish. SASH has been used extensively among individuals of Mexican descent residing in the U.S. and has a reliability of .92. Responses include a five-point scale where 1 is “Only Spanish” and 5 is “Only English”, with a midpoint of 3

“Both equally”. A cut point of  $\leq 2.99$  was used to differentiate participants who were less acculturated (see Appendix A).

Semi-structured questions were used to examine the adolescent’s mental health literacy (see Appendix B). Each theoretical component of mental health literacy mentioned above served as a guide to facilitate the interview. Adolescents were interviewed in a private conference room with each interview lasting approximately 45 to 60 minutes. Adolescents were given a \$20 gift card for their participation in the study.

### **Data analysis**

Data analysis and management were conducted using Microsoft Word. Schreier’s (2012) techniques for deductive and inductive content analysis were used to analyze the data. Deductive approach is the use of predetermined categories to code data that is theory-based (Schreier, 2012). Predetermined categories were based upon each mental health literacy component from the theoretical framework (Jorm, 2000). A codelist containing definitions and descriptions of each mental health literacy category was developed prior to data collection. The codelist allowed the authors to determine which segments of data, or coding units, can be classified within each category. After reading the transcript in its entirety, the first author re-read and manually coded the data as it corresponded to each mental health literacy category. Subcategories were created using progressive summarizing or paraphrasing (Schreier, 2012). Once each coding unit was assigned to its designated mental health literacy category, it was paraphrased or summarized. Summaries were examined, compared, and eventually grouped together for

similarities. Each group of paraphrases were examined once again and labeled when they represented a common idea. Subsequently, each data-driven label or subcategory, represented each mental health literacy category. This process of comparison, grouping, and summarization was repeated in each mental health literacy category until data were reduced and subcategories were developed (Schreier, 2012).

Study trustworthiness was achieved through repetitive immersion in the data, thus allowing subcategories to emerge from the participant's responses. The second author reviewed transcripts, verified coding, and development of subcategories. This also facilitated reflexivity by allowing authors to be aware of the impact of their presence on data collection (Malterud, 2001). Analytic memos were written to record coding decisions and subcategory development. Additionally, descriptive and reflective field notes after each interview were written. Table 9 presents categories, subcategories, and representative quotes.

## **RESULTS**

Twenty perinatal Mexican-American adolescents between the ages of 15 and 19 years participated in the study. The mean age of adolescents in the sample was 17.15 years. Participants either lived with their parents (60%), or with their significant other. All adolescents were born in the U.S. The mean score for the SASH was 4.37 indicating high acculturation for adolescents in this sample. Participants reported speaking English at home (55%) and with friends (70%). Additionally, adolescents reported "thinking" in English (60%), as well as reading and speaking in English (50%).

Most participants identified first-time pregnancy (80%). A majority of adolescents indicated having depressive symptoms during the perinatal period (85%). Most reported their health care provider talked about depression during the perinatal period (70%). A small percentage reported seeking help from a health care provider about depression (25%). Two of these participants reported seeking professional help from their obstetrician and a counselor during the perinatal period. However, the remaining three reported previously seeing a therapist or psychiatrist for depression prior to the perinatal period. Participants also indicated utilization of mental health treatment (15%) via counseling, therapy, or pharmacotherapy. Sociodemographic and acculturation characteristics are presented in Table 10.

### **Ability to recognize perinatal depression**

#### ***It's not easy to recognize***

Most adolescents stated it was difficult to recognize symptoms of depression. Participants were concerned with caring for their newborn and therefore did not notice its onset or even realized the symptoms they were experiencing was depression:

Because you have so much going on that you focus on and not realize you're depressed. Like, you have so many issues going on that you wanna focus on what you think is the main issue, and actually the main issue is you being depressed.

#### ***Self-appraisal***

Participants were familiar with depressive symptoms as a majority stated having friends or family members who were diagnosed with depression. "Feeling down," "not wanting to get out of bed," "not wanting to eat," "feeling alone," and "having suicidal

thoughts” were some of the most common symptoms described by mothers. Some expressed guilt for feeling depressed during an occasion that should otherwise be filled with joy, “I shouldn’t be feeling like this when...there’s no reason to feel sad at all. Because there’s many wonderful things that just happened like bringing a baby in this world- not everyone can do that.” Often times, recognition of depression occurred retrospectively. Their realization of depression became apparent when adolescents compared their previous versus current mental state:

I didn’t realize what was happening. Me moving back to my mom’s, me breaking up with the baby’s dad. That’s when I realized it. I found myself much happier than how I used to be. So that just made me think, you know what, I was depressed. Now I’m not depressed.

Having previous experience helped several adolescents recognize depression during the perinatal period. Some believed it would otherwise be difficult to recognize depression if mothers have never experienced it previously:

I know if I’m feeling depressed, and I know that I have to talk to somebody about it or do what I have to do. A mother that’s been through depression would know to get help... a mother who’s never suffered from depression would be there and not know anything at all.

### ***Appraisal of others***

Recognition of depression also occurred through the appraisal of others. Participants agreed their support system was critical in identifying depression. Following a previous miscarriage, one participant recalled her mother-in-law identified her symptoms as depression, “My mother was actually telling me that I wasn’t being myself. She’s a nurse, so she was saying it’s depression. She was just talking to me, trying to

make me vent to her.” Additionally, recognition by the significant other prompted one adolescent to confess that she needed assistance, “He told me, ‘Are you okay?’ I said, ‘No, I’m not okay, I need help. I need someone to at least give me a break...’ It’s something new, and it’s something that you’re not used to- crying all the time - and your energy just wears off.”

### **Knowledge and beliefs about professional help and treatment**

Therapists, psychiatrists, counselors, nurses, and obstetricians were the most common examples of professional help. Lack of transportation was the most widely acknowledged structural barrier however, previous experience and quality of interactions with their health care provider influenced the adolescent’s decision in seeking professional help.

#### ***Establishing rapport***

Participants indicated that having a connection with their health care provider was essential to the patient-provider relationship. The introductory period often determined whether or not adolescents could trust their health care provider, “Because with some people I just get a vibe...I feel it when I don’t trust somebody. Probably the way they present themselves to me and how polite or how they welcome me.” Health care providers who conveyed kindness, warmth, and genuine concern facilitated rapport among adolescents, as one participant noted:

Having trust is always important. It’s like you can rely on that person whether any kind of situation. You just have to have that trust for you to say something. It has to be someone that it’s like, I can rely on you. I’ve known you. Or from what I’ve



heard from other people you're a good person. So, it's like, I'm gonna build that trust. Or right away, you know, trust could be built in that same day. It's like, I really got on well with that person, I think I'm gonna keep going.

Participants were sensitive to judgements as some feared being seen as incompetent, while others resented being lectured or reprimanded. One mother recalled a previous altercation with her health care provider:

She was just telling me stuff and I didn't even want to be near her anymore. It made me feel, because I was young, she was telling me stuff like I didn't know... She shouldn't be treated that way because it's her doctor... Because everybody wants respect and kindness. So, if I'm giving that to somebody, I would want it in return.

Participants also expressed their frustration as health appointments were often impersonal and rushed. "They just do everything so fast. They don't speak with you. They don't communicate with you. They don't even want to open up a conversation. They're just like, 'Oh, well you came here for this and that. Okay, next.'"

Not all experiences were negative, however. One mother described her appreciation for her health care provider after seeking help for depression. "I just let everything out to her and told her. She helped me get through it. Like she told me, 'Whenever you're in depression, whatever, come talk to me.' She was like a counselor to me." Health care providers who inquired about their health were valued by adolescents as it empowered them to voice their concerns. For others, confiding in their health care provider was their only source of support as adolescents feared being judged by their families and friends:

I feel like some people aren't comfortable talking to their friends or family, and once you get in the room with somebody you don't know, I feel like you're free of what you want to say... I really don't speak out to people, and I feel comfortable with her (obstetrician). I talked to her about the depression I was going through... That helped me a lot.

### ***Communication of pertinent information***

Some participants reported their health care providers did not discuss perinatal depression or provide any help-seeking resources. Many expressed that receiving information early in the perinatal period would have facilitated help-seeking sooner. Discussions and recommendations about perinatal depression would have been welcomed and appreciated, as one mother explained:

Because they're getting it from their doctor, their OB, and it's important to hear from them than anybody else because they know it could affect the baby and affect her. I think it would help me because I would listen to what you say and actually get help so I could fix those things if I do have it (depression).

Health care providers were respected and acknowledged by adolescents as content experts. Normalization of depressive symptoms from health care providers validated the adolescent's symptoms and confirmed that she was not alone in her experience:

He made me feel like I wasn't crazy. He made me accept the depression... My OB/Gyn said that it's normal for mothers to experience depression during and after pregnancy... If they say it's normal, I think it would make them feel better knowing they're not alone.

### ***Ambivalence about treatment***

Participants identified therapy, counseling, and pharmacotherapy as examples of treatments for depression. Some however, were not familiar with treatments for depression. Most adolescents stated they preferred nonpharmacological methods of

treatment for perinatal depression such as talking to a therapist or counselor. Participants were unsure whether they would take medications as some feared it would affect the baby or impair their ability to care for their newborn. Others described their observations of family members who were prescribed medications stating that “it didn’t really help them” or “it made them act different.” Adolescents feared becoming addicted to medications and stated that treatments were unnecessary because depression was simply a condition of “mind over matter.” One mother conveyed their culture discouraged the use of medication:

Because I don't think Mexicans believe in medicines and all that. Because like where they come from, they're not really into medicines out there. I think that if they let their children take medicine, then that's like a big no-no. I don't think other moms that are Mexicans would like that. Like they didn't just turn to medicine to make them feel better.

### **Attitudes about perinatal depression that influence recognition and help-seeking**

While participants acknowledged the importance of seeking assistance for perinatal depression, some had difficulties seeking help for themselves. Participants’ attitudes about perinatal depression include: not wanting to be judged by others, preference to keep it to themselves, normalization of symptoms, and lack of trust.

#### ***They don’t want to be judged***

The most common response among participants is fear of being judged or criticized. Many believed that disclosing their symptoms would only add to the criticism that were already experiencing. Participants said that others would see depression as a consequence of being pregnant so young:

She probably would be judged... Maybe they'll think she's weak, and I guess, immature. That's what I heard a lot... That they're not ready for a kid, that they won't be good mothers, or that they completely ruined their life... They're probably going to think that it's her fault that she's depressed because she put herself in that position.

Participants indicated young mothers who were depressed would suffer greater criticism than adults. Public perceptions would favor adults as more capable of managing perinatal depression than adolescents:

Because we're young. We're not really supposed to have a child at a young, young age, for one. And then, just because it's not really – it's not good for a teen to be depressed when she has a child because the things that she does will affect the baby. When you're an adult, I guess, people think that you're more mature, you know how to handle stuff, and you have more experience than a teen mom.

Participants who have been previously diagnosed with depression were able to empathize with the challenges of being a new mother, “I would say it makes her a good mother because she's doing it all on her own. So, I wouldn't think she's a bad mother just because she's depressed.” However, others expressed doubt concerning the seriousness of depressive symptoms:

I just feel like everyone can go through depression, but I don't judge them for it... I feel like they would block themselves out of being a good parent... Or like they tell themselves, oh, I'm this, so they won't -they'd use that as an excuse not to take care of their kid... Sometimes I think maybe they're really not sick, like they're just telling themselves they are, so that their mind is like, oh, I'm sick, or I can't do this.

### ***Keeping it to themselves***

Adolescent mothers expressed how difficult it was to openly talk about depression. The adolescent's personality determined their level of comfort in disclosing symptoms, making it easy for some while difficult for others. “It's different too because

another teenager can open up and some won't. It just depends on the person. Like for me, I don't really talk to people about my situations so I just keep it in." Other participants explained that mothers may not know how to accurately describe their emotions, making it difficult to express their concerns. Some participants ignored their symptoms, prioritizing their newborn's physical needs above their own. "It's not about you. It's about the baby... I can't worry about myself, I have to worry about the baby. That's why I didn't tell nobody. I didn't want to seem selfish." Participants' own mothers were recalled as strong, central figures within the family unit. Therefore, conceptualization of motherhood set a precedent for adolescents, as one mother explained:

I think from past experiences, maybe seeing her own mom. Seeing their own mom do it all on their own, I think I should be that way, and do it on my own also... You don't want to admit that you're depressed. You want to look like you could be the strong person you could be, but in the inside it's like, you know you're not.

### ***Depression is normal***

Many agreed that depression normally occurs during the perinatal period. As one mother put it, "I'd say it's normal for every pregnant girl to have depression. For somebody to say you have depression while you're pregnant, it's like somebody saying, oh, you have contractions while you're in labor." Others stated perinatal depression is the result of multiple challenges and stressors adolescent mothers face. However, another participant who experienced depression during pregnancy disagreed. "No, because you have a child, which is supposed to make you happy, and if you have the right support, then you shouldn't really feel that way." When asked if depression just goes away,

adolescents stated that mothers would either “just get used to it” or “it becomes part of their life routine.” Others explained depression would become worse and cause mothers to inflict harm on the baby or herself.

### ***Lack of trust***

Participants feared their babies would be taken away from them if they admitted to having depression. “Every time I went to the doctor, I would always tell them that I wasn’t depressed. I was scared they were going to take my son from me.” Adolescents preferred to confide in others who experienced depression because they were deemed more credible as compared to individuals who have never experienced depression. Participants were apprehensive to trust others as many feared it would result in outsiders finding out about their symptoms, thus leading to more judgement:

Well nowadays you just can’t really open up to anybody... You’ll tell them something and then they’ll end up telling somebody else. They don’t know if they can really trust them to open up without them having to tell anybody else their business.

## **DISCUSSION**

The sample consisted of 20 perinatal Mexican-American adolescents. Results confirm previous findings about perinatal depression and perceptions on professional help. For our first research question, we found that participants were knowledgeable about symptoms of perinatal depression however, the demands of caring for a newborn blindsided them such that depression was not recognized. Self-appraisal and appraisal of others were the most common ways of recognizing depression. Jorm (2012) identified

schools as ideal settings for cultivating mental health literacy. Mental Health First Aid is a program that may be implemented in communities as it teaches individuals how to identify, understand, and respond to signs of mental health crisis. Previous studies on Mental Health First Aid suggest improvement in knowledge and stigmatizing attitudes concerning mental health disorders (Hadlaczky, Hokby, Mkrtchian, Carli, & Wasserman, 2014; Jorm 2012). As such, Mental Health First Aid may be adapted specifically for perinatal depression and incorporated in parenting classes at schools, or community-based and health care settings where adolescent mothers, including their significant other and family members may attend.

The sample indicated high acculturation however, cultural values and beliefs about perinatal depression may have influenced participant's perceptions concerning professional help-seeking and treatment. Findings for the second research question show adolescents were reluctant to disclose their symptoms for fear of criticism and expressed the need for nonjudgmental attitude from health care providers. Participants were afraid of being characterized as unfit mothers as this would only reinforce negative public perceptions about adolescent pregnancy and depression. Mistrust compromises the care and education that adolescent mothers need when they are criticized or judged prematurely (SmithBattle, 2013). Fonseca, Moura-Ramos and Canavarro (2018) found that negative perceptions of others as unsupportive or unavailable made mothers less likely to disclose depressive symptoms and seek professional help. Thus, it is important to establish trust or

*confianza*, as this will provide agency and empower the adolescent to disclose any mental health concerns she may have.

Adolescent mothers expressed frustration during their health care visits because of lack of genuine concern by their health provider. Adolescents conveyed respect for health care providers, but also requested these actions be reciprocated during face-to-face contact. Adames and Chavez-Duenas (2016) explained that warmth and support, referred to as *personalismo*, is important during formal interactions with Mexican-Americans. When adolescent mothers do not establish rapport with health care providers, their natural inclination is to withdraw and remain silent to avoid conflict or confrontation (Adames & Chavez-Duenas, 2016). This has detrimental implications for adolescents who already feel shame due to their pregnancy status. If they are unable to establish a relationship with their health care provider, then they are unlikely to divulge their symptoms of depression.

Appraisal of others often facilitated recognition of perinatal depression and validated the adolescent's emotions. Health care providers can educate and engage in discussions about perinatal depression during routine health appointments and infant well-visits as these are ideal opportunities in identifying depression. Participants were unsure and hesitant about treatments related to depression. Fonseca, Silva, and Canavarro (2017) asserted that health care providers may have difficulties implementing treatments if mothers are ambivalent about their benefits and effectiveness. It would be advantageous to engage adolescents in conversations about their opinions and preferences for treatment to clarify misconceptions and review various options that are available to them.



Finally, for our third research question, participants expressed fear of judgement and preferred to confide in individuals they found trustworthy. Many also suggested that depression was a normal occurrence for which mothers grow accustomed to experiencing over time. When symptoms are minimized or ignored, individuals are less likely to engage in help-seeking which may consequently exacerbate perinatal depression (Jorm, 2012). Participants had difficulties and were uncomfortable expressing their emotions. Rickwood, Deane, Wilson and Ciarrochi (2005) explained that emotional competence may be one potential barrier, as adolescents may be limited in their ability to understand, identify, and describe emotions. Therefore, it is possible that some participants may be lacking skills that would effectively allow them to communicate their symptoms and seek professional help.

### **Practice implications**

Because of public health concerns about perinatal depression, early detection is critical. However, lack of time and inadequate training were pointed out by primary health care providers as barriers for depression screening (Agapidaki et al. (2014). In fact, additional training was requested to increase their confidence, knowledge, and skills in identification and management of perinatal depression. Structured training, screening programs, and resource guides may help primary-care health providers in the detection, treatment, and referral process (Byatt, Simas, Lundquist, Johnson, & Ziedonis, 2012). Additionally, instruments that are brief, reliable, and validated across a range of populations would facilitate identification of depression during pregnancy and postpartum.

Bhatta, Champion, Young and Loika (2017) found that implementation of depression screening provided opportunities to discuss mental health among adolescents accessing school-based health care services. Because of the stigma surrounding perinatal depression, adolescents may not readily disclose their symptoms unless they are prompted by their health care provider. Thus, screening may be the vehicle for which perinatal adolescents may engage in conversations concerning depression symptoms and treatment.

A multidisciplinary approach is critical in promoting positive mental health outcomes for adolescent mothers. However, lack of coordination between primary and mental health services, insufficient continuity of care, and general lack of access in mental health services are major barriers to help-seeking (Agapidaki et al., 2014). Co-locating obstetric and mental health services may be effective in overcoming issues with coordination of care (Byatt et al., 2012). Smith et al. (2009) found that referrals within an obstetrics practice were more successful as compared to offsite referrals. Additionally, availability of a mental health provider for consultation may result in greater detection rates and improved collaboration between health and mental health services (Agapidaki, 2014).

Limitations of this study warrant consideration. The sample consisted of perinatal Mexican-Americans. Thus, responses cannot be generalized to all perinatal Hispanic adolescents. Convenience sampling was utilized rather than purposeful sampling, which is the preferred method in qualitative research. However, this sampling method served the purpose of the study, which was to understand the perceptions of perinatal Mexican-American adolescents concerning perinatal depression.

## **CONCLUSION**

The present findings provide information concerning barriers and facilitators to help-seeking among perinatal Mexican-American adolescents. Results are indicative of the pervasive influence of stigma concerning perinatal depression among adolescents. Health care providers are respected as content experts however, adolescents requested reciprocation of kindness and warmth during health visits in order to facilitate trust. Interactions during the perinatal period present opportunities for early identification, treatment, and management of perinatal depression. Thus, strengthening and supporting the role of health care providers and consideration of adolescent's cultural values are indicated in order to promote positive mental health outcomes.

## **Chapter 8: Research, Practice, and Policy Implications**

The purpose of this dissertation was to examine the knowledge, beliefs, and attitudes of pregnant and postpartum Mexican-American adolescents concerning perinatal depression through a mental health literacy lens. This dissertation included five projects to address the overall study purpose. The following are brief summary points regarding research, practice, and policy implications.

### **RESEARCH IMPLICATIONS**

- A majority of literature on perinatal depression focused on adult populations. Therefore, studies assessing risk factors for perinatal depression among Mexican-American adolescents are indicated.
- Consideration of perinatal Mexican-American adolescents from rural areas is recommended for future research on perinatal depression. These young mothers may be at greater risk due to limited resources that provide information concerning perinatal depression, mental health care services, professional help, and treatments.
- Validation of brief screening tools across various populations and ethnic groups is indicated to accurately identify adolescent mothers with perinatal depression.
- Mental health literacy assessment of family members and significant other is suggested as they are often mentioned as the perinatal adolescents' primary source

of support. Their knowledge and beliefs can inform existing research about perinatal depression and help-seeking among Mexican-American adolescents.

- Mental Health First Aid is a public health intervention that may be used for decreasing stigma and improving knowledge and attitudes concerning mental health disorders. Its implementation in parenting classes in schools and community-based programs are ideal as these settings serve adolescent mothers and their support system.
- Participants' preferences for obtaining mental health information varied. However, an investigation of how adolescents obtain online health information is indicated as a majority of participants could not clearly communicate how they validated mental health information from internet sources.

#### **PRACTICE AND POLICY IMPLICATIONS**

- A comprehensive assessment of the adolescent's sociocultural environment, including cultural values and beliefs may be best in determining how to prevent and manage perinatal depression.
- Screening of perinatal depression is an essential first step in engaging perinatal Mexican-American adolescents in discussions about depression.
- Utilization of screening tools that are brief, reliable, and have been validated across various populations and ethnicities are indicated.

- Structured training for depression screening and treatment is recommended for primary-care health care providers in order to identify adolescents who are experiencing perinatal depression.
- On-site mental health services within obstetrical clinics may facilitate continuity of care and improved communications between mental health and health care providers.
- Presentation of various treatment options such as individual or group therapy, home visitation, pharmacotherapy, and support groups provide adolescent mothers the flexibility of choosing treatments that will best meet their needs.
- Multi and interdisciplinary collaboration between community agencies, mental health services, and primary health care services may result in streamlined referral and treatment process.
- Development of rapport between health care providers and perinatal Mexican-American adolescents is important in establishing trust and facilitating disclosure of mental health concerns.
- Active engagement and ongoing collaboration is necessary during health care visits as Mexican-American adolescents may have difficulties disclosing or describing their mental health concerns.
- Problem-solving and effective communication skills may be incorporated in parenting classes to improve self-efficacy and reduce interpersonal conflict

between Mexican-American adolescents and family members, as well as the father of the baby.

- Family members and significant others often facilitated recognition of perinatal depression. Inclusion of her support system during the perinatal period may be helpful in early identification and timely help-seeking of depression.

## **CONCLUSIONS**

Previous studies showed disparities in help-seeking and utilization of mental health services among Hispanic adolescents. The body of work included in this dissertation identified associated risk factors, attitudes concerning perinatal depression, as well as perceptions about self-help strategies, health care professionals and treatments that may influence help-seeking. Findings from this dissertation are consistent with previous research on perinatal depression. Practice and research recommendations were also identified that can assist with prevention, management, and treatment of perinatal depression among Mexican-American adolescents.

Table 1. Research Studies Identifying Psychosocial Risk Factors for Perinatal Depression in Adolescents

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
<b>Prenatal and Postpartum Studies</b>					
Meltzer-Brody et.al, 2013	Examined the prevalence of depression during pregnancy and at 6-weeks postpartum	Longitudinal design; EPDS tool  Cronbach's alpha not indicated	n= 212;18-20 years old; recruited from urban public health clinics during pregnancy and 6 weeks postpartum; 46% Hispanic, 37% African-American	Antenatal and postnatal depression were strongly associated with physical and sexual violence (p=.006) social support (p=.03), and view of pregnancy (p=.03).	20% screened positive for AND, 10% for PND
Edwards et. al., 2012	Examined how supportive relationships influenced depressive symptoms during the third trimester of pregnancy, 4, 12, and 24 months postpartum	Longitudinal design; CES-D tool  Cronbach's alpha not indicated	n= 248 at study entry; 197 (79%) completed the study; <21 years old; recruited from urban prenatal clinics; exclusively African-American mothers	FOB support was consistently associated with lower depressive symptoms across 3 time periods (p = <.01); parent support was associated with lower depressive symptoms during immediate postpartum period (p = <.01); co-residing with own mothers was negatively associated with adolescents' depressive symptoms (p = <.001)	Third trimester: 47.2% reported scores above clinical threshold 4 months PP: 25.6% above clinical threshold 12 months PP: 22.4% above clinical threshold 24 months PP: 21.3% above clinical threshold



Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
Lesser & Koniak-Griffin, 2000	Examined the impact of childhood history of physical and sexual abuse on perinatal depression during four time periods: pregnancy, 4 to 6 weeks postpartum, and at 6 and 12 months postpartum	Secondary analysis of longitudinal data from a randomized control trial which compared the effects of traditional public health nursing care vs. intensive nursing care among adolescents from pregnancy to the postpartum period  CES-D tool Cronbach's alpha for the sample = .83 - .85	n = 95; 14-19 years; recruited from referrals from the state county's Department of Public Health; 64% Hispanic, 18.9% Non-Hispanic White, 9.5% African-American, 4.2% Other, 2% Native-American, and 1% Asian.	Adolescents with a history of childhood abuse had higher CES-D scores than adolescents who did not have a history of abuse at study entry (t = -2.12, p=.04), and at 4 to 6 weeks postpartum (t = -2.89, p =.001).  Higher perceived stress was correlated with higher CES-D scores across the 4 time periods (r = .23 -.62)	Percentage of adolescents having CES-D scores >16 over four study intervals:  a single time period: 22.8% two time periods: 26.1% three time periods: 14.1% all 4 time periods: 15.2%
<b>Prenatal Studies</b>					
Buzi et. al., 2015	Examined individual, interpersonal, family, and community correlates associated with AND symptoms; utilized socioecological framework	Cross-sectional design; CES-D tool  Cronbach's alpha of .85-.90 from previous studies. Did not indicate reliability from current sample	n = 249; 15-18 years; recruited from community-based adolescent health clinics; 54.2% Hispanic, 38.2% African American, 7.6% Non-Hispanic White or Other	Limited contact with FOB (p= .016), prior history of physical and sexual violence (p= .038), African-American ethnicity (p= .019), higher levels of family criticism (p= .025), lower social support (p= .002), and community violence (p=.003)	46.1% had moderately-to severe depressive symptoms.

Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
Koleva & Stuart, 2014	Examined demographic and obstetrical risk factors as correlates of depression	Cross-sectional design; BDI tool  Cronbach's alpha for the sample = .89	n= 509; 18-20 years; recruited from a university OB/GYN clinic and multiple maternal health care centers; 78% Non-Hispanic White	Demographic factors and obstetrical factors were not significantly correlated with depression	55.9% had mild depression 32.3% had moderate depression; 11.8% had severe depression
Tzilos et.al., 2012	Examined relationships among psychosocial factors with depression severity in pregnant adolescents	Cross-sectional design; CDRS-R tool  Cronbach's alpha of .90 from previous studies. Diid not indicate reliability from current sample	n =116; 13-18 years; recruited from an urban hospital prenatal clinic; 56% Hispanic, 18% African-American, 15% Non-Hispanic White, 9% Other/multiracial, and 2% Asian	History of physical and/or sexual violence ( $p < .001$ ) and alcohol use ( $p < .05$ ) were significantly associated with AND	16% screened positive for depression
Koniak-Griffin et. al., 1996	Examined predictors of depressive symptoms among pregnant adolescents	Secondary analysis of data from a longitudinal study that examined the effects of exercise on pregnant adolescents' psychological well-being; CES-D tool  Cronbach's alpha for the sample = .88	n = 62 adolescents; 14-20 years; recruited from a residential maternity home; 34% Hispanic, 31% African-American, 22% Non-Hispanic White, and 13% mixed ethnicity	Self-esteem ( $p = .0001$ ) and social support ( $p = .004$ ) were associated with depression	74% had depressive symptoms above the clinical threshold

Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
<b>Postpartum Studies</b>					
Kleiber, B.V., 2014	Examined correlates of adolescent PPD for low-income adolescent mothers with symptoms of PPD.	Cross-sectional design EPDS tool  Cronbach's alpha not indicated	n= 117; 15-21 years of age; recruited from a community health program and health clinic for pregnant and parenting adolescents; 61% Hispanic, 39% classified as non-Hispanic	Stepwise regression analyses showed perceived stress ( $p < .001$ ) and anxiety ( $p < .001$ ) accounted for 77% of the variance in depressive symptoms	Not clearly identified by author
Ventakesh et al., 2014	Examined whether parental stress influenced the development of postpartum depression and subthreshold depression at 6 weeks, 3 months, and 6 months postpartum among adolescent mothers	Secondary analysis of observational data from a randomized control trial of an intervention to reduce the risk of postpartum depression  KID-SCID and CDRS-R Cronbach's alpha not indicated	n = 106; <17 years of age; recruited from an urban prenatal clinic; 53% Hispanic, 17% African-American, 16% Non-Hispanic White, and 14% Other	Higher levels of parental stress was significantly associated with subsequent diagnosis of postpartum depression and subthreshold depression ( $p < .01$ )	19% of mothers met criteria for postpartum depression through 6 months PP 30% met criteria for subthreshold depression
Nunes & Phipps, 2013	Examined and compared prevalence and risk factors of postpartum depression in adult and adolescent mothers	Retrospective cohort study Modified version of the PHQ  Cronbach's alpha not indicated	n = 676 adolescents; 15-19 years; 61% response rate among adolescents who were surveyed  Surveys mailed to participants meeting inclusion criteria; 40.9% Non-Hispanic White, 38% Hispanic, 12.8% African American, and 8% Other	Various types of social support were associated with lower PPD: help with infant care (CI 0.12-.67), financial support, (CI 0.25-0.95), and someone to talk to (CI 0.11-0.50) Prior history of depression (CI 1.39-8.23) was associated with PPD	Moderate-severe PPD: 12.11% Mild PPD: 30.37% No PPD: 43.32

Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
Brown et.al., 2012	Examined if social support was associated with decreased depressive symptoms across three time points: baseline, 12 weeks post-baseline, one year post-baseline	Longitudinal design; CES-DC tool  Cronbach's alpha for the sample = .86 - .90	n = 120 at baseline, 77 (64%) completed all 3 time points; 18 years and younger; recruited from an urban health clinic; 44.5% African-American, 37.8% Hispanic mothers, and 17.6% Other or biracial	Lack of social support was associated with depression for mothers with higher CES-DC scores at baseline ( $p = .021$ ), 12 weeks and one year post baseline ( $p < .001$ )	Baseline: 53% had major depression 12 weeks post-baseline: 57% had major depression One year post-baseline: 57% had major depression
Gavin et al., 2011	Examined correlates of depressive symptoms and prevalence of depression during five developmental periods (total of 17 years)	Longitudinal design BSI Tool  Cronbach's alpha not indicated	n = 240 at initial interview, 173 (71%) completed each developmental period; 17 years and younger; recruited from urban community and health settings; 53% Non-Hispanic White, 28% African-American, 10% Other, 6% Native-American, and 3% Asian	Concurrent physical and sexual violence (CI: 1.65, 6.09) and antenatal depression (CI: 1.53, 12.02) were strongly associated with elevated depressive symptoms across each time period	Depressive symptoms significantly increased over time from 19.8% to 35.2%
Birkeland et al., 2005	Using a risk and resilience framework, authors examined the relationship of depression with self-efficacy, weight/shape concerns, and parental stress (social isolation and role restriction)	Cross-sectional design EPDS tool  Cronbach's alpha for the sample = .83	n = 149; 15-19 years; recruited from seven teen parenting programs from different state counties; 46% Non-Hispanic White, 32% African-American, 19% Hispanic, 1% Asian, and 1% Other	Social isolation ( $p < .001$ ) and self-efficacy ( $p = .047$ ) were associated with postpartum depression.	29% had depressive symptoms above the clinical threshold

Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
Fagan & Lee, 2010	Using self-determination theory, the study examined associations between adolescents' perceptions with father involvement and caregiving with the baby and postpartum depressive symptoms	Secondary analysis of longitudinal data that assessed the impact of a co-parenting program and child development curriculum on young fathers and mothers  CES-D tool Cronbach's alpha for the sample = .89	n = 100; 13-19 years; recruited from OB/GYN urban hospital clinics; 41% African-American, 41% Hispanic, and 18% Other.	Satisfaction with father involvement was associated with fewer depressive symptoms ( $p < .05$ ); this relationship was partially mediated (27%) by the mother's self-efficacy ( $p = .04$ ); Prenatal depressive symptoms were also associated with postpartum depressive symptoms ( $p < .001$ )	Not indicated by authors
Logsdon et al., 2008	Using a bioecological model, the authors examined the relationship of depressive symptoms with macro, meso, and microsystem variables	Cross-sectional design CES-D tool  Cronbach's alpha for the sample = .86	n = 85; 13-18 years of age; recruited from two hospitals; ethnicity of sample not identified	Multivariate analysis showed perceived stress, a microsystem variable, as having the strongest influence on depressive symptoms ( $p < .0001$ ).	37% had depressive symptoms above the clinical threshold
Schmidt et al., 2006	Examined ethnic differences in moderate to severe depressive symptoms among postpartum adolescents at 3, 12, 24, and 48 months	Longitudinal design BDI tool  Cronbach's alpha not indicated	n = 932 at initial postpartum interview; 623 (67%) at study completion; 13-18 years; recruited from a tertiary care hospital; 34% African-American, Hispanic 37%, and 29% Non-Hispanic White	Non-Hispanic White adolescents were two times more likely to report MSD symptoms at 3 months postpartum; Mexican-American adolescents were 2.6 times more likely to report MSD symptoms at 12 & 24 months; African-American adolescents reported higher rates of MSD at 48 months	36.7% had MSD at 3 mos. 28.4% had MSD symptoms at 12 mos. 23.6% had MSD symptoms at 24 mos. 21.1 had MSD symptoms at 48 mos.

Table 1. Continued

Reference	Purpose	Design/Depression Instrument	Sample and Setting	Risk Factors	Prevalence of Depression
Barnet et al., 1995	Examined the associations between substance use, postpartum depressive symptoms, and social support at 2 and 4 months postpartum	Longitudinal design CES-D tool  Cronbach's alpha not indicated	n = 125 at study entry; 105 at study completion (84%); 12-18 years; recruited from an adolescent pregnancy and parenting program in an urban teaching hospital; primarily African-American mothers	Mothers who used substances reported significantly higher depressive symptoms (p= .02) than nonusers.  Marijuana (14%) and alcohol (31%) were the most prevalent substances used.	37% of those who used substances had depressive symptoms above the clinical threshold at 2 months  44% of those who used substances had depressive symptoms above the clinical threshold at 4 months

Abbreviations: AND- Antenatal Depression; BDI- Beck Depression Inventory; BSI- Brief Symptom Inventory; CES-D Center for Epidemiological Studies Depression Scale; CDRS-R Children's Depression Rating Scale-Revised; EPDS- Edinburg Postnatal Depression Scale; FOB- father of baby; KID-SCID Structured Clinical Interview for DSM- IV Childhood Disorders; MSD-Moderate to severe depression; PHQ- Public Health Questionnaire; PND- prenatal depression; PPD-postpartum: PND- Postnatal Depression; PP- Postpartum

Table 2. Demographic Comparisons of Ever and Never Pregnancy

Demographics	Ever Pregnancy		P value
	Yes (%) n=214	No (%) n=247	
Age: Mean (SD)	16.82 (1.10)	16.29 (1.28)	.000
Currently in School	49.8	73.2	.000
Dropped out	71.6	49.3	.009
Getting GED	18.3	23.3	
Graduated/Completed GED	10.0	60.7	
Country of Birth:			
United States	92.5	98.0	.018
Mexico	7.0	2.0	
Other	0.5	0.0	
Languages most comfortable speaking at home:			
English	69.2	74.8	.178
Spanish	30.8	25.2	
In which language do you usually think?			
English	78.4	88.7	.003
Spanish	21.6	11.3	
Language you feel comfortable speaking with friends?			
English	83.2	83.8	.856
Spanish	16.8	16.2	

Table 3. Psychosocial and Situational Comparisons of Adolescents Ever- and Never-Pregnancy

Psychosocial/Situational Factors	Ever Pregnancy		P value
	Yes (%)	No (%)	
	n=214	n=247	
Sexual Preference:			
Heterosexual/Straight	92.0	86.7	.029
Bisexual	8.0	13.3	
Sexual risk behavior			
Sex without birth control	9.8	14.6	.121
Sex condomless	99.5	95.0	.141
Sex with a female	11.2	19.4	.015
Sex with friends	24.3	36.8	.002
Group sex	5.6	10.9	.041
Anal Sex	21.5	26.3	.227
History of violence			
Any history of violence	85.5	89.1	.251
Any history of sexual violence	45.3	57.9	.007
Any history of physical violence	63.6	72.9	.032
Any history of emotional violence	68.7	73.3	.278
Molested	21.0	30.0	.029
Raped	20.6	16.2	.226
Forced first coitus	12.1	7.7	.108
Ever Forced sex no protection	8.9	17.4	.007
History of STI	29.0	26.3	.524
Ever been arrested	48.1	47.8	.939
Ever run away from home	56.5	48.2	.045
Substance use			
Marijuana use	80.8	86.2	.118
Cigarette use	72.4	76.1	.366
Alcohol use	70.6	85.8	.000
Benzodiazepine use	37.4	47.0	.038
Heroin use	13.1	14.2	.735
Cocaine use	38.8	45.3	.155
Injecting partner	11.7	12.1	.878



Table 4. Psychosocial and Situational Comparisons of Adolescents Ever- and Never-Pregnancy

Psychosocial/situational factors	Ever-pregnancy		P value
	Yes (n=214) Mean (SD)	No (n=247) Mean (SD)	
Number of friends who smoke	1.92 (.815)	1.72 (.726)	.005
Number of friends who drink	1.76 (.780)	1.50 (.689)	.000
Number of household members who drink	2.22 (.644)	2.05 (.721)	.009
Substance use/alcohol composite score	3.55 (2.20)	3.97 (2.02)	.031
Age first had sex with man	13.80 (1.90)	14.02 (1.73)	.117
Number of male partners in past year	2.13 (2.11)	2.75 (2.87)	.008
Number of male partners in unprotected sex	1.60 (1.31)	2.02 (2.13)	.010
Total number of sexual risk behaviors	6.87 (2.64)	7.38 (2.63)	.039
SCL 90-R	75.58 (65.07)	93.13 (73.0)	.015

Table 5. Summary of Health Literacy Framework Analysis

<b>Categories:</b>	<b>Anthony Jorm's Framework (1997)</b>	<b>Paasche-Orlow &amp; Wolf's Framework (2007)</b>
Origins	Australia Mental Health Developed for use in practice and research	United States Medicine Developed for use in practice and research
Meaning	Meaning of mental health literacy (MHL) is presented with clarity. Meaning of MHL is consistent throughout framework	Meaning of health literacy (HL) is presented with clarity. Presented as a single, static concept; Not domain-specific; Does not discuss functional, interactive, and critical literacy as components of HL.
Logical Adequacy	Discusses the impact of knowledge, attitudes, and beliefs of MHL on its recognition, prevention, and management  Relationships among concepts are clearly stated and specified  Does not fully consider external factors that might influence MHL	Model identifies variables that affect HL and mediators between HL and health outcomes  Relationships among concepts are clearly stated and specified Linear relationships are proposed among variables, health literacy, and health outcomes  Considers patient and system level factors that may impact HL and health outcomes

Table 5. Continued

<b>Categories:</b>	<b>Anthony Jorm's Framework (1997)</b>	<b>Paasche-Orlow &amp; Wolf's Framework (2007)</b>
Degree of Generalizability	Generalizable to various populations and health care settings	Generalizable to various populations and health care settings
	Primarily focused on individual factors that impact recognition, prevention, and management of mental health illness	Comprehensively considers patient- and system-level factors that impact health literacy and health outcomes
Parsimony	Clear and succinct Does not have a concept model to illustrate relationships of concepts	Clear and succinct Concept model illustrates relationships among variables, health literacy and health outcomes
Testability	Has been empirically tested MHL scale available but not yet tested among adolescents	Has been empirically tested Limited HL instruments specifically for adolescents (HELMA, REALM-Teen)
Usefulness	A domain-specific health literacy framework leads to domain specific assessments and interventions for pregnant adolescents	A comprehensive health literacy framework provides a holistic approach in assessing the mental health needs of pregnant adolescents

Table 6. Sociodemographic Characteristics of Hispanic Adolescents

Adolescents who reported ever and never feeling depressed during the perinatal period (N = 30)					
Variables		Total Sample N =30 n (%)	Reported never feeling depressed during the perinatal period (%) n = 18	Reported feeling depressed during the perinatal period (%) n = 12	P-value
Age, M (SD)		*17.57 (1.357)	*17.67 (1.41)	*17.42 (1.31)	0.63
Age	14-15	2 (6.7)	1 (5.6)	1 (8.3)	0.78
	16-17	11 (36.7)	6 (33.3)	5 (41.7)	
	18-20	17 (56.6)	11 (61.1)	6 (50.0)	
Grade	9th	2 (6.7)	1 (5.6)	1 (8.3)	0.58
	10th	6 (20.0)	3 (16.7)	3 (25.0)	
	11th	5 (16.7)	2 (11.1)	3 (25.0)	
	12th	17 (56.6)	12 (66.7)	5 (41.7)	
Marital status	Single	28 (93.3)	17 (94.4)	11 (91.7)	0.77
	Married	2 (6.7)	1 (5.6)	1 (8.3)	
Employment status	Non-employed	26 (86.7)	15 (83.3)	11 (91.7)	0.51
	Employed	4 (13.3)	3 (16.7)	1 (8.3)	
Pregnancy status	Pregnant	11 (36.7)	8 (44.4)	3 (25.0)	0.28
	Postpartum	19 (63.3)	10 (55.6)	9 (75.0)	

Table 6. Continued

Variables		Total Sample N =30 n (%)	Reported never feeling depressed during the perinatal period (%) n = 18	Reported feeling depressed during the perinatal period (%) n = 12	P-value
health care provider talked to you about depression during perinatal period	Yes	23 (76.7)	12 (66.7)	11 (91.7)	0.11
	No	7 (23.3)	6 (33.3)	1 (8.3)	
Who you talk to when depressed	no one	4 (13.3)	2 (11.1)	2 (16.7)	0.57
	significant other only	3 (10.0)	2 (11.1)	1 (8.3)	
	family members only	7 (23.3)	3 (16.7)	4 (33.3)	
	peers only	3 (10.0)	3 (16.7)	0	
	family & peers	3 (10.0)	1 (5.6)	2 (16.7)	
	significant other & peers	2 (6.7)	1 (5.6)	1 (8.3)	
	significant other & family members	8 (26.7)	6 (33.3)	2 (16.7)	

Table 7. ANOVA Results by Group and MHL Subscales

Mental Health Literacy Subscale	Mean scores of adolescents who reported ever or never feeling depressed during the perinatal period		M, SD	F (1,28)	P-value
	Have you ever felt depressed during pregnancy or after your pregnancy?				
	Yes (n= 12)	No (n=18)			
Total MHL Score	Yes	No	74.45 (9.82)	2.655	0.03
	No		67.35 (5.37)		
Ability to recognize mental health disorders:	Yes	No	81.49 (12.83)	5.365	0.03
	No		68.83 (15.73)		
Knowledge of risk factors of mental health disorders:	Yes	No	48.61 (20.67)	0.304	0.83
	No		52.78 (20.01)		
Knowledge of available treatment	Yes	No	77.78 (29.59)	0.044	0.58
	No		75.92 (19.15)		
Knowledge of professional help available	Yes	No	72.92 (18.33)	0	1.00
	No		72.92 (17.28)		
Knowledge about self-help treatments:	Yes	No	61.11 (22.84)	0.061	0.80
	No		59.26 (18.28)		
Knowledge about how to find mental health information	Yes	No	80.21 (18.62)	0.219	0.64
	No		77.08 (17.41)		
Attitudes which facilitate help-seeking & recognition	Yes	No	74.74 (9.00)	5.138	0.03
	No		65.53 (11.95)		

Table 8. Responses for Each MHL Category

Mental Health Literacy Categories & Items	Overall Participant Responses for Each MHL Item (N=30)		
	N (%)		
<b>Ability to Recognize Mental Health Disorders:</b>	Likely/Very Likely	Unlikely/ Very Unlikely	
Social phobia case scenario	15 (50.0)	15 (50.0)	
Depression case scenario	27 (90.0)	3 (10.0)	
Generalized Anxiety case scenario	28 (93.3)	2 (6.7)	
Agoraphobia case scenario	25 (83.3)	5 (16.7)	
Bipolar case scenario	23 (76.7)	7 (23.3)	
Drug dependence case scenario	29 (96.7)	1 (3.3)	
<b>Knowledge of Risk Factors of Mental Health Disorders:</b>			
Do you think that men are more likely to experience anxiety than women?	9 (30.0)	21 (70.0)	
Do you think that women are more likely to experience mental illness than men?	17 (56.7)	13 (43.3)	
<b>Knowledge of Available Treatment:</b>			
Cognitive Behavior Therapy	28 (93.3)	2 (6.7)	
<b>Knowledge of Professional Help Available</b>	Agree/ Strongly Agree	Neither Agree or Disagree	Disagree/ Strongly Disagree

Table 8. Continued

If someone is threatening to hurt someone or themselves, is it okay for a counselor to tell and get help from others?	28 (93.3)	0.0	2 (6.7)
If your problem is not life threatening, is it okay for a counselor to tell others about your problem because they want others to help you too?	9 (30.0)	10 (33.3)	11 (36.7)
<b>Knowledge About Self-Help Treatments:</b>	Helpful/ Very Helpful	Unhelpful/ Very Unhelpful	
Do you think getting better sleep helps someone who is feeling nervous, anxious, or depressed?	25 (83.3)	5 (16.7)	
Do you think avoiding all activities or situations that make a person nervous or depressed will help them feel better?	12 (43.3)	18 (56.7)	
<b>Knowledge About How to Find Mental Health Information</b>	Agree/ Strongly Agree	Neither Agree or Disagree	Disagree/ Strongly Disagree
I know where to find information about mental illness	21 (70.0)	5 (16.7)	4 (13.3)
I know how to use the computer or telephone to find information about mental illness	27 (90.0)	0.0	3 (10.0)
I am comfortable going to a health provider to get information about mental illness	23 (76.7)	4 (13.3)	3 (10.0)
I have access to resources (Ex: doctor, friends, counselor, internet, TV) that I can use to look for information about mental health illness	26 (86.7)	1 (3.3)	3 (10.0)
<b>Attitudes Which Facilitate Help--Seeking &amp; Recognition</b>	Agree/ Strongly Agree	Neither Agree or Disagree	Disagree/ Strongly Disagree
People with a mental illness could get over it if they wanted to	5 (16.7)	8 (26.7)	17 (56.6)



Table 8. Continued

A mental illness is a sign of personal weakness	7 (23.3)	8 (26.7)	15 (50.0)
A mental illness is not a real medical illness	2 (6.7)	4 (13.3)	24 (80.0)
People with a mental illness are dangerous	2 (6.7)	14 (46.7)	14 (46.6)
It is best to avoid people with a mental illness so that you don't develop this problem	0.0	6 (20.0)	24 (80.0)
If I had a mental illness I would not tell anyone	4 (13.3)	5 (16.7)	21 (70.0)
Seeing a mental health professional means you are not strong enough to manage your own problems?	1 (3.3)	6 (20.0)	23 (76.7)
If I had a mental illness, I would not get help from a mental health professional	5 (16.7)	2 (6.7)	23 (76.6)
I believe getting help for mental illness from a professional would not work	1 (3.3)	7 (23.3)	22 (73.3)
	Probably willing/ Definitely willing	Neither willing or unwilling	Probably not willing/ Definitely not willing
How willing would you be to move next door to someone with a mental illness?	3 (10.0)	18 (60.0)	9 (30.0)
How willing would you be to spend an evening hanging out with someone with a mental illness?	18 (60.0)	11 (36.7)	1 (3.3)
How willing would you be to make friends with someone with a mental illness?	26 (86.6)	2 (6.7)	2 (6.7)
How willing would you be to work closely with someone who has a mental illness?	21 (70.0)	6 (20.0)	3 (10.0)
How willing would you be to vote for a politician who had a mental illness?	6 (20.0)	13 (43.3)	11 (36.7)
How willing would you be to have someone with a mental illness marry someone in your family?	13 (43.3)	12 (40.0)	5 (16.7)
If you were an employer, would you be willing to hire someone who had a mental illness?	17 (56.6)	11 (36.7)	2 (6.7)

Table 9. An Overview of Categories, Subcategories, and Sample Quotes

Mental health literacy category	Subcategories	Sample quotes
Ability to recognize perinatal depression	It's not easy to recognize	It's not easy. People have to point it out for you to understand what's going on. You don't think about it. You just feel difficult types of emotions out of nowhere.
	Self-appraisal	Just because when you talk to someone about the way you're feeling, you really start to notice, it's kind of different from how you felt before that.
	Appraisal of others	If something's going on and they don't notice it, an adult will notice it... Other people are seeing how she's acting, they notify that mother, let them know what depression is.
Knowledge and beliefs about professional help and treatments	Establishing rapport	Sometimes if I'm not really up to talking, he understands. He's still ask me questions about how I'm doing and everything. He's really understanding and doesn't try to push anything or try to force you to talk about certain things.
	Communication about pertinent information	They can let you know the symptoms, what you can do. If she's feeling depressed and she doesn't know it. Maybe when she's talking about something she can realize, I'm depressed. So having that information would be helpful.
	Ambivalence about treatment	I think they'd be scared because, I mean, there are pills for depression, but still, the first time taking them, what is this going to do to me and how am I going to react to them or how's my body going to react to them?
Attitudes that influence recognition and help-seeking	They don't want to be judged	She probably would be judged... Maybe like they'll think she's weak, and I guess, immature. That's what I heard a lot. That they're immature.
	Keeping it to themselves	Maybe because they don't want to let out – how do you say it? They don't want to let it out, tell anybody. They just want to hold it in.
	Depression is normal	It's common because it does happen if they're stressed and going through a lot of stuff.
	Lack of trust	Sometimes, you tell someone something and you trust that person, and they go and say something to somebody else. People tend to mix words around and stuff like that.

Table 9. Continued

Mental health literacy category	Subcategories	Sample quotes
Causes of perinatal depression	Interpersonal conflict	Just relationship problems, not just boyfriend and girlfriend, you know, her mom or family relationships. It can be so frustrating that you get to the point you start getting depressed.
	Transition to motherhood	Yeah, it's kind of stressful because I have to work and then afterwards I have to take care of my daughter. Every morning I have to wake up at six and be at the bus stop by at least forty minutes before. And then after school I'd take the next two buses home, get there. I only get an hour break and then clock into work and I start working and then I clock out at eight. And after that I don't really get to relax because my daughter's crying. If I don't carry her or she only cries when she's hungry or if she's frustrated and it gets me kind of frustrated.
Knowledge and beliefs of self-help strategies	Activities that distract from depression	Go out with your friends, do something have fun, get those things out of your mind.
	Turning to others for support	I would think just making them – giving them comfort and letting them actually tell you on their own. Because I think everybody, not just a pregnant girl, a young mother needs somebody, but I think everybody in general needs somebody to talk to.
Knowledge of how to obtain mental health information	Multiple sources are used for mental health information	I'd go to my mom or the doctor. If I had an appointment, I'd talk to them about it and they'll most likely assist me with help. Online. Looking for counseling maybe. Things that will help with the depression.
	Media may be helpful or hurtful	Like I was watching a movie and this girl was depressed and like she was being really over-judged and she was all like crying really loud, like she was dying - It just turns me off more.  Because the problems that those teen moms are having in shows or movies or just any on social media, is basically what really happens.

Table 10. Sociodemographic Characteristics of Mexican-American Adolescents

Variables	Total Sample N=14 n (%)
Age, Mean (SD)	17.15 (1.25)
Age:	
15	3 (15.0)
16	2 (10.0)
17	7 (35.0)
18	5 (25.0)
19	3 (15.0)
Grade:	
9	2 (10.0)
10	3 (15.0)
11	3 (25.0)
12	7 (50.0)
Place of residence	
With parents	12 (60.0)
With father of the baby	8 (40.0)
Which language do you read and speak?	
Only Spanish	0
Spanish better than English	1 (5.0)
Both Equally	5 (25.0)
English better than Spanish	4 (20.0)
Only English	10 (50.0)
What language(s) do you usually speak at home?	
Only Spanish	0
Spanish better than English	1 (5.0)
Both Equally	5 (15.0)
English better than Spanish	3 (15.0)
Only English	11 (55.0)
Which language do you usually think?	
Only Spanish	0
Spanish better than English	0
Both Equally	4 (20.0)
English better than Spanish	4 (20.0)
Only English	12 (60.0)
Which language do you usually speak with your friends	
Only Spanish	0
Spanish better than English	1 (5.0)
Both Equally	2 (10.0)
English better than Spanish	3 (15.0)
Only English	14 (70.0)

Table 10. Continued

Variables		Total Sample N=14 n (%)
Pregnancy status	Pregnant	8 (40.0)
	Postpartum	12 (60.0)
Have you ever felt depressed during pregnancy or after birth?	Yes	17 (85.0)
	No	3 (15.0)
Has your health care provider ever discussed depression?	Yes	16 (70.0)
	No	4 (30.0)
Have you ever gotten help from a health care professional for depression?	Yes	5 (25.0)
	No	15 (75.0)
Have you ever received treatment for depression?	Yes	3 (15.0)
	No	17 (85.0)

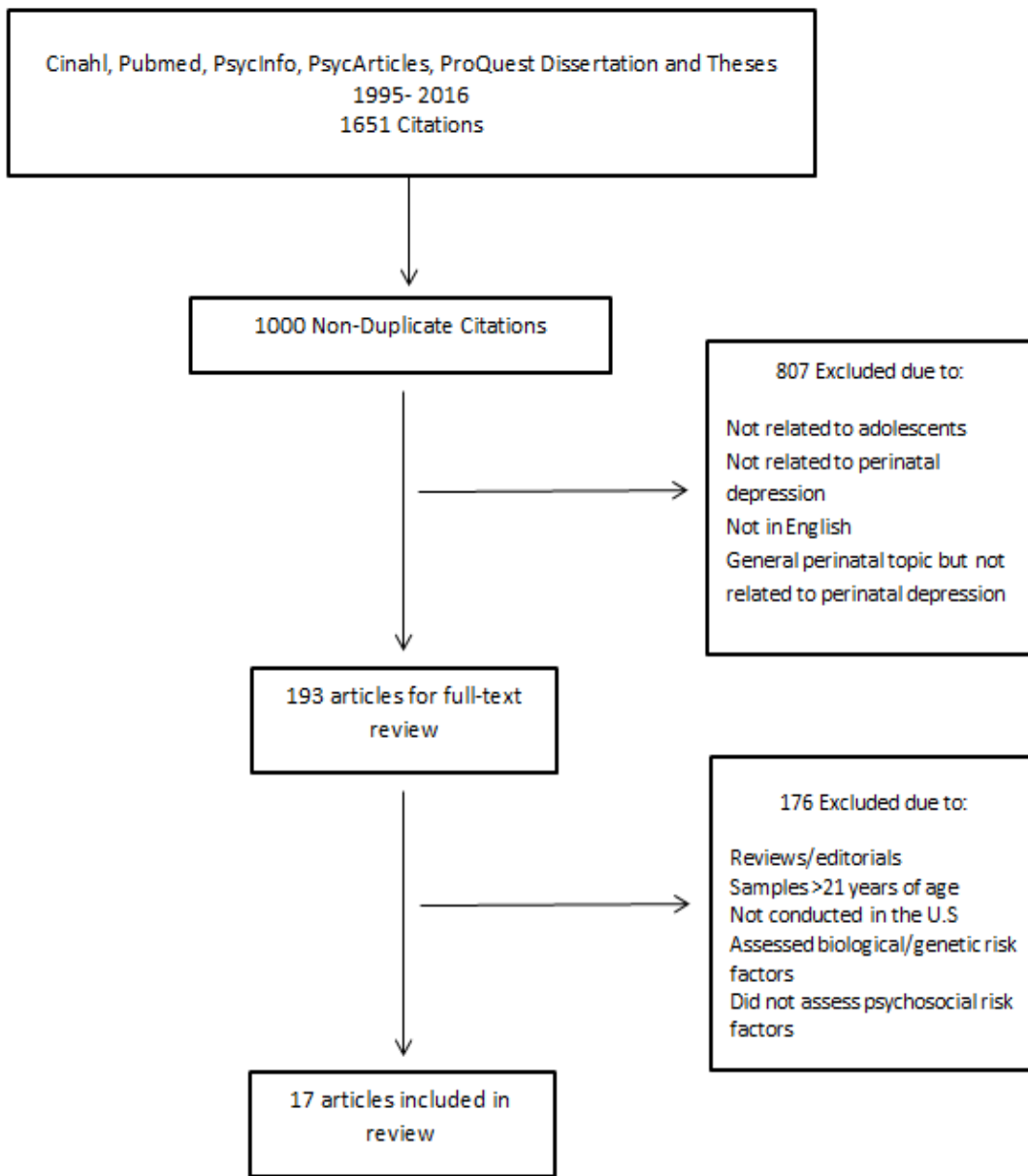


Figure 1. Flow diagram of the exclusion of literature

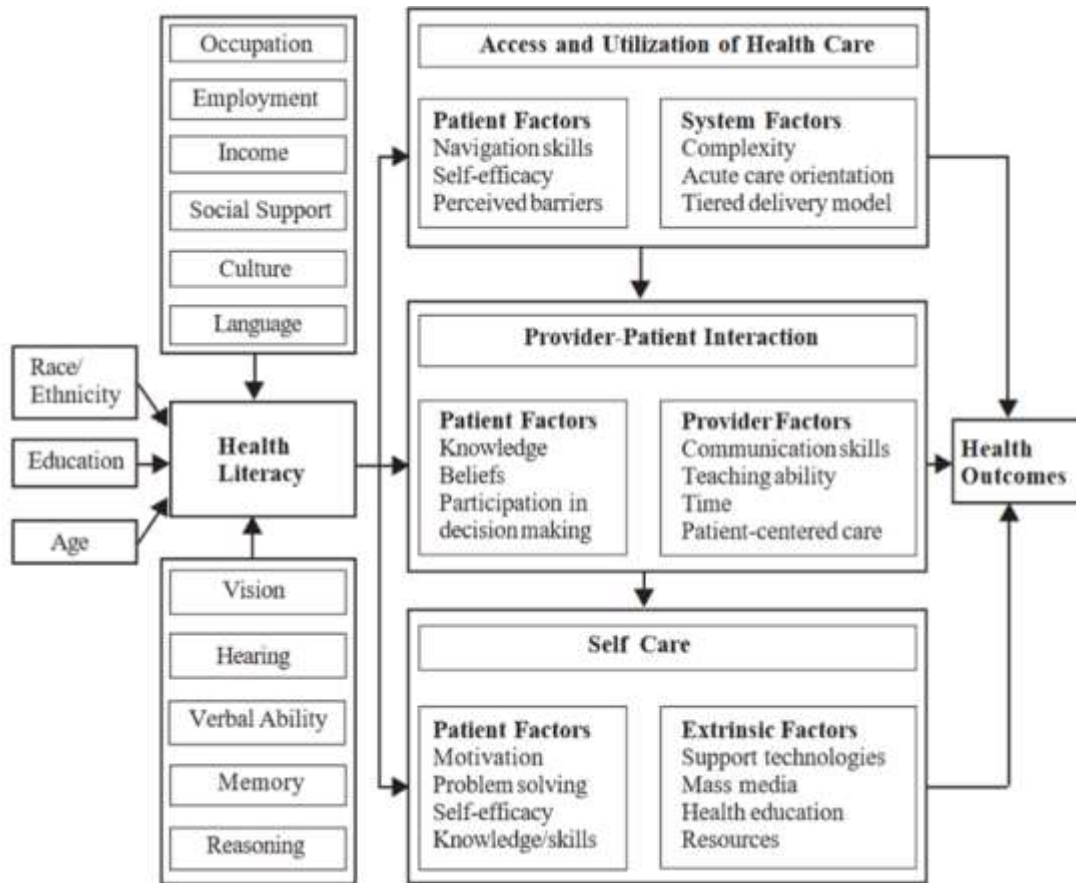


Figure 2. Paasche-Orlow and Wolf’s concept model for health literacy. Adapted from “Causal Pathways Linking Health Literacy to Health Outcomes” by Paasche-Orlow, M. & Wolf, M., 2007, American Journal of Health Behavior, 31, p. S21. Copyright by PNG Publications. Adapted with permission.

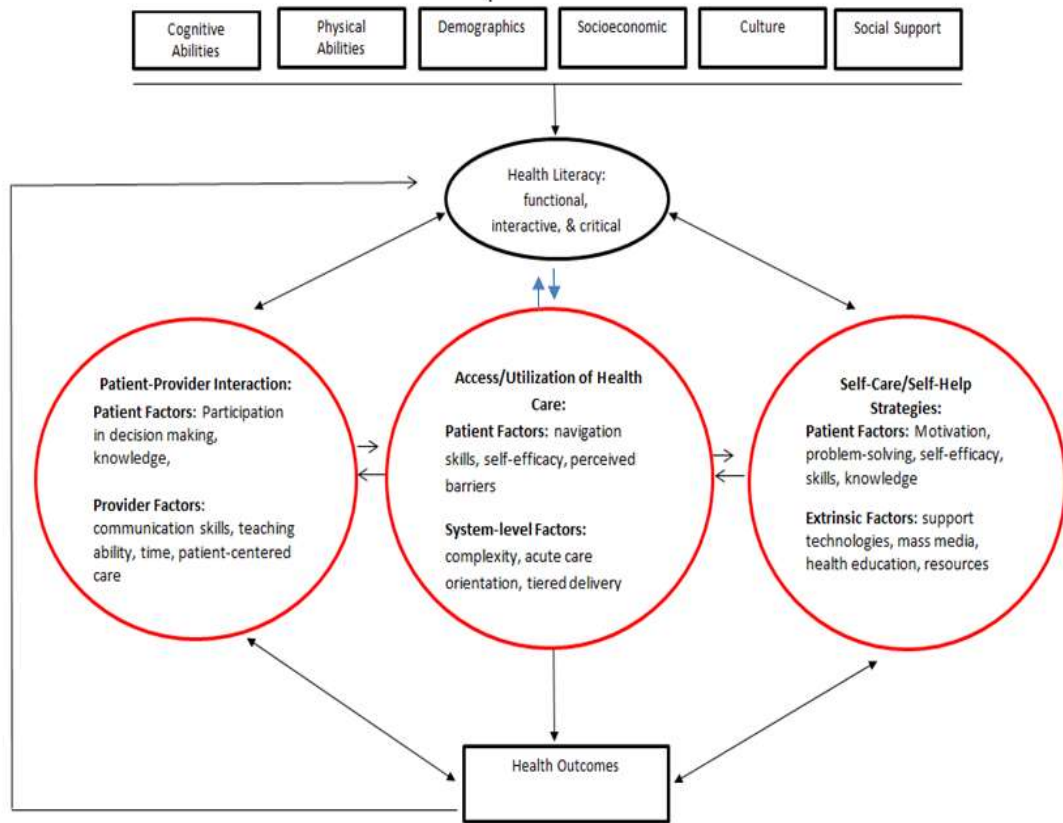


Figure 3. Modified health literacy concept model based upon Paasche-Orlow, Wolf's, and Jorm's frameworks.



## Appendices

## Appendix A: Sociodemographic and SASH Survey

**Please do not include your name on this sheet.**

Please answer the questions below.

1. Age: \_\_\_\_\_
2. Are you married? Circle one: Yes No
3. Are you currently living with your boyfriend or significant other? Circle one: Yes No
4. Are you currently living with your parents? Circle one: Yes No
5. Grade level: \_\_\_\_\_
6. Where were you born? Circle one:  
 United States      Mexico      Other: \_\_\_\_\_
7. What language(s) do you read and speak? Circle one:
 

Only Spanish	Spanish better than English	Both equally	English better than Spanish	Only English
--------------	-----------------------------------	-----------------	--------------------------------------	-----------------
8. What language(s) do you usually speak at home? Circle one:
 

Only Spanish	Spanish better than English	Both equally	English better than Spanish	Only English
--------------	-----------------------------------	-----------------	--------------------------------------	-----------------
9. In which language(s) do you usually think? Circle one:
 

Only Spanish	Spanish better than English	Both equally	English better than Spanish	Only English
--------------	-----------------------------------	-----------------	--------------------------------------	-----------------
10. What language(s) do you usually speak with your friends? Circle one:
 

Only Spanish	Spanish better than English	Both equally	English better than Spanish	Only English
--------------	-----------------------------------	-----------------	--------------------------------------	-----------------

11. How many times have you been pregnant in the past?
12. How many babies have you given birth to in the past?
13. When is your due date, or if you already had your baby, when did you have your last baby?
14. Have you ever felt depressed during pregnancy or after your pregnancy? Circle one: Yes No
15. Has your health care provider ever discussed depression with you during pregnancy and after pregnancy? Circle one: Yes No
16. Have you ever gotten help from a mental health professional (Example: nurse practitioner, counselor, social worker, doctor, therapist, psychiatrist) because you were feeling depressed? Circle one: Yes No
17. Have you ever used medication or mental health services (Example: counseling or therapy) to help you with depression? Circle one: Yes No

## **Appendix B: Interview Questions**

### **1. Ability to recognize depression: individual's ability to identify features/symptoms of a mental health disorder; individual's ability to recognize depression by self-appraisal or appraisal of others**

Have you known anyone (including yourself) who's felt depressed during pregnancy or after giving birth? What was the experience like for them? What did you notice?

Could you describe what happens when a person gets depressed?

Does a mother realize she's depressed while it's happening?

Is it difficult or easy to for a mother to recognize that she's feeling depressed?

What would help her recognize she was feeling depressed?

### **2. Knowledge and beliefs about the causes of depression: Individual knowledge of risk factors that increase the risk of developing a mental health disorder**

What do you think causes depression for young mothers?

What are some of the struggles that young mothers face that might cause them to feel depressed?

### **3. Knowledge of self-help treatments: Are actions that person takes on his/her own to deal with mental health disorder**

What are some of the things that pregnant and parenting teens might do to help them feel better when they're depressed?

What do you think pregnant and parenting teens need the most when they are depressed?

What suggestions do you have that would make it easier for young mothers to talk about depression?

Who do you think most young mothers would be most comfortable talking to about their problems? How do they help her feel better when she's depressed?

If she's turned to others for help, what can they do to help her when she's depressed? What can they say to help her when she's depressed?

**4. Knowledge and beliefs about professional help available: Individual knowledge concerning mental health professionals available to help manage or prevent a mental health disorder**

What kind of professional help is available to help pregnant and parenting teens who are depressed?

What prevents pregnant and parenting teens from getting help for depression from a health care provider?

How hard or easy would it be for young mothers to see a health care provider if they are depressed? What might make it easier? What kind of things makes it hard?

Has your doctor/HCP talked to you about depression during pregnancy and depression?

**5. Knowledge and beliefs about treatments: individual knowledge of typical treatments recommended by health professionals**

What types of treatment are available for pregnant and parenting teens who are depressed?

What types of treatment do you think would be helpful?

In your opinion, how should young mothers be treated for depression?

What are some reasons why young mothers would not want to take medication or other types of treatment for depression?

**6. Attitudes that facilitate recognition and help-seeking: Individual attitudes that impact recognition of mental health disorders and willingness to seek help**

What are some reasons why pregnant or parenting teens wouldn't tell anyone if they're depressed?

Can you give examples of how people might act that would stop mothers from talking about depression?

Is it normal to feel depressed during pregnancy? What happens over time for young mothers who are depressed?

**7. Knowledge of how to seek mental health information: Individual knowledge of how to acquire information concerning mental health**

If pregnant and parenting teens wanted to find information about depression, how would they find it?

What are some of the things you've heard on T.V or on the internet about what mothers do when they're depressed? Do you think what they say is accurate?

It's important that young mothers get correct information about depression. What actions do mothers take in making sure the information they get is correct?

Wrap up question: Is there anything else you would like to say about this topic? Any suggestions that could help young mothers who may be feeling depressed?

## Appendix C: Mental Health Literacy Codelist

### Mental Health Literacy Code list:

- 1. Category:** Ability to recognize depression  
**Abbreviation:** ATR  
**Description:** Ability to identify features/symptoms of perinatal depression; individual's ability to recognize depression either by self-appraisal or appraisal of others  
**Examples:** Symptoms of depression such as weight gain/loss, sleep disturbance, fatigue or low energy, psychomotor retardation or agitation, difficulty concentrating, low self-esteem or guilt, and thoughts of death or suicide
- 2. Category:** Knowledge and beliefs about the causes of depression  
**Abbreviation:** COPD  
**Description:** Knowledge and identification of risk factors that increase the risk of developing perinatal depression; risk factors may be identified as biological or psychosocial  
**Examples:** Previous history, family history, parenting/financial stress, conflict with significant other or family member
- 3. Category:** Knowledge of self-help treatments  
**Abbreviation:** SHTX  
**Description:** Adaptive strategies taken by mothers to help them cope with perinatal depression; self-help strategies may be identified as healthy or unhealthy behaviors in managing or coping perinatal depression  
**Examples:** Exercise, eating healthy, talking to peers, significant other, or family members, meditation, smoking, or use of substances (e.g. alcohol and drugs)
- 4. Category:** Knowledge and beliefs about professional help available  
**Abbreviation:** PHA  
**Description:** Knowledge and identification of health care providers who help with the management or prevention of perinatal depression  
**Examples:** Social worker, counsellor, nurse, nurse practitioner, physician, psychologist, psychiatrist

5. **Category:** Knowledge and beliefs about treatments  
**Abbreviation:** PTXA  
**Description:** Knowledge and identification of typical treatments recommended by health professionals  
**Examples:** Pharmacologic treatment, counseling, and therapy
6. **Category:** Attitudes that facilitate recognition and help-seeking  
**Abbreviation:** ATHS  
**Description:** Negative or positive perceptions that impact recognition of perinatal depression and willingness to seek help; perceptions about help-seeking from others include peers, family members, and health care providers  
**Examples:** Embarrassment, shame, feeling a sense of personal weakness, feelings of disappointment persecution, fear of legal ramifications, receiving or lacking support from family members and health care providers, normalization of depressive symptoms
7. **Category:** Knowledge of how to seek mental health information  
**Abbreviation:** MHI  
**Description:** Knowledge of how to acquire information concerning perinatal depression; indicates resources used in obtaining information about perinatal depression  
**Examples:** Internet websites, health care providers, individuals who have previously experienced perinatal depression, literature, and social media



## Appendix D: IRB Approval Letter



OFFICE OF RESEARCH SUPPORT  
THE UNIVERSITY OF TEXAS AT AUSTIN

P.O. Box 7426, Austin, Texas 78715 - Mail Code A3200  
(512) 471-8871 - FAX (512) 471-8873

FWA # 00002030

Date: 09/07/17

PI: Pamela M Recto

Dept: Nursing

Title:

Mental Health Literacy of Mexican-American Adolescents:  
Understanding their Knowledge and Attitudes about  
Perinatal

Re: IRB Expedited Approval for Protocol Number 2017-06-0093

Dear Pamela M Recto:

In accordance with the Federal Regulations the Institutional Review Board (IRB) reviewed the above referenced research study and found it met the requirements for approval under the Expedited category noted below for the following period of time: 08/29/2017 to 08/28/2018. Expires 12 a.m. [midnight] of this date. If the research will be conducted at more than one site, you may initiate research at any site from which you have a letter granting you permission to conduct the research. You should retain a copy of the letter in your files.

Expedited category of approval:

- 1) Clinical studies of drugs and medical devices only when condition (a) or (b) is met. (a) Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review). (b) Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.
- 2) Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows: (a) from healthy, non-pregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or (b) from other adults and children, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.
- 3) Prospective collection of biological specimens for research purposes by non-invasive means. Examples:
  - (a) Hair and nail clippings in a non-disfiguring manner.

- (b) Deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction;
  - (c) Permanent teeth if routine patient care indicates a need for extraction.
  - (d) Excreta and external secretions (including sweat).
  - (e) Uncannulated saliva collected either in an un-stimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue.
  - (f) Placenta removed at delivery.
  - (g) Amniotic fluid obtained at the time of rupture of the membrane prior to or during labor.
  - (h) Supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques.
  - (i) Mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings.
  - (j) Sputum collected after saline mist nebulization.
- 4) Collection of data through non-invasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications).
- Examples:
- (a) Physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject's privacy.
  - (b) Weighing or testing sensory acuity.
  - (c) Magnetic resonance imaging.
  - (d) Electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography.
  - (e) Moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual.
- 5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for non-research purposes (such as medical treatment or diagnosis).  
Note: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(4). This listing refers only to research that is not exempt.
- 6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- 7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.  
Note: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.
- Use the attached approved informed consent document(s).
- You have been granted a Waiver of Documentation of Consent according to 45 CFR 46.117 and/or 21 CFR 56.109(c)(1).

## Appendix E: Reuse Permission

 **Copyright Clearance Center** RightsLink® [Home](#) [Account Info](#) [Help](#) 



**Title:** Psychosocial Risk Factors for Perinatal Depression among Female Adolescents: A Systematic Review

**Author:** Pamela Recto, Jane Dimmitt Champion

**Publication:** ISSUES IN MENTAL HEALTH NURSING

**Publisher:** Taylor & Francis

**Date:** Aug 3, 2017

Rights managed by Taylor & Francis

Logged in as: PAMELA RECTO  
Account #: 3001252253  
[Logout](#)

**Thesis/Dissertation Reuse Request**

Taylor & Francis is pleased to offer reuses of its content for a thesis or dissertation free of charge contingent on resubmission of permission request if work is published.

[BACK](#) [CLOSE WINDOW](#)

Copyright © 2018 Copyright Clearance Center, Inc. All Rights Reserved. [Privacy statement](#) [Terms and Conditions](#)  
Comments? We would like to hear from you. E-mail us at [customerscare@copyright.com](mailto:customerscare@copyright.com)

## Appendix F: Reuse Permission



Pamela M Recto <[REDACTED]>

---

### manuscript

**Authorqueries** <Authorqueries@sagepub.com>  
To: Pamela M Recto <[REDACTED]>

Mon, Feb 26, 2018 at 9:46 AM

Hi Pamela

Thank you for your email.

If you are re-using your article in your dissertation, you are allowed to use Version 3 (the final type-set version) of your paper. If this dissertation is then uploaded onto your institutional repository, you do not require further permission from SAGE.

I hope this helps but please do let me know if you require further assistance.

All the best

Danielle

**From:** Pamela M Recto [mailto:[REDACTED]]  
**Sent:** 22 February 2018 12:31  
**To:** Authorqueries <Authorqueries@sagepub.com>  
**Subject:** RE: manuscript

[Quoted text hidden]

## Appendix G: Reuse Permission



13

---

**Confirmation Number: 11700354**  
**Order Date: 02/21/2018**

---

**Customer Information**

Customer: PAMELA RECTO  
 Account Number: 3001252253  
 Organization: PAMELA RECTO  
 Email: [REDACTED]  
 Phone: [REDACTED]  
 Payment Method: Invoice

---

**This is not an invoice**

**Order Details**

Research and theory for nursing practice Billing Status:  
N/A

---

<p>Order detail ID: 71028655                  ISSN: 1045-7286                  Publication Type: Journal                  Volume:                  Issue:                  Start page:                  Publisher: Springer Pub. Co</p>	<p><b>Permission Status:</b> <input checked="" type="checkbox"/> <b>Granted</b></p> <p><b>Permission type:</b> Republish or display content  <b>Type of use:</b> Thesis/Dissertation  <b>Order License Id:</b> 4293750691839</p> <p><b>Requestor type:</b> Academic institution  <b>Format:</b> Print, Electronic  <b>Portion:</b> chapter/article  <b>The requesting person/organization:</b> PAMELA RECTO  <b>Title or numeric reference of the portion(s):</b> RESEARCH AND THEORY FOR NURSING PRACTICE  <b>Title of the article or chapter the portion is from:</b> Assessing the Mental Health Needs of Pregnant Adolescents: Health Literacy Frameworks to Guide Research and Practice  <b>Editor of portion(s):</b> N/A  <b>Author of portion(s):</b> PAMELA RECTO  <b>Volume of serial or monograph:</b> 31  <b>Issue, if republishing an article from a serial:</b> 2  <b>Page range of portion:</b>  <b>Publication date of portion:</b> 2017  <b>Rights for:</b> Main product  <b>Duration of use:</b> Life of current and all future editions  <b>Creation of copies for the disabled:</b> no  <b>With minor editing privileges:</b> no  <b>For distribution to:</b> United States and Canada</p>
---	---

## Appendix H: Reuse Permission

Copyright Clearance Center RightsLink®

Home Account Info Help



**Title:** Assessment of Mental Health Literacy among Perinatal Hispanic Adolescents  
**Author:** Pamela Recto, Jane Demmitt, Champion  
**Publication:** ISSUES IN MENTAL HEALTH NURSING  
**Publisher:** Taylor & Francis  
**Date:** Dec 2, 2017  
Rights managed by Taylor & Francis

Logged in as: PAMELA RECTO  
Account #: 3301252253  
[Logout](#)

**Thesis/Dissertation Reuse Request**  
Taylor & Francis is pleased to offer reuses of its content for a thesis or dissertation free of charge contingent on resubmission of permission request if work is published.

[BACK](#) [CLOSE WINDOW](#)

Copyright © 2018 Copyright Clearance Center, Inc. All Rights Reserved. Privacy Statement Terms and Conditions  
Comments? We would like to hear from you. E-mail us at [customerservice@copyright.com](mailto:customerservice@copyright.com)

## Appendix I: Modified Mental Health Literacy Survey

**PLEASE DO NOT PUT YOUR NAME ON THIS SHEET.**

The purpose of this activity is to find out what you know about mental health illnesses. There is no right or wrong answer. Once you finish reading each question, you will be given choices to help you decide. If at any time you need help, let me know and I will be happy to assist you. PLEASE ANSWER ALL THE QUESTIONS.

***For questions 1-9 please consider that:***

Very unlikely = I am sure that it is NOT likely

Unlikely = I think it is not likely but am not sure

Likely = I think it is likely but am not sure

Very Likely = I am sure that it IS very likely

**For each question below, please choose ONE of the choices that best describes your answer.**

**Please answer all questions**

1. Jenny is a 15 year old living at home with her parents. Since starting her new school last year she has become very shy and has made only one friend. She would really like to make more friends but is scared that she will do or say something embarrassing when she's around others. She never answers the phone and she won't go to parties. Jenny says that she can't control these feelings and this really upsets her. How likely do you think Jenny has a mental illness?

Choose one answer:

Very unlikely    Unlikely    Likely    Very  
Likely

2. Julie is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. She is tired all the time and has trouble sleeping at night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her studies and has not done well in her classes. She has a hard time making decisions and even simple tasks seem too much for her. How likely do you think Jenny has a mental illness?

Choose one answer:

Very unlikely    Unlikely    Likely    Very  
Likely

3. Darlene is an 18 year-old who is afraid to leave her house. She avoids going to crowded places like shopping malls, or restaurants. Darlene says if she leaves her house she's afraid that she will have a panic attack. For this reason, Darlene does not leave her home because she feels like it is the only safe place in the world. How likely do you think Darlene has a mental illness?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

4. Kristi is a 17-year-old who is always worried about everything. She worries so much that she is not able to concentrate or focus on things. She says there are times she feels like throwing up because she can't stop worrying. Kristi also says she is not able to sleep at night because she worries so much. How likely do you think Kristi has a mental illness?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

5. Carrie is a 16 year old who often has mood changes. There are moments she acts very excited, talks really fast about a lot of different things, and has trouble sleeping at night. All of a sudden, Carrie can become easily upset, and very sad to the point that she doesn't feel like doing anything. How likely do you think Carrie has a mental illness?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

6. When people feel they have to take more and more of a drug each time in order to be okay, how likely is it that they have a drug problem?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely



7. Do you think that if a person realizes they are having negative thoughts and then tries to control these thoughts by acting in a positive way that it will help them?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

8. Do you think that women are more likely to experience mental illness than men?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

9. Do you think that men are more likely to experience anxiety than women?

Choose one answer:

Very unlikely   Unlikely   Likely   Very  
Likely

10. If someone is threatening to hurt someone or themselves, is it okay for a counselor to tell and get help from others?

Choose one answer:

Strongly   Disagree   Neither   Agree   Strongly  
disagree   agree or  
disagree   agree

11. If your problem is not life threatening, is it okay for a counselor to tell others about your problem because they want others to help you too?

Choose one answer:

Strongly   Disagree   Neither   Agree   Strongly  
disagree   agree or  
disagree   agree

***For questions 12-13 please consider that:***

Very Unhelpful = I am sure that it is NOT helpful

Unhelpful = I think it is unhelpful but am not sure

Helpful = I think it is helpful but am not sure

Very helpful= I am sure that it is helpful

**For each question below, please choose ONE of the choices that best describes your answer.**

**Please answer all questions**

12. Do you think getting better sleep helps someone who is feeling nervous, anxious, or depressed?

Choose one answer:

Very Unhelpful      Unhelpful      Helpful      Very helpful

13. Do you think avoiding all activities or situations that make a person nervous or depressed will help them feel better?

Choose one answer:

Very Unhelpful      Unhelpful      Helpful      Very helpful

**For each question below put a check mark or cross in the box that best describes your answer.  
Please answer all questions**

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
14. I know where to find information about mental illness					
15. I know how to use the computer or telephone to find information about mental illness					
16. I am comfortable going to a health provider to get information about mental illness					
17. I have access to resources (Ex: doctor, friends, counselor, internet, TV) that I can use to look for information about mental health illness					
18. People with a mental illness could get over it if they wanted to					
19. A mental illness is a sign of personal weakness					
20. A mental illness is not a real medical illness					
21. People with a mental illness are dangerous					
22. It is best to avoid people with a mental illness so that you don't develop this problem					
23. If I had a mental illness I would not tell anyone					
24. Seeing a mental health professional means you are not strong enough to manage your own problems?					
25. If I had a mental illness, I would not get help from a mental health professional					
26. I believe getting help for mental illness from a professional would not work					

**For each question, put a check mark or cross in the box that best describes your answer.**

**Please answer all questions**

	<b>Definitely not willing</b>	<b>Probably not willing</b>	<b>Neither unwilling or willing</b>	<b>Probably willing</b>	<b>Definitely willing</b>
27. How willing would you be to move next door to someone with a mental illness?					
28. How willing would you be to spend an evening hanging out with someone with a mental illness?					
29. How willing would you be to make friends with someone with a mental illness?					
30. How willing would you be to work closely with someone who has a mental illness?					
31. How willing would you be to vote for a politician who had a mental illness?					
32. How willing would you be to have someone with a mental illness marry someone in your family?					
33. If you were an employer, would you be willing to hire someone who had a mental illness?					

Ability to recognize specific disorders: 6 items (questions 1-6); Knowledge of how to seek mental; health information: 4 items (14-17); Knowledge of risk factors and causes: 2 items (8, 9); Knowledge of self-treatments: 2 items (12, 13); Knowledge of professional help available: 3 items (7, 10, 11); Attitudes that promote recognition and appropriate help-seeking: 16 items (7, 18-33). Total score is produced by summing all items (see reverse scored items below).

Questions with a 4-point scale are rated 1- very unlikely/unhelpful, 4 – very likely/helpful and for 5-point scale 1 – strongly disagree/definitely unwilling, 5 – strongly agree/definitely willing

Reverse scored items: 8, 9, 11, 13, and 18 through 26

Maximum Score: 154; Minimum score: 33; Higher scores indicate higher mental health literacy

# Appendix J: Reuse Permission

Rightslink® by Copyright Clearance Center

<https://s100.copyright.com/AppDispatchServlet>



## RightsLink®

Home

Create Account

Help



**Title:** "We Don't Want to be Judged": Perceptions about Professional Help and Attitudes Towards Help-Seeking among Pregnant and Postpartum Mexican-American Adolescents

**Author:** Pamela Recto, Jane Dimmitt, Champion

**Publication:** Journal of Pediatric Nursing

**Publisher:** Elsevier

**Date:** Available online 27 April 2018

© 2018 Elsevier Inc. All rights reserved.

### LOGIN

If you're a [copyright.com](#) user, you can login to RightsLink using your [copyright.com](#) credentials. Already a RightsLink user or want to [learn more?](#)

Please note that, as the author of this Elsevier article, you retain the right to include it in a thesis or dissertation, provided it is not published commercially. Permission is not required, but please ensure that you reference the journal as the original source. For more information on this and on your other retained rights, please visit: <https://www.elsevier.com/about/our-business/policies/copyright#Author-rights>

BACK

CLOSE WINDOW

Copyright © 2018 Copyright Clearance Center, Inc. All Rights Reserved. [Privacy statement](#). [Terms and Conditions](#).  
Comments? We would like to hear from you. E-mail us at [customerscare@copyright.com](mailto:customerscare@copyright.com)

## References

- Abrams, L. S., Dornig, K., & Curran, L. (2009). Barriers to service use for postpartum depression symptoms among low-income ethnic minority mothers in the United States. *Qualitative Health Research, 19*(4), 535–551.  
doi:10.1177/1049732309332794
- Adames, H. Y., & Chavez-Dueñas, N. Y. (2016). *Explorations in mental health: Cultural foundations and interventions in Latino/a mental health: History, theory and within group differences* New York, NY: Taylor and Francis.
- Agapidaki, E., Souliotis, K., Jackson, S. F., Benetou, V., Christogiorgos, S., Dimitrakaki, C., & Tountas, Y. (2014). Pediatricians' and health visitors' views towards detection and management of maternal depression in the context of a weak primary health care system: A qualitative study. *BMC Psychiatry, 14*(1), 108-108.  
doi: 10.1186/1471-244X-14-108
- Alhasanat, D., & Giurgescu, C. (2017). Acculturation and postpartum depressive symptoms among Hispanic women in the United States: A systematic review. *The American Journal of Maternal/Child Nursing, 42*(1), 21–28.  
doi: 10.1097/NMC.0000000000000298
- American College of Obstetricians and Gynecologists. (2015). Screening for perinatal depression. Committee Opinion No. 630. *Obstetrics & Gynecology 125*, 1268–71.  
Retrieved from: <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Screening-for-Perinatal-Depression>

- American Psychological Association (2002). *Developing adolescents: A reference for professionals*. Retrieved from:  
<https://www.apa.org/pi/families/resources/develop.pdf>.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Washington, D.C: American Psychiatric Association.
- Andrade, L. H., Alonso, J., Mneimneh, Z., Wells, J. E., Al-Hamzawi, A., Borges, G., ... Kessler, R. C. (2014). Barriers to mental health treatment: Results from the WHO world mental health (WMH) surveys. *Psychological Medicine*, 44(6), 1303–1317. doi:10.1017/S0033291713001943
- Apolinario, D., Mansur, L. L., Carthery-Goulart, M. T., Brucki, S. M. D., & Nitrini, R. (2015). Cognitive predictors of limited health literacy in adults with heterogeneous socioeconomic backgrounds. *Journal of Health Psychology*, 20(12), 1613.
- Arredondo, P., Gallardo-Cooper, M., Delgado-Romero, E. A., & Zapata, A. L. (2014). *Culturally responsive counseling with Latinas/os* (1st ed.). Alexandria, VA: American Counseling Association.
- Bhatta, S., Champion, J.D., Young, C., & Loika, E. (2018). Outcomes of depression screening among adolescents accessing school-based pediatric primary care clinic services. *Journal of Pediatric Nursing*, 38, 8-14. doi: 10.1016/j.pedn.2017.10.001
- Beck, C. T., & Gable, R. K. (2001). Comparative analysis of the performance of the postpartum depression screening scale with two other depression instruments.

- Nursing Research*, 50(4), 242-250. doi:10.1097/00006199-200107000-00008
- Berkman, N. D., Davis, T. C., & McCormack, L. (2010). Health literacy: What is it? *Journal of Health Communication*, 15(sup2), 9–19.
- Barnet, B., Duggan, A. K., Wilson, M. D., & Joffe, A. (1995). Association between postpartum substance use and depressive symptoms, stress, and social support in adolescent mothers. *Pediatrics*, 96(4 Pt 1), 659–666.
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology*, 46(1), 5–34.
- Berry, J. W. (2006). Acculturative stress. In: Wong, P., Wong, L. (Eds.), *Handbook of Multicultural Perspective on Stress and Coping* (pp 287– 298). Langley, British Columbia: Springer Science & Business Media
- Biaggi, A., Conroy, S., Pawlby, S., & Pariante, C. M. (2016). Identifying the women at risk of antenatal anxiety and depression: A systematic review. *Journal of Affective Disorders*, 191, 62–77. doi: 10.1016/j.jad.2015.11.014
- Birkeland, R., Thompson, J. K., & Phares, V. (2005). Adolescent motherhood and postpartum depression. *Journal of Clinical Child & Adolescent Psychology*, 34(2), 292–300. doi:10.1207/s15374424jccp3402\_8
- Blackmore, R. E., Chaudron, L. (2014) Psychosocial and cultural considerations in detecting and treating depression in Latina perinatal women in the United States.



- In S. Lara-Cinisomo and K.L Wisner (eds.), *Perinatal depression among spanish speaking and Latin American women: A global perspective on detection and treatment* (83-96). New York, NY: Springer.
- Bond, K. S., Jorm, A. F., Kitchener, B. A., & Reavley, N. J. (2015). Mental health first aid training for Australian medical and nursing students: an evaluation study. *BMC Psychology*, 3(1), 11. doi:10.1186/s40359-015-0069-0
- Byatt, N., Biebel, K., Friedman, L., Debordes-Jackson, G., Ziedonis, D., & Pbert, L. (2013). Patient's views on depression care in obstetric settings: how do they compare to the views of perinatal health care professionals? *General Hospital Psychiatry*, 35(6), 598-604.
- Boyer, C. B., & Kegeles, S. M. (1991). AIDS risk and prevention among adolescents. *Social Science & Medicine*, 33(1), 11-23. doi:10.1016/0277-9536(91)90446-J
- Brown, S. A., García, A. A., Brown, A., Becker, B. J., Conn, V. S., Ramírez, G.,...Cuevas, H.E. (2016). Biobehavioral determinants of glycemic control in type 2 diabetes: A systematic review and meta-analysis. *Patient Education and Counseling*, 99(10), 1558–1567. doi: 10.1016/j.pec.2016.03.020
- Brown, J. D., Harris, S. K., Woods, E. R., Buman, M. P., & Cox, J. E. (2012). Longitudinal study of depressive symptoms and social support in adolescent mothers. *Maternal and ChildHealth Journal*, 16(4), 894–901. doi:10.1007/s10995-011-0814-9
- Buzi, R. S., Smith, P. B., Kozinetz, C. A., Peskin, M. F., & Wiemann, C. M. (2015). A

- socioecological framework to assessing depression among pregnant teens. *Maternal and Child Health Journal*, 19(10), 2187–2194. doi:10.1007/s10995-015-1733-y doi: 10.1016/j.pec.2016.03.020
- Callister, L. C., Beckstrand, R. L., & Corbett, C. (2011). Postpartum depression and help-seeking behaviors in immigrant Hispanic women. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 40(4), 440–449. doi:10.1111/j.1552-6909.2011.01254.x
- Centers for Disease Control and Prevention. (2013). *Teen pregnancy*. Retrieved on November 25, 2015 from <http://www.cdc.gov/teenpregnancy/about/index.htm>
- Cervantes, R. C., Padilla, A. M., Napper, L. E., & Goldbach, J. T. (2013). Acculturation-related stress and mental health outcomes among three generations of Hispanic adolescents. *Hispanic Journal of Behavioral Sciences*, 35(4), 451–468. doi:10.1177/0739986313500924
- Champion, J. D., Collins, J. L., Reyes, S., & Rivera, R. L. (2009). Attitudes and beliefs concerning sexual relationships among minority adolescent women. *Issues in Mental Health Nursing*, 30(7), 436–442.
- Champion, J. D., & Collins, J.L. (2012). Comparison of a theory-based (AIDS risk reduction model) cognitive behavioral intervention versus enhanced counseling for abused ethnic minority adolescent women on infection with sexually transmitted infection: Results of a randomized controlled trial. *International Journal of Nursing Studies*, (49)2, 138-150. doi: 10.1016/j.ijnurstu.2011.08.010

- Chisholm, K., Patterson, P., Torgerson, C., Turner, E., Jenkinson, D., & Birchwood, M. (2016). Impact of contact on adolescents' mental health literacy and stigma: The schoolspace cluster randomized controlled trial. *BMJ Open*, *6*(2), e009435.
- Christensen, H., Griffiths, K. M., & Jorm, A. F. (2004). Delivering interventions for depression by using the internet: Randomised controlled trial. *BMJ: British Medical Journal*, *328*(7434), 265-268. doi:10.1136/bmj.37945.566632.EE
- Clout, D., & Brown, R. (2015). Sociodemographic, pregnancy, obstetric, and postnatal predictors of postpartum stress, anxiety and depression in new mothers. *Journal of Affective Disorders*, *188*, 60–67. doi: 10.1016/j.jad.2015.08.054
- Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *Health Environments Research & Design Journal*, *9*(4), 16-25. doi:10.1177/1937586715614171
- Copeland, R. J. (2017). Experiences of adolescent mothers in Costa Rica and the role of parental support. *Journal of Family Social Work*, *20*(5), 416-432. doi: 10.1080/10522158.2017.1300114
- Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist*, *59* (7), 614-625. doi: 10.1037/0003-066x.59.73614
- Corrigan, P. (2016). Lessons learned from unintended consequences about erasing the stigma of mental illness. *World Psychiatry*, *15*(1), 67–73.
- Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). The impact of mental illness

- stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest*, 15(2), 37–70. doi:10.1177/1529100614531398
- Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.
- Cuevas, C. A., Sabina, C., & Bell, K. A. (2014). Dating violence and interpersonal victimization among a national sample of Latino youth. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 55(4), 564-570. doi: 10.1016/j.jadohealth.2014.04.007
- Dahlberg, K., Waern, M., & Runeson, B. (2008) Mental health literacy and attitudes in a Swedish community sample: Investigating the role of personal experience of mental health care. *BMC Public Health*, 8(1), doi: 10.1186/1471-2458-8-8
- D’Anna-Hernandez, K. L., Aleman, B., & Flores, A.-M. (2015). Acculturative stress negatively impacts maternal depressive symptoms in Mexican-American women during pregnancy. *Journal of Affective Disorders*, 176, 35–42.
- Dashiff, C., DiMicco, W., Myers, B., & Sheppard, K. (2009). Poverty and adolescent mental health. *Journal of Child and Adolescent Psychiatric Nursing*, 22(1), 23. doi:10.1111/j.1744-6171.2008.00166.x
- Davalos, D. B., Yadon, C. A., & Tregellas, H. C. (2012). Untreated prenatal maternal depression and the potential risks to offspring: a review. *Archives of Women’s Mental Health*, 15(1), 1–14.
- Davies, J., Bukulatjpi, S., Sharma, S., Davis, J., & Johnston, V. (2014). "Only your blood

- can tell the story"--a qualitative research study using semi-structured interviews to explore the hepatitis B related knowledge, perceptions and experiences of remote dwelling indigenous Australians and their health care providers in northern Australia. *BMC Public Health*, 14(1), 1233-1233. doi:10.1186/1471-2458-14-1233
- Davila, M., McFall, S. L., & Cheng, D. (2009). Acculturation and depressive symptoms among pregnant and postpartum Latinas. *Maternal and Child Health Journal*, 13(3), 318–325.
- Derogatis, L.R. (1994). *SCL-90-R Symptom checklist-90-R. Administration, scoring and procedures manual*. (3rd ed.). Minneapolis, MN: National Computer Systems.
- DeSocio, J. (2015). A call to action: Reducing toxic stress during pregnancy and early childhood: Commentary. *Journal of Child and Adolescent Psychiatric Nursing*, 28(2), 70–71. doi:10.1111/jcap.12106
- Diaz, C. J., & Fiel, J. E. (2016). The effect(s) of teen pregnancy: Reconciling theory, methods, and findings. *Demography*, 53(1), 85-116. doi:10.1007/s13524-015-0446-6
- Edwards, R. C., Matthew J. T, Isarowong, N., Shiu, C., Henson, L., & Hans, S. (2012). Supportive relationships and the trajectory of depressive symptoms among young, African American mothers. *Journal of Family Psychology* 26, (4), 585–594. doi:10.1037/a0029053.
- Ellison, J., Jandorf, L., & Duhamel, K. (2011). Assessment of the short acculturation

- scale for hispanics (SASH) among low-income, immigrant hispanics. *Journal of Cancer Education*, 26(3), 478-483. doi:10.1007/s13187-011-0233-z
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1) doi:10.1177/2158244014522633
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. doi:10.1111/j.1365-2648.2007.04569.x
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes* (2nd ed.). Chicago: The University of Chicago Press.
- Ertel, K. A., Rich-Edwards, J. W., & Koenen, K. C. (2011). Maternal depression in the United States: Nationally representative rates and risks. *Journal of Women's Health*, 20(11), 1609–1617. doi:10.1089/jwh.2010.2657
- Fagan, J., & Lee, Y. (2010). Perceptions and satisfaction with father involvement and adolescent mothers' postpartum depressive symptoms. *Journal of Youth and Adolescence*, 39(9), 1109–1121. doi:10.1007/s10964-009-9444-6
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fishbein, M., Bandura, A., Triandis, H. C., Kanfer, F. H., Becker, M. H., & Middlestadt, S. (1992). Factors influencing behavior and behavior change. *Report Prepared for the National Institute of Mental Health (NIMH)*. Bethesda, MD: National Institute of Mental Health.

- Fleuriet, K. J. (2009). Problems in the Latina paradox: measuring social support for pregnant immigrant women from Mexico. *Anthropology & Medicine, 16*(1), 49–59. doi: 10.1080/13648470802425989
- Fleuriet, K. J., & Sunil, T. S. (2014). Perceived social stress, pregnancy-related anxiety, depression and subjective social status among pregnant Mexican and Mexican-American women in south Texas. *Journal of Health Care for the Poor and Underserved, 25*(2), 546–561. doi:10.1353/hpu.2014.0092
- Florsheim, P., Burrow-Sánchez, J. J., Minami, T., McArthur, L., Heavin, S., & Hudak, C. (2012). Young parenthood program: supporting positive paternal engagement through coparenting counseling. *American Journal of Public Health, 102*(10), 1886–1892. doi: 10.2105/AJPH.2012.300902
- Flynn, H., Henshaw, E., O’Mahen, H., Forman, J. (2010). Patient perspectives on improving the depression referral processes in obstetrics settings: a qualitative study. *Gen Hospital Psychiatry, 32*(1), 9–16.
- Fonseca, A., & Canavarro, M. C. (2017). Women’s intentions of informal and formal help-seeking for mental health problems during the perinatal period: The role of perceived encouragement from the partner. *Midwifery, 50*, 78–85. doi: 10.1016/j.midw.2017.04.001
- Fonseca, A., Gorayeb, R., Canavarro, M. C. (2015). Women’s help-seeking behaviours

- for depressive symptoms during the perinatal period: Socio-demographic and clinical correlates and perceived barriers to seeking professional help. *Midwifery*, 31(12):1177-85. doi: 10.1016/j.midw.2015.09.002.
- Fonseca, A., Moura-Ramos, M., & Canavarro, M. C. (2018). Attachment and mental help-seeking in the perinatal period: The role of stigma. *Community Mental Health Journal*, 54(1), 92-101. doi: 10.1007/s10597-017-0138-3
- Fonseca, A., Silva, S. & Canavarro, M. C. (2016) Depression literacy and awareness of psychopathological symptoms during the perinatal period. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 46(2), 197-208.  
doi: 10.1016/j.jogn.2016.10.1006
- Fornos, L. B., Seguin Mika, V., Bayles, B., Serrano, A. C., Jimenez, R. L., & Villarreal, R. (2005). A qualitative study of Mexican American adolescents and depression. *Journal of School Health*, 75(5), 162–170. doi: 10.1111/j.1746-1561.2005.00017.x
- Gavin, A. R., Lindhorst, T., & Lohr, M. J. (2011). The prevalence and correlates of depressive symptoms among adolescent mothers: Results from a 17-year longitudinal study. *Women & Health*, 51(6), 525–545.  
doi:10.1080/03630242.2011.606355
- German, M., Gonzales, N.A., & Dumka, L. (2009). Familism values as a protective factor for Mexican-origin adolescents exposed to deviant peers. *The Journal of Early Adolescence*, 29(1), 16-42. doi: 10.1177/0272431608324475



- Ghanbari, S., Ramezankhani, A., Montazeri, A., & Mehrabi, Y. (2016). Health literacy measure for adolescents (HELMA): Development and psychometric properties: E0149202. *PLoS One*, *11*(2) doi: 10.1371/journal.pone.0149202
- Glasheen, C., Colpe, L., Hoffman, V., & Warren, L. K. (2014). Prevalence of serious psychological distress and mental health treatment in a national sample of pregnant and postpartum women. *Maternal and Child Health Journal*, *19*(1), 204–216. doi:10.1007/s10995-014-1511-2
- Gloria, A. M., & Rodriguez, E. R. (2000). Counseling latino university students: Psychosociocultural issues for consideration. *Journal of Counseling & Development*, *78*(2), 145-154. doi: 10.1002/j.1556-6676.2000.tb02572.x
- Graneheim, U., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, *24*(2), 105–112. doi: 10.1016/j.nedt.2003.10.001
- Groene, R. O., & Rudd, R. E. (2011). Results of a feasibility study to assess the health literacy environment: navigation, written, and oral communication in 10 hospitals in Catalonia, Spain. *Journal of Communication in Healthcare*, *4*(4), 227–237.
- Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry*, *10*, 113. doi:10.1186/1471-244X-10-11
- Guy, S., Sterling, B. S., Walker, L. O., & Harrison, T. C. (2014). Mental health literacy and postpartum depression: a qualitative description of views of lower income

- women. *Archives of Psychiatric Nursing*, 28(4), 256–262.  
doi: 10.1016/j.apnu.2014.04.00
- Hadlaczky, G., Hökby, S., Mkrtchian, A., Carli, V., & Wasserman, D. (2014). Mental Health First Aid is an effective public health intervention for improving knowledge, attitudes, and behaviour: A meta-analysis. *International Review of Psychiatry*, 26(4), 467–475.
- Happell, B., Wilson, R., & McNamara, P. (2015). Undergraduate mental health nursing education in australia: More than mental health first aid. *Collegian (Royal College of Nursing, Australia)*, 22(4), 433–438.
- Harrison, M. E., Weinstangel, H., Dalziel, N., & Moreau, K. A. (2014). A collaborative outreach clinic for pregnant youth and adolescent mothers: Description of a pilot clinic and its patients. *Paediatrics & Child Health*, 19(5), 247-250.
- Hayden, M., Connelly, C. D., Baker-Ericzen, M. J., Hazen, A. L., & McCue-Horwitz, S. (2013). Exploring perceptions and experiences of maternal depression in Latinas: A qualitative study. *Issues in Mental Health Nursing*, 34(3), 180–184.
- Healthy People 2020 (2015). *Adolescent health*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/Adolescent-Health>
- Henshaw, E. J., Flynn, H. A., Himle, J. A., O'Mahen, H. A., Forman, J., & Fedock, G. (2011). Patient preferences for clinician interactional style in treatment of perinatal depression. *Qualitative Health Research*, 21(7), 936–951.  
doi: 10.1177/1049732311403499

- Hodgkinson, S., Beers, L., Southammakosane, C., & Lewin, A. (2014). Addressing the mental health needs of pregnant and parenting adolescents. *Pediatrics, 133*(1), 114–122. doi:10.1542/peds.2013-0927
- Institute of Medicine. (2004). *Health Literacy: A prescription to end confusion*. Retrieved from: <http://www.nap.edu/catalog/10883/health-literacy-a-prescription-to-end-confusion>
- James, S. R. (2008). *I think I can: Parenting self-efficacy in parents of young adolescents*. (Doctoral Dissertation). University of Colorado.
- Jeanfreau, S. G., & Jack, L. (2010). Appraising Qualitative Research in Health Education: Guidelines for Public Health Educators. *Health Promotion Practice, 11*(5), 612–617. <http://doi.org/10.1177/1524839910363537>
- Jorm, A. F. (2000). Mental health literacy. *The British Journal of Psychiatry, 177*(5), 396–401. doi:10.1192/bjp.177.5.396
- Jorm, A. F. (2012). Mental health literacy: Empowering the community to take action for better mental health. *American Psychologist, 67*(3), 231–243. doi:10.1037/a0025957
- Jorm, A. F. (2015). Why we need the concept of mental health literacy. *Health Communication, 30*(12), 1166–1168.
- Jorm, A. F., Christensen, H., Griffiths, K. M., & Rodgers, B. (2002). Effectiveness of complementary and self-help treatments for depression. *Medical Journal of Australia, 176*(Suppl. 10), S84–S95.

- Jorm, A. F., Morgan, A. J., & Wright, A. (2010). Actions that your people can take to prevent depression, anxiety, and psychosis: Beliefs of health professionals and young people. *Journal of Affective Disorders, 126*, 278–281.  
doi: 10.1016/j.jad.2010.03.011
- Kerr, D. C. R., Preuss, L. J., & King, C. A. (2006). Suicidal adolescents' social support from family and peers: Gender-specific associations with psychopathology. *Journal of Abnormal Child Psychology, 34*(1), 99–110. doi:10.1007/s10802-005-9005-8
- Kim, J. J., La Porte, L. M., Corcoran, M., Magasi, S., Batza, J., & Silver, R. K. (2010). Barriers to mental health treatment among obstetric patients at risk for depression. *American Journal of Obstetrics and Gynecology, 202*(3), 312.e1-312.e5.  
doi: 10.1016/j.ajog.2010.01.004
- King Jones, T. C. (2010). "It drives us to do it": Pregnant adolescents identify drivers for sexual risk-taking. *Issues in Comprehensive Pediatric Nursing, 33*(2), 82-100.  
doi:10.3109/01460861003663961
- Kinsella, M. T., & Monk, C. (2009). Impact of maternal stress, depression & anxiety on fetal neurobehavioral development. *Clinical Obstetrics and Gynecology, 52*(3), 425–440. doi: 10.1097/GRF.0b013e3181b52df1
- Kleiber, B. V (2014). *Postpartum depression among adolescent mothers: Examining and treating low-income adolescents with symptoms of postpartum depression*. (Doctoral Dissertation). University of Massachusetts.

- Kleiber, B. V., & Dimidjian, S. (2014). Postpartum depression among adolescent mothers: A comprehensive review of prevalence, course, correlates, consequences, and interventions. *Clinical Psychology: Science and Practice*, 21(1), 48–66. doi:10.1111/cpsp.12055
- Koleva, H., & Stuart, S. (2014). Risk factors for depressive symptoms in adolescent pregnancy in a late-teen subsample. *Archives of Women's Mental Health*, 17(2), 155–58. doi:10.1007/s00737-013-0393-4.
- Koniak-Griffin, D., Walker, D.S., & Traversay, J. (1996). Predictors of depression symptoms in pregnancy adolescents. *Journal of Perinatology* 16(1). 69-76.
- Lambert, V., Lambert, C. (2012) Editorial: qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256.
- Lara-Cinisomo, S., Girdler, S. S., Grewen, K., & Meltzer-Brody, S. (2016). A biopsychosocial conceptual framework of postpartum depression risk in immigrant and U.S.-born Latina mothers in the United States. *Women's Health Issues*, 26(3), 336–343. doi: 10.1016/j.whi.2016.02.006
- Lara-Cinisomo, S., Wisner, K. L., Burns, R. M., & Chaves-Gnecco, D. (2014). Perinatal depression treatment preferences among Latina mothers. *Qualitative Health Research*, 24(2), 232-241. doi:10.1177/1049732313519866
- Lara, M.A., Le, H.N., Letechipia, G., & Hochhausen, L. (2009). Prenatal depression in

- Latinas in the U.S. and Mexico. *Maternal and Child Health Journal*, 13(4), 567-576. doi:10.1007/s10995-008-0379-4
- Lee, H. Y., Lee, J., & Kim, N. K. (2015). Gender differences in health literacy among korean adults: Do women have a higher level of health literacy than men? *American Journal of Men's Health*, 9(5), 370. doi:10.1177/1557988314545485
- Lee, S.-Y. D., Tsai, T.-I., Tsai, Y.-W., & Kuo, K. N. (2010). Health literacy, health status, and healthcare utilization of Taiwanese adults: results from a national survey. *BMC Public Health*, 10(1), 614–614.
- Leighton, S. (2010). Using a vignette-based questionnaire to explore adolescents' understanding of mental health issues. *Clinical Child Psychology and Psychiatry*, 15(2), 231–250. doi:10.1177/1359104509340234
- Leininger, M. & McFarland, M.R. (2002) *Transcultural nursing: Concepts, theories, research and practice*. (3<sup>rd</sup> ed.) New York, NY: Mc-Graw-Hill.
- Lesser, J., & Koniak-Griffin, D. (2000). The impact of physical or sexual abuse on chronic depression in adolescent mothers. *Journal of Pediatric Nursing*, 15(6), 378–387. doi:10.1053/jpdn.2000.16714
- Levy, M.E., Wilton, L., Phillips, G., Glick, S.N., Kuo, I., Brewer, R., ... Magnus, M. (2014). Understanding structural barriers to accessing HIV testing and prevention services among black men who have sex with men (BMSM) in the United States. *Health and Human Services Public Access*, 18(5), 972–996. doi: 10.1007/s10461-014-0719-x

- Lewis-Fernandez, R., Das, A.K., Alfonso, C., Weissman, M.M., & Olfson, M. (2005). Depression in US Hispanics: diagnostic and management considerations in family practice. *The Journal of the American Board of Family Medicine*, 18(4), 282-96. doi: 10.3122/jabfm.18.4.282
- Li, D., Liu, L., & Odouli, R. (2009). Presence of depressive symptoms during early pregnancy and the risk of preterm delivery: a prospective cohort study. *Human Reproduction*, 24(1), 146–15.
- Logsdon, M. C., Bennett, G., Crutzen, R., Martin, L., Eckert, D., Robertson, A., ... Flamini, L. (2014). Preferred health resources and use of social media to obtain health and depression information by adolescent mothers. *Journal of Child and Adolescent Psychiatric Nursing*, 27(4), 163-168. doi:10.1111/jcap.12083
- Logsdon, M. C., Hertweck, P., Ziegler, C., & Pinto-Foltz, M. (2008). Testing a bioecological model to examine social support in postpartum adolescents. *Journal of Nursing Scholarship*, 40(2), 116–123. do:10.1111/j.1547-5069.2008.00215.x
- Lopez, M.H., Gonzalez-Barrera, M.H.A., Cuddington, D. (2013). Diverse origins: The nation's 14 largest Hispanic-origin groups. Retrieved from [www.pewhispanic.org/files/2013/06/summary\\_report\\_final.pdf](http://www.pewhispanic.org/files/2013/06/summary_report_final.pdf)
- Macartney, S., Bishaw, A., & Fontenot, K. (2013). *Poverty rates for selected detailed race and Hispanic groups by state and place: 2007–2011*. Retrieved from: <https://www.census.gov/prod/2013pubs/acsbr11-17.pdf>
- Maldonado-Durán, J. M., Munguía-Wellman, M., Lubin, S., & Lartigue, T. (2002).

- Latino families in the perinatal period: Cultural issues in dealing with the health-care system. *Great Plains Research*, 12(1), 75-100.
- Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *The Lancet*, 358(9280), 483-488. doi:10.1016/S0140-6736(01)05627-6
- Marin, G., Sabogal, F., Marin, B., Otero-Sabogal, R., & Perez-Stable, E. (1987). Development of a short acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences*, 9(2), 183-205. doi:10.1177/07399863870092005
- Martin, J.A., Hamilton, B.E., Osterman, M.J.K., Curtin, S.C., & Matthews, T.J. (2015). Births: Final data for 2013. *National Vital Statistics Reports*, 64(1), 1-64. Retrieved from [http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\\_01.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf)
- Martin, J., Hamilton, B. E., Osterman, M.J.K., Driscoll, A. K., & Matthews, M.S. (2017). Births: Final data for 2015. *National Vital Statistics Report*, 66(1). Hyattsville, MD: National Center for Health Statistics.
- Meltzer-Brody, S., Bledsoe-Mansori, S. E., Johnson, N., Killian, C., Hamer, R. M., Jackson, C., ... Thorp, J. (2013). A prospective study of perinatal depression and trauma history in pregnant minority adolescents. *American Journal of Obstetrics and Gynecology*, 208(3), 211.e1-211.e7. doi: 10.1016/j.ajog.2012.12.020
- Mental Health America (2008). *Maternal depression making a difference through community action: A planning guide*. Retrieved from: [www.mentalhealthamerica.net/sites/default/files/maternal\\_depression\\_guide.pdf](http://www.mentalhealthamerica.net/sites/default/files/maternal_depression_guide.pdf)
- Merikangas, K., He, J., Burstein, M., Swanson, S., Avenevoli, S., Cui, L., Benjet, C.,



- Georgiades, K., Swendensen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national comorbidity survey replication-adolescent supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 980–989. doi: 10.1016/j.jaac.2010.05.017
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, California: SAGE Publications
- Milne, J., & Oberle, K. (2005). Enhancing rigor in qualitative description: A case study. *Journal of Wound, Ostomy and Continence Nursing, 32*(6), 413-420.
- Morse J. M. (1995). The significance of saturation. *Qualitative Health Research, 5*, 147–149. doi:10.1177/104973239500500201
- Mossakowski, K.N. (2011). Unfulfilled expectations and symptoms of depression among young adults. *Social Science and Medicine, 73*(5), 729-736.  
doi: 10.1016/j.socscimed.2011.06.021
- Murphey, D., Vaughn, B., Barry, M. (2013). *Adolescent health highlight: access to mental health care*. Retrieved from  
<http://www.childtrends.org/?publications=access-to-mental-health-care>
- Myors, K., Johnson, M., & Langdon, R. (2001). Coping styles of pregnant adolescents: Adolescent pregnancy and coping. *Public Health Nursing, 18*(1), 24–32.  
doi:10.1111/j.1525-1446.2001.00024.x
- National Institute for Healthcare Management (2010). Identifying and treating maternal depression: Strategies & considerations for health plans. Retrieved from:

- [http://www.nihcm.org/pdf/FINAL\\_MaternalDepression6-7.pdf](http://www.nihcm.org/pdf/FINAL_MaternalDepression6-7.pdf)
- Nellsch, E., Walker, L., Xie, B., & Vaughan, M. (2013). What new mothers' favorite web sites and features tell us about designing web-based health promotion: A content analysis. *Telemedicine and e-Health, 19*(11), 875-878. doi:10.1089/tmj.2013.0023
- Newman, B. S., & Campbell, C. (2011). Intimate partner violence among pregnant and parenting Latina adolescents. *Journal of Interpersonal Violence, 26*(13), 2635–2657. doi:10.1177/0886260510388281.
- Nolen-Hoeksema, S., & Hilt, L. M. (2009). *Handbook of depression in adolescents*. New York, NY: Routledge.
- Nunes, A. P., & Phipps, M. G. (2013). Postpartum depression in adolescent and adult mothers: comparing prenatal risk factors and predictive models. *Maternal and Child Health Journal, 17*(6), 1071–1079. doi: 10.1007/s10995-012-1089-5
- Oates, D. J., & Paasche-Orlow, M. K. (2009). Health literacy: communication strategies to improve patient comprehension of cardiovascular health. *Circulation, 119*(7), 1049–1051.
- O'Connor, M., & Casey, L. (2015). The mental health literacy scale (MHLS): A new scale-based measure of mental health literacy. *Psychiatry Research, 229*(1-2), 511–516.
- Olsson, D. P., & Kennedy, M. G. (2010). Mental health literacy among young people in a

- small US town: recognition of disorders and hypothetical helping responses. *Early Intervention in Psychiatry*, 4(4), 291–298. doi:10.1111/j.1751-7893.2010.00196.
- Osborn, C. (2011). The mechanisms linking health literacy to behavior and health status. *American Journal of Health Behavior*, 35(1). doi:10.5993/AJHB.35.1.11
- Paasche-Orlow, M. K., Riekert, K. A., Bilderback, A., Chanmugam, A., Hill, P., Rand, C. S., ... Krishnan, J. A. (2005). Tailored education may reduce health literacy disparities in asthma self-management. *American Journal of Respiratory and Critical Care Medicine*, 172(8), 980–986.
- Paasche-Orlow, M. K., Schillinger, D., Greene, S. M., & Wagner, E. H. (2006). How health care systems can begin to address the challenge of limited literacy. *Journal of General Internal Medicine*, 21(8), 884–887.
- Paasche-Orlow, M. K., & Wolf, M. S. (2007). The causal pathways linking health literacy to health outcomes. *American Journal of Health Behavior*, 31(Suppl 1), S19-S26.
- Paasche-Orlow, M. K., & Wolf, M. S. (2010). Promoting health literacy research to reduce health disparities. *Journal of Health Communication*, 15(sup2), 34–41. doi:10.1080/10810730.2010.499994
- Parker, M. A., Segovia, E., & Tap, B. (2015). Examining literature on Hispanic student achievement in the southeastern United States and North Carolina. *Journal of Hispanic Higher Education*, doi:10.1177/1538192715585996

- Peek, M. E., Wilson, S. C., Gorawara-Bhat, R., Odoms-Young, A., Quinn, M. T., & Chin, M. H. (2009). Barriers and facilitators to shared decision-making among African Americans with diabetes. *Journal of General Internal Medicine*, *24*(10), 1135–1139.
- Penman-Aguilar, A., Carter, M., Snead, M. C., & Kourtis, A. P. (2013). Socioeconomic disadvantage as a social determinant of teen childbearing in the U.S. *Public Health Reports (1974-)*, *128*(2), 5-22.
- Perry, E. L. (2014). Health literacy in adolescents: An integrative review. *Journal for Specialists in Pediatric Nursing*, *19*(3), 210-218. doi:10.1111/jspn.12072
- Planned Parenthood. (2013). *Pregnancy and childbearing among U.S teens*. Retrieved from <https://www.plannedparenthood.org/about-us/newsroom/fact-sheets-reports>
- PRISMA. (2009). *Transparent reporting of systematic reviews and meta-analysis*. Retrieved from <http://www.prisma-statement.org/PRISMAStatement/Checklist.aspx>
- Rangel, S. J. (2013). *Familismo, enculturation, and acculturation as predictors of psychological well-being in Latina/os*. (Doctoral Dissertation). Retrieved from <http://ezproxy.lib.utexas.edu/login?url=https://search-proquest-com.ezproxy.lib.utexas.edu/docview/1425317202?accountid=7118>
- Ravitch, S.M., & Carl, N.M. (2016) *Qualitative Research: Bridging the conceptual, theoretical and methodological*. Thousand Oaks, CA: Sage Publications.
- Reavley, N. J., & Jorm, A. F. (2011). The quality of mental disorder information

- websites: A review. *Patient Education and Counseling*, 85(2), e16-e25.  
doi:10.1016/j.pec.2010.10.015
- Reavley, N. J., McCann, T. V., & Jorm, A. F. (2012). Mental health literacy in higher education students. *Early Intervention in Psychiatry*, 6(1), 45–52.
- Recto, P., & Champion, J.D. (2016). Psychological distress and associated factors among Mexican-American adolescents. *Hispanic Health Care International* 14(4), 170-176.
- Recto, P., & Champion, J.D. (2017). Psychosocial risk factors for perinatal depression among female adolescents: A systematic review. *Issues in Mental Health Nursing*, 38(8), 633-642. doi: 10.1080/01612840.2017.1330908
- Recto, P., & Champion, J.D. (2017). Assessment of mental health literacy among perinatal Hispanic adolescents. *Issues in Mental Health Nursing*, 38(12), 1030-1038. doi: 10.1080/01612840.2017.1349224
- Recto, P., Champion, J. D., & Mackert, M. (2016). Assessing the mental health needs of pregnant adolescents: Health literacy frameworks to guide research and practice. *Research and Theory for Nursing Practice*, 31(2), 137-155.  
doi: 10.1177/1540415316676224
- Reid, V., & Meadows-Oliver, M. (2007). Postpartum depression in adolescent mothers: an integrative review of the literature. *Journal of Pediatric Health Care*, 21(5), 289–298. doi: 10.1016/j.pedhc.2006.05.010
- Ricci, S. S. (2009) *Essentials of maternity, newborn, and women's health nursing* (2<sup>nd</sup>

- ed). Philadelphia, PA: Lippincott Williams & Wilkins.
- Rickwood, D., Deane, F. P., Wilson, C. J. & Ciarrochi, J. V. (2005). Young people's help-seeking for mental health problems. *Australian e-Journal for the Advancement of Mental Health*, 4 (3), 1-34.
- Rickwood, D., & Thomas, K. (2012). Conceptual measurement framework for help-seeking for mental health problems. *Psychology Research and Behavior Management*, 173. doi:10.2147/PRBM.S38707
- Ridner, S. H. (2004). Psychological distress: concept analysis. *Journal of Advanced Nursing*, 45(5), 536–545. doi:10.1046/j.1365-2648.2003.02938.x
- Sabogal, F., Marin, G., Otero-Sabogal, R. (1987) Hispanic familism and acculturation: What changes and what doesn't? *Hispanic Journal of Behavioral Sciences*, 9(4), 397-412. doi: 10.1177/07399863870094003
- Sallis, J.F., Owen, N., & Fisher, E.B. (2008). Ecological models of health behavior. In K. Glanz, B.K.Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice*. 466-471. San Francisco, CA: Jossey-Bass.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23, 334–340.
- Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing & Health*, 33, 77–84. doi:10.1002/nur.20362
- Santiago-Rivera, A. L., Arrendondo, P. M., & Gallardo-Cooper, M. (2002). *Counseling*

- Latinos and la familia: A practical guide*. Thousand Oaks, Calif: Sage Publications.
- Satyanarayana, V. A., Lukose, A., & Srinivasan, K. (2011). Maternal mental health in pregnancy and child behavior. *Indian Journal of Psychiatry*, 53(4), 351-361. doi:10.4103/0019-5545.91911
- Schmidt, R., Wiemann, C., Rickert, V., & O'Brian Smith, E. (2006). Moderate to severe depressive symptoms among adolescent mothers followed four years postpartum. *Journal of Adolescent Health*, 38(6), 712–718. doi: 10.1016/j.jadohealth.2005.05.023
- Schreier, M. (2012) *Qualitative content analysis in practice*. Thousand Oaks, CA; Sage Publication.
- Schwarz, S.W. (2009). *Adolescent mental health in the United States*. Retrieved from [http://nccp.org/publications/pub\\_878.html](http://nccp.org/publications/pub_878.html)
- Shaw, S. J., Huebner, C., Armin, J., Orzech, K., & Vivian, J. (2009). The role of culture in health literacy and chronic disease screening and management. *Journal of Immigrant and Minority Health*, 11(6), 531-531. doi:10.1007/s10903-008-9149-z
- Siegel, R. S., & Brandon, A. R. (2014). Adolescents, pregnancy, and mental health. *Journal of Pediatric and Adolescent Gynecology*, 27(3), 138–150. doi: 10.1016/j.jpag.2013.09.008
- Silveira, M. L., Pekow, P. S., Dole, N., Markenson, G., & Chasan-Taber, L. (2013). Correlates of stress among pregnant Hispanic women. *Maternal and Child Health*

*Journal*, 17(6), 1138–1150. doi:10.1007/s10995-012-1106-8

Smith, M.V., Shao, L., Howell, H., Wang, H., Poschman, K., & Yonkers, K. A. (2009).

Success of mental health referral among pregnant and postpartum women with psychiatric distress. *General Hospital Psychiatry*, 31(2), 155-162.

doi: 10.1016/j.genhosppsy.2008.10.002

SmithBattle, L. I. (2013). Reducing the stigmatization of teen mothers. *the American*

*Journal of Maternal/Child Nursing*, 38(4), 235-241. doi:

10.1097/NMC.0b013e3182836bd4

Sobel, R. M., Paasche-Orlow, M. K., Waite, K. R., Rittner, S. S., Wilson, E. A. H., &

Wolf, M.S. (2009). Asthma 1-2-3: A low literacy multimedia tool to educate African American adults about asthma. *Journal of Community Health*, 34(4),

321–327.

Solivan, A. E., Wallace, M. E., Kaplan, K. C., & Harville, E. W. (2015). Use of a

resiliency framework to examine pregnancy and birth outcomes among adolescents: A qualitative study. *Families, Systems & Health: The Journal of Collaborative Family Healthcare*, 33(4), 349–355.

Spears, G. V., Stein, J. A., & Koniak–Griffin, D. (2010). Latent growth trajectories of

substance use among pregnant and parenting adolescents. *Psychology of Addictive Behaviors*, 24(2), 322–332. doi:10.1037/a0018518

Stapleton, L. R. T., Schetter, C. D., Westling, E., Rini, C., Glynn, L. M., Hobel, C. J., &

Sandman, C. A. (2012). Perceived partner support in pregnancy predicts lower



- maternal and infant distress. *Journal of Family Psychology*, 26(3), 453–463.  
doi: 10.1037/a0028332
- Stewart, S. M., Simmons, A., & Habibpour, E. (2012). Treatment of culturally diverse children and adolescents with depression. *Journal of Child and Adolescent Psychopharmacology*, 22(1), 72–79. doi:10.1089/cap.2011.0051
- Stuart-Parrigon, K., & Stuart, S. (2014). Perinatal depression: An update and overview. *Current Psychiatry Reports*, 16(9), 1–9. doi:10.1007/s11920-014-0468-6
- Subramaniam, M., St Jean, B., Taylor, N. G., Kodama, C., Follman, R., & Casciotti, D. (2015). Bit by bit: Using design-based research to improve the health literacy of adolescents. *JMIR Research Protocols*, 4(2), e62. doi:10.2196/resprot.4058
- Sullivan, K., Clark, J., Castrucci, B., Samsel, R., Fonseca, V., & Garcia, I. (2011). Continuing education mitigates the negative consequences of adolescent childbearing. *Maternal and Child Health Journal*, 15(3), 360–366
- Temple, J. R., & Freeman, D. H. (2011). Dating violence and substance use among ethnically diverse adolescents. *Journal of Interpersonal Violence*, 26(4), 701–18. doi:10.1177/0886260510365858
- Tzilos, K., Zlotnick, C., Raker, C., Kuo, C., and Maureen G. Phipps. (2012). Psychosocial factors associated with depression severity in pregnant adolescents. *Archives of Women's Mental Health*, 15(5), 397–401. doi:10.1007/s00737-012-0296-9
- Udo, I. E., Lewis, J. B., Tobin, J. N., & Ickovics, J. R. (2016). Intimate partner

- victimization and health risk behaviors among pregnant adolescents. *American Journal of Public Health*, 106(8), 1457-1459. doi:10.2105/AJPH.2016.303202
- United States Census Bureau. (2015). *Hispanic heritage month 2015*. Retrieved from:  
<http://www.census.gov/newsroom/facts-for-features/2015/cb15-ff18.html>
- United States Department of Health and Human Services. (n.d). *Health literacy and health outcomes*. Retrieved from  
<http://health.gov/communication/literacy/quickguide/factsliteracy.htm>
- United States Department of Health and Human Services. (2016). *Trends in teen pregnancy and childbearing*. Retrieved from  
<http://www.hhs.gov/ash/oah/adolescent-health-topics/reproductive-health/teen-pregnancy/trends.html>
- Venkatesh, K. K., Phipps, M. G., Triche, E. W., & Zlotnick, C. (2014). The relationship between parental stress and postpartum depression among adolescent mothers enrolled in a randomized controlled prevention trial. *Maternal and Child Health Journal*, 18(6), 1532–1539. doi: 10.1007/s10995-013-1394-7
- Walker, L.O., Avant, K.C. (2011). *Strategies for theory construction in nursing*. 5<sup>th</sup> edition. Upper Saddle, NJ: Prentice Hall.
- Walker, L. O., Gao, J., & Xie, B. (2015). Postpartum psychosocial and behavioral health: A systematic review of self-administered scales validated for postpartum women in the United States. *Women's Health Issues*, 25(5), 586–600. doi: 10.1016/j.whi.2015.05.006

- Walker, L. O., Murphey, C. L., & Xie, B. (2016). Missed opportunities for postpartum behavioral and psychosocial health care and acceptability of screening options. *Journal of Obstetric, Gynecological & Neonatal Nursing, 45*(5), 614–624. doi:10.1016/j.jogn.2016.05.004
- Weiss, B. D. (2005). Quick assessment of literacy in primary care: The newest vital sign. *The Annals of Family Medicine, 3*(6), 514–522. doi:10.1370/afm.405
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in qualitative research. *Qualitative Health Research, 11*, 522-537. doi: 10.1177/104973201129119299
- Woolhouse, H., Gartland, D., Mensah, F., Giallo, R., & Brown, S. (2016). Maternal depression from pregnancy to 4 years postpartum and emotional/behavioural difficulties in children: results from a prospective pregnancy cohort study. *Archives of Women's Mental Health, 19*(1), 141–151. doi:10.1007/s00737-015-0562-8
- World Health Organization (2014) *Mental health: a state of well-being*. Retrieved from: [http://www.who.int/features/factfiles/mental\\_health/en/](http://www.who.int/features/factfiles/mental_health/en/)
- World Health Organization. (2016). *Adolescent development*. Retrieved from: [http://www.who.int/maternal\\_child\\_adolescent/topics/adolescence/dev/en/](http://www.who.int/maternal_child_adolescent/topics/adolescence/dev/en/)
- World Health Organization. (2017). *Maternal and perinatal health*. Retrieved from: [http://www.who.int/maternal\\_child\\_adolescent/topics/maternal/maternal\\_perinatal/en/](http://www.who.int/maternal_child_adolescent/topics/maternal/maternal_perinatal/en/)
- Yap, M. B., Reavley, N. J., & Jorm, A. F. (2012). Associations between awareness of

beyondblue and mental health literacy in Australia: Results from a national survey. *Australian & New Zealand Journal of Psychiatry*, 46(6), 541–552.

Young, C. C. (2012). Screening for depression in adolescents. *The Journal for Nurse Practitioners*, 8(1), 73-74. doi: 10.1016/j.nurpra.2011.11.008