Published in final edited form as:

J Am Psychiatr Nurses Assoc. 2017 ; 23(2): 90–112. doi:10.1177/1078390316687023.

Parent and Family Processes Related to ADHD Management in Ethnically Diverse Youth

Cynthia P. Paidipati¹, Bridgette Brawner², Ricardo Eiraldi³, and Janet A. Deatrick⁴

¹Cynthia P. Paidipati, MSN, CRNP, The University of Pennsylvania, Philadelphia, PA, USA

²Bridgette Brawner, PhD, APRN, The University of Pennsylvania, Philadelphia, PA, USA

³Ricardo Eiraldi, PhD, The University of Pennsylvania, Philadelphia, PA, USA

⁴Janet A. Deatrick, PhD, RN, FAAN, The University of Pennsylvania, Philadelphia, PA, USA

Abstract

BACKGROUND—Previous research has shown major disparities in attention deficit hyperactivity disorder (ADHD) for diverse youth across America. We do not fully understand, however, how parent and family processes are related to the identification, care-seeking approaches, treatment preferences, and engagement with care systems and services for youth with ADHD.

OBJECTIVES—The present study aimed to explore parent and family processes related to the management of ADHD in racially and ethnically diverse youth.

DESIGN—This integrative review was structured with the methodology proposed by Whittemore and Knafl.

RESULTS—Three major electronic databases yielded a final sample of 32 articles (24 quantitative, 6 qualitative, and 2 mixed methods). Nine themes emerged within three overarching meta-themes.

CONCLUSIONS—Understanding the unique perspectives of families from diverse backgrounds is essential for clinicians, researchers, and policymakers, who are dedicated to understanding racial and ethnic perspectives and developing ecologically appropriate and family-based interventions for youth with ADHD.

Keywords

ADHD; integrative review; disparities; youth; families

Reprints and permissions: sagepub.com/journalsPermissions.nav

Corresponding Author: Cynthia P. Paidipati, School of Nursing, University of Pennsylvania, 418 Curie Boulevard., Philadelphia, PA 19104, USA. cpaid@nursing.upenn.edu.

Author Roles

Cynthia P. Paidipati—First author, who is the primary researcher and writer of the article; Bridgette Brawner and Ricardo Eiraldi—contributed substantial feedback and critical revisions to the article; Janet A. Deatrick—senior author, who mentored the research and article from conception to final draft, including the concept, design, and analysis of data.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

An estimated 6.4 million children and adolescents in the United States, ages 4 to 17 years, have been diagnosed with ADHD (Centers for Disease Control and Prevention [CDC], 2016). ADHD is a chronic neurodevelopmental disorder caused by complex interactions between genes, environmental influences, and changes in brain development (Nigg, 2012). Youth with ADHD are at risk for difficulties in academic achievement, conflict in family life, poor peer relationships, low self-esteem, and mental health co-morbidities, such as anxiety, depression, and behavioral problems (American Academy of Child and Adolescent Psychiatry [AACAP], 2007; American Academy of Pediatrics, [APP], 2011). Furthermore, youth with untreated or undertreated ADHD are more likely to engage in substance use or be involved in the juvenile justice system in adolescence or young adulthood (Fletcher & Wolfe, 2009; Shaw et al., 2012).

Prior research suggests that major disparities exist in access, diagnosis, and treatment for ADHD across racially and ethnically diverse populations (Morgan, Staff, Hillemeier, Farkas, & Maczuga, 2013). What is less recognized, however, is how families from diverse backgrounds view the symptoms and problems associated with ADHD, what treatments are considered appropriate and acceptable, and how caregivers navigate the complex care and service systems for ADHD management. Using socioecological theory as a study framework, we theoretically know that culture can exert a powerful effect and influence on health beliefs and health behaviors within families. Within the literature and in practice, however, we do not fully understand or acknowledge the importance of how parents and families are related to the identification, care-seeking approaches, treatment preferences, and engagement with care systems and services for youth with ADHD, especially those from racially and ethnically diverse families. Further research is needed to fill this important gap in the literature. Guided by the socioecological model, the purpose of this study was to explore and enrich the current understanding of parent and family processes related to ADHD management in racially and ethnically diverse youth within the United States.

Using the integrative review methodology proposed by Whittemore and Knafl (2005), this study examines how racially and ethnically diverse families regard childhood ADHD and its treatment and how families come to identify, seek care, initiate, and maintain ADHD treatment. By filling this gap in the literature, clinicians, researchers, and policymakers will have a greater awareness and understanding of the parent and family processes that influence ADHD management in diverse populations. This may, then, lead to further advancements in clinical practice, research, and policy related to ADHD management for youth from racially and ethnically diverse families. This review is also significant as it encourages a patient and family-centered approach to understanding how parents view and manage ADHD and promotes the integration of parent and family perspectives in routine clinical care. The article begins with background information on ADHD, the importance of families, rationale for the chosen theoretical framework, and key definitions. Methods for the review are then provided, followed by presentation of the results. The paper concludes with a discussion of limitations and implications for clinical practice, research, and policy.

ADHD and Its Treatment

ADHD is conceived as a triad of inattention, hyperactivity, and impulsiveness (Efron, Bryson, Lycett, Sciberras, 2016). Symptoms of attention are attributed to deficits in neurocognition and inefficiencies in executive functioning tasks, such as attention, concentration, organization, planning, time management, learning, memory, and sensory-motor integration (American Psychiatric Association [APA], 2013). Symptoms of hyperactivity and impulsivity are common in childhood and often persist into adolescence and young adulthood (Wilens & Spencer, 2010). Functional impairments across different domains of child life (e.g., academics, family life, peer and social relationships, and emotional well-being) are common in youth with ADHD (Weiss, 2014).

Clinical interventions for the management of ADHD include psychopharmacology and behavioral therapy. These evidence-based treatments assume that brain chemistry and circuitry can be modified in order to improve symptoms and decrease impairments in academic, psychosocial, behavioral, and emotional functioning (AACAP, 2007; APP, 2011). The most common medications used to treat ADHD are psychostimulants, which alter neurotransmission in areas of the brain responsible for executive functioning, cognitive processes, impulse control, and motor movement (Arnsten, 2006; Swanson, Baler, & Volkow, 2011). Behavioral therapy approaches for ADHD, include parent management training, behavior modification (which may be implemented within home and school-settings by families and teachers alike), cognitive-behavioral therapy, and family therapy (Antshel & Barkley, 2008; Antshel et al., 2011; Fabiano et al., 2006; Watson, Richels, Michalek, & Raymer, 2015).

Health Disparities in ADHD

Previous research suggests major disparities exist in ADHD symptom recognition, diagnostic rates, treatment acceptability, and service use within culturally, ethnically, and linguistically diverse populations (Eiraldi, Mazzuca, Clarke, & Power, 2006). According to previous studies, racial and ethnic minority youth are much less likely to be identified and/or treated for ADHD than Caucasian youth (Eiraldi et al., 2006). A study of 6,000 children found Latino children (4%) were less likely than African American (9.1%) and Caucasian children (10.8%) to be diagnosed with ADHD (Rowland, Umbach, et al., 2002; see also Rowland, Lesesne, & Abramowitz, 2002). In the same investigation, racial and ethnic minority children (53% of Latinos and 56% of African Americans) were less likely to be on medication for ADHD as compared to 76% of Caucasian youth (Rowland, Umbach, et al., 2002; see also Rowland, Lesesne, & Abramowitz, 2002). Over a decade later, African American children in the United States are still 70% less likely to receive an ADHD diagnosis than Caucasian children (Morgan, Hillemeier, Farkas, & Maczuga, 2014) highlighting the persistence of these disparities.

In addition, these disparities may be exacerbated in low-income areas that have scarce resources or limited access to health care. Low-income families tend to have single parenting structures, increased levels of parental and family stress, lower caregiver education level, and increased caregiver strain (Morley, 2010; Santiago, Wadsworth, & Stump, 2011). This may

create additional challenges for parents and families, who may have less information, fewer resources, and more barriers to accessing care and treatment for childhood ADHD. Furthermore, the availability of high quality behavioral interventions and therapeutic services may be limited for racially and ethnically diverse children due to a variety of social, economic, or geographic barriers (Frazier, Bearman, Garland, & Atkins, 2014). For youth from racial or ethnic minority backgrounds, especially those from low-income families, ADHD symptoms may go undetected, untreated, or undertreated due to a myriad of social, economic, and system-level factors, which may further the disparities in health and health care.

The Importance of Family

Youth with ADHD rely on their primary caregivers for symptom recognition, seeking health care services, decision-making, and treatment implementation (Dishion & Stormshak, 2007). Typically, families are integrated into care planning, and parents are responsible for managing their child's ADHD. Prior research suggests greater improvement in ADHD outcomes with active parental involvement, ongoing family engagement, and participatory collaborations between caregivers and health care providers (Power, Soffer, Cassano, Tresco, & Mautone, 2011). A variety of parent and family processes (Cunningham, 2007; Davis, Claudiu, Palinkas, Wong, & Leslie, 2012; & Foley, 2011) have been explored in ADHD management (Paidipati & Deatrck, 2015). Based on the literature, parental knowledge and perceptions of ADHD may influence which treatments caregivers prefer to initiate (McLeod, Fettes, Jensen, Pescosolido, & Martin, 2007). Previous studies reveal stimulant medications are perceived by parents as less acceptable than psychosocial interventions, and therefore, may be utilized less for the treatment of ADHD (Krain, Kendall, & Power, 2005). In addition, family management style (Knafl, Deatrck, & Havill, 2012) may influence how parents and families manage childhood ADHD, which may, in turn, impact outcomes (Conlon, Strassle, Vinh, & Trout, 2008).

Framework

Social ecological theory was chosen as the theoretical framework to guide this review (White & Klein, 2008). According to social ecological theory, expanding levels of the social environment play a major role in the development of individuals (Bronfenbrenner, 1999). For children, this is especially important, as we consider the influence of family, school, peers, and the wider culture on their development. In this review, social ecological theory is adapted for youth with ADHD (see Figure 1). A child with ADHD is viewed within the context of the family, which is an aspect of the microsystem. Key parent and family processes highlight the interactions between these elements, which underscores the mesosystem. How families navigate the exosystem (i.e., community, school, health care, and political influences) is critical for children with ADHD. The larger macrosystem of American culture also affects how families understand, perceive, and respond to childhood ADHD. In this review, we aimed to examine how parent and family processes influence the management of ADHD in racially and ethnically diverse youth. This is consistent with social ecological theory as it captures the expanding complexity and interrelations between family, social, environmental, and cultural influences within children's lives.

Definitions

In this integrative review, racially and ethnically diverse youth (diagnosed with or at high risk for ADHD) and their parents are of primary interest. *Youth* are defined as any child, adolescent, or young adult under the age of 21. *Parents* are widely defined as the primary caregiver (e.g., parent, stepparent, legal guardian, grandparent, or extended family member) or the adult providing direct care for the child, including biological, foster, or adoptive parents of either sex. *ADHD* is defined as a “persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with the development or functioning of a child in two or more settings, including home, school, work, or in social interactions” (American Psychiatric Association, 2013). In addition, we use the phrase *racially and ethnically diverse* to capture the wide variety of views and perspectives of families from different racial and ethnic backgrounds. This integrative review includes literature regarding children and families from diverse racial and ethnic backgrounds but recognizes the danger of grouping people together and making broad assumptions based on race and ethnicity. Authors, such as Dorothy Roberts (2012), propose race as a sociopolitical construct with far reaching social, economic, and moral implications, especially for those labeled in racial and ethnic minority groups. The most frequently cited racial and ethnic minority groups within the United States are: African American, Latino or Hispanic, Asian American or Pacific Islander, and Native American/Alaskan Native (Blendon et al., 2007). These categories are frequently used in the literature to describe marginalized groups of people in society. In this review, we are hoping to theoretically broaden these categories and conceptually identify cross-cutting concerns and themes within and across racially and ethnically diverse populations in order to improve the care and well-being of all youth with ADHD and their families.

Method

Whittemore and Knafl’s (2005) integrative review strategies were used, including the five recommended stages (e.g., problem identification, literature search, data evaluation, data analysis, and presentation) to enhance the rigor of the study. After the problem was identified, (a) the aims, purpose, and scope of the study were clearly defined; (b) specific inclusion and exclusion criteria were established; and (c) a formal and structured literature search proceeded.

Literature Search Strategies

A literature search was conducted during the summer of 2014 from a university library located in a large urban center in the Northeast United States. The electronic databases utilized for this review were: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Scopus. Reference lists from key articles were hand searched for potential use in this review. Search words used for this study were the following: Attention Deficit Hyperactivity Disorder (or ADHD) with MeSH terms; Family (+ family relations, family systems, family attitudes, family services, family nursing, professional–family relations) with MeSH terms; Ethnic Groups (+ minority groups, cultural minority, ethnic minority); and Urban (+ urban populations, urban health services, urban areas, low income).

Inclusion criteria for articles included the following: (a) written in English, (b) publication date from 2000 to 2014, (c) institutional review board–approved original research, (d) parenting or family-related phenomenon for youth ages 5 to 21 years with ADHD, and (e) racial or ethnic perspectives within the United States. Exclusion criteria included the following: (a) non–research-based articles, (b) research with international perspectives, (c) studies without a specific parent or family-related process, (d) publications without an ADHD component, and (e) articles centered on very young children (0–4 years), as ADHD can be difficult to accurately diagnose in this age group.

The initial database review yielded 145 articles from a wide-range of academic journals reflecting different disciplines and theoretical perspectives. Abstracts from the original 145 articles were reviewed and resulted in 60 candidates for possible inclusion. Abstracts were rejected if they did not (a) have a primary focus on ADHD in childhood, (b) address a parent or family component, or (c) include a racial or ethnic perspective. Full-text versions of the 60 selected publications were analyzed in a second wave of review. Full-text articles were rejected based on the inclusion/exclusion criteria with careful attention to the following: (a) publication date, (b) national or international scope, (c) research-based articles as opposed to editorials or commentaries, (d) target population of school-aged children and youth, and (e) whether or not the article would substantially contribute to the overall purpose of the review. Thirty-two articles were chosen for the final review, including 24 quantitative, 6 qualitative, and 2 mixed methods studies (see Figure 2 for a flow chart describing article selection).

Data Evaluation

Evaluating the quality of studies in an integrative review is complex without a gold standard for evaluating or interpreting the quality of research (Whittemore & Knafl, 2005). In systematic reviews, such as meta-analyses, evaluating the quality of sources is used to exclude studies that do not meet high quality standards. In this integrative review, however, evaluation criteria resources were used to identify the major strengths and limitations of each study and to increase the overall rigor of the review and not to exclude articles. Qualitative studies were evaluated based on the consolidated criteria for reporting qualitative research by Tong, Sainsbury, and Craig (2007). Quantitative research was evaluated using guidelines from Long, Godfrey, Randall, Brett, and Grant (2002) in evaluating quantitative research. Quantitative scores were not used because qualitative and quantitative studies were included.

Data Analysis

A matrix was created to manage the data by extracting data from the articles and compiling key aspects from each study. As a final preparatory step for synthesizing the results of the review, a table of evidence was generated to further summarize the data. This table of evidence identified the: (a) article author or source; (b) participant sample and setting; (c) design, purpose, and measures; (d) key findings; and (e) strengths and limitations. This structured and organized data display facilitated recognition of themes and meta-themes across the range of research studies.

Conventional content analysis, in which codes are defined and derived from the data during the analysis phase, was employed in this review (Hsieh & Shannon, 2005). One advantage of

using this analytical strategy is to gain direct information from the study sources without imposing preconceived categories or theoretical perspectives (Hsieh & Shannon, 2005). Patterns of codes were noted, codes were clustered into themes, themes were clustered into meta-themes, and a logical chain of evidence was used to verify the findings (Whittemore & Knafl, 2005). Meta-themes were derived, structured, and organized by a data display of the literature. A senior researcher (J.D.), who is an expert in qualitative methods, collaborated, verified, and confirmed these meta-themes with the first author (C.P).

Results

Using the methodology outlined above, 32 articles were included in this integrative review (see Table 1 for a descriptive summary of articles). While using a variety of different methodological approaches and study designs, most studies employed qualitative or quantitative methods with youth participants, ages 5 to 21 years, as well as parent or caregiver participants ($n = 55,477$ total). Sample sizes ranged from 20 to 48 participants in the qualitative studies and 36 to 20,401 in the quantitative studies. The majority of study samples included Caucasian/White, African American/Black, and Hispanic/Latino participants with other racial and ethnic groups less represented. Among the total number of participants in this review, approximately 24% were Black or African American and 25% were Hispanic or Latino. These numbers highlight the relative underrepresentation of racial and ethnic minorities within the literature reviewed and suggest some caution when interpreting the results. Additional information from each study analyzed in this review was included in a detailed table of evidence (see Table 2).

Themes and Meta-Themes

Twelve themes were originally identified by the primary researcher, who worked collaboratively with the senior author - a qualitative expert - to collapse, organize, and structure these themes within broader categories, or meta-themes. As a result, nine theoretical and empirical themes were inductively derived from data analyses (see Table 3). Three overarching and meta-themes emerged in the literature and reflect the identified themes. The first three themes highlight different parent and family perspectives on ADHD and speak to the first meta-theme. The second three themes center on the importance of parents and families when seeking help, initiating treatments, and maintaining care for children with ADHD and underscore the second meta-theme. The last three themes address system and service-level factors that impact youth and families with ADHD and emphasize the third meta-theme. See Figure 3 for how themes cluster into meta-themes. Overall, the themes and meta-themes represent core aspects of the articles within this review and will be described and supported by evidence from the literature.

Meta-Theme 1: Exploring the Legitimacy of the ADHD Diagnosis in Diverse Families—Even though biomedical perspectives of ADHD are prevalent in academic and clinical circles, it is evident from the literature that parents and families in the community have differing beliefs about the diagnosis and etiology of ADHD. From this review, European American families tended to link childhood problems, like ADHD, to biomedical causes whereas African American families tended to view childhood behavioral and

emotional difficulties as problems originating in, and handled by, the family (Carpenter-Song, 2009). Similarly, Latino families more often associated ADHD etiology with imbalances in family life or societal influences (Lawton et al., 2014). Greater beliefs in the sugar etiology of ADHD and feelings of racial inequality, discriminatory practices, and mistrust of doctors were also prevalent in African American experiences (Bussing et al., 2012; Olaniyan et al., 2007).

Theme 1: Knowledge about ADHD and caregiver educational levels are related to parental understanding about ADHD and its symptoms—

In the literature, African American parents reported less ADHD awareness, lower knowledge, and fewer cues to action from school and health care professionals (Bussing et al., 2007). In contrast, the study by Flannagan et al. (2002) found Mexican American mothers were more likely than Caucasian mothers to receive information from health care providers about ADHD. Therefore, the receipt of knowledge, or lack thereof, may influence how parents contextualize their child's ADHD symptoms. In addition, Weckerly et al. (2005) revealed that caregivers with less educational attainment endorsed significantly lower rates of symptoms of inattention in their children. This may explain why children with primarily inattention ADHD symptoms are underdiagnosed, especially in families with caregivers who have less education.

Theme 2: Parental beliefs on the causes of ADHD may vary across racially and ethnically diverse families—

In the literature, cultural values of familism and traditional gender roles were positively correlated with sociological and spiritual beliefs related to the cause of ADHD for Mexican and Puerto Rican American families (Lawton et al., 2014). Familism is a strong attachment and reliance on the nuclear and extended family characterized by interdependence, respect toward authority figures, and personal sacrifice for the good of the family (Lawton et al., 2014). Because some Latinos in these studies view health and illness as part of a complex network of family interrelationships, ADHD is not considered something inherent to the child, but rather a result of problems or conflicts within the family (Lawton et al., 2014).

Theme 3: Parental perceptions about ADHD and attitudes toward treatment may shape how families respond to their child's condition—

In this review, African American caregivers' perceptions of ADHD range from a medical illness to a general problem to not a problem at all (Mychailyszyn et al., 2008). Differences in how parents perceive the condition may affect the way care-givers interpret and respond to their child's symptoms. Based on the attitudes of the community or media, African American parents reported being hesitant to use stimulant medications due to negative side effects and the belief that stimulants led to future drug use (DosReis et al., 2007).

Meta-Theme 2: Parents and Caregivers Are the Primary Gatekeepers for Seeking Care and Initiating Treatments for Childhood ADHD—

Different help-seeking patterns for racially and ethnically diverse families have been highlighted in the literature (DosReis et al., 2006; Mychailyszyn et al., 2008). Overall, rising levels of caregiver strain seem to increase the odds of formal ADHD treatment (Bussing et al., 2003).

In African American families, however, affective, affirmative, and instrumental social supports were seen as protective factors that may decrease formal care seeking (Bussing et al., 2003). These findings suggest a complex relationship between parenting, family factors, and help-seeking behaviors for ADHD, especially in racially and ethnically diverse families.

Theme 4: Help-seeking behaviors may be influenced by parental and family conceptualizations of ADHD—Four distinct patterns emerged in a study exploring the role of sociocultural context on families' decisions to seek care: (a) delay to diagnosis; (b) initial nonmedication treatment (c); reluctant receipt of diagnosis or treatment; and (d) rapid engagement (Leslie et al., 2007). Spanish-speaking Mexican American families disproportionately represented the third pattern (i.e., reluctant receipt) suggesting that families may have different approaches for seeking care possibly influenced by cultural beliefs. On the other hand, Hogue et al. (2014) explored help-seeking within racially and ethnically diverse inner-city caregivers and found increased care seeking for symptoms of inattention and disorganization, but not for symptoms of hyperactivity and impulsivity. This may suggest greater normalization of hyperactivity and impulsivity within racially and ethnically diverse families, and thus, a decreased perceived need for care.

Theme 5: Parental preferences for ADHD treatments may influence the decision-making process regarding treatment selection for their child's ADHD—In the literature, Latino and African American families rated counseling and behavioral treatments more positively than Caucasian parents (Pham et al., 2010). Krain et al. (2005) also reported a significant relationship between race and ethnicity and pursuit of pharmacological treatment. In this study, Caucasian parents were more likely to pursue medications for the treatment of ADHD as compared to parents from other racial or ethnic groups. Given these findings, ADHD treatment preferences might influence how caregivers make decisions related to their child's care, which might in turn impact long-term outcomes.

Theme 6: Caregiver strain associated with ADHD in childhood may vary within families—Hinojosa et al. (2012) found that caregiver strain for African American parents was higher when they had a child with ADHD plus a conduct disorder but lower when they had a child with ADHD plus a physical health condition. This may suggest a greater level of caregiver strain when ADHD is accompanied by another mental health or behavioral health condition as compared to a physical health condition. On the other hand, Latino families in the same study experienced higher parental strain when accompanied by a lack of health care insurance suggesting a negative association between caregiver strain and insurance status (Hinojosa et al., 2012).

Meta-Theme 3: Making Connections Between Families, Health Care, School, and Community Systems, and Services for ADHD—The research by Guevara et al. (2005) identifies system-level problems in communication and coordination of care among inner-city children. Results of this pivotal study showed significant gaps and discrepancies in communication and service delivery among health care professionals, school providers, community providers, and families. Key problem areas identified in this study were as follows: (a) lack of consensus over care responsibility, (b) frequent changes in service

providers, (c) insufficient training and resources, (d) distrust and blame among providers and parents, and (e) lack of support for collaboration between systems, including health care, schools, and community services (Guevara et al., 2005).

Theme 7: Based on the literature, racial and ethnic minority children and families may have less awareness about the availability of services for ADHD

—Bussing et al. (2007) found a majority of parents were unaware of school services available for ADHD with African Americans receiving fewer cues to action by school personnel and media sources as compared with Caucasian parents. African American parents were also less likely than Caucasian parents to view the school system as a resource for ADHD treatment (Bussing, Gary, et al., 2003). Considering school is a valuable setting for ADHD services, this lack of awareness may relate to lower service utilization among racially and ethnically diverse youth.

Theme 8: Service utilization and maintenance of ADHD care and treatment may vary among diverse families

—When exploring service need, African American families requested more social services (e.g., financial assistance and disability funds, housing, respite care) and Hispanic families requested more support services (e.g., parenting workshops, social skills classes, community programs, and support groups) whereas Caucasian families requested more therapy and counseling services for ADHD (Kendall et al., 2005). This suggests that racially and ethnically diverse families may have different service needs and priorities than nonminority families. For treatment and care maintenance, Zima et al. (2013) found that racial and ethnic minority status, single parenting structure, and parental distress were predictive of staying in care. For African American and Hispanic families, however, low service utilization and mental health follow-up may be related to a child's increasing age and parental concerns about medications (Berger-Jenkins et al., 2012).

Theme 9: Greater communication and care coordination is necessary between ADHD systems and services, especially for racially and ethnically diverse families

—Guevara et al. (2005) found that services for inner city youth with ADHD were fragmented and disorganized in health care systems, schools, and community sectors. Olaniyan et al. (2007) identified a theme of mistrust in health care services and difficulties navigating school systems within African American families. Kendall et al. (2005) also reported similar findings when discussing the barriers and experiences faced by racially and ethnically diverse families when accessing and navigating services within mental health care.

Discussion

The nine themes and three meta-themes synthesized above focus on parent and family processes that may influence ADHD management in racially and ethnically diverse youth. The results of this review highlight the importance of families and enhance the understanding of ADHD from diverse perspectives. Study findings reveal the profound notion that ADHD, as a clinically-relevant medical diagnosis, may not resonate with all caregivers, especially those from racially and ethnically diverse families. The research shows varying perspectives on the understanding, etiology, and explanatory belief-models for the

symptoms of ADHD. While some families have acquired the most up-to-date medical knowledge on the origins and symptoms of ADHD (Carpenter-Song, 2009), other families rely on community awareness of childhood problems or respect cultural, social, and spiritual health belief models to understand the problems or difficulties associated with ADHD (Bussing et al., 2012; Lawton et al., 2014). Parental attitudes toward ADHD symptoms, diagnostic labels, medical and school providers, and acceptable treatment types may affect care-seeking behaviors (DosReis et al., 2006; DosReis et al., 2007; Mychailyszyn et al., 2008; Pham et al., 2010). This may lead to the lower diagnostic and service utilization rates among racially and ethnically diverse youth (Morgan et al., 2013; Vierhile, Robb, & Ryan-Krause, 2009).

From the literature, it is evident that families are key gatekeepers for youth to access health care and school services for ADHD. Studies reveal different help-seeking behaviors with varying levels of engagement and entry into the health care system (Eiraldi et al., 2006). Help-seeking patterns in families may relate to the type and kind of services and treatments parents initiate (Leslie et al., 2007). Once youth and families are engaged, care-givers are strong influencers in the decision-making process (Brinkman et al., 2011), especially regarding treatment preferences (McLeod et al., 2007). Based on this review, racially and ethnically diverse families tend to prefer psychosocial interventions or behavior therapy rather than stimulant medications (Hudson et al., 2007; Krain et al., 2005; Pham et al., 2010). This is consistent with previous research that shows differences in treatment preferences for ADHD, including lower stimulant use in racial and ethnic minority youth (Starr, 2007; Zuvekas & Vitiello, 2012).

Making connections with systems and services that provide care for ADHD is essential for families. Prior research suggests that access to and navigation of health care systems may be particularly difficult for diverse families (Eiraldi et al., 2006). This review found lower service utilization rates, higher rates of treatment dropout, and greater loss to follow-up among racial and ethnic minority youth as compared with nonminority youth (Berger-Jenkins et al., 2012; Carson et al., 2011; Schneider et al., 2013). These findings may be due to system-level challenges and obstacles for accessing and maintaining care (Bailey & Owens, 2005; Santiago et al., 2011). As Guevara et al. (2005) described, barriers to access, gaps in communication and ongoing care coordination between families, health care providers, schools and educational systems, and community infrastructures may be partially responsible for the disparities in service utilization and treatment maintenance.

Limitations

An overall weakness of the study (and the literature) is the failure to explicitly connect racial and ethnic perspectives of ADHD to the greater social, political, and economic influences on health and health care within this country. While this was not the primary aim for this review, socioecological theory would argue that ADHD management in youth is not only influenced by the family microsystem but also the larger systems of race, economics, and politics in our society and health care systems. Conflations between race/ethnicity and socioeconomic status (SES) play a significant role in understanding the results of this review. Family income level, availability to services and resources based on economic and

geographic access, and caregiver education levels are all SES variables that may influence ADHD management. The differences between racially and ethnically diverse families and Caucasian families could be accounted for, at least in part, by the fact that racial and ethnic minority families tend to be of lower SES due to a variety of historical, structural, and political influences in American society. For example, lower SES is very closely linked to level of education. Racial and ethnic minority families, as a group, tend to obtain a lower level of education compared with Caucasian families in the United States. It could be that more educated and better informed families, regardless of their racial or ethnic status, are simply more predisposed to accepting the medical model and seeking mental health services than less educated and poorly informed families. Racially and ethnically diverse families, who also have lower SES, may be interfacing with neighborhoods, communities, and school and health care systems that have less awareness, resource availability, and ability to utilize services for ADHD due to other competing demands and responsibilities in their daily lives. A future study that explores a more in-depth picture of the socioeconomic, environmental, and cultural influences that impact ADHD management in racially and ethnically diverse families is recommended.

In addition, this review is by no means exhaustive of all the literature on family and parent processes related to ADHD management in racially and ethnically diverse youth. Several limitations on the review and the available literature should be noted. First, inclusion criteria included articles written in English and published in the United States. Including studies from international perspectives may have added to the research findings and contributed to the evolving themes and meta-themes found in this review. Furthermore, only articles with full-text availability were selected, which may have excluded other relevant findings. Secondly, inclusion criteria for the articles within this review included publication dates starting at 2000. As a result, review findings may be unintentionally skewed by articles written in the early 2000s. The authors believe, however, including these earlier publications is important to highlight the progression of the science on this topic from the beginning of the 21st century to the present decade.

Next, most of the participants within these studies were Caucasian/White, African American/Black, or Hispanic/Latino with less representation from other racial or ethnic groups, like Asian Americans or Native Americans. Few studies in this review explored intra-ethnic variation or subcultural groups (e.g., Haitian, Mexican-American, Puerto Rican) within the broader racial categories. Including a more in-depth and nuanced picture of racial and ethnic identities may have added to the complexity and understanding of diverse perspectives for youth with ADHD. In addition, while some studies intentionally included participants from diverse racial and ethnic groups, others used convenience samples or samples without diversity. Important perspectives may have been missed by not including a diversity framework within each study. Last, research-based articles including perspectives from more than one family member were limited in this review. The majority of research was conducted from parent or caregiver perspectives. Studies including multiple family members, such as partners, siblings, extended family, and children with ADHD, may have contributed to a greater understanding of parent and family processes. Finally, including gender perspectives would strengthen this body of research as mothers, fathers, and other gendered caregivers may have differing views on ADHD.

Implications for Mental Health Nursing Practice, Research, and Policy

Mental health nurses can better serve youth with ADHD by increasing awareness and understanding about the different ways caregivers and families view symptoms of ADHD and its treatment. Nurses, who encounter children that display symptoms of inattention, hyperactivity or impulsivity with difficulties in school, at home, or with peers and family, should gather additional information on these symptoms and behaviors from caregivers and discuss these findings with the child's provider. Eliciting parental beliefs, knowledge, and perspectives on ADHD symptoms, diagnosis, and treatment options is encouraged for both mental health nurses and nurse practitioners. Youth in middle school or high school may also be struggling with undiagnosed or untreated ADHD. Mental health nurses have a key role in identifying problems or behaviors associated with ADHD in these youth, such as poor grades, conflicts with peers or family, high risk-taking behaviors, or significant psychosocial distress, like depression or anxiety.

Once identified, registered and advanced practice nurses are on the front-lines to talk to youth and families about these problems, which includes an assessment and formal evaluation to clarify diagnostics and collaboration with the health care team to discuss intervention options. Using tools or instruments acceptable for racially and ethnically diverse populations is highly recommended for pediatric and psychiatric nurses. For example, there is data supporting the use of the Terry and Vanderbilt ADHD scales for diagnosing ADHD in African American children (Flowers & McDougle, 2010). By incorporating more sensitive instruments into diagnostic and evaluation methods, mental health nurses and clinicians are better able to assess and evaluate ADHD in racially and ethnically diverse populations. Furthermore, asking caregivers and youth about treatment preferences and encouraging shared decision-making is aligned with AACAP's Best Principles for integrating child psychiatry into pediatric health homes (Martini et al., 2012). Nurses, who are aware of the complexities and inequities within the mental health system, may be able to assist caregivers and families by providing valuable information and strategies to access care and navigate systems and services. This proactive approach may foster trust between families and the health care system and lead to higher service utilization and treatment maintenance.

Since the Institute of Medicine published *Unequal Treatment* in 2002 (Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2001), research priorities within the United States have included investigating racial and ethnic disparities and improving health inequities. Unfortunately, limitations in funding and the lack of a universal language to address racial and ethnic disparities may have dampened the Institute of Medicine's intention to reduce health disparities in the United States. A social ecological perspective and the integration of racial and ethnic considerations into future nursing and mental health research may contribute to a deeper understanding of ADHD in diverse youth and creation of strategies for narrowing the service gap. Further research on ADHD diagnostic and evaluation tools for children and youth from racial and ethnic minority backgrounds may also reduce health disparities related to ADHD whereas designing accessible interventions tailored for children and youth with ADHD from diverse families may enhance and promote health equity within ADHD management. Furthermore,

widening sampling frames in research to include difficult to reach groups, such as immigrant youth, non-English speaking families, and youth in the juvenile justice system, may increase the variation of results and contribute to further understanding of these diverse perspectives.

Youth with ADHD, especially from racially and ethnically diverse families, are at risk for inadequate access and availability of services and resources from the intersection of socioeconomic, environmental, and political factors in American society. Providing children and families with a fair and equitable opportunity to obtain comprehensive mental health evaluations and access to ecologically appropriate health care services requires a change in our current policies. Policymakers have an ethical obligation to evaluate the impact of geographic location (e.g., low-income or low-resourced neighborhoods, communities, and schools) to improve children's development, educational attainment, and service utilization for neurodevelopmental problems, such as ADHD (Eiraldi et al., 2006). Policy changes that advocate for education and training in mental health and readily accessible resources to nurses, teachers, and counselors within primary care and school settings are highly recommended (Dennis, Davis, Johnson, Brooks, & Humbi, 2008). Finally, creating a safety net within communities for children and families, who are not engaged in formal health care or school structures and systems, may help prevent the most at-risk youth from falling through the cracks (Carson et al., 2011).

Conclusion

The purpose of this integrative review was to explore and enrich the current understanding of parent and family processes related to ADHD management in racially and ethnically diverse youth within the United States. Using the social ecological framework, the results of this review highlight the significance of families in the care and treatment of youth with ADHD. Parents and primary caregivers are often the first ones to recognize symptoms, seek help from health or school providers, and initiate treatments. Understanding the unique perspectives of caregivers from diverse racial and ethnic backgrounds is essential for mental health nurses, researchers, and policymakers, who are devoted to improving the care and well-being of all children and families with mental health or behavioral health needs. This integrative review contributes to the body of knowledge on childhood ADHD, family-centered care, and racially and ethnically diverse populations. Recommendations for mental health nursing practice include: enhancing the visibility of mental health issues in pediatrics; promoting patient and family-centered nursing care; and encouraging advocacy for the access and utilization of mental health services.

Acknowledgments

Many thanks to other faculty, who supported and mentored this project, including Nancy P. Hanrahan.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was funded by the doctoral program at the University of Pennsylvania School of Nursing.

References

- American Academy of Child and Adolescent Psychiatry. Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. *Journal of American Academy of Child and Adolescent Psychiatry*. 2007; 46:894–921. DOI: 10.1097/chi.0b013e318054e724
- American Academy of Pediatrics. ADHD: Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*. 2011; 128:1007–1022. DOI: 10.1542/peds.2011-2654 [PubMed: 22003063]
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5. Arlington, VA: American Psychiatric Association; 2013.
- Antshel KM, Barkley R. Psychosocial interventions in attention deficit hyperactivity disorder. *Child and Adolescent Psychiatric Clinics of North America*. 2008; 17:421–437. DOI: 10.1016/j.chc.2007.11.005 [PubMed: 18295154]
- Antshel KM, Hargrave TM, Simonescu M, Kaul P, Hendricks K, Faraone SV. Advances in understanding and treating ADHD. *BMC Medicine*. 2011; 9:7.doi: 10.1186/1741-7015-9-7 [PubMed: 21244657]
- Arnsten AF. Stimulants: Therapeutic actions in ADHD. *Neuropsychopharmacology*. 2006; 31:2376–2383. DOI: 10.1038/sj.npp.1301164 [PubMed: 16855530]
- Bailey RK, Owens DL. Overcoming challenges in the diagnosis and treatment of attention-deficit/hyper-activity disorder in African Americans. *Journal of the National Medical Association*. 2005; 97(10 Suppl):5S–10S.
- Barnard-Brak L, To Y. Examining parental nonresponse to stimulant treatment questions according to ethnicity. *Journal of Child and Adolescent Psychopharmacology*. 2009; 19:301–304. DOI: 10.1089/cap.2008.0150 [PubMed: 19519266]
- Berger-Jenkins E, McKay M, Newcorn J, Bannon W, Laraque D. Parent medication concerns predict underutilization of mental health services for minority children with ADHD. *Clinical Pediatrics*. 2012; 51:65–76. DOI: 10.1177/0009922811417286 [PubMed: 21868596]
- Blendon RJ, Buhr T, Cassidy EF, Perez DJ, Hunt KA, Fleischfresser C, ... Herrmann MJ. Disparities in health: Perspectives of a multi-ethnic, multi-racial America. *Health Affairs*. 2007; 26:1437–1447. DOI: 10.1377/hlthaff.26.5.1437 [PubMed: 17848456]
- Brinkman WB, Hartl J, Rawe LM, Sucharew H, Britto MT, Epstein JN. Physicians' shared decision-making behaviors in attention-deficit/hyperactivity disorder care. *Archives of Pediatrics and Adolescent Medicine*. 2011; 165:1013–1019. DOI: 10.1001/archpediatrics.2011.154 [PubMed: 22065181]
- Bronfenbrenner, U. Environments in developmental perspective: Theoretical and operational models. In: Friedman, SL., Wachs, TD., editors. *Measuring environment across the life span: Emerging methods and concepts*. Washington, DC: American Psychological Association; 1999. p. 3-28.
- Bussing R, Gary FA. Practice guidelines and parental ADHD treatment evaluations: Friends or foes? *Harvard Review of Psychiatry*. 2001; 9(5):223–233. DOI: 10.1080/10673220127905 [PubMed: 11553526]
- Bussing R, Gary FA, Mills TL, Garvan CW. Parental explanatory models of ADHD: Gender and cultural variations. *Social Psychiatry and Psychiatric Epidemiology*. 2003; 38:563–575. DOI: 10.1007/s00127-003-0674-8 [PubMed: 14564385]
- Bussing R, Gary FA, Mills TL, Garvan CW. Cultural variations in parental health beliefs, knowledge, and information sources related to attention-deficit/hyper-activity disorder. *Journal of Family Issues*. 2007; 28:291–318. DOI: 10.1177/0192513X06296117
- Bussing R, Schoenberg NE, Perwien AR. Knowledge and information about ADHD: Evidence of cultural differences among African-American and white parents. *Social Science & Medicine*. 1998; 46(7):919–928. DOI: 10.1016/S0277-9536(97)00219-0 [PubMed: 9541077]
- Bussing R, Zima BT, Gary FA, Mason DM, Leon CE, Sinha K, Garvan CW. Social networks, caregiver strain, and utilization of mental health services among elementary school students at high risk for ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2003; 42:842–850. DOI: 10.1097/01.CHI.0000046876.27264.BF [PubMed: 12819444]

- Bussing R, Zima BT, Mason DM, Meyer JM, White K, Garvan CW. ADHD knowledge, perceptions, and information sources: Perspectives from a community sample of adolescents and their parents. *Journal of Adolescent Health*. 2012; 51:593–600. DOI: 10.1016/j.jadohealth.2012.03.004 [PubMed: 23174470]
- Carpenter-Song E. Caught in the psychiatric net: Meanings and experiences of ADHD, pediatric bipolar disorder and mental health treatment among a diverse group of families in the United States. *Culture, Medicine and Psychiatry*. 2009; 33(1):61–85. DOI: 10.1007/s11013-008-9120-4
- Carson NJ, Stewart M, Lin JY, Alegria M. Use and quality of mental health services for Haitian youth. *Ethnicity & Health*. 2011; 16:567–582. DOI: 10.1080/13557858.2011.586024 [PubMed: 22050537]
- Centers for Disease Control and Prevention. Attention deficit hyperactivity disorder. 2016. Retrieved from <http://www.cdc.gov/ncbddd/adhd/>
- Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Board on Health Sciences Policy, Institute of Medicine. Unequal treatment: Confronting racial and ethnic disparities in health care. Washington, DC: National Academies Press; 2002.
- Conlon KE, Strassle CG, Vinh D, Trout G. Family management styles and ADHD: Utility and treatment implications. *Journal of Family Nursing*. 2008; 14:181–200. DOI: 10.1177/1074840708315673 [PubMed: 18391181]
- Cunningham CE. A family-centered approach to planning and measuring the outcome of interventions for children with attention-deficit/hyperactivity disorder. *Journal of Pediatric Psychology*. 2007; 32:676–694. DOI: 10.1093/jpepsy/jsm021 [PubMed: 17556403]
- Davis CC, Claudiu M, Palinkas LA, Wong JB, Leslie LK. Putting families in the center: Family perspectives on decision making and ADHD and implications for ADHD care. *Journal of Attention Disorders*. 2012; 16:675–684. DOI: 10.1177/1087054711413077 [PubMed: 21976032]
- Dennis T, Davis M, Johnson U, Brooks H, Humbi A. Attention deficit hyperactivity disorder: Parents' and professionals' perceptions. *Community Practitioner*. 2008; 81:24–28.
- Dishion, TJ., Stormshak, EA. Intervening in children's lives: An ecological, family centered approach to mental health care. Washington, DC: American Psychological Association; 2007.
- DosReis S, Butz A, Lipkin PH, Anixt JS, Weiner CL, Chernoff R. Attitudes about stimulant medication for attention-deficit/hyperactivity disorder among African American families in an inner city community. *Journal of Behavioral Health Services and Research*. 2006; 33:423–430. DOI: 10.1007/s11414-006-9038-y [PubMed: 17078011]
- DosReis S, Mychailyszyn MP, Myers M, Riley AW. Coming to terms with ADHD: How urban African-American families come to seek care for their children. *Psychiatric Services*. 2007; 58:636–641. DOI: 10.1176/appi.ps.58.5.636 [PubMed: 17463344]
- Efron D, Bryson H, Lycett K, Sciberras E. Children referred for evaluation for ADHD: comorbidity profiles and characteristics associated with a positive diagnosis. *Child: Care, Health and Development*. 2016; 42:718–214. DOI: 10.1111/cch.12364
- Eiraldi RB, Mazzuca LB, Clarke AT, Power TJ. Service utilization among ethnic minority children with ADHD: A model of help-seeking behavior. *Administration and Policy in Mental Health and Mental Health Services Research*. 2006; 33:607–622. DOI: 10.1007/s10488-006-0063-1 [PubMed: 16862391]
- Fabiano GA, Pelham WE, Waschbusch D, Gnagy EM, Lahey BB, Chronis AM, ... Burrows-MacLean L. A practical impairment measure: Psychometric properties of the Impairment Rating Scale in samples of children with attention deficit/hyperactivity disorder and two school-based samples. *Journal of Clinical Child and Adolescent Psychology*. 2006; 35:369–385. DOI: 10.1207/s15374424jccp3503_3 [PubMed: 16836475]
- Flannagan D, Pillow DR, Wise JC. Perceptions and communications about ADHD and ODD behaviors in children with combined type attention deficit hyper-activity disorder. *Children's Health Care*. 2002; 31:223–236. DOI: 10.1207/S15326888CHC3103_4
- Fletcher J, Wolfe B. Long-term consequences of childhood ADHD on criminal activities. *Journal of Mental Health Policy and Economics*. 2009; 12:119–138. [PubMed: 19996475]
- Flowers A, McDougale L. In search of an ADHD screening tool for African American children. *Journal of the National Medical Association*. 2010; 102:372–374. [PubMed: 20533771]

- Foley M. A comparison of family adversity and family dysfunction in families of children with attention deficit hyperactivity disorder (ADHD) and families of children without ADHD. *Journal for Specialists in Pediatric Nursing*. 2011; 16:39–49. DOI: 10.1111/j.1744-6155.2010.00269.x [PubMed: 21294834]
- Frazier, SL., Bearman, SK., Garland, A., Atkins, MS. Dissemination and implementation in children's mental health. In: Beidas, RS., Kendall, PC., editors. *Dissemination and implementation of evidence-based practices in child and adolescent mental health*. New York, NY: Oxford University Press; 2014. p. 98-123.
- Guevara JP, Feudtner C, Romer D, Power T, Eiraldi R, Nihtianova S, ... Schwarz DF. Fragmented care for inner-city minority children with attention deficit/hyperactivity disorder. *Pediatrics*. 2005; 116:e512–e517. DOI: 10.1542/peds.2005-0243 [PubMed: 16199679]
- Hillemeier MM, Foster EM, Heinrichs B, Heier B. Racial differences in parental reports of attention-deficit/hyperactivity disorder behaviors. *Journal of Developmental and Behavioral Pediatrics*. 2007; 28:353–361. DOI: 10.1097/DBP.0b013e31811ff8b8 [PubMed: 18049317]
- Hinojosa MS, Hinojosa R, Fernandez-Baca D, Knapp C, Thompson LA, Christou A. Racial and ethnic variation in ADHD, comorbid illnesses, and parental strain. *Journal of Health Care for the Poor and Underserved*. 2012; 23:273–289. DOI: 10.1353/hpu.2012.0001 [PubMed: 22643476]
- Hogue A, Dauber S, Lichvar E, Spiewak G. Adolescent and caregiver reports of ADHD symptoms among inner-city youth: Agreement, perceived need for treatment, and behavioral correlates. *Journal of Attention Disorders*. 2014; 18:212–225. DOI: 10.1177/1087054712443160 [PubMed: 22544384]
- Hsieh HF, Shannon S. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005; 15:1277–1288.
- Hudson JL, Miller GE, Kirby JB. Explaining racial and ethnic differences in children's use of stimulant medications. *Medical Care*. 2007; 45:1068–1075. DOI: 10.1097/MLR.0b013e31806728fa [PubMed: 18049347]
- Kendall J, Leo MC, Perrin N, Hatton D. Service needs of families with children with ADHD. *Journal of Family Nursing*. 2005; 11:264–288. [PubMed: 16287828]
- Knafel KA, Deatrick JA, Havill NL. Continued development of the family management style framework. *Journal of Family Nursing*. 2012; 18:11–34. DOI: 10.1177/1074840705278629 [PubMed: 22223495]
- Krain AL, Kendall PC, Power TJ. The role of treatment acceptability in the initiation of treatment for ADHD. *Journal of Attention Disorders*. 2005; 9:425–434. DOI: 10.1177/1087054705279996 [PubMed: 16371665]
- Larson JJ, Yoon Y, Stewart M, DosReis S. Influence of caregivers' experiences on service use among children with attention-deficit hyperactivity disorder. *Psychiatric Services*. 2011; 62:734–739. DOI: 10.1176/appi.ps.62.7.734 [PubMed: 21724785]
- Lawton KE, Gerdes AC, Haack LM, Schneider B. Acculturation, cultural values, and Latino parental beliefs about the etiology of ADHD. *Administration and Policy in Mental Health and Mental Health Services Research*. 2014; 41:189–204. DOI: 10.1007/s10488-012-0447-3 [PubMed: 23224619]
- Leslie LK, Plemmons D, Monn AR, Palinkas LA. Investigating ADHD treatment trajectories: Listening to families' stories about medication use. *Journal of Developmental and Behavioral Pediatrics*. 2007; 28:179–188. DOI: 10.1097/DBP.0b013e3180324d9a [PubMed: 17565284]
- Long, AF, Godfrey, M., Randall, T., Brettell, A., Grant, MJ. *Developing evidence based social care policy and practice. Part 3: Feasibility of undertaking systematic reviews in social care*. Leeds, England: Nuffield Institute for Health; 2002.
- Martini, R., Hilt, R., Marx, L., Chenven, M., Naylor, M., Sarvet, B., Ptakowski, KK. Best principles for integration of child psychiatry into the pediatric health home. 2012 Jun. Retrieved from https://www.aacap.org/App_Themes/AACAP/docs/clinical_practice_center/sys-tems_of_care/best_principles_for_integration_of_child_psychiatry_into_the_pediatric_health_home_2012.pdf
- McLeod JD, Fettes DL, Jensen PS, Pescosolido BA, Martin JK. Public knowledge, beliefs, and treatment preferences concerning attention-deficit hyper-activity. *Psychiatric Services*. 2007; 58:626–631. DOI: 10.1176/ps.2007.58.5.626 [PubMed: 17463342]

- Morgan PL, Hillemeier MM, Farkas G, Maczuga S. Racial/ethnic disparities in ADHD diagnosis by kindergarten entry. *Journal of Child Psychology and Psychiatry*. 2014; 55:905–913. DOI: 10.1111/jcpp.12204 [PubMed: 24456307]
- Morgan PL, Staff J, Hillemeier MM, Farkas G, Maczuga S. Racial and ethnic disparities in ADHD diagnosis from kindergarten to eighth grade. *Pediatrics*. 2013; 132:85–93. DOI: 10.1542/peds.2012-2390 [PubMed: 23796743]
- Morley CP. Disparities in ADHD assessment, diagnosis, and treatment. *International Journal of Psychiatry in Medicine*. 2010; 40:383–389. DOI: 10.2190/PM.40.4.b [PubMed: 21391409]
- Mychailyszyn MP, Dosreis S, Myers M. African American caretakers' views of ADHD and use of outpatient mental health care services for children. *Families, Systems, & Health*. 2008; 26:447–458. DOI: 10.1037/1091-7527.26.4.447
- Nigg JT. Future directions in ADHD etiology research. *Journal of Clinical Child and Adolescent Psychology*. 2012; 41:524–533. DOI: 10.1080/15374416.2012.686870 [PubMed: 22642834]
- Olaniyan O, DosReis S, Garriett V, Mychailyszyn MP, Anixt J, Rowe PC, Cheng TL. Community perspectives of childhood behavioral problems and ADHD among African American parents. *Ambulatory Pediatrics*. 2007; 7:226–231. DOI: 10.1016/j.ambp.2007.02.002 [PubMed: 17512883]
- Paidipati CP, Deatrck JA. The role of family phenomena in children and adolescents with ADHD. *Journal of Child and Adolescent Psychiatric Nursing*. 2015; 28(1):3–13. DOI: 10.1111/jcap.12097 [PubMed: 25524136]
- Palcic JL, Jurbergs N, Kelley ML. A comparison of teacher and parent delivered consequences: Improving classroom behavior in low-income children with ADHD. *Child & Family Behavior Therapy*. 2009; 31:117–133. DOI: 10.1080/07317100902910513
- Pastor PN, Reuben CA. Racial and ethnic differences in ADHD and LD in young school-age children: Parental reports in the national health interview survey. *Public Health Reports*. 2005; 120:383–392. [PubMed: 16025718]
- Pham AV, Carlson JS, Kosciulek JF. Ethnic differences in parental beliefs of attention-deficit/hyperactivity disorder and treatment. *Journal of Attention Disorders*. 2010; 13:584–591. DOI: 10.1177/1087054709332391 [PubMed: 19414623]
- Power, TJ., Soffer, SL., Cassano, MC., Tresco, KE., Mautone, JA. Integrating pharmacological and psychosocial interventions for ADHD: An evidenced-based, participatory approach. In: Evans, S., Hoza, B., editors. *Treating attention-deficit hyperactivity disorder: Assessment and intervention in developmental context*. Kingston, NJ: Civic Research Institute; 2011. p. 13-19.
- Pressman LJ, Loo SK, Carpenter EM, Asarnow JR, Lynn D, McCracken JT, ... Smalley SL. Relationship of family environment and parental psychiatric diagnosis to impairment in ADHD. *Journal of American Child and Adolescent Psychiatry*. 2006; 45(3):346–354. DOI: 10.1097/01.chi.0000192248.61271.c8
- Reed-Knight B, Blount RL, Gilleland J. The transition of health care responsibility from parents to youth diagnosed with chronic illness: A developmental systems perspective. *Families, Systems, & Health*. 2014; 32(2):219–234. DOI: 10.1037/fsh0000039
- Roberts, D. *Fatal invention: How science, politics, and big business re-create race in the twenty-first century*. New York, NY: New Press; 2012.
- Rowland AS, Lesesne CA, Abramowitz AJ. The epidemiology of attention deficit/hyperactivity disorder (ADHD): A public health view. *Mental Retardation and Developmental Disabilities Research Reviews*. 2002; 8:162–170. DOI: 10.1002/mrdd.10036 [PubMed: 12216060]
- Rowland AS, Umbach DM, Stallone L, Naftel AJ, Bohlig EM, Sandler DP. Prevalence of medication treatment for attention deficit-hyperactivity disorder among elementary school children in Johnston County, North Carolina. *American Journal of Public Health*. 2002; 92:231–234. DOI: 10.2105/AJPH.92.2.231 [PubMed: 11818297]
- Santiago CD, Wadsworth ME, Stump J. Socioeconomic status, neighborhood disadvantage, and poverty-related stress: Prospective effects on psychological syndromes among diverse low-income families. *Journal of Economic Psychology*. 2011; 32:218–230. DOI: 10.1016/j.joep.2009.10.008
- Schmitz MF, Velez M. Latino cultural differences in maternal assessments of attention deficit/hyperactivity symptoms in children. *Hispanic Journal of Behavioral Sciences*. 2003; 25:110–122. DOI: 10.1177/0739986303251700

- Schneider BW, Gerdes AC, Haack LM, Lawton KE. Predicting treatment dropout in parent training interventions for families of school-aged children with ADHD. *Child and Family Behavior Therapy*. 2013; 35:144–169. DOI: 10.1080/07317107.2013.789365
- Shaw M, Hodgkins P, Caci H, Young S, Kahle J, Woods AG, Arnold LE. A systematic review and analysis of long-term outcomes in attention deficit hyper-activity disorder: Effects of treatment and non-treatment. *BMC Medicine*. 2012; 10:99.doi: 10.1186/1741-7015-10-99 [PubMed: 22947230]
- Spencer TJ, Biederman J, Mick E. Attention-deficit/hyperactivity disorder: Diagnosis, lifespan, comorbidities, and neurobiology. *Journal of Pediatric Psychology*. 2007; 32(2):631–642. DOI: 10.1002/mrdd.10036 [PubMed: 17556405]
- Starr HL. The impact of culture on ADHD. *Contemporary Pediatrics*. 2007; 24:39–50.
- Swanson J, Baler RD, Volkow ND. Understanding the effects of stimulant medications on cognition in individuals with attention-deficit hyperactivity disorder: A decade of progress. *Neuropsychopharmacology*. 2011; 36:207–226. [PubMed: 20881946]
- Tong A, Sainsbury P, Craig J. Consolidated criteria for 741 reporting qualitative research: A 32 item checklist for interviews and 742 focus groups. *International Journal for Quality in Health Care*. 2007; 19:349–357. DOI: 10.1093/intqhc/mzm042 [PubMed: 17872937]
- Trampush JW, Miller CJ, Newcorn JH, Halperin JM. The impact of childhood on ADHD on dropping out of high school in urban adolescents/young adults. *Journal of Attention Disorders*. 2009; 13:127–136. DOI: 10.1177/1087054708323040 [PubMed: 18757845]
- Vierhile A, Robb A, Ryan-Krause P. Attention-deficit hyperactivity disorder in children and adolescents: Closing diagnostic, communication, and treatment gaps. *Journal of Pediatric Health Care*. 2009; 23(1 Suppl):S5–S21. DOI: 10.1016/j.pedhc.2008.10.009 [PubMed: 19084757]
- Watson SMR, Richels C, Michalek AP, Raymer A. Psychosocial treatments for ADHD: A systematic appraisal of the evidence. *Journal of Attention Disorders*. 2015; 19:3–10. DOI: 10.1177/1087054712447857 [PubMed: 22647286]
- Weckerly J, Aarons GA, Leslie LK, Garland AF, Landsverk J, Hough RL. Attention on inattention: The differential effect of caregiver education on endorsement of ADHD symptoms. *Journal of Developmental and Behavioral Pediatrics*. 2005; 26:201–208. DOI: 10.1097/00004703-200506000-00006 [PubMed: 15956869]
- Weiss, M. Functional impairment in ADHD. In: Adler, LA.Spencer, TJ., Wilens, TE., editors. *Attention-deficit hyperactivity disorder in adults and children*. Cambridge, England: Cambridge University Press; 2014. p. 42-52.
- White, JM., Klein, DM. *Family theories*. 3. Thousand Oaks, CA: Sage; 2008.
- Whittemore R, Knafl K. The integrative review: Updated methodology. *Journal of Advanced Nursing*. 2005; 52:546–553. DOI: 10.1111/j.1365-2648.2005.03621.x [PubMed: 16268861]
- Wilens TE, Spencer TJ. Understanding attention-deficit/hyperactivity disorder from childhood to adulthood. *Postgraduate Medicine*. 2010; 122:97–109. DOI: 10.3810/pgm.2010.09.2206 [PubMed: 20861593]
- Zima BT, Bussing R, Tang L, Zhang L. Do parent perceptions predict continuity of publicly funded care for attention-deficit/hyperactivity disorder? *Pediatrics*. 2013; 131(Suppl 1):S50–S59. DOI: 10.1542/peds.2012-1427f [PubMed: 23457150]
- Zuvekas SH, Vitiello B. Stimulant medication use in children: A 12-year perspective. *American Journal of Psychiatry*. 2012; 169:160–166. DOI: 10.1176/appi.ajp.2011.11030387 [PubMed: 22420039]

Figure 1. Social ecological framework adapted for youth with attention-deficit hyperactivity disorder (ADHD).

Figure 2.
Flow chart of article selection criteria.

Figure 3.
How thematic categories cluster into three overarching meta-themes.

Table 1

Descriptive Summary of Articles.

Study design or methodological category	Number of articles (N = 32)
Cross-sectional design	4
Longitudinal design	4
Prospective design	3
Secondary analysis	6
Retrospective chart review	1
Interventional design	1
Qualitative grounded theory	4
Qualitative ethnography	2
Focus group methodology	2
Case or cohort comparisons with ADHD and non-ADHD youth	2
Participants were exclusively mothers	2
Parent or caregiver perspectives compared with adolescents'	2
Participants included physicians	1
Participants included parent, health care professionals, and school personnel	1
Variation between different racial or ethnic groups	2
Focused on one racial or ethnic perspective	2
Explored variation in intraethnic or cultural-subgroups	3
Multisite studies	2
National studies	5
Large university or hospital affiliation	2
Special considerations for urban, inner-city, or low-income youth	4

Note. ADHD = attention deficit hyperactivity disorder. The design and methodological categories used in this table were derived by the authors of this review and do not reflect any specific guideline for evaluating quantitative and qualitative research. Some of the secondary data analysis studies cited in this review used a large national data set and may be duplicate analyses of the same data set.

Table 2

Table of Evidence.

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
• Barnard-Brak, and To, (2009)	• Parents of children 6–12 years old diagnosed with ADHD $N = 2,844$	• Quantitative • Secondary analysis from Special Education Elementary Longitudinal Study	• Significant association between parental response versus nonresponse and ethnicity • AA or Hispanic parents more likely not to respond to the question related to stimulant medication	• (S): Large, ethnically diverse national sample; Creative and efficient use of already existing data • (L): Secondary analysis; Study limitations not addressed; Measure of nonresponse does not necessarily mean the child is not on medication for ADHD but that parents chose not to answer the question about stimulant use
•	• Caucasian, 21.2% African American (AA), 9% Hispanic/Latino, 1.5% Asian/Pacific Islander, 0.6% American Indian/Alaska Native, 0.1% Multi-Ethnic • National study	• Examine parental response related to the question of stimulant treatment as a function of ethnicity for children with ADHD • Measures: Parent Interview Questionnaire	• No significant association between response and household income • Suggests parental attitudes and beliefs toward stimulant medication differ by ethnicity rather than SES alone	•
• Berger-Jenkins, McKay, Newcorn, Bannion, and Laraque (2012)	• Parents of children 5–18 years old with untreated ADHD $N = 70$ • 57.1% Hispanic/Latino, 34.3% African American, 8.6% other • Primary and specialty care clinics at New York City hospital	• Quantitative survey available in English and Spanish • Prospective, longitudinal cohort design • Examine parental knowledge and perceptions of ADHD related to service utilization in ethnic populations • Measures: Survey based on perceived need of care, ADHD knowledge, decision-making ability, and environmental concerns	• Increasing age of child and medication concerns associated with less mental health follow-up and treatment utilization • Parental concerns on medication primarily centered around negative publicity around Ritalin • Suggests low service utilization in ethnic populations may be due to knowledge and perception differences about ADHD and treatment, plus stage of adolescence may be additional factor	• (S): Ethnically diverse sample; longitudinal design; based on gateway provider model; Detailed information on recruitment, covariates, statistical analysis, and missing data; Addressed study limitations • (L): Small sample size (less than 100); inner-city youth with untreated ADHD may represent a different population than youth with treated ADHD and cannot be generalized to all ADHD youth
• Brinkman et al. (2011)	• 10 pediatricians	• Quantitative	• Higher level of SDM in families with Caucasian children, private insurance,	• (S): SDM approach aligned with Affordable Care Act's priority on

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
	<ul style="list-style-type: none"> 26 families with a 6–10-year-old child newly diagnosed with ADHD $N = 26$ 80% Caucasian, 12% Other, 8% African American Midwestern community primary care practices in Cincinnati, Ohio; Northern Kentucky, and Southeast Indiana 	<ul style="list-style-type: none"> Prospective cohort study Describe the amount of physician/parent shared decision making (SDM) behavior and explore the relationship between SDM and parent characteristics Measures: Observing Parent Involvement Scale, demographic questionnaire, K6 mental illness screen, Rapid Estimate of Adult Literacy in Medicine 	<ul style="list-style-type: none"> mothers with some college education, and parents without serious mental illness Providers gave more information about medication options than elicit parental preferences, expectations, concerns, or additional information needs Suggests greater SDM is needed for families of ethnic diversity, lower SES, lower education level, and serious mental illness 	<ul style="list-style-type: none"> patient/provider collaboration in clinical practice and participatory action in research; Included details on adapted treatment OPTION scale for parents; Used third-party coding of observed behaviors on videotapes of parent-provider encounters; Addressed study limitations (L): Majority of parent and physician participants are Caucasian; Small sample size; Providers are mostly male and pediatricians
<ul style="list-style-type: none"> Bussing, Gary, Mills, and Garvan (2003) 	<ul style="list-style-type: none"> Parents of elementary school children with ADHD $N = 182$ 59% Caucasian, 41% African American Public school in North Florida 	<ul style="list-style-type: none"> Mixed-method Quantitative data + Ethnographic qualitative interviews Two-phase design (Phase 2) Examine variation in ADHD explanatory models, help-seeking patterns, and treatment attitudes by gender and cultural background Measures: Patient explanatory model coding system, DISC-4, Child and Adolescent Services Assessment, and sociodemographics 	<ul style="list-style-type: none"> AA parents were less likely to connect the school system to ADHD problem identification and expressed fewer preferences for school interventions AA parents also expressed fewer worries about ADHD-related school problems Suggests a disconnect between AA families and the school system related to ADHD awareness, knowledge, and services available 	<ul style="list-style-type: none"> (S): Good sample size; Purpose, objectives, and sampling methods clearly outlined; Consistent use of explanatory models and statistical analysis; Creative use of mixed methods data (L): Findings limited to one geographic area—may not generalize; Coding parental responses and analyzing with quantitative method loses the full range and richness of qualitative data; Due to space constraints, qualitative data included in separate article
<ul style="list-style-type: none"> Bussing, Gary, Mills, and Garvan (2007) 	<ul style="list-style-type: none"> Community sample of parents with and without ADHD 	<ul style="list-style-type: none"> Quantitative Cross-sectional design Explore cultural variance in parental 	<ul style="list-style-type: none"> AA parents reported less ADHD awareness, lower knowledge, fewer cues to action from teachers and media, greater attribution to 	<ul style="list-style-type: none"> (S): Large sample size; Study included parents of children on a spectrum of ADHD concern; Addressed

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
	<ul style="list-style-type: none"> • <i>N</i> = 1,615 • 59% Caucasian, 41% African American • North Central Florida public school district 	<ul style="list-style-type: none"> • beliefs, knowledge, and information sources related to ADHD • Measures: ADHD Knowledge Survey; Questionnaires on Cue to action, Awareness of school services, and ADHD detection and service use; Sociodemographics 	<ul style="list-style-type: none"> • sugar etiology of ADHD, and expected less benefit from treatment • Majority of parents unaware of school services available for ADHD • Suggests the cultural variation in knowledge, awareness, perception, and cues to action may lower the likelihood of AA parents seeking ADHD treatment 	<ul style="list-style-type: none"> • system-related factors for the lack of parental knowledge on school services for ADHD; Discussed statistical analysis and study limitations • (L): Children from other ethnic backgrounds excluded as they were less than 5% of school population; Cross-sectional design unable to assess for changes over time in parental knowledge and perceptions; Survey, but not questionnaires are reliable and valid
• Bussing, Zima, et al. (2003)	<ul style="list-style-type: none"> • Parents of elementary school children at high risk or diagnosed with ADHD • <i>N</i> = 266 • 67% Caucasian, 33% African American and Other • North Central Florida public school district 	<ul style="list-style-type: none"> • Quantitative • Explore whether parental support networks vary by sociodemographic factors for children with or at high risk for ADHD and whether network characteristics influence mental health treatment utilization • Measures: DISC-4, NSSQ, CGSQ, Child and Adolescent Service Assessment 	<ul style="list-style-type: none"> • AA parents reported smaller sample sizes, but more frequent contact and higher levels of affective, affirmative, and instrumental support • Network characteristics of geographic distance and affirmative support were independent predictors of caregiver strain • Higher levels of support reduced the likelihood of formal treatment, but rising levels of caregiver strain increased odds of formal treatment • Suggests a complex relationship between caregiver networks and strain on service utilization for ADHD treatment in youth, especially in ethnic populations 	<ul style="list-style-type: none"> • (S): Good sample size with cultural diversity present; 62% children with ADHD; Two family-related variables examined (support networks and caregiver strain); Psychometric properties of NSSQ and CGSQ outlined; Data analysis and results clearly explained; Limitations well-described • (L): NSSQ did not assess for network members beliefs and attitudes about formal medical care; Attrition over 3 phases may have influenced results; Parental mental health not measured in this study; Service use did not address third-party influence, such as legal issues or welfare, or parental receptivity to mental health services

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
• Bussing et al. (2012)	<ul style="list-style-type: none"> Adolescents diagnosed with or at high risk for ADHD and their parents $N = 374$ adolescents + 374 parents 64% Caucasian and Other, 36% African American North Florida public school district 	<ul style="list-style-type: none"> Quantitative Used sample data from longitudinal cohort study for cross-sectional design Describe adolescent and parental knowledge, perceptions, cues to action, and preferred information sources about ADHD and examine variation by socio-demographics, ADHD risk, and service use Measures: Demographic questionnaire, Child and Adolescent Services Assessment, ADHD knowledge survey 	<ul style="list-style-type: none"> AA respondents expressed less ADHD awareness and greater belief in sugar etiology Ethnicity, but not poverty, was a key influential factor for ADHD knowledge, attitudes, and cues to action Suggests unaddressed ethnic differences in ADHD concepts may be a central force perpetuating disparities in ADHD care 	<ul style="list-style-type: none"> (S): Focused on much-needed group in ADHD research—adolescents; Large, random sample with mixed ethnicities; Gained perspectives from multiple family members, both parents and adolescents within same family; Included data analysis procedures and study limitations (L): Cross-sectional design; One school district from one geographic region; Did not break down sample into ethnic groups other than AA and Caucasian
• Carpenter-Song (2009)	<ul style="list-style-type: none"> Parents of a youth with ADHD or bipolar disorder $N = 20$ families 50% Caucasian, 45% African American, 5% Hispanic/Latino Metropolitan area of Northeastern city 	<ul style="list-style-type: none"> Qualitative Ethnographic narrative and observational anthropological study Illustrate the various meanings of psychiatric diagnoses and mental health treatments within diverse families 	<ul style="list-style-type: none"> Euro-American families from low to high incomes tend to link childhood problems (like ADHD) to biomedical causes and viewed clinical interventions as warranted and appropriate AA families from low to middle incomes tend to view childhood behavioral and emotional difficulties as problems within families and communities rather than individual psychopathology Suggests medicalized perspectives of ADHD hold less salience for ethnically diverse children and families 	<ul style="list-style-type: none"> (S): Well-balanced inclusion of ethnic families; Large sample size for qualitative study; Sociopolitical and cultural-historic perspectives on ADHD discussed; Vivid and descriptive passages from parent participants; Engaging discussion on study findings (L): No information on interview guide, data saturation, peer review or member checks, or investigator bias; Did not describe elements of observational experiences in addition to the interviews; Lack of clarity with major and minor themes; Did not address study limitations

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
<ul style="list-style-type: none"> Carson, Stewart, Lin, and Alegria (2011) 	<ul style="list-style-type: none"> Youth 2–20 years old <i>N</i> = 252 35% Caucasian, 33% African American, 32% Haitian Urban metropolitan area of Boston 	<ul style="list-style-type: none"> Quantitative Retrospective chart review Describe mental health service use for youth with ADHD or depression in a community setting Measures: Demographic survey, Child and Adolescent Needs and Strengths-Mental Health, ADHD Treatment Guideline Protocol 	<ul style="list-style-type: none"> Haitian and AA youth were more likely to stop treatment by 6-months Haitian youth presented with less severe symptoms and dysfunction; were relatively underinsured; more like to have family separations and adjustment disorder; and less likely to adhere to treatment guidelines for ADHD Suggests intra-ethnic variations may explain differences in clinical presentations and mental health service use 	<ul style="list-style-type: none"> (S): Examines intra-ethnic differences within a larger group; Large sample size from 5 different sites; Acknowledged cultural, political, and social factors for data findings and implications; Triangulation of race, language, and direct review of charts verified ethnicity of participants; Limitations stated (L): Retrospective—may have bias and missing data due to design; Study combines ADHD and depression—both common mental health conditions, but may have different meanings and care approaches for AA and Haitian families
<ul style="list-style-type: none"> DosReis et al. (2006) 	<ul style="list-style-type: none"> Parents with a child 6–18 years old recently diagnosed with ADHD <i>N</i> = 26 96% African American Large teaching hospital in Baltimore City, Maryland 	<ul style="list-style-type: none"> Qualitative Grounded theory Explore how parents make sense of their child's behaviors and what led them to seek care for ADHD within an inner-city community clinic 	<ul style="list-style-type: none"> Explored parental patterns of ADHD identification, understanding, and accepting the diagnosis The four patterns: <ul style="list-style-type: none"> Immediate resolution Pragmatic Management Attributional Ambivalence Coerced Conformance; All differ on levels of conceptualization of ADHD and care-seeking approaches Suggests that care-seeking behaviors are influenced by parental conceptualizations of ADHD, especially in ethnically diverse families 	<ul style="list-style-type: none"> (S): Adequate sample size; Represents primarily one ethnic group; Interview guide and data collection procedures stated; Data analysis techniques and scientific rigor addressed, including triangulation of data with clinical and research experts; Major and minor themes clearly presented; Limitations stated (L): No information on researcher bias or member checks; Primary respondents are mothers (very few fathers); Interviews were telephone-based vs. in-person; Findings reflect only those families who are

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
<ul style="list-style-type: none"> DosReis, Mychailyszyn, Myers, and Riley (2007) 	<ul style="list-style-type: none"> Parents of children 4–17 years being treated for ADHD $N = 48$ 100% African American Inner-city, low-income area of Baltimore, Maryland 	<ul style="list-style-type: none"> Quantitative Cross-sectional Identify parental attitudes about risks and benefits of stimulant treatment for ADHD Measures: ASK-ME (Attitudes, Satisfaction, Knowledge, and Medical Experiences), Demographic survey 	<ul style="list-style-type: none"> AA parents, 17% believed stimulants led to drug use; 21% preferred counseling over medication; 21% believed medications had bad side effects; and 23% believed too many children were medicated for ADHD 71% initially hesitant to use medication based on hearsay or lay press and 46% preferred medication to counseling Suggests low-income AA families may have treatment preferences for counseling over medications due to concerns about drug abuse and side effects 	<ul style="list-style-type: none"> (S): Focused on a single ethnic group (AA) historically difficult to recruit in research; Primary instrument reliable and internal consistency with current sample reported; Discussed socio-cultural, political and system-related factors implicated in the findings; Addressed limitations (L): Small sample size (less than 100); 84% participation rate—No mention of additional methods to increase recruitment; May not generalize across the United States or range of income levels
<ul style="list-style-type: none"> Flannagan, Pillow, and Wise (2002) 	<ul style="list-style-type: none"> Mothers of children 8–11 years old with ADHD $N = 40$ 52.5% Caucasian, 47.5% Mexican American Metropolitan area in South Texas 	<ul style="list-style-type: none"> Quantitative Cross-sectional Examine perceptions about ADHD behaviors and stimulant medication use Measures: Disruptive Behavior Disorders (DBD) Scale, ADHD Rating Scale, medical information and stimulant medication interview 	<ul style="list-style-type: none"> Mexican American mothers were more likely than Caucasian mothers to receive information from health care providers about ADHD symptoms, causes, treatments, and outcomes However, both ethnic groups report low levels of information from health care providers Suggests mixed-findings compared with previous research that identifies less information given to ethnically diverse families 	<ul style="list-style-type: none"> (S): Mexican Americans well represented in this study; Detailed results and statistical analysis included; Limitations stated (L): Small sample size (less than 100); Parent participants were mothers—fathers may have different views; Retrospective interview questions with possible recall bias; Some children had ODD in addition to ADHD, which adds complexity to the study findings; Spanish-speaking families not mentioned
<ul style="list-style-type: none"> Guevara, et al. (2005) 	<ul style="list-style-type: none"> Parents of children with 	<ul style="list-style-type: none"> Qualitative 	<ul style="list-style-type: none"> Five main themes: 	<ul style="list-style-type: none"> (S): Large sample size and participant

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
	ADHD + school and health care professionals	• Focus group methodology	• Lack of consensus over care responsibility	• representation; Focused on ethnic groups underrepresented in previous ADHD research; Setting and sample well-described with language accommodations for Spanish-speaking groups; Stated RCA conceptual framework, interview questions, data saturation, analysis, and triangulation methods; Major and minor themes clearly defined; Limitations reviewed
	• N = 13 focus groups with 4–10 participants in each	• Identify system-level problems in communication and coordination of care for children with ADHD	• Changes in health care providers or teachers	• sample well-described with language accommodations for Spanish-speaking groups; Stated RCA conceptual framework, interview questions, data saturation, analysis, and triangulation methods; Major and minor themes clearly defined; Limitations reviewed
	• Parent groups (50% African American and 50% Latino)		• Distrust and blame when relationships among care providers were absent or inadequate	• (L): Participant member checks missing; Unsure if parent participants were primarily mothers, fathers, or other designated caregivers; Due to variety of participants, unsure which elements are highest priority for families given the current constraint on resources for future research or clinical intervention
	• Inner-city public school district in urban Philadelphia		• Lack of support from employers, friends, and family for collaboration	• (L): Participant member checks missing; Unsure if parent participants were primarily mothers, fathers, or other designated caregivers; Due to variety of participants, unsure which elements are highest priority for families given the current constraint on resources for future research or clinical intervention
			• Suggests better organizational policies that define responsibilities and accountability, provide support for care coordination, bridge relationships between providers and agencies, and enhance education and resources may improve care collaboration, especially in ethnically diverse inner city areas	• (L): Participant member checks missing; Unsure if parent participants were primarily mothers, fathers, or other designated caregivers; Due to variety of participants, unsure which elements are highest priority for families given the current constraint on resources for future research or clinical intervention
• Hillemeier, Foster, Heinrichs, and Heier (2007)	• Children with ADHD	• Quantitative	• Frequency of endorsement for most items related to hyperactive, impulsive, and concentration factors are higher for AA children	• (S): Very large sample size from different sites around the United States with AAs adequately represented; Few studies, like this one, examine mental health screening instruments in ethnically-diverse populations; Analytic strategy of IRT clearly defined; Limitations stated
	• N = 1,070	• Longitudinal study from Fast Track Project	• However, using IRT, with the same underlying hyperactivity as Caucasian children, AA parents were less likely to endorse these items	• (L): Sample included urban and rural children, but AAs concentrated in urban
	• 51% African American, 49% Caucasian	• Examines differences in ADHD measurement by ethnicity using parental reports	• Suggests screening instruments used in pediatric primary care settings that rely on parent report may yield	
	• Across 4 locations Durham, NC, Nashville, TN, Rural PA, Seattle, WA	• Measures: DISC, item response theory analysis		

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
				quantitatively different results for AA children
	Hinojosa et al. (2012)	<ul style="list-style-type: none"> Parents of children 2–17 years old with ADHD $N = 5,397$ 68.1% Caucasian, 12.8% Latino, 9.8% African American, 9.2% Other National study 	<ul style="list-style-type: none"> Quantitative Secondary analysis Examine ethnic variation in parental strain for parents of children with ADHD Measures: National Survey of Child Health, including parental strain and social support questions 	<ul style="list-style-type: none"> (S): Very large ethnically-diverse and national sample; Efficient use of resources with secondary analysis; Family-related processes included (i.e., parental strain); Sampling methods and analytic strategy clearly stated; Discussion of culturally sensitive results consistent with background information (L): Majority of participants Caucasian; Measures of social support constrained by parameters of already existing data; Limitations of study not explicated stated
	Hogue, Dauber, Lichvar, and Spiewak (2014)	<ul style="list-style-type: none"> Adolescents 12–18 years with ADHD and their caregivers $N = 168$ adolescents and 168 caregivers 60% Hispanic, 22% African American, 11% Multiracial, 5% Other, 2% Caucasian Large urban, northeastern city 	<ul style="list-style-type: none"> Quantitative Investigate adolescent and caregiver reports related to ADHD, perceived need for treatment, and adolescent functioning Measures: Mini international neuropsychiatric interview, Perceived need for treatment, Child behavioral checklist and youth self-report, Inventory of callous-unemotional traits, Behavior rating 	<ul style="list-style-type: none"> (S): Good sample size; Family perspective with 2 informants; Focus on adolescents needed in the ADHD literature; Majority of participants (Hispanics) historically underrepresented in research; Strengths and limitations reviewed (L): 33% of potential adolescent subjects could not be reached—study results may be biased due to this nonresponse rate; Absence of teacher reports for ADHD symptoms to

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
		inventory of executive function		triangulate adolescent and caregiver reports
Hudson, Miller, and Kirby (2007)	• Children 5–17 years old	• Quantitative	• Caucasian children are twice as likely to use stimulant medications as compared with AA or Hispanic youth	• (S): Very large national sample; Pre-existing data collected from national survey; Individual and family characteristics of sample clearly defined in tables; Analytics and discussion of results present
	• $N = 19,115$	• Secondary analysis from longitudinal study	• Differences in individual and family characteristics (parental education, family income, family structure, insurance status, child health, geographic location) account for 25% of the difference between Hispanics and Caucasians, but none for the difference between AA and Caucasians families	• (L): Specific ethnic breakdown of sample not included; Stimulant use not restricted to youth with ADHD—other conditions may be represented here; Use of medication measured by drug purchases—does not account for medications purchased, but not consumed; While stimulant use varies by ethnic background in this study, the reasons for these differences remain unclear
	• Mixed sample of Caucasian, African American, and Hispanic youth	• Explain ethnic differences in use of stimulant medications for youth	• Suggests ethnic gaps in stimulant use persist among children with otherwise similar reported mental health conditions	
	• National survey	• Measures: Stimulant purchase, Censes data, Child mental and physical health questionnaire, Columbia impairment scale		
Kendall, Leo, Perrin, and Hatton (2005)	• Mothers or caregivers of a child with ADHD	• Quantitative	• Hispanic families were less likely to use therapy, counseling, or school services	• (S): Adequate sample size; 3 ethnic groups equally represented; Uses broad definition of family to capture contemporary American families; Spanish-versions of interview tools available; Data analytic strategies and limitations defined; Very well-described results section
	• $N = 157$	• Descriptive design	• Caucasian families more likely to request therapy and counseling services; AA families more likely to request social services; and Hispanic families more likely to request support services	
	• 36% Hispanic, 33% Caucasian, 31% African American	• Describe service use, perceived helpfulness of services, and service request related to sociodemographic factors in ADHD youth	• Suggests variation in service use and type of service request may be influenced by ethnicity, culture, and language rather than income or SES alone	• (L): Convenience sample; Service use was based on parent recall; Data collected
	• San Diego, CA, and Portland, OR, areas	• Measures: Demographic form, Treatment information and perceived treatment effectiveness parent self report		

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
Krain et al. (2005)	Parents or guardians of children 5–12 years with ADHD	Quantitative	• Caucasian parents' ratings of medications are significantly higher than non-Caucasian groups	• (S): Research questions clearly stated; Psychometric properties of instruments defined; Questionnaires included in appendix; limitations very clearly described
	$N = 55$	Examine parental ratings of treatment acceptability for ADHD with relationship to treatment pursuit	• Significant relationship between ethnicity and pursuit of pharmacological treatment with Caucasian parents more likely to pursue	
	74.5% Caucasian, 20% African American, 3.6% Other, 1.8% Hispanic	Measures: DICA-RP, ADHD-IV, Demographic, Treatment acceptability, and Pursuit of treatment questionnaire	• Suggests ethnic-cultural differences in the attitudes and beliefs about ADHD medications and subsequent use	• (L): Small sample size (less than 100); Majority of participants were Caucasian, mothers, and recruited from a specialty ADHD clinic; Little socioeconomic variability in sample (majority were middle-class families)
	Pediatric hospital in large metropolitan area			
Larson, Yoon, Stewart, and DosReis (2011)	Caregivers of children with ADHD	Mixed methods	• Six main themes:	• (S): Mixed-methods study; Large qualitative sample size with a variety of caregiver types; Adequate representation of AA ethnic group; Method of grounded theory stated; Qualitative data fills in the gaps where quantitative findings are lacking (caregiver capacity to manage ADHD symptoms and perception of severity); Rigor and credibility established; Limitations stated
	$N = 48$	Prospective design	• Caregiver strain	
	81% African American	Qualitative Grounded Theory + Quantitative	• Attribution of meaning	
	Large teaching hospital in Baltimore City, Maryland	Explore prior caregiver experiences prior to ADHD treatment and examine relationship with service use and treatment utilization	• Perception of responsibility	
			• Problem-solving approach	
			• Beliefs about ADHD treatment	
			• Response to societal influences	
		Measures: Interviews and ADHD treatment use	• Caregivers were either motivated by either observation, experience, or strain, OR struggling with meaning	
			• Caregivers motivated by experience most likely engage in treatment, whereas those struggling with meaning were least likely	• (L): Small sample size for quantitative portion (less than 100); Selection bias due to sampling in one geographic area; Lack of direct measure for relationship between symptom severity and
			• Suggests factors influencing caregivers' use of services may have treatment	

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
<p>• Lawton, Gerdes, Haack, and Schneider (2014)</p>	<p>Latino parents of a child 5–12 years with ADHD</p> <p>$N = 74$</p> <p>87.8% Mexican American, 5.4% Other, 4.1% Puerto Rican American</p> <p>Southeastern Wisconsin area</p>	<p>Quantitative measures available in English and Spanish;</p> <p>Investigate the role of culture in explaining parental etiological beliefs about ADHD</p> <p>Measures: ADHD Behavioral Impairment Video, Belief about Causes Parent Version, Acculturation Rating Scale of Mexican Americans-II, Mexican-American Cultural Values Scale for Adolescents and Adults, Demographic questionnaire</p>	<p>Behavioral acculturation was not significantly correlated with etiologic beliefs of ADHD</p> <p>Cultural values of familism and traditional gender roles were positively correlated with sociological/spiritual beliefs related to ADHD</p> <p>Higher SES associated with fewer familism and gender role values</p> <p>Suggests level of acculturation may not influence parental beliefs about ADHD etiology as much as cultural values, like family-focus, respect, gender, and spirituality, in Latino families</p>	<p>(S): Examined differences between two cultural subgroups; Extensive background information helpful for novice readers; Discussion points correlated with opening themes</p> <p>(L): Small sample size (under 100); relatively homogeneous sample; Limited variability in measures of Latino values and acculturation may have influenced the results; Recruitment site may have influenced the strong religious and spiritual orientation of the results</p>
<p>• Leslie, Plemmons, Monn, and Palinkas (2007)</p>	<p>Caregivers from families with a 6–15 year old youth with ADHD</p> <p>$N = 28$ families</p> <p>32% Euro American, 25% Spanish-speaking Mexican American, 21% English-speaking Mexican American, 18% African American, 4% African Caribbean</p> <p>San Diego area</p>	<p>Qualitative</p> <p>Grounded Theory</p> <p>Explore the role of familial sociocultural context on families' decisions to seek care for their child with ADHD, particularly with medication use</p>	<p>Four patterns:</p> <p>Delay to diagnosis</p> <p>Initial nonmedication treatment</p> <p>Reluctant receipt of diagnosis or treatment</p> <p>Rapid engagement</p> <p>Spanish Speaking Mexican American families disproportionately represented the third pattern</p> <p>Suggests ethnic-cultural differences in help-seeking patterns and explanatory models for youth with ADHD, especially in Spanish-speaking Latino families</p>	<p>(S): Purposeful and adequate sample size; relatively equal distributions of ethnic groups; familial explanatory model, model of illness career, and medical utilization models of illness framed research; trained bilingual research assistant conducted Spanish-language interviews; major and minor themes clearly described</p> <p>(L): All PIs read through transcripts, but it is unclear who coded themes and if peer experts or participant members checked the final themes/results; Did not incorporate</p>

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
<p>Mychailyszyn, DosReis, and Myers (2008)</p>	<p>Parents of children 6–18 years with ADHD diagnosis N = 34 88% African American, 9% Caucasian, 3% Biracial</p> <p>Large teaching hospital in Baltimore City, Maryland</p>	<p>Qualitative</p> <p>Grounded theory</p> <p>Explore how parents conceptualize and view their child's ADHD and understand how this relates to mental health service use</p>	<p>„Process of Making Sense” three themes: Forming opinion Contemplating origin Reevaluating self-control</p> <p>Based on these themes, a parental conceptualization of ADHD is formed (either as a medical illness, general problem, or not a problem)</p> <p>Suggests ethnically diverse inner-city families have a range of parental views on the concept of ADHD, which may subsequently lead to disparities in mental health care and treatment and service use</p>	<p>(S): Good sample size; Majority of sample underrepresented in previous research; opening and probing interview questions stated; solid analytic plan; Data saturation and accuracy of interpretations reviewed with expert clinicians and researchers; Emerging theory drawn and described</p> <p>(L): Families who do not seek care not included; short time frame from diagnosis used; did not directly address parental ADHD and if this changes how caregivers perceive or address ADHD for their child</p>
<p>Olamiyan et al. (2007)</p>	<p>Primary caregivers with children under 17 years N = 31 100% African American</p> <p>Baltimore, Washington DC Metropolitan area</p>	<p>Qualitative</p> <p>Focus group methodology</p> <p>Understand perceptions about ADHD within African American families and communities</p>	<p>Five main themes: 1. Causes of behavioral problems 2. Legitimacy of ADHD as a diagnosis 3. Attitudes about doctors 4. Opinions of medication 5. Perceptions of the school environment</p> <p>Feelings of racial inequality, discriminatory practices, dissatisfaction with educational system, and</p>	<p>(S): Directly focused on underrepresented ethnic group; Theoretical framework to guide research is missing, but rationale for focus group methodology stated; Open-ended questions for study listed; Coding scheme and data analysis explained; Major and minor themes clearly explained</p> <p>(L): Sample restricted to AAs in 3 locations in one geographic region; used race as a proxy for culture; Did not compare views of parents with and</p>

J Am Psychiatr Nurses Assoc. Author manuscript; available in PMC 2018 April 24.

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
	•	National survey	Survey—questionnaire on health conditions, use of health care services, and sociodemographics	reflect cultural subgroups; Prescription use not restricted to ADHD medications—any chronic medication included in this analysis; ADHD or LD diagnosis primarily based on parental reports
• Pham, Carlson, and Kosciulek (2010)	• Parents of children with ADHD 5–12 years • $N = 137$ (58 with ADHD child) • 53.8% Caucasian, 46.2% African American or Latino • Mid-Michigan area	• Quantitative • Examine cultural differences in parental beliefs on the etiology and treatment of ADHD and the relationship to treatment preference • Measures: ADHD beliefs and attitudes scale, ADHD knowledge and opinions scale-revised, ADHD and treatment	• No significant ethnic differences in how parents viewed causes of ADHD • AA and Latino parents rated counseling and behavioral treatments more positively than Caucasian parents • Suggests ethnic-cultural differences in parental preferences for ADHD treatment type	• (S): Research questions clearly defined; Data collection at 3 sites; Results and analysis presented simultaneously; Limitations discussed • (L): Difficulty recruiting AA and Latino parents with ADHD children—may not be representative of national sample; Little control over confounding variables—SES and parental educational level; English speaking only questionnaires; Rationale for including parents with and without ADHD children not explained
• Schmitz and Velez (2003)	• Latino mothers of children with ADHD • $N = 320$ • 25% Mexican, 56% Mexican American, 19% Puerto Rican • National study	• Quantitative • Secondary analysis • Examine ethnocultural differences in parental evaluations of ADHD-related behaviors • Measures: National Longitudinal Surveys of Youth data set, Acculturation interview, sociodemographics	• Mexican mothers significantly less likely than Mexican American and Puerto Rican mothers to report impulsivity with Puerto Rican mothers more likely than Mexican and Mexican American mothers to report hyperactivity • None of the acculturation or ethnicity measures significantly predicted attention deficit measures • Suggests mothers from different Latino cultures and at different levels of acculturation differentially	• (S): Large sample size; Cultural subgroup study; Longitudinal design; Spanish-speaking interviews available; Data analysis, results, and limitations clearly explained • (L): Self-identified ethnicity is only indicator of culture; Sampling methods need further clarification; Key measures inadequate to represent the wide-

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
<ul style="list-style-type: none"> Schneider, Gerdes, Haack, and Lawton (2013) 	<ul style="list-style-type: none"> Families of school aged children with ADHD $N = 73$ families 56% Ethnically Diverse or Other, 44% Caucasian University based ADHD clinic 	<ul style="list-style-type: none"> Quantitative Examine different child, parent, and family factors that predict dropout for families of children with ADHD Measures: Client information form, parent/teacher DBD rating scale, parenting stress inventory-short form, and Brief symptom inventory 	<ul style="list-style-type: none"> Ethnic status and severity of hyperactive/impulsive symptoms were positively correlated Single-parent homes significantly predicted assessment dropout Suggests child and parental/family factors (ethnicity, medication status, severity of symptoms, family structure) are associated with assessment and treatment dropout 	<p>range of symptoms within ADHD diagnosis; Data obtained from only single point of view-the mothers</p> <p>(S): Majority of sample ethnically diverse; Focused on both child and family factors in risk assessment; Child, parent, and teacher all participated in data collection; Results and data analysis presented simultaneously; Limitations stated</p> <p>(L): Small sample size may have reduced power to detect statistical or clinical significant differences; Ethnic groups not clearly defined; Examined assessment and treatment drop out as all or nothing phenomena as opposed to families who come in and out of treatment based on clinical need</p>
<ul style="list-style-type: none"> Trampush, Miller, Newcorn, and Halperin (2009) 	<ul style="list-style-type: none"> Adolescents 16-21 years with and without ADHD $N = 93$ 31.2% African American, 31.2% Hispanic, 25.8% Caucasian, 11.9% Mixed Urban, metropolitan area within New York City 	<ul style="list-style-type: none"> Quantitative Longitudinal study Examine cognitive and psychosocial factors associated with high school dropout in urban adolescents with and without ADHD Measures: Wechsler Adult Intelligence Scale-III and Individual Achievement Test-II, Family and sociodemographic interview, Rutgers 	<ul style="list-style-type: none"> IQ, frequency of marijuana use, and amount of contact with father were independently related to dropout Urban high school dropouts, regardless of childhood ADHD, had significantly lower cognitive and reading ability, greater SES disadvantage, regular marijuana use, and more limited contact with biological father. Suggests ADHD in ethnically diverse urban youth is less likely to cause high school dropout as compared with 	<p>S): Longitudinal design; Focus on adolescents; Sample culturally diverse; Case-control design produced findings that an ADHD-only sample may have lacked; Statistical procedures clearly delineated; Stated limitations</p> <p>(L): Small size decreased statistical power to detect clinically meaningful differences; May be advantageous to wait and reevaluate sample at later date from</p>

Source	Participants	Design, purpose, and measures	Key findings	Strengths and limitations
		Drug and Alcohol Questionnaire	other individual and family factors	dropout rate—however, greater loss to follow-up may have occurred
• Zima, Bussing, Tang, and Zhang (2013)	<ul style="list-style-type: none"> Parents of children 5–11 years with ADHD $N = 529$ 82.8% Ethnically diverse or Other, 17.2% Caucasian County of Los Angeles 	<ul style="list-style-type: none"> Quantitative Longitudinal cohort Examine parental perceptions about barriers, knowledge, and treatment willingness for ADHD with predictions on care maintenance Measures: ADHD Survey, Service care use, demographics 	<ul style="list-style-type: none"> Parent-perceived barriers, ADHD knowledge, and counseling willingness did not predict staying in care, whereas baseline medication willingness did Ethnicity, single parent status, parental distress, clinical need, and special education use were predictive of staying in care Suggests family variables, like family structure, cultural/ethnic background, and parental distress, are indicators of treatment adherence in diverse inner-city youth with ADHD 	<ul style="list-style-type: none"> (S): Large sample size with ethnic majority; Longitudinal design; Study objectives and sampling method clearly stated; data analysis, results, and corresponding tables/figures all consistent; Multiple family-processes were considered; (parent perceptions and distress, education, and marital status) (L): Ethnic breakdown of sample not described (whether more AAs/Latinos were represented); The staying in care parameter was loosely defined as 1 health care contact, which may have overinflated rates

Note. ADHD = attention deficit hyperactivity disorder; DISC-4 = Diagnostic Interview Schedule for Children; NSSQ = Norbeck Social Support Questionnaire; CGSQ = Caregiver Strain Questionnaire.

Table 3

Inductively Developed Thematic Categories.

Thematic category	Number of articles (N = 32)
1. Knowledge about ADHD and caregiver educational levels are related to parental understanding about ADHD and its symptoms.	16
2. Parental beliefs on the causes of ADHD may vary across racially and ethnically diverse families.	12
3. Parental perceptions about ADHD and attitudes toward treatment may shape how families respond to their child's condition.	20
4. Help-seeking behaviors may be influenced by parental and family conceptualizations of ADHD.	11
5. Parental preferences for ADHD treatments may influence the decision-making process regarding treatment selection for their child's ADHD.	14
6. Caregiver strain associated with ADHD in childhood may vary within families.	6
7. Racial and ethnic minority children and families may have less awareness about the availability of services for ADHD.	4
8. Service utilization and maintenance of ADHD care and treatment may vary among diverse families.	12
9. Greater communication and care coordination is necessary between ADHD systems and services, especially for racially and ethnically diverse families.	5

Note. ADHD = attention deficit hyperactivity disorder. Articles may be included in more than one thematic category.