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Navigating Newborns: A Qualitative Analysis of Medical Authority, Healthcare Utilization, and Parenting Education among New Mothers

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Abstract

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The importance of early parenting behaviors as they relate to child development and subsequent adult health outcomes is becoming increasingly recognized. Remarkably little is known about the mechanisms through which new parents acquire and implement information during the parental role adoption period. Understanding the roles of information and communication in the parental decision-making process is of vital importance to the appropriate development of parenting interventions and has implications for health outcomes well into the life course. This qualitative study explores the roles of information and communication in determining parenting behaviors during parental role adoption through a series of focus groups conducted with first-time mothers.

Central to maternal behaviors is individual maternal efficacy. Mothers indicated that their own parenting knowledge and efficacy were buttressed by the collective parenting knowledge of those within their social environment. When the knowledge of those closest to them was exhausted, or when it did not provide answers to their satisfaction, new mothers turned to the most readily available healthcare resources for guidance. This navigation between individual, social, and medical parenting recommendations happened within a social environment that medicalizes childbirth and parenting, granting health professionals authority to shape parenting behaviors. This can inadvertently undermine collective parenting knowledge and maternal efficacy.

Parenting is a complex psychosocial phenomenon enveloped within a multitude of inconsistent and at times conflicting information. Maternal role adoption and daily infant care are mediated by a new mother's relationship with medical authority. Additionally, socioeconomic status moderates the effectiveness of patient-provider interactions. Medical assumptions of parental efficacy create a perpetual knowledge deficit wherein the mother will fall short of knowledge, skill, and medically imposed parenting expectations for the extent to which she fails to submit to medical authority. This notion is directly in opposition to many of the current practices within health education and communication that provide only the most basic health information in an effort to reach a common denominator of need. Health professionals must consider how their interactions may both create and fail to appropriately meet the parenting education needs of first-time mothers.

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I. Introduction

Increasingly, health outcomes throughout the life span are being linked to experiences in utero and during early childhood (Fogel, 2003; Marmot, 2003). As such, the importance of early parenting behaviors as they relate to child development and subsequent adult health outcomes is becoming increasingly recognized. Remarkably little is known about the mechanisms through which new parents acquire and implement information during the pivotal parental role adoption period. Understanding the roles of information and communication in the parental decision-making process is of vital importance to the appropriate development of parenting interventions and has implications for health outcomes well into the life course.

Parental role socialization, the psychosocial process by which an individual adopts the parent role following the birth of a child, is an aspect of family structure that tends to be poorly understood.[1] Interventions aimed at improving parenting behaviors are often stalled at the implementation level because of an incomplete understanding of the population and their baseline levels of knowledge (Ardelt & Eccles, 2001; Elder et al., 1995; Jones & Prinz, 2005; Teti & Gelfand, 1991). While these unexpected delays are not exclusive to interventions with first time parents, the parental role adoption period is an ideal time for intervening to improve health outcomes during the pivotal stage of infant development. As these studies have shown, however, intervening at this stage

[1] For the purposes of the present study, parental role adoption and parental role socialization are used interchangeably. This is done with the understanding that a more targeted review of the parenting role would have to parse out psychological role adoption from sociological role socialization.

requires a better understanding of the educational needs of new parents. Sources of information often vary in their recommendations, providing inconsistent and at times directly conflicting information to new parents, thereby complicating knowledge acquisition and translation.

To explore the roles of information and communication in determining parenting behaviors during parental role adoption, this study will conduct a qualitative analysis using a series of focus groups comprised of first-time mothers. First-time mothers specifically are of interest for several reasons. First, research has shown that new mothers take the primary role in daily infant care early in life, whereas fathers become progressively engaged in childcare as the child develops (Rossi, 1984). Additionally, primiparous mothers are optimal targets for intervention as they transition into the parenthood role. Not only do they tend to readily accept the new role; they also actively seek skill development (Rossi, 1984). Furthermore, most primiparous mothers have little to no previous experiential learning on which to base parenting behaviors, allowing for the creation of healthful habits rather than the altering of harmful ones. Finally, new mothers in lower socioeconomic or minority racial/ethnic groups have been identified many times as some of the most difficult to reach populations of parents.

Theoretical Framework

Analysis for this study will look at the role of communication in determining daily infant care among primiparous mothers both at the micro level via constructs from the social cognitive theory and at the macro level using

constructs from communication theory. Social cognitive theory (SCT) postulates that there is a reciprocal interaction between individual and environment, particularly within a given cultural context (Bandura, 2002). Under the broader domains of information and communication, the following individual-level constructs will guide the analysis: outcome expectations, self-efficacy, modes of learning, and facilitation. Additionally, the collective efficacy construct will be used to explore the social influences on new mothers' parenting behaviors. An important aspect of all learning, specifically of parenting behavior within the present context, is the way in which information is communicated. SCT does not explicitly address how communication influences social cognition. For that reason, constructs within communication theory will be used to look at the interpersonal and social dynamics that contribute to the roles of information and communication in the parental decision-making process. Specifically, the following constructs will guide analysis: knowledge gap, information flow, social structure/pluralism, social conflict, and motivation. Combining these theories and operationalization of the resultant constructs is discussed further in the Methods section.

To explore how new mothers make decisions about daily infant care, a series of focus groups were conducted with first time mothers with infants no more than six months old from varying socioeconomic backgrounds and geographic locations.

Specific Aims

1. Identify topics where new mothers receive inconsistent parenting information.
2. Determine the factors influencing new mothers' decisions regarding parenting behaviors.
3. Explore the role of communication in maternal role development.

II. Review of Literature

Studies have shown that parenting behaviors, especially early in a child's development, have far-reaching health consequences (Gage & Christensen, 1991; Fogel, 2003; Marmot, 2003). Little is known about how new parents navigate daily infant care when receiving inconsistent or conflicting information. This literature review aims to summarize current understandings and hypotheses around the importance of parenting behavior, parental role adoption, and infant care decision-making processes. Following is a discussion of theoretical principles that guide the present study.

The Importance of Parenting Behaviors in Utero and Early in Life

Prenatal care and early-life care have repercussions not only on birth outcomes, but also on health outcomes throughout the entire life course of the child (Bradley, 2002; Fogel, 2003; Gortmaker, 1997; HRSA, 2011; Super & Harkness, 1986; Woolf 2011). For example, breastfeeding is associated with a decreased risk of heart disease in adulthood (Barker, 1990). Hypertension, chronic heart disease, stroke, non-insulin dependent diabetes, and autoimmune diseases among adults have been linked to infancy and experiences of the individual in utero (Barker, 1990; Barker, 1998; HRSA, 2011). Poor maternal health creates a hostile uterine environment that negatively impacts fetal organ development (Super & Harkness, 1986; Woolf 2011). Following birth, generally poor maternal health is directly linked to poor child health and, later, poor adult health (Bradley, 2002; Fogel, 2003). Conversely, environmental improvements

both in utero and during infancy have been shown to be more important than access to health care in determining overall health (Fogel, 2003).

The effects of early parenting decisions do not end at delivery. Rather, parenting decisions early in life set the stage for health outcomes throughout the life course. For example, the composition of infant food impacts motor development and early food programs the body for lifetime lipid metabolism (Barker, 1990). Just as health-related parenting behaviors early in life and pre-birth have effects well into adulthood, so do parenting styles and behaviors in childhood. In a systematic review of the impact of parental efficacy on child and family outcomes, Jones and Prinz (2005) found that strong parenting positively impacted child academic attainment, hostility control, and civic and community engagement, while decreasing reports of child maltreatment, abuse, and neglect.

Taking a step back to look at the context within which the parent-child relationship develops, we see that social integration, community resource allocation, and economic resources all impact how parenting intentions are translated into behaviors, mediating the effectiveness of parenting on child outcomes. Ardelt and Eccles (2001) found that parenting interventions were often unable to be implemented in areas where housing and food security took an emergent precedence over promotive parenting such as child encouragement, collaborative activities, or proactive prevention. Hardy and Streett (1989) found similar results in homes where securing clothing and addressing rodent infestations took precedence over supportive parenting. Vigilant parenting, parenting that emphasize awareness of a child's daily activities in order to ensure appropriate development, required a larger time commitment in neighborhoods

with high perceived environmental risks (Jones & Prinz, 2005), signifying that parenting in socioeconomically deprived neighborhoods could moderate potentially harmful effects of otherwise dangerous environments. Furthermore, there is strong evidence suggesting that parental social capital and self-efficacy are directly correlated with child self-efficacy and social capital later in life (Ardelt & Eccles, 2001; Jones & Prinz, 2005; Marmot, 2003). This suggests that social capital and self-efficacy are parts of the familial socialization process and may in part be inherited.

Considering the individual and social impacts of children's developmental environments, Marmot (2003) calls for programming priority in health interventions to be given to women of childbearing age, including special protections during pregnancy as a method of primary prevention. These kinds of systemic protections, such as paid maternity leave, child-care friendly work environments, and programs that ensure adequate nutrition during pregnancy and lactation, are outlined in the United Nations Convention to Eliminate Discrimination against Women (CEDAW, 1979). In a country such as the United States where CEDAW has not been ratified, these basic maternal rights are not guaranteed. As such, it then becomes even more important to understand the mechanisms through which parental education and role socialization can be leveraged to improve birth outcomes and developmental milestones so as to maximize the health outcomes of emerging generations, particularly in resource-limited settings.

Parenthood Transition and Role Adoption

Much of the research around parenting and its impact on child health focuses on mid- to late-childhood and the influence of parents on child health behaviors. Given the importance of early infancy in the development of the child and the implications for health later in life, there is little attention paid to how transition into a parental role impacts physiological set points for offspring. Research that currently exists focuses primarily on the effects of parenting behaviors rather than their root causes. Individual-level studies look at personality traits that impact parenting styles and traditional husband-wife interactions as a result of parenthood (Cowan & Cowan, 1995; Gage & Christensen, 1991; Gjerdingen & Center, 2003; Grossman & Pollack, 1987; Simons & Whitbeck, 1990). Sociological-level studies tend to investigate the impact of family development on the overall family structure (Hobbs, 1965; Oberlander & Black, 2011; Woolf & Braveman, 2011) or economic resources as examples of relative deprivation without a critical look at the underlying reasons for them (Elder et al, 1999; Flores et al, 1999; Gortmaker & Wise, 1997; Rosenblum & Paully, 1984). The cultural nuances of parenting styles across populations are explored in anthropological literature (Bradley & Corwyn, 2002; Flores & Tomany-Korman, 2005; Doucet & Harmon, 2007; HRSA, 2011; Super & Harkness, 1986), though little is said about the public health implications of culturally contextual parenting.

Very little research has been devoted to the preparation, evaluation, and planning that goes into parental role adoption or the importance of influential others in the development of parenting styles. Moreover, there is an underlying

assumption across most disciplines that new parents[2] instinctively know how to fit into a parenting role. Super and Harkness (1986) went so far as to say that parenting decisions were such an integrated part of the larger culture that individual rationalization is not given conscious thought. This assumption is juxtaposed by the assertion of Super and Harkness that constructed definitions of parenting practices at the cultural level do not apply very well to individual level behaviors. This paradox is further illustrated in public health literature that shows how parental efficacy is strongly associated with child self-efficacy and the direct causal relationship between parenting behaviors and child health outcomes (Ardelt & Eccles, 2001; Flores & Tomany-Korman, 2005; Fogel, 2002; HRSA, 2011; Roustit et al, 2011), but neglects to ask how that parental efficacy is obtained. As Gage and Christensen (1991) eloquently stated, "Despite intuitive plausibility, surprisingly little is known about parental transitioning."

Mechanisms of Parenting Education and Socialization

Due to an incomplete understanding of parental transitioning and role socialization, many interventions aimed at improving parenting practices have proven ineffective. Repeatedly, interventions are stalled at the implementation stage because more basic parenting education was required than program planners had anticipated (Ardelt & Eccles, 2001; Elder et al, 1995; Jones & Prinz, 2005; Teti & Gelfand, 1991). Family support was also found to be a prerequisite

[2] For the purposes of this study, parents and mothers are used interchangeably, unless gender differences in parenting are explicitly addressed. This decision is supported by published literature that indicates that mothers perform the majority of infant care during the first 6-12 months of life (Rossi, 1984; Insana & Montgomery-Downs, 2012)

for most parenting education (Ardelt & Eccles, 2001; Elder et al, 1995; Jones & Prinz, 2005), but is often not taken into consideration when planning interventions.

Subsistence concerns among lower socioeconomic parents, such as keeping home utilities connected, feeding the family, or stabilizing housing, are important considerations for health educators during message development. While a few studies were found that acknowledged these environmental influences on health message uptake, none of the studies reviewed identified ways to address these environmental factors in order to effectively increase parenting skills and efficacy via parenting education. Missing from most of these interventions is a broader ecosocial understanding of issues surrounding parenting decisions and the development of tools to address both pressing real-life concerns and, simultaneously, address parenting needs.

Methodological limitations also constrain the extant literature. For example, some studies (Kanotra et al., 2007; Hardy & Streett, 1989; Vannice et al., 2011; Jones & Prinz, 2005; Hannan, 2012) operationalize parenting as a set of medical system compliance markers (e.g. well-baby visits, immunization schedule compliance). As a result, researchers may have mistaken compliance for parenting skills. Furthermore, the relative advantage of complying with medical recommendations was assumed, but not explicitly assessed in any of the studies reviewed.

A second category of studies examines parental efficacy, which is generally defined as how much the parent felt they could either control the child or had the power to protect the child (Jones & Prinz, 2005). This mode of measuring

efficacy may in fact be measuring perceived power and control beliefs rather than efficacy. This imprecise measurement of constructs may explain the poor predictive ability of current models for understanding the role of parental efficacy on child health outcomes. While efficacy has been identified as an important component of parenting, the mechanisms by which parents gain or increase self-efficacy are not explored in the literature reviewed. Moreover, parental efficacy was strongly correlated with child self-efficacy (Jones & Prinz, 2005), suggesting that efficacy is a learned attitude. This way of understanding self-efficacy is divergent from the prevailing belief that efficacy is a function of the individual. This vertical transmission of efficacy could be applied to the finding by Ardelt and Eccles (2001) that self-efficacy of a child was a stronger predictor of the child's academic success than any after-school or community program. The protective effects of efficacious parenting behaviors that instill efficacy above and beyond external resource utilization are important predictors of child trajectory throughout the life course. Once again, the importance of parenting skills is highlighted, but the mechanisms through which parenting skills are acquired are not critically examined.

As with nearly all health-related learning in regions with organized health systems, medical professionals are essential to providing downstream parent training as well as upstream policy guidance (Conrad, 1992). Of increasing importance in thinking about contextual determinants of health is the importance of social capital and in the case of a shortage of social capital, social exclusion (Fogel, 2003). Social exclusion has life-long and cumulative impacts on health (Marmot, 2003) and could start before birth when parenting information

is first being conveyed to expectant parents. For example, Hardy and Streett (1989) found that inner-city mothers in economically deprived regions regularly took trips to the emergency room when they had a health question that could not be answered by clinics outside normal operating hours, indicating insufficient skills in coping with common infant illness, an inability to distinguish between variations of normal and abnormal behavior, and inadequate parenting education. Relative deprivation in areas of lower socioeconomic status, such as those discussed by Hardy and Streett, can decrease relative educational attainment within a social system. This educational disparity can in turn decrease perceived intellect during medical assessments. Perceptions of decreased intellect can in turn lead to a decreased explanation of health issues by medical providers, thereby perpetuating a relatively decreased understanding of the health situation. Further studies are needed to assess to what extent social capital and/or social exclusion impact the parenting education process.

In addition to looking at the ways in which health professionals provide parenting information, the socialization into a parenting role is an important consideration when looking for opportunities to leverage parenting behavior for child health improvements with broader generational implications. The primary mode by which primiparous parents are socialized into their new roles prior to transitioning into adulthood is through the family (Gage & Christensen, 1991). Partner communication was also found to be important in reducing the strain of transitioning into parenthood as the socialization of both parents occurs in tandem (Simons et al., 1990). Similarly, concurrent socialization of parents was more strongly correlated with parental efficacy than any anticipatory role

socialization (Rossi, 1968). These findings point once again to the importance of social capital in the parental transition, underlining the importance of a contextual view of parental role socialization. Furthermore, social position dictates many of the prevailing health options for mother and child, in turn impacting institutionalized parenting beliefs and practices at community and societal levels. This cycle of availability of parenting resources and reciprocal community beliefs around parenting predicts parenting education and socialization and should thus be investigated further. The current practice of adjusting for socioeconomic factors such as education and income when looking at the impact of parenting on child health may in effect be adjusting out the effects of social capital on parenting, dampening the very real impact of environmental determinants of health options.

Combining Theories to Improve Understanding

As discussed previously, multiple levels of influence must be considered when looking at how new mothers make decisions about infant care. As such, it is important to take an organized approach to understanding influences on parental education and behavior. Social Cognitive Theory (SCT) tells us that influential others, such as medical providers and parenting mentors, are more important in the adoption of new information than any broader attempt at behavior change (Glanz, Rimer, & Viswanath, 2008). This principle highlights the importance of balancing messaging from medical professionals with cultural parenting norms and other institutionalized parenting practices within the parents' environment. As is evidenced in published literature across various disciplines, any medical

education or health intervention programs implemented to improve parenting knowledge, skills, and efficacy must be compatible with the prevailing social culture (Bradley & Corwyn, 2002; Burgos et al., 2005; Doucet, 2007; Flores 2007; Forehand & Kotchick, 1996; Rosenblum & Paully, 1984; Wray-Lake & Flanagan, 2012). When those parenting behavior messages are conflicting, SCT tells us that the parent will opt for the behavior that offers the relative advantage and is most compatible with the values and intentions of the parent.

Knowledge, information used to inform actions (Sharma & Romas, 2012), is of particular importance for new parents during an infant's rapid development. Where SCT falls short is in explaining the mechanisms through which the information is communicated. For this, constructs within communication theory are needed to develop a more complete theoretical picture. Communication theory specifically addresses knowledge (including gaps in knowledge), the flow of information, and the role of social structures in accessing information (Glanz, Rimer, & Viswanath, 2008). The influences of socioeconomic status and social structures mediate not only the availability of information within a given environment, but also the intellectual distance a new mother must travel to obtain the information she needs to care for her newborn. This concept of intellectual exertion is discussed at length in a variety or cognitive and educational literature (Griffin, Dunwoody, and Neuwirth, 1999; Kahlor, 2010) and will thus not be discussed at length beyond mentioning that multiple disciplines support the use of SCT as a theoretical supplement for the present question.

When the flow of information comes from various independent sources, as is often the case with parent role socialization, it is important to identify whether knowledge acquisition is occurring in the broader context of the entire social system or within the personal network of an individual parent (Valente, 1996). These distinctions need not be mutually exclusive. In fact, in the context of a globally connected community and breadth of networking options for any given parent, it may be preferable to maintain this pluralistic view of socialization. However, these explicit distinctions are important when considering how a new mother decides what information to implement when receiving inconsistent information across sources. Intrinsic motivators such as parental goal setting (Jones & Prinz, 2005; Donovan, Taylor, and Leavitt, 2007; Jackson & Dickson, 2009) in combination with extrinsic motivators such as perceived social norms (Rossi, 1984; Sussney, Lindsay, and Peterson, 2007; Hardy & Streett, 2009) influence a new mother's motivation to fulfill specified recommendation. Once again, combining SCT and communication theory provides a useful set of constructs in guiding the organization of the overlapping factors that influence parental education and role socialization. Operationalization of these combined constructs is demonstrated in the results.

Undoubtedly, significant strides have been made during the past two decades in developing our collective understanding of parenting, the impact of parenting behaviors on child health outcomes, and the context within which parenting happens. What remains at this point is an understanding of how those interact with one another at the formative stages of parenting education, role adoption, and socialization. Given the far-reaching consequences of parenting

behaviors on health, it is imperative that we identify ways in which to maximize parental education and efficacy while maintaining socioculturally appropriate messaging and approaches. For these reasons, the present study aims to elucidate early parenting processes.

III. Research Methods

Study Design

Data from a larger qualitative study were used for this analysis (Gaydos et al., 2013). The main study consisted of 12 focus groups with new mothers and 20 in-depth interviews with maternal and child healthcare providers in the southern US state of Georgia. The main goal of the study was to explore the landscape of parenting information and find insight into the health communication preferences and educational needs of new mothers in Georgia. The information specifically obtained through focus group discussions was used to address the specific aims of the current study:

Specific Aims

1. Identify topics where new mothers receive inconsistent parenting information.
2. Determine the factors influencing new mothers' decisions regarding parenting behaviors.
3. Explore the role of communication in maternal role development.

Focus groups are most useful when exploring perceptions and values of groups (Hennink & Hutter, 2011). Additionally, because focus groups include participant interaction as part of data collection, emic group norms can emerge of which individual participants might not be conscious (Hennink & Hutter, 2011). This is of particular importance in exploring commonalities between new

mothers' individual experiences as they adopt the parental role and learn to provide infant care, as was the case with this study.

Parental role socialization and adoption is highly contextual. Participants in each focus group were recruited from the same clinical locations and, therefore, were able to discuss topics within similar resource, socioeconomic, and cultural contexts. Additionally, preliminary studies in this population have shown that while parenting role adoption is a topic on which new mothers reflect upon internally, new information emerges when they are able to discuss this transition with other new mothers as there is rarely opportunity for new mothers to come together to discuss experiences (Gazmararian et al., 2013). Moreover, as this study included recruiting members of lower socioeconomic and non-native English-speaking populations, the focus group method eliminated potential concerns regarding literacy levels of participants.

A brief demographic questionnaire was administered to participants at the time of the informed consent discussion and prior to beginning group discussion. In addition to confirming eligibility, this questionnaire provided contextual and demographic information used during data analysis. Focus groups were conducted in the same clinical settings where recruitment was conducted, resulting in demographically homogenous groups of new mothers. This homogeneity was purposive so as to elicit responses specific to mothers' respective contexts.

Sampling

Participants were first time mothers, 18-39 years of age. Infants of participants were no more than 6 months old at the time of maternal participation in this study. This criterion was selected to minimize recall bias and is supported by literature findings that define the timeframe of parental role adoption as one year (Gage & Christensen, 1991). By selecting participants that were in the midst of parental role adoption, discussions around parenting information were the most salient and relevant to participants. Additionally, the nature of child development in the first six months of life and its importance throughout the life course of the infant maximize the health benefits of public health interventions developed subsequent to this formative study. There was no lower limit placed on infant age at the time of participation as mothers of children even a few days old have already had postpartum parenting education and/or training from hospital staff. All participants had to have conversational proficiency in either English or Spanish to participate.

New adoptive mothers were not excluded from participation, though none ultimately enrolled. New mothers younger than 18 years old were excluded from participation. Minors typically have different resources and needs as compared to legal adults, and parenting is no different. Among the unique facets of minor mother populations, mothers under 18 years of age tend to have less autonomy regarding infant care and greater outside influences in the decisions regarding of parenting behaviors (Furstenberg & Crawford, 1978). As a result, these first time mothers were considered outside the scope of this research question.

Recruitment

Participants were recruited from specific clinical locations where they were receiving care for themselves or their infants. In addition to focusing recruitment efforts through this eligibility requirement, general demographic and resource information available from these clinical settings was used when analyzing differences between focus groups. Recruitment sites were purposively selected in part because of existing relationships and previous recruitment successes with the study population. Each of these locations is a standard medical/clinical setting, consisting of a waiting room/area and patient exam rooms. Recruiting for the focus groups took place in the waiting rooms at each clinic via flyers and staff word of mouth. A total of ten focus groups were recruited in this manner. An additional focus group was recruited via listserve to potential participants of moderate-to-high socioeconomic status (SES). Four focus groups were conducted in Albany, GA and were comprised primarily of low-income African American women. Three focus groups were held at public hospitals in urban Atlanta, also comprised primarily of low-income, African American women. The three focus groups conducted in Spanish were held at private maternity clinics in suburban Atlanta that serve predominately Latinas. Finally, the group of moderate-to-high-SES women of varying races was conducted in a different location of suburban Atlanta.

Flyers used for recruitment contained the study name, general purpose of the study, and contact information for interested individuals and were posted in clinic waiting areas. Further, the clinic staff was given a document containing a short recruitment script. When a clinic staff member identified a client who met

study criteria, he/she confirmed that they received the informational handout, reviewed the information in the script, and informed the client that a member of the research staff would be in contact with her about the study. Interested participant contact information was sent twice a week from the clinical staff via confidential fax or email to study staff for follow-up on a biweekly basis. Research staff followed up with interested volunteers via telephone to confirm eligibility via a screening questionnaire. All communication with potential participants took place in a private setting. A total of 134 women were screened. Of the 97 that were found to be eligible, 92 participated in the focus group discussions. Demographics for the sample are summarized in Table 1.

Table 1: Sample Demographics (n=92)

Participant Age Mean in Years (*Range*)		23.5 (*18-42*)
Infant Age Mean in Weeks (*Range*)		8.74 (*1.5-24*)
Race/Ethnicity	Caucasian/White	5
	African American/Black	60
	Asian	0
	Latina/Hispanic	24
	Other	2
	Missing	1
Highest Level of Education Completed	Less than High School	15
	High School/GED	36
	Some Post-Secondary	30
	College Graduate or more	9
	Other	1
	Missing	1
Locations	Albany (rural setting)	34.8%
	Metro Atlanta	38.0%
	CIMA (Spanish-speaking)	27.2%

Data Collection

Upon successful screening, research participants were scheduled for an upcoming focus group at their recruitment/clinical location. Two facilitators led each focus group with a third research staff member present as a note taker. Focus groups began with a brief introduction by study staff to the purpose of the study. Participants were provided with an IRB-approved informed consent form and each participant discussed the study with research staff individually. Upon providing written documentation of consent for participation, participants were led through a semi-structured group discussion that lasted approximately 60 to 90 minutes. Lunch was provided to participants. For their contribution, participants were offered $60 as compensation following the discussion. Participants were compensated regardless of whether or not they choose to withdraw from study participation prior to completion of the focus group discussion. Ultimately, no enrolled participants withdrew prior to completion. A small three-mother pilot was conducted to test the focus group guide to ensure appropriateness of questions. Modifications to the guide were made as necessary prior to conducting focus groups. The length of the guide was decreased and poorly understood questions were reworded to improve clarity.

All focus groups were digitally audio-recorded in MP3 format using 3-4 simultaneous digital recorders in order to ensure clear and comprehensive recording. For enhanced security, files were stored in a limited-access network drive to ensure that only authorized members of the research staff had access. Recorded interviews were transcribed verbatim by an outside transcription agency with experience handling confidential information as well as expertise in

the local dialect and accent. Researcher staff verified the accuracy of all transcriptions against the audio recordings. Focus groups that were conducted in Spanish were transcribed verbatim and subsequently translated into English by the outside agency. Translated transcriptions were verified for accuracy of both transcription and translation by bilingual staff via multiple steps. First, English transcripts were reviewed for typographical and logical errors. Then, transcripts were back translated into Spanish and compared against the audio recordings of the focus groups. Erroneous transcripts were sent back to the transcription agency for correction. Bilingual staff then reviewed corrections again using the same process. Additional corrections were made as needed.

Data Analysis

Qualitative analysis software, NVivo (QSR International Inc., 2012), was used for coding and data management. There were two separate levels of analysis conducted – one to answer main study questions and a second level of coding specific to the roles of communication and education during parental role adoption in determining daily infant care among first-time mothers. A modified grounded theory approach was used for this thematic analysis. Whereas in grounded theory, analysis is generated inductively from the data (Hennink, 2011), the analytical approach used in this study was a combination of both inductive and deductive analysis based on pre-established research questions. As transcripts were reviewed for accuracy by study staff, passages that revealed information about the research topic were labeled. These labels, nodes, were used to organize the data into emergent themes (Rubin & Rubin, 2010). Initially,

nodes were generated inductively based on the emic perspective of respondents. These free nodes helped organize data collection and were used to determine when saturation of data collection had been reached.

Once the data collection was complete, free nodes were deductively organized into groupings that corresponded with the focus group guides and therefore the research questions. Further axial codes, codes created to explain themes that emerged from free coding (Miles & Huberman, 1994), were generated following free coding. All codes were organized into a codebook, an organized list of codes with corresponding explanations (Miles & Huberman, 1994). The codebook was reviewed by the entire coding team to ensure clarity of codes and consistency in coding by the different team members. Following completion of and training on the codebook, two coders independently coded each transcript. Coding disagreements were discussed as a team to reach a consensus on the most appropriate coding. In the event that no consensus was reached, the principal investigator made the final determination. Inter-coder reliability was at least 80% for all transcripts as calculated by NVivo.

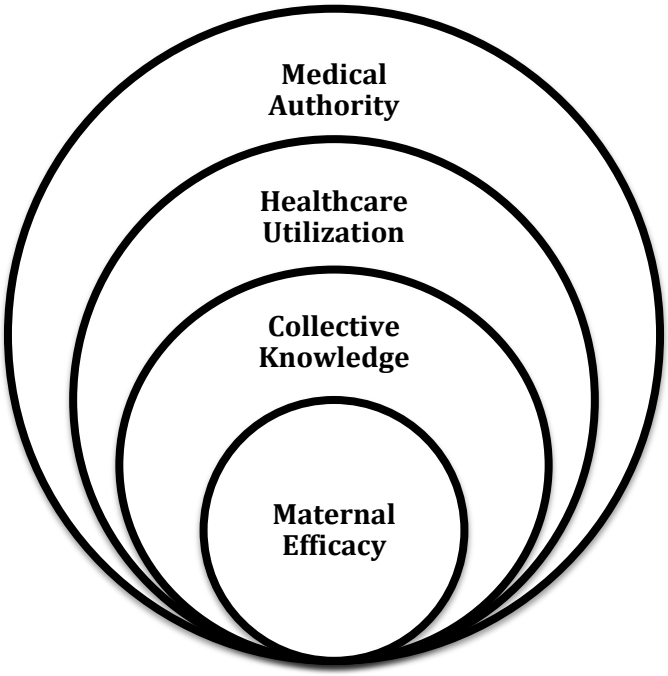
Once axial coding was completed, data were reviewed again with particular consideration given to how new mothers make decisions regarding parenting behaviors. This additional iteration of selective coding consisted of both an inductive review of emergent themes specific to health communication and parenting education as well as a deductive review based on published literature and previously discussed theoretical constructs. This final stage of organization through selective coding of emergent themes will be the basis of causal analyses and finding presentation.

IV. Results

Focus group data from the larger study was used in this analysis. This decision was made with the intention of exploring parental role adoption and education centered on the perspectives of new mothers. A more comprehensive comparison between mothers' perspectives and providers' perspectives is addressed elsewhere (Gazmararian et al., 2013; Gaydos et al., 2013; Blake et al., 2013), provider perspectives support many of the findings in the present study. Additionally, while the comparison of these two perspectives is outside the scope of the present study, patient-provider relationships play an important role in mediating parenting behaviors during early parental role adoption. As is shown in Figure 1, the new mothers decide on daily infant care within the context of multiple layers of influence.

Central to maternal behaviors is individual maternal efficacy. Mothers indicated that their own knowledge and efficacy regarding parenting behaviors was buttressed by the collective parenting knowledge of those within their social environment. When the knowledge of those within their environment was exhausted, or when it did not provide answers to their satisfaction, new mothers turned to the most readily available healthcare resources for answers. This navigation between individual, social, and medical parenting recommendations all happened within the context of maternal perceptions regarding medical professionals and perceptions of socially sanctioned medical authority to make decisions regarding health.

Figure 1: Sociomedical Factors Influencing Maternal Behaviors



Participants saw the new role of parent as frightening yet exciting, stressful yet incredible. For example, one Latina mother stated, “It is a feeling you can’t explain. It is a different kind of love.” Mothers in all focus groups, regardless of socioeconomic status or race/ethnicity, expressed a desire to provide good parenting to their newborns. For new mothers, this desire to be a good parent meant learning the most appropriate parenting behaviors. Parenting information came to participants from many sources, both solicited and non-solicited. New mothers received parenting information from friends, family, medical providers, television, and written educational materials. One mother from the higher SES group summarized her sources of parenting information as “about a 50/50 mix of online and books and people, family and friends.” This multitude of parenting recommenders at times led to confusion about what to do, often at critical

junctures in parental decision-making. The inconsistent recommendations in any given situation meant new mothers were unclear as to what the most appropriate course of action was for their infant, decreasing maternal efficacy regarding infant care. The resulting stress of making a parenting decision was particularly prevalent when the health of their baby was at stake.

One mother from a rural group stated:

> The only thing about getting more than one opinion, it have you going crazy… I had like 4 doctors come in back to back. I don't know what's going on with the baby and they come in and I got 4 different answers of what was wrong with my baby.

To remedy this, new mothers sought even more information about what to do. When their individual knowledge regarding infant care was exhausted, new mothers sought the counsel of trusted friends and family who they believed had more parenting knowledge than they as new mothers did. One African American mother from a rural group explained how she sought more information: "If I need help with something, I'll ask a parent or my sisters. Like older people, people that's older than you, that have been through what you going through now." This combination of self-efficacy and collective knowledge within their social network formed the basis of much parenting information. Mothers who had a supportive network of friends and family spoke freely about the assistance they received. Conversely, those with limited support were keenly aware of it. "It's hard when you do it alone," stated one rural mother.

When mothers felt they needed parenting information that was unavailable from their social environment, or if the information they received from multiple trusted sources within the environment was inconsistent, they sought medical expertise via their accessible healthcare system. This healthcare utilization took the form of doctor's visits, nurse advice hotlines, and visits to the emergency room. The higher the perceived stress or the lower the perceived efficacy, the more likely a new mother was to seek medical care for her infant. For at least one mother, the distance between felt need and medical care was small. "Well if she is screaming at the top of her lungs, I just rush my baby to the hospital, 'cause I panic easily." This new mother was not alone in her desire to verify information with a medical authority figure. Navigating the multiple sources of information, including decisions regarding which recommendations to follow, was mediated by the mothers' beliefs regarding medical professionals.

A new Latina mother provided the following example:

> My baby had baby acne and I asked, "What is that?" They tell me, "Its normal, don't worry." My husband tells me, "It's normal." I say, "No, I'm going to the doctor." …and [the doctor] told me it's normal so I relaxed.

New mothers stated they decided on infant care based on: their own efficacy, the knowledge of those around them, interactions with the healthcare system, and medical authorities.

Maternal Efficacy

As previously discussed, self-efficacy is the belief in one's ability to complete a task. For new mothers, this took the form of maternal efficacy, a mother's belief in her ability to care for her child. New mothers most frequently indicated that they learned how to care for their infants either through their own experiences or through the experiences of those closest to them, namely relatives. Mothers who had previous childcare experience by caring for the children of others felt more prepared than those who had not. For example, one mother stated, "Although I helped raise my nieces and I have a lot of younger cousins, and I like to say I'm pretty experienced with kids. Having my own, I was scared… it's completely different when you have your own baby." Previous childcare experience notwithstanding, mothers indicated that there was little that prepared them for the realities of caring for their own children.

As predicted in published literature, even the most prepared mothers found that taking care of a newborn was a tremendous undertaking. For most, it was also one that required reliance on friends, family, and medical providers for guidance regarding daily infant care.

Collective Knowledge

When new mothers turned to their surrounding social environment for assistance in raising a child, the limitations of their own self-efficacy were extended into the collective efficacy of their social environment. The main sources of parenting information for participants were medical providers and family. To a lesser extent, close friends with children served as sources of trusted

parenting information as well. Collective efficacy, a group's belief that they can accomplish a task, created the second layer of parental knowledge for new mothers. When collective parenting knowledge was plentiful, the limitations of a new mother's self-efficacy were relatively inconsequential.

For example, one new mother from the higher SES group recounted her experience learning to breastfeed her newborn,

> I personally thought at the beginning like I would try it and see how it went but I think my husband was really, really set on it… Lots of time when I was like ready to just be like forget it, you know, he was, he was really encouraging. If they were to say… "Forget it…" I would have been OK with that. But they were always there to provide an answer… so I think between the lactation people being really supportive and my husband being really supportive, you know, I just sort of, I just kept going.

Conversely, when collective knowledge was limited, new mothers had difficulty acquiring parenting skills. Another mother in the same group as above contrasted her experience, "I just heard it's great … you should definitely do it and then it was like this whole black box of problems that come up afterwards… I didn't feel prepared for how challenging it was really going to be." In instances such as this, a new mother had to seek information outside of her own social environment or settle for not having the information at all.

Not all information seeking was as straightforward as the breastfeeding examples provided above, particularly when new mothers had to parse through

varying and unsolicited recommendations from those within their social environment. Often, mothers received unsolicited information from friends and family. Chief among recommenders were elder female family members, namely mothers and grandmothers. Additionally, new mothers received anticipated, though equally unsolicited, parenting recommendations from medical providers. These different sources of unsolicited information were not always in agreement and often led to confusion. This inconsistency of recommendations was particularly salient when mothers sought information regarding seemingly banal infant care tasks.

For example, one Latina mother expressed confusion regarding whether or not to give her newborn water:

> I asked the pediatrician. A friend told me that the water was good for the baby but that I had to boil it first. And I believed it. Another friend told me, "No, you don't have to boil it; the gallon already comes. You just give it to him like that." Another friend said you have to boil it. I was like, "Ay, I don't know what to do, should I boil it or not?"

In a similar situation regarding appropriate infant feeding, an African American mother recommended a healthy dose of skepticism:

> Be careful about whose advice you take. Like my husband's grandmother, she swore up and down, give your baby cereal cause he is not eating enough and I talked to the doctor and he told me

> no. Be careful whose advice you listen to and be careful who you take it from.

When mothers were faced with inconsistent information about the best methods of infant care, many sought additional information from other sources such as websites and books to verify the most appropriate behavior. One mother from a rural African American group indicated that she researched information on her own a lot because, “It’s like different people tell you different stuff out of their family because they got different myths, so I just look on the Internet or I call somebody.” Similarly, a mother from an urban African American group indicated that she also looked online for information to supplement what they received from those around them. “I would go with the pediatrician, too, and online. When I go online they ask, like parents, they like already had experience and I be just like looking at each and every one of like to see their experience with a newborn child.” For most mothers, however, there was no single source of information that provided everything they needed to provide appropriate infant care. Many new mothers indicated that while they tended to favor one opinion over another, they most frequently combined varying recommendations. For example, this urban mother stated, “I probably look into it like which one has the more degree and stuff like that, like… a doctor, like an upper level or whatever. But me personally, I probably just put two and two together and… just combine information.” When new mothers were learning to care for their own child, they often felt the most appropriate course of action was to fuse together different recommendations from those within their social environment.

Healthcare Utilization

In addition to maternal efficacy and collective knowledge, new mothers occasionally turned to medical professionals for more information regarding infant care. Most new mothers indicated that they accessed health services when they were unsure about what to do or when they were particularly concerned about the health of their newborn. One mother indicated that she supplemented recommendations from her social environment when she said, "If [I] had question about [my] child's health, I would call mom because she's the closest… If it's really bad… we take him to the pediatrician." Similarly, another mother regarded healthcare as a safety net resource in the event of unexpected occurrences with her infant: [My son] likes to go to sleep before he's finished [feeding] and because of that… a few times milk has come out of his nose… I'm rushing him to the hospital and they're just saying oh, just burp him. For these mothers, the healthcare system provided a third layer of parenting education above their own knowledge and that of those within their social environment.

Conversely, some mothers felt that seeking medical care was the only way to obtain the necessary answers to provide their infant with appropriate care. For example, when one urban mother was asked how she learned to care for her baby, she responded that she learned by "going to the ER [emergency room]." As a result of this deficit-based utilization, participants expressed concern about depending too heavily on the healthcare system to decide how to care for their infants. One rural mother recommended the following improvement in parenting education: "Like, if they could tell us… some home remedies [that] could cure those things [non-urgent infant care] instead of going to the doctor that would

help a lot." This concern regarding overutilization of healthcare was found across all groups, not just those of lower socioeconomic status. On mother from the higher SES group commented, "You don't want to be that person who calls [the doctor's office] like every other day, just a little bit of how they're going to look at you if you call every day… I feel like sometimes it is hard to figure out [when to call the doctor]." Decisions regarding whether or not to utilize the healthcare system as an adjunct to their own infant care required a constant balancing for new mothers.

Medical Authority

The extent to which new mothers sought out the opinions of medical providers varied greatly. For some mothers, any recommendations from family and friends had to be verified by medical professionals. As one Latina mother explained, "I hear that my mother-in-law has some ideas and my mother has others so, you are like [exasperated gesture]. So, in order for me to confirm those ideas, I ask the pediatrician and according to what he says, I do." For her, the recommendations of friends and family were insufficient until vetted by medical professionals.

This ranking of parenting recommendations sometimes put new mothers at odds with friends and family, particularly when the medical recommendations were in conflict with the recommendations from within a mother's social environment.

One Latina mother discussed how she navigated this conflict:

> The pediatrician… told me that I could give [my daughter] food when she had… almost five months. So, I said, "No, maybe when she's six I should give it to her." …but people used to tell me, "No, from three months give them rice with beans." …and I, "No, firstly I will listen to whatever the pediatrician tells me and then I will start feeding her little things like that."

This conflict between recommendations was not unique to Latina mothers. One mother from an urban African American group recounted the confrontation she had with her mother regarding formula: "I was like ma, you are not a doctor. When I was in the hospital, like with the little canned milk, they be like after an hour, throw it away and he only drank a little bit. She like, "Girl you better save that," and I be like, "Uh-uh ma, you ain't the doctor." For this mother, the recommendations of medical professionals superseded those of her mother.

Correspondingly, other mothers indicated that medical recommendations were not always the preferred sources of parenting information. As one rural mother stated, "Sometimes the doctors don't know." A mother from one of the Latina focus groups echoed these sentiments when discussing her decision to give her newborn water.

> What has happened to me is-, here they tell you that the baby cannot drink water until he/she is a year old. And my mom and all my aunts tell me that before and after he has his milk the baby should have a little bit of water. My baby was always crying after having his milk… so I started giving him a

> little bit of water and he would fall asleep. Although the pediatrician told me not to…

The preference of one source of information over the other was often mediated by a new mother's relationship with the medical profession or overall healthcare system. One mother spoke of the pressure she felt from the medical professionals in the hospital to breastfeed, regardless of whether or not she felt that was the most appropriate personal choice, stating that she, "definitely felt pressured at the hospital for breastfeeding and I was having a difficult time… But I felt like the hospital was like that's the only way, that's the only thing you do." A new mother from an urban setting spoke of feeling dismissed by medical professionals: "Sometimes you'll go to your pediatrician and then it'd just be like a waste of time, like they'll be like, 'Oh no, everything's fine. You're just having a new mom syndrome and stuff like that.'" Another new mother, this one from a rural setting, intimated that a lack of information from medical professionals was to be expected. When discussing her desire for more information in the hospital post-delivery, she posited, "I guess because [the hospital] got so many babies… they really can't, you know, that can tell you but they can't really just sit there with you and explain everything to you." While she would have liked more information about her newborn and her own postpartum care, she saw the time constraints of hospital staff as a barrier to parenting education.

Regardless of how new mothers selected or even combined parenting recommendations, they felt the ultimate responsibility regarding the care of their newborn fell on them as the parent. One urban mother summarized parenting

recommendations as just that – recommendations. She saw all parenting behaviors fundamentally up to the mother's judgment, stating, "…ain't nobody really tell you how to parent your child… Like you can't go off a book, 'Well, you need to do this for your child.' I don't have to listen to you." From maternal efficacy and collective knowledge to healthcare utilization and medical authority, mothers indicated a lot of influencers regarding parenting behavior with the recognition that they provided the care of their infant on a daily basis. These influences are delineated further in Table 2.

Table 2: Summary of Findings

Construct	Definition	Examples in Data
Maternal efficacy	The extent to which a new mother believes she can provide and care for her newborn	People will think that you can't handle it, it's like you want to figure out on your own because you're going to be there most of the time with them and you're going to be alone. Like, mom's not always going to be there. Daddy's not always going to be there… So it's like, I need to figure this out on my own.
Collective knowledge	The information available to a new mother within her social environment[3]	Well, my mom didn't breast feed… So I guess a friend that is going through or has been through the same thing, I went to her about it with my questions. I don't have no family, nobody I can just call and say, hey, this is what's going on. I have my Internet, the doctor's office, so when I'm freaking out, those are the people that I'm running to. My baby daddy already got a daughter, so he know everything… Ever since I been pregnant, like how big I'm supposed to be, when the baby's supposed to kick, he'll tell me. I don't have family here in Albany. I'm from Michigan so it's a little difficult for me but because I have friends here I guess that I met and some of them had just had kids… so it was kind of a yes and no [to having enough information].

[3] Differentiated from the developmental psychology construct, *collective intelligence*, that refers to the capacity for a social environment to integrate new information into its knowledge repository

Construct	Definition	Examples in Data
Healthcare utilization	A mother's use of and interaction with the healthcare system (i.e., doctor's visits, medications, emergency rooms and hospitals, and social health services) to obtain care for her newborn	I really need to build a trusting relationship with this pediatrician… I've said to my current pediatrician, "I don't know if that's your philosophy or not, can you kind of talk me through that and… where things came from and the source," and she's [said], "Well, that was the way we did things," or, "I just don't think you need that." [W]hen he was 15 days old, he had fever and it was obvious. The pediatrician was closed and we had to go to the hospital. Well, since we were new parents we didn't know what to give him. [M]y lactation nurse, she called a couple days after I went home and she checked up on me and, you know, asked how the baby was doing… if I had any questions at that time, I asked her. So I think… if they just… commit someone to just doing like a check-up call to just see how the new moms are doing, then that'll be good.
Medical authority	Maternal perceptions regarding the legitimacy of medical professionals to make health-related judgments about infant care	My mother scared the crap out of me. She told me about how she took my husband to the hospital when he was a baby and I think he just had a cold, they ran so many tests on him, he came back sicker than when he left. So I really don't wanna take my baby to the hospital. Most of the time, people shouldn't take advice from the grandmother anyway because doctors are more advanced now than they were back then. They probably were more, home remedies and stuff. I've had an issue with conflicting things from pediatricians…. You don't always get the same doctor… I was told that my daughter had cradle cup and… [I] go to another doctor and she had eczema. So it's like that made me stop seeing one pediatrician.

Sociocontextual Considerations

While the vast majority of findings were consistent across demographic groups as discussed above, the design of this study allowed for identification of differential experiences between mothers of vastly different socioeconomic statuses. Generally, the more limited the social support and external resources, the more heavily new mothers relied on the healthcare system. This reliance at times translated into a more contentious relationship with healthcare providers as compared to mothers with more resources. Relative to lower SES mothers, those of higher SES talked about developing a more collaborative relationship with medical providers than their lower SES counterparts. For example, one urban mother from a lower SES group spoke of wanting more attention from medical professionals in addressing her individual health needs immediately postpartum, stating, "I know it might be too much for them because, you know, they busy or whatever, but if they just… commit someone to doing like a check-up call to just see how the new moms are doing, that'll be good." Comparatively, a mother from the higher SES focus group recounted her postpartum experience and her own agency in directing the terms of her healthcare experience.

> I kept saying to [my husband], "I just need you to advocate to try the latching [of the infant onto the breast for breastfeeding] as soon as we can, whatever happens. That was our birth plan…" So my husband was great with just kind of saying, "Ok, now she's in recovery, let's go for the latch." And just was knocking on that nurse's desk until she came over and helped us that first time.

Whereas the lower SES mothers tended to expect limited support from medical providers in developing their parenting skills, higher SES mothers tended to expect that they were entitled to the support they needed from medical providers.

Socioeconomic differences in healthcare interactions such the one discussed above did not end at postpartum discharge. SES also moderated many educational interactions between new mothers and medical providers. One mother from a lower SES group explained her decision to place her newborn on his side or back when laying him down to sleep. Her compliance with the long-standing "Back to Sleep" campaign[4] recommendations were less the result of direct health education efforts aimed at the participant and more a result of this mother's approach to parenting decision-making.

She stated:

> I wish they would also explain why, I didn't know until a week ago, that you wasn't supposed to put them on the stomach. I just saw that in the hospital they always put him on his back or on his side, so I just did it just because they did it. And they didn't explain why. Yeah, because if I had have known why, I really would have most definitely made sure that he's not [on his stomach].

[4] The "Back to Sleep" Campaign, now referred to as "Safe to Sleep", is a health promotion campaign led by the National Institute of Child Health & Human Development and the American Academy of Pediatrics to encourage infant care providers to place infants on their back or side for sleeping to decrease the risk of sleep-related causes of death, including suffocation.

In this instance, direct intervention with this new mother did not occur. Involvement during this formative infant care decision would likely have reinforced her tentative parenting behaviors. In contrast, a mother from the higher SES group relayed a similarly timed interaction with medical providers as she developed her initial infant care habits.

> I actually really need to build a trusting relationship with this pediatrician so if I call her on the phone or anything that she trusts me and I trust her. So I've said to the, my current pediatrician, "This doctor said this, I don't know if that's your philosophy or not, can you kind of talk me through that?" And by sharing who, where things came from and the source and she's been able to say, "Well that was the way we did things or yes, but I just don't think you need that." And I think that the pediatrician was, she appreciated when I gave her the control in her hand. But being part of the decision making process.

Once again, interactions with medical providers diverged along socioeconomic lines, with mothers in higher SES groups reporting more active engagement with medical professionals than those from higher SES groups. One of the lower SES focus groups contained a group of mothers who had been homeless at or around the time of delivery. This differential engagement was in part because of maternal trust of health professionals. For example, the above patient-provider rapport can be contrasted with the experience of a mother who feared disclosing her housing status to hospital staff, indicating, "We didn't tell nobody because we didn't want

to get in trouble but we was homeless when I had her… We came up in here scared to death that they were going to take the baby." In addition to the multiple levels of knowledge access, socioeconomic status moderated mothers' interactions with health professionals throughout the parental role adoption process.

V. Discussion

Motherhood is not as instinctual a role as popular opinion might suggest. In today's interdependent and highly specialized society, new mothers sometimes struggle to define what parenting means to them. This in part due to the assumption by the health profession at large that many parenting behaviors, such as dressing or bathing a newborn, are so intuitive that they do not require education or training (Super & Harkness, 1986; Gage & Christiansen, 1991; Conrad, 1992). Other parenting behaviors, such as bottle feeding or caring for a sick infant, have such a variety of recommendations that it be difficult to parse out what the most appropriate course of action is for a mother's first child. This intermingling of overabundance and insufficiency of education regarding infant care can make every day parenting decisions difficult at the express time when a newborn is developing the physiological set point they will carry with them for the remainder of their lives. Given the importance of parenting behaviors early in life, adequately supporting new mothers during the parental role adoption process has far-reaching generational health benefits.

Anticipatory learning does help new mothers feel more prepared to care for a newborn. As such, introducing parenting concepts during prenatal visits and even before conception can improve maternal efficacy. The bulk of parental role adoption, however, happens after the child is born during those pivotal first experiences of the new mother-child dyad. This early stage of parenthood is where educational intervention can have the biggest impact. This is also the stage where new mothers receive the most inconsistent and conflicting information, leaving them to wade through the sea of information. This happens at many

levels and is subject to multiple influences within a given sociomedical environment.

Central to all parenting behavior is a new mother's sense of efficacy and belief in her own ability to care for her newborn. When anticipatory learning and individual capacity have been exhausted, a new mother will turn to her social environment for support and guidance regarding infant care. The more friends and family can provide the kinds of answers new mothers are looking for, the easier parenting decisions are for a new mother. Similarly, the more assistance a new mother's social environment can provide in the provision of infant care, the faster a mother develops her efficacy and the more readily she adopts her new role as a parent. The perceived quality of the information and resources mattered more for new mothers than the quantity. For example, mothers might find a single in-depth conversation with a parenting mentor that knows their newborn more helpful for meeting their needs than an extensive parenting book containing a greater breadth of information. When the collective knowledge and resources of those within a mother's social environment are insufficient, in value more than magnitude, to meet her needs, a new mother will turn to the healthcare system for support. She may call her pediatrician, take her infant to the emergency room, or refer to some medically approved external resource such as a physician-provided pamphlet or medical website. All of this information navigation occurs within the context of a mother's relationship with medical authority. If she is skeptical of the healthcare system providing her with the necessary tools to care for her infant, she may be less inclined to defer to a medical professional or may rely more heavily on the collective knowledge of her

social environment. Conversely, if a new mother considers the healthcare system supportive, she may be more willing to seek medical guidance regarding infant care and may prefer medical opinions to those originating from her social environment. A new mother may delay certain parenting behaviors until they are vetted by professionals or dismiss recommendations from friends and family all together.

Very little research has been conducted on early motherhood experiences or parental role adoption in the United States in the past 20 years. This study shows that there remains much to be learned about parental education in complex sociomedical environments such as the US. The growing body of literature linking early life experiences to health outcomes throughout the life course supports the need to better understand how new mothers decide parenting behaviors. Moreover, this study highlights the importance of medical authority as a mediator of healthcare utilization practices among new mothers.

The women that participated in this study were recruited in part because of their existing connections to healthcare. Consequently, group discussions included an exploration of parental role adoption at the patient-provider interface. Given the medicalization of sexuality and reproduction in the United States (Foucault, 1982; Reissman, 1983; Conrad, 1992), the relationship between a mother-child dyad and her sociomedical environment is important. We in the United States have created a social structure that posits pregnancy as a medical anomaly rather than a natural process. As such, medical professionals are seen as the hierarchical apex in pregnancy, birth, and early life care. When new mothers are non-compliant with medical recommendations regarding infant care, they are

considered deviant by both social and medical standards (Conrad, 1992). Modern social structures around medicalized pregnancy and parenting tell a new mother that she cannot know how to care for her infant without the guidance of a medical professional (Armstrong, 2000; Reissman, 1983). However, there is a simultaneous assumption by medical professionals that some things are intuitive to the mother (Gazmararian et al., 2013; Blake et al., 2013), effectively ignoring the same medical hierarchy and system of social control that tells new mothers that medical professionals must train them to be good parents. This juxtaposition helps explain why new mothers were often torn between differing recommendations about daily infant care. New mothers spoke of wanting home remedies to avoid overutilizing the healthcare system. However, these same mothers also expressed concern over following the recommendations of friends and family in the absence of medical approval, suggesting a functional attenuation of collective efficacy regarding infant care.

This simultaneous collective disempowerment and assumed parental efficacy creates a perpetual knowledge deficit wherein the patient-mother will always fall short of knowledge, skill, and medically-imposed parenting expectations for the extent and duration to which she fails to submit to medical authority. This notion is directly in opposition to many of the current practices within health education and communication. As a profession, public health looks to reduce health information down to its most basic parts with the intent of creating educational materials at the lowest common denominator of the intended audience. However, findings suggest that new mothers would welcome more complex parenting information, particularly as they grow into the parental

role. Not only have they been socialized to rely on medical authority for health information, the common denominator approach to parenting education continually provides new mothers with only the most minimal amounts of information, thereby perpetuating educational need.

A more effective approach may be to provide tiers of parenting information, wherein new mothers could self-select the most appropriate baseline to meet their needs and continue seeking information at increasingly complex levels until they were comfortable that they had sufficient information to make the appropriate parenting decision. Implementation of a multilevel approach to health education could potentially give new mothers the autonomy to tailor health messaging in such a way that minimizes collective disempowerment. For example, a new mother that repeatedly found herself starting at higher levels of educational complexity could feel validated that her own maternal efficacy and the collective knowledge from which she draws have practical merit for providing appropriate infant care. This multilevel approach would also avoid some of the pitfalls of previous interventions that incorrectly assumed a specific baseline level of parenting knowledge. Care would have to be taken by any health professional attempting an intervention such as this one to improve perceptions of individual and collective efficacy rather than inadvertently increase maternal dependence on medical authority. Further studies would be required to explore the feasibility and efficacy of this form of health education.

Strengths and Limitations

As mentioned throughout the summary of the study design, decisions regarding the conduct of this study were made in an effort to maximize rigor and reliability of findings. The resulting study contained much methodological strength. Firstly, this qualitative approach allowed the research team to obtain in-depth information about this understudied topic and population. Secondly, this depth of information will serve as the formative research upon which to base interventions aimed at improving parenting knowledge of new mothers. The inductive nature of qualitative inquiry allowed for unanticipated findings regarding conflicting information and the role of medical authority to emerge. Additionally, the recruitment strategy allowed for important contextual analysis of differential findings between focus groups.

As with all public health research, this study is not without its limitations. The findings do not address the needs of new mothers who do not speak Spanish or English, which excludes the linguistic minority in Georgia. Additionally, a similar study conducted in a vastly different social context, for example New York City, would likely yield very different results. Future studies that build on findings from this study would have to focus on verifying findings in those populations. In defining significant providers of information into health providers and friends/family, any significant influencers in the parenting behaviors of new mothers that do not fall into either of those two categories were not included. In using the written transcripts of files as the data, some of the richness of non-verbal communication such as tone, facial expressions, and body language were lost. Additionally, focus group research as a methodology has its

limitations. With a handful of very vocal participants in some of the groups, important but more submissive opinions may have been left out of the conversation. While every effort was made to ensure consistency between different facilitators, slight variations in facilitation styles may have impacted the depth and quality of findings across focus groups. Limitations notwithstanding, this study provides new information regarding the complexities of maternal role adoption and parenting education as well as new directions approaches to health education and communication.

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