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# An Integrative Review: Understanding Parental Use of Social Media to Influence Infant and Child Health

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## Abstract

**Objectives** Parents of young children have unique informational needs and it has been demonstrated that information-seeking behaviors influence health outcomes. Due to social media's popularity, understanding parents' use of social media may assist in disseminating accurate parenting information and in developing targeted interventions. Thus, we aimed to identify and describe the existing literature of parental use of social media for parenting in the U.S.

**Methods** After searching nine databases with two separate Boolean phrases, identified articles were reviewed. Inclusion and exclusion criteria were applied, resulting in 12 articles published between January 2004 and May 2018 that related to parental use of social media for parenting or infant health in the U.S. Data from relevant articles were then extracted and analyzed.

**Results** Facebook was the most frequent social media format. Parental utilization of social media varied by race/ethnicity and region. Studies primarily focused on women and a range of article topics were identified, the most common being infant feeding practices. Finally, two themes emerged: (1) parental support via social media and (2) effectiveness of using social media for health communication targeting parents.

**Conclusions for Practice** Social media provided support for parents and was effective for communicating health information; thus, public health organizations should include social media in their efforts to promote infant and child health. More research is needed to further identify demographic differences in social media use among parents.

**Keywords** Infant and child health · Public health · Social media · Parenting · Demographic factors · Health communication

## Significance Statement

What is already known on this subject?

Parents seek parenting information in various formats and information obtained via personal seeking can impact health outcomes; however, little is known about parental utilization of social media for parenting guidance and how this may vary by demographic factors.

What this manuscript adds?

This review supports the use of social media among parents for health communication. Regional and racial/ethnic variation in parental use of social media were identified, which may aid in the dissemination of parenting information and in the development of effective interventions, ultimately improving infant and child health.

## Introduction

The need for information and guidance associated with parenting, especially among parents of infants and young children, is understandable given the transition of becoming a parent and its associated responsibilities (Henshaw et al. 2018). Since parents of young children seek parenting and health information in a variety of formats (Bernhardt and Felter 2004; Henshaw et al. 2018), finding effective ways to provide parents with information on parenting is essential.

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## Social Media and Parenting

Social media is defined as forms of electronic communication where users share information and content via an online community (Social Media 2018). Examples of social media include: Twitter, Instagram, Facebook, Snapchat, YouTube, WhatsApp, Pinterest, and LinkedIn (Perrin 2015). In 2018, 88% of Americans 18–29 years of age reported using social media (Smith and Anderson 2018). An earlier study found 83% of online parents use social media and 74% of online parents use Facebook (Duggan et al. 2015). Further, social media is wide reaching among Internet users, extending among all persons regardless of education or race/ethnicity (Chou et al. 2009).

Health information discovered as a result of personal seeking may positively influence personal knowledge and health outcomes (Blanch-Hartigan et al. 2014; Lin et al. 2014; Ramanadhan and Viswanath 2006). As a result of personal seeking, cancer patients may have improved survivorship experience (Blanch-Hartigan et al. 2014) and Americans have adapted appropriate prevention measures against infectious diseases (Lin et al. 2014). Non-seeking cancer patients, on the other hand, have demonstrated lower preventative behaviors compared to those who sought additional information (Ramanadhan and Viswanath 2006). Therefore, parental use of social media may play a role in shaping parental opinions about parenting, ultimately impacting infant and child health outcomes. Given the widespread use of social media, understanding parents' use of social media to guide parenting may assist in the dissemination of accurate parenting information and the development of interventions to influence behavioral changes. However, while there is widespread data on social media use, little is known about how parents utilize social media for parenting or obtaining infant health information.

## Purpose

The purpose of this integrative review is to identify and describe the existing literature of parental use of social media pertaining to parenting or infant health in the U.S. We aim to address the following research questions: (1) what studies currently exist that focus on the topic of parental use of social media for parenting or infant health information? (2) how does parental use of social media vary by sex, age, geographic region, and/or race/ethnicity? and (3) what themes, if any, exist among the identified studies?

## Method

We used an integrative review method to identify articles related to parental use of social media for parenting or infant health information in the U.S. (Cooper 2017). We planned on analyzing quantitative studies only, but due to limited results, chose to include qualitative studies. Facebook was created in 2004 and remains the most popular social media platform (Greenwood et al. 2016); therefore we included articles published between January 2004 and May 2018. To ensure a comprehensive search, we enlisted the assistance of a professional bioscience librarian, who also consulted with communication and health sciences librarians. We searched the following databases twice: PubMed, Cumulative Index of Nursing and Allied Health Literature, PsychArticle, PsychInfo, Cochrane, Educational Resources Information Center, Education Source, Communication mass media complete, and SocIndex with two separate Boolean phrases: (1) (parenting OR health communication OR information-seeking behavior OR parent* decision making OR parent* practices) AND (social media OR social network* OR online mom group OR online parent* group OR online communication) AND (infant OR babies OR newborn) and (2) (parenting) AND (social media) AND (infant). The two phrases were chosen after multiple trials involving various combinations of phrases that included specific search terms, such as 'dad,' 'father,' 'mom,' and 'mother.' The two selected Boolean phrases resulted in the most relevant articles. We included articles written in English and conducted in the U.S. that included parents of infants or young children in the sample, identified a social media format, and were published in peer-reviewed journals. To remain focused on peer-reviewed, evidenced-based literature, we excluded commentaries, case studies, literature reviews, letters to the editor, books, dissertations, and monographs. We also excluded studies focused on the use of social media for recruitment.

Our initial search resulted in 197 articles once duplicates were eliminated. Each of the 197 articles were reviewed by two of the three authors and determined to have met the inclusion criteria based on title, abstract, or review of the full text. Ultimately, 27 articles were eliminated by title, 141 articles eliminated by abstract, and 19 articles eliminated by full text. Two additional articles were identified through backward search (Cooper 2017), thus leaving 12 articles for full review. The preferred reporting items for systematic reviews and meta-analyses flow diagram reflects this process (Fig. 1) (Moher et al. 2009).

Each selected study's quality was assessed by two reviewers independently and these results compared. If

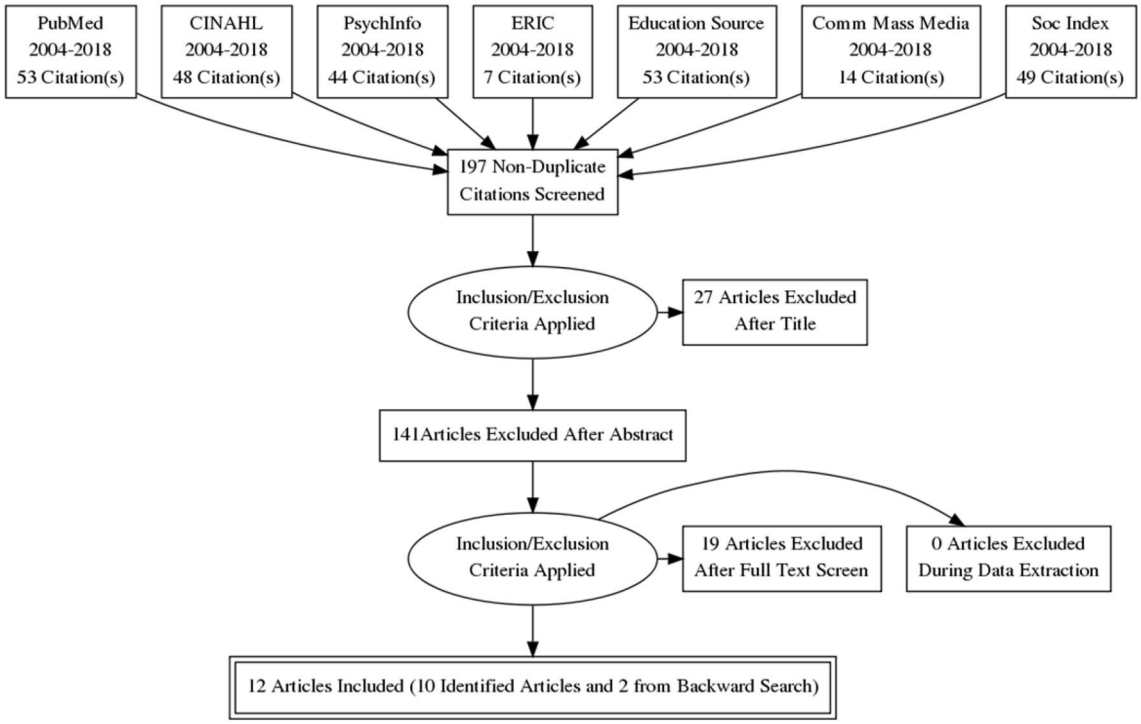


**Fig. 1** Prisma selection of articles for review

the assessment differed, the reviewers discussed each conflicting result with the third member of the team and then collectively decided upon a resolution. We assessed the quality of quantitative research articles using the NIH (National Institutes of Health) quality assessment tools, which assist reviewers in critically appraising the internal validity of studies (Study Quality Assessment Tools n.d.).

We assessed the quality of qualitative research articles using the CASP (Critical Appraisal Skills Program). CASP evaluates a study's quality and threats to validity in the context of systematic reviews (Hannes et al. 2010) and has been demonstrated to evaluate descriptive validity and generalizability. Despite its wide use, CASP scores poorly in evaluating intrinsic methodological quality compared to other tools (Hannes et al. 2010). After discussion among the authors, however, CASP was selected given its user-friendly format and feasibility in evaluating the selected qualitative studies. For instance, CASP has 10 criteria items versus the ETQS (Evaluation Tool for Qualitative Studies) that has 42 criteria items (Long n.d.). Additionally, CASP addresses the theoretical framework, data collection, analysis, ethics, implications of the research, descriptive validity, and generalizability of the studies (Hannes et al. 2010).

## Findings

### Quality of Studies

Based on the NIH quality assessment tools (Study Quality Assessment Tools n.d.) for quantitative studies and the

**Table 1** Quality ratings of studies

| Article | NIH score (quantitative) | CASP score (qualitative) | Quality rating (good, fair, poor)[a] |
|---|---|---|---|
| Asiodu et al. (2017) | | 78% | Fair |
| Criss et al. (2015) | | 100% | Good |
| Fiks et al. (2017) | 83% | | Good |
| Gruver et al. (2016) | | 100% | Good |
| Guerra-Reyes et al. (2016) | | 100% | Good |
| Logsdon et al. (2015) | 60% | | Poor |
| Majee et al. (2017) | | 67% | Fair |
| McDaniel et al. (2012) | 88% | | Good |
| Mitchell et al. (2014) | 88% | | Good |
| Sundstrom (2016) | | 78% | Fair |
| Swindle et al. (2014) | 38% | | Poor |
| Walker et al. (2017) | 63% | | Fair |

[a]Good: ≥ 80%; Fair: > 60% and < 80%; Poor: ≤ 60%

CASP assessment tool (Hannes et al. 2010) for qualitative studies, each article was determined to have a raw score, which was converted to a percentage (Table 1). The percentages ranged from 38 to 100%. Scores below or equal to 60% rated poor, scores greater than 60% and less than 80% rated fair, and scores equal to or above 80% rated good. Based on this system, 50% of the articles rated good, 33% fair, and 17% poor. Due to the limited number of identified articles, we chose to include all 12 articles in the analysis rather than exclude the poorly rated articles. Understanding the quality of the articles as a whole should be considered when applying the findings of this review. The quality ratings also suggest more scientific rigor is needed on this topic.

## Description of the Existing Literature

To address our first research question of what studies exist on the topic of parental use of social media for parenting or infant health, we summarized the following aspects of the studies in Table 2: parent/caregiver identified, age of child of the parent/caregiver, region of the U.S. where the study was conducted, main outcome variable, social media format identified, sample size, study methods, and general findings.

The identified literature demonstrated various methods: five qualitative studies, six quantitative studies, and one mixed-method study. In the qualitative studies, methods included ethnography, grounded theory, and thematic analyses.

The majority of the quantitative studies used cross sectional surveys. One randomized clinical trial (RCT) was identified; this study involved an intervention group of video-based curriculum via a private Facebook group while the control group received text messages with pregnancy advice. The RCT included only women who owned a smartphone and could demonstrate competency in using the smartphone (Fiks et al. 2017).

Pertinent findings included a focus on women, with nine studies focusing solely on the mother and one on pregnant women. All of the studies included demographic information about the following races/ethnicities: African American, White, and Hispanic. Facebook was the most frequently identified social media format. Article topics included breastfeeding, obesity prevention, infant feeding practices, and general social media use or exploration of health-seeking behaviors.

## Variation of Social Media Utilization by Sociocultural Factors

To address our second research question of how parental use of social media vary by sex, age, geographic region and race/ethnicity, we found utilization varied by race/ethnicity and region. However, studies did not include sufficient comparisons regarding age or gender, so we were unable to fully answer this question.

### Race/Ethnicity

Among African American parents/caregivers of infants, Facebook was reported as widely utilized and accessed via smartphone; Twitter was also popular. Among a sample of first time African American mothers, regardless of income, living situation, or education, all had access to a smartphone (Asiodu et al. 2017), allowing access to Facebook. In another study of African American, Medicaid-covered mothers (50% having high school or less education, 63% low health literacy), all accessed a Facebook group via a mobile phone and all had a Facebook account (Gruver et al. 2016). Another study of African American, single (76%), and urban mothers found 81% utilized social networking, mostly Facebook, and almost half accessed these formats daily (Mitchell et al. 2014). While Facebook was popular among African American parents/caregivers in the aforementioned studies, one study demonstrated that low-income African American parents/caregivers living in rural and urban areas also used Twitter more than any other racial/ethnic group (Swindle et al. 2014).

Two studies reported findings unique to Hispanic mothers. In one study, YouTube was utilized for child health information and Facebook for social networking; Twitter and Instagram were not mentioned by participants (Criss et al. 2015). Among low-income parents/caregivers living in rural and urban areas, Hispanics used Facebook and Twitter significantly less, and were less interested in e-mails (Swindle et al. 2014).

Facebook and YouTube were frequently utilized social media formats among White parents/caregivers (Guerra-Reyes et al. 2016; Logsdon et al. 2015; Sundstrom 2016; Walker et al. 2017). Facebook was utilized for socialization (Walker et al. 2017), connecting with health organizations, and finding health recommendations (Sundstrom 2016). Facebook was also an important format for health information and reassurance (Guerra-Reyes et al. 2016). YouTube provided information on mother–child topics among a sample of primarily White (46%) mothers (Walker et al. 2017). In another sample of White (80%), married (70%), and low-income mothers, information was primarily obtained on the Internet via a smartphone (Guerra-Reyes et al. 2016). This finding was also applicable to southern, White (73%), and adolescent mothers, where 93% accessed either the Internet or social media on a cell phone and reported receiving health information via the following sources: parents (60%), healthcare providers (73%), health class (40%), friends' parents (33%), Facebook (20%), and the Internet (20%) (Logsdon et al. 2015). While Logsdon et al. (2015) identified frequent cell phone use for accessing the Internet or social media

**Table 2** Data extraction summary table

| Article | Parent/caregiver identified | Age of child | Region of US (as reported by the authors) | Main outcome variable | Social media format mentioned or studied | Sample size | Methods | General findings |
|---|---|---|---|---|---|---|---|---|
| Asiodu et al. (2017) | First time African American mothers | NR | Northern California | Social media use and knowledge of breastfeeding | Facebook, YouTube | 14 pregnant women and 8 support persons | Critical ethnography (semi-structured interviews, community participant observations, field notes) and thematic analysis | Social media was frequently used for education and social support. Social media was often accessed via a smart phone |
| Criss et al. (2015) | Hispanic mothers | Less than 2 years of age | Eastern Massachusetts | Explore how health information sources inform decision making | Facebook, YouTube | 49 | Focus groups and themes identified from conversations | Social media was a trusted source for health information, but multiple sources were checked for consistency |
| Fiks et al. (2017) | Low income pregnant women | 2 months before delivery followed to 9 months of age | Philadelphia | Obesity prevention | Facebook | 87 | Randomized clinical trial | The social media intervention was effective in impacting feeding behaviors within families of infants at risk for obesity |
| Gruver et al. (2016) | Low income African American mothers | Less than or equal to 1 year of age | CHOP Pediatric Research Consortium | Obesity prevention | Facebook | 29 mothers for focus groups and 8 mothers for pilot | Interviews and focus groups, with pilot trial. Constant comparative method for analysis | Mothers were willing to share information with other moms on Facebook, but some wanted to meet in person. The pilot Facebook group was well received, highly utilized, and recommended for parenting topics |
| Guerra-Reyes et al. (2016) | Low income mothers | Less than or equal to 48 months old | Monroe County, Indiana | Breastfeeding | Facebook | 10 | Exploratory, community-based qualitative study and content analysis | Breastfeeding often leads to information seeking among mothers and smartphones facilitated information seeking for infant and self-care |

**Table 2** (continued)

| Article | Parent/caregiver identified | Age of child | Region of US (as reported by the authors) | Main outcome variable | Social media format mentioned or studied | Sample size | Methods | General findings |
|---|---|---|---|---|---|---|---|---|
| Logsdon et al. (2015) | Adolescent and rural mothers | NR | Southern state | Social media, internet use, and sources of health information | Facebook | 15 | Cross sectional survey | Health information was sought out in a variety of methods, which were accessed via cell phones and computers. Online information can encourage behavior change and lead mothers to seek a healthcare provider's recommendations |
| Majee et al. (2017) | Mother and father dyads | 6–36 months | Midwest | Interpersonal, organizational, and community-level influences on infant feeding practices | Not specified | 24 mother–father dyads | Qualitative interviews | Three themes were identified as influences on infant feeding: (a) interpersonal, (b) organizational, and (c) community factors. Social media was also used to obtain health information |
| McDaniel et al. (2012) | First time mothers | Less than 18 months old | NR | Maternal outcomes and computer/Internet use | Not specified | 157 | Cross sectional survey | Online activities led to perception of social support, which predicted maternal well being |
| Mitchell et al. (2014) | African American and urban parents | 1–12 years of age | Washington, DC | Internet and mobile technology use | Facebook, LinkedIn, MySpace, Twitter | 302 | Cross sectional survey | Parents/caregivers were active in social media, but less likely for obtaining health information; however, there was interest in joining a social network group about a child health topic |

**Table 2** (continued)

| Article | Parent/caregiver identified | Age of child | Region of US (as reported by the authors) | Main outcome variable | Social media format mentioned or studied | Sample size | Methods | General findings |
|---|---|---|---|---|---|---|---|---|
| Sundstrom (2016) | Mothers | Newborns | NR | Perception of media and communication channels in relation to health issues | Facebook, Twitter, YouTube | 44 | Grounded theory and semi-structured interviews | New methods of communication were identified, which can influence health issues and areas of concern during pregnancy and postpartum |
| Swindle et al. (2014) | Low income parents/caregivers | Birth to 5 years of age | Southern state | Technology use and interest | Facebook, Twitter | 806 | Cross sectional survey | There is racial/ethnic variation in technology use including social media, e-mail, texting, and smartphone application |
| Walker et al. (2017) | Mothers | NR | Central Texas | Use and preference of e-health media | Facebook, YouTube | 165 | Cross sectional survey | Contextual factors, such as stress, race/ethnicity, and education, influenced variation in seeking of health information |

*NR* Not reported, *CHOP* Children's Hospital of Philadelphia

among White adolescent mothers, another study of primarily White (89%), low income (59%), educated (78% college graduate), and married mothers identified frequent computer use to access the Internet (McDaniel et al. 2012). In this sample, social networking sites were used often and more frequently among younger mothers (McDaniel et al. 2012).

In a sample of parents comprised of various races/ethnicities (34.2% White, 41.2% African American, 19.5% Hispanic), Facebook remained the most popular social media format, with 57% of this low-income, rural and urban sample using Facebook daily. Text messaging, Facebook, and e-mail reached over 70% of this sample on a weekly basis (Swindle et al. 2014).

### Region

When comparing utilization of social media among parents/caregivers, we found Facebook was the most widely used format in the U.S. (Table 3). Twitter was mentioned among a primarily African American (41.2%) sample in the South (Swindle et al. 2014). YouTube was also noted in the South (Sundstrom 2016; Walker et al. 2017), and among a sample of Hispanic mothers in the Northeast (Criss et al. 2015).

## Identified Themes Among Selected Studies

To answer our third research question, if any themes exist among the identified studies, we identified the following: (1) parental/caregiver support via social media and (2) effectiveness of utilizing social media for health information.

### Support via Social Media

Although studies used different definitions to define the concept of support, social media formats provided support to mothers in various ways. Facebook and YouTube were specifically identified as being supportive among mothers of African American and White race/ethnicity (Asiodu et al. 2017; Fiks et al. 2017; Sundstrom 2016), whereas YouTube (and not Facebook) was perceived as being a place of support for Hispanic mothers (Criss et al. 2015).

Facebook was a place of support and camaraderie, especially among African American postpartum mothers struggling with breastfeeding (Asiodu et al. 2017). In this study, support was not specifically defined, however, the authors mention support in the context of otherwise feeling isolated. Another Facebook intervention study of low income, low literacy (66%), and African American (88%) mothers found the group supported and encouraged each other (Fiks et al. 2017). However, while participants felt supported by the Facebook group, this did not result in a higher score on the Maternal Scale of Perceived Social Support (Fiks et al. 2017). This study is therefore addressing two different forms of support: support for parenting and perceived social support, as measured by the scale (Fiks et al. 2017).

Facebook was utilized by mothers seeking support for health conditions among primarily White (64%) and non-college educated (56%) mothers of newborns (Sundstrom 2016). In this study, support is identified as social and emotional support (Sundstrom 2016). Yet in a primarily White (89%) sample of low income (59%), educated (78% college graduate), and married mothers, social networking was not associated with social support (McDaniel et al. 2012). In this study, a clear definition of social support was not given (McDaniel et al. 2012).

Hispanic mothers utilized YouTube to find videos on topics related to parenting, such as breastfeeding, and found this format supportive (Criss et al. 2015). This study uses the concept of support in a variety of ways, including: social, emotional, and coping support (Criss et al. 2015).

**Table 3** Parental use of social media by geographic region

| Region (as reported by the authors) | Social media format most utilized (by study) |
|---|---|
| West | Facebook (Asiodu et al. 2017) |
| South | Facebook (Logsdon et al. 2015)<br>Facebook (Swindle et al. 2014)<br>Facebook and YouTube (Walker et al. 2017) |
| Midwest | Facebook (Guerra-Reyes et al. 2016)<br>Not specified (Majee et al. 2017) |
| Northeast | Facebook and YouTube (Criss et al. 2015)<br>Facebook (Fiks et al. 2017)<br>Facebook (Gruver et al. 2016)<br>Facebook (Mitchell et al. 2014) |
| No region specified | Not specified (McDaniel et al. 2012)<br>Facebook (Sundstrom 2016) |

### Effectiveness of Social Media

African American, Hispanic, and White parents/caregivers viewed social media as an effective way to obtain parenting information. African American mothers viewed social media as "a practical, convenient, and valuable way to obtain perinatal information and support" (Asiodu et al. 2017, p. 274). Among African American, Medicaid-covered mothers with low health literacy (63%), 59% were willing to share information online with other moms, but 75% wanted to meet in person (Gruver et al. 2016). Additionally, nearly all (93%) reported feeling comfortable participating in a "secret" Facebook group (Gruver et al. 2016). Among primarily single (76%), African American urban mothers, 74% reported interest in joining a social network group focused on their child's health (Mitchell et al. 2014). Furthermore, 84% were interested in receiving health information via the Internet and over half were already obtaining health information from the Internet (Mitchell et al. 2014).

In the Facebook intervention study of low income, low literacy (66%), and primarily African American mothers (88%), all were active participants in the Facebook group and 99% of their posts were on infant and parenting topics (Fiks et al. 2017). Those in the Facebook group also demonstrated the targeted parental behavior change, infant feeding practices (Fiks et al. 2017). All participants felt the peer group was a positive experience and the Facebook intervention was deemed an acceptable method to engage this population (Fiks et al. 2017). Similar findings were identified in a pilot study of non-college educated (50%), low health literacy (63%), African American, and Medicaid-covered mothers, where 63% reported making adjustments to parenting (feeding or sleep schedules) based on the Facebook intervention and 100% recommended the program (Gruver et al. 2016).

Hispanic mothers trusted social media as a health information source, but some reported Facebook as an inappropriate place for discussing health issues (Criss et al. 2015). Although most participants utilized Facebook, it was recognized that anyone could post information in this format (Criss et al. 2015). Therefore, the authors suggest if Facebook were utilized for health promotion among Hispanic mothers, the source needs to be identified as credible (Criss et al. 2015).

Compared to information on African American and Hispanic parents/caregivers, information on White parents/caregivers regarding the effectiveness of receiving health information via social media was limited. However, the reviewed studies still contained valuable information regarding dissemination of health information via this format. For instance, among southern, rural, adolescent, and primarily White (73%) mothers, many thought the Internet was a better source of information than television or newspapers, but preferred friends and family over the Internet. Approximately one quarter had received health information from Facebook (Logsdon et al. 2015). Finally, it is worth noting that primarily White (64%) and non-college educated (56% less than college educated) mothers of newborns were drawn to narratives; valuing expertise when given in the form of storytelling (Sundstrom 2016).

Among a sample of low income parents/caregivers of various ethnicities (34.2% White, 41.2% African American, 19.5% Hispanic) living in rural and urban areas, 47% indicated they would like to receive information on parenting help via Facebook (Swindle et al. 2014). Reports of social media use to receive and share health information was also identified among rural mother–father dyads (Majee et al. 2017).

## Discussion

This is the first known integrative review to examine how parents utilize social media to obtain information about parenting or infant health. We found this is a relatively new area of inquiry, given the few articles identified. We also found great variation in how social media was used by parents/caregivers to obtain parenting information. The vast majority of the studies focused on infants and young children, which was not surprising since new parents and parents of young children face uncertainty about parenting.

The most common topic for which parents utilized social media for parenting information was infant feeding practices, such as breastfeeding. YouTube was also cited as being helpful for specific baby care or mothering activities, such as bathing and breastfeeding (Criss et al. 2015; Sundstrom 2016; Walker et al. 2017). Prior research supports this finding, since breastfeeding has been found to require additional support and education among parents of newborns (Henshaw et al. 2018).

Although most of the studies focused on mothers, fathers of infants also utilize social networking for social support (Kim et al. 2016). While research on father-inclusive education is limited (Lee et al. 2018), inclusion of fathers has led to father engagement and positive contributions to a child's wellbeing (Banman et al. 2018). Thus, despite mothers using social media as a parenting tool more than fathers (Duggan et al. 2015), there remains a critical need to include fathers in future social media research.

Differences in social media utilization by parents/caregivers of varying races/ethnicities were identified and may reflect different exposures to these resources. However, such racial/ethnic variation should be interpreted with caution, as only two of the studies assessed for statistical significance (Swindle et al. 2014; Walker et al. 2017). Further, one study found no statistical significance in racial/ethnic variation (Walker et al. 2017) whereas the other did (Swindle et al. 2014).

The quantity and quality of the studies reviewed should be considered when interpreting this body of literature. While most studies were assessed as being good or fair, almost all of the samples were convenience samples that did not represent the population from which they were drawn. This field of study would benefit from additional observational research that draws from larger, representative samples to truly help flush out differences in social media use among parents/caregivers. Whereas only one RCT was identified, more rigorous research is needed on this topic. Additionally, more in-depth qualitative studies would help to further explain demographic differences. Thus, while variation of social media use by parents varied

by race/ethnicity, these findings should be tested further prior to application among ethnically diverse and larger sample sizes.

The themes identified also varied by race/ethnicity, but again, this finding is limited by sample sizes and lack of racial/ethnic variation in many of the samples. We also identified a general lack of in-depth reflection or analysis of cultural reasons that may influence such differences. Despite this, recognizing that information accessed on Facebook was particularly beneficial to African American mothers is helpful; Facebook may be an important vehicle for sharing salient information about parenting to this population. Moreover, the finding that both African American and Hispanic populations were likely to use phones to obtain health information may be an important factor in developing and testing future health promotion messages. Again, the use of social media for dissemination of health information among any specific group would need customization for the greatest impact.

### Limitations

This review was limited by the small number of studies identified and the relatively narrow range of dates applied. Our decision to focus on studies in the U.S. may have limited our findings and in identifying potentially useful information, particularly with respect to understanding cultural practices outside the U.S. The specific Boolean phrases may have also limited the findings. While many different combinations were trialed under the guidance of a professional librarian and use of the term 'parents' resulted in more relevant findings, we may have missed studies specific to mothers or fathers. Despite these limitations, this integrative review sheds light on an important gap in the literature about parent/caregiver use of social media to obtain information on parenting and infant health. This review identified only 12 studies, thus there is still much to learn about how parents utilize social media for parenting and infant health. Furthermore, understanding parental use of social media is essential for those who are trying to combat the spread of misinformation via social media or understand and address the accuracy of shared health information in this format.

## Conclusions

Understanding demographic influences on social media utilization for parenting or infant health is essential when attempting to reach parents for public health purposes. The importance of social media is evident in this literature review, as is the concept of parental social support via social media (although each study's definition of support varies). Finally, the feasibility of utilizing social media to influence and reach parents for effective health communication is confirmed.

Understanding racial/ethnic variation regarding parental use of social media is essential when developing programs that target parents from diverse backgrounds in order to influence and impact behavioral change. Such identified trends and factors should be considered when utilizing social media for research purposes. We, however, also believe more in-depth research needs to be completed in this area to further understand potential racial/ethnic variation in how parents/caregivers utilize social media.

Nonetheless, we encourage public health organizations to further utilize social media in public health campaigns and efforts. In an analysis of 2597 Facebook posts from 34 state health departments, only 5% addressed infant and child health (Jha et al. 2016). Thus, social media is a unique tool that has yet to see its full potential regarding public health interventions and research focused on parenting and infant health. The findings from this review can direct further research and development of interventions that target parents/caregivers of various ages, ethnicities, and geographic regions, with the goal of positively impacting parenting and child health.

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