

Perceptions of online informational social support among mothers in a lactation-focused virtual community: A survey study

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Abstract

Background: Peer support, also described as woman-to-woman support, has been well established as an effective intervention for overcoming barriers to breastfeeding duration. To access support and receive information, mothers are likely to access social media platforms, especially given the challenges to healthcare access presented by the COVID-19 pandemic. Previous research has established that virtual communities can promote peer-to-peer support similar to that seen in communities of practice.

Research Aim: The aims of this study were to describe levels of perceived informational social support among mothers in an online virtual community and to determine which features of the virtual community were perceived most favorably by breastfeeding mothers.

Methods: The study design was a cross-sectional survey of members of an existing social media community of breastfeeding mothers with use of the Online Social Support Scale–Informational subscale, Breastfeeding Self-Efficacy Short Form, and additional open-ended questions during the early phases of the COVID-19 pandemic. Participants were recruited within a single, lactation-focused virtual community that was moderated by lactation support professionals.

Results: In regard to online social support specific to information seeking, the reported social support was moderate to high (M=35.53, range=17–48). Most items had a score average of approximately 3, indicating that participants perceived informational support "Pretty often" from their group interactions. Participants in this study had an average Breastfeeding Self-Efficacy—Short Form score of 57.91, indicating a moderately high level of breastfeeding self-efficacy. Content analysis of open-ended items regarding favorable characteristics of the virtual community indicated participants appreciated the immediacy of feedback and the presence of lactation support professionals within the community.

Conclusion: Mothers in the lactation professional-led virtual community perceived moderately high support in health information seeking and experienced moderately high breastfeeding self-efficacy. Additional work is needed to determine the impact of participation in virtual communities on breastfeeding outcomes.

Keywords

breastfeeding, COVID-19, lactation support, social media, virtual communities

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Introduction

While nearly 85% of new mothers initiate breastfeeding in the United States, breastfeeding duration continues to fall short of health recommendations. Of infants born in the United States in 2017, only 25.6% were exclusively breastfed at 6 months of age. Current guidelines from the

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2 Women's Health

American Academy of Pediatrics (AAP) recommend exclusive breastfeeding for the first 6 months of the infant's life and continuing breastfeeding to 1 year.² Barriers to achievement of breastfeeding goals have been identified as including provider knowledge and attitude, sociocultural factors such as the opinion of the mother's partner, media and marketing practices, postnatal complications, and maternal health factors.³ High initiation with low duration often reflects the lack of available support to lactating mothers.⁴

Peer support, also described as woman-to-woman support, has been well established as an effective intervention for overcoming barriers to breastfeeding duration.⁵ A systematic review and meta-analysis of peer support interventions found that peer support was effective in helping mothers to exclusively breastfeed longer and may have the greatest benefit among mothers of low or middle income and those with infants aged 3 to 6 months.⁵ While peer support has most often occurred in the community setting through meetings of community organizations such as La Leche International, social media communities may also provide a mechanism for peer support and health information sharing among lactating mothers. Organically formed virtual social media groups that were pro-breastfeeding have been found to enhance breastfeeding knowledge, attitudes, and behaviors.4

Sriraman and Kellams³ identified the potential of social media as a platform to offer support and health information to geographically diverse breastfeeding mothers, especially those who are at risk or physically residing in an area with a local culture that is not breastfeeding supportive. Moon et al.⁶ found that mothers were likely to turn to social media for health information, detailing that the immediacy of receiving support, information, and recommendations was appealing to mothers.

Skelton et al.⁴ asserted that online social media groups could embody features of communities of practice (COP), in which members with shared passions or interests become more proficient at something that they do through regular social interaction. Skelton et al.⁷ used online focus groups using a social media platform as an intervention to support breastfeeding. Mothers who participated in the study group reported that the virtual community was perceived as a shared repository for knowledge and were motivated to share their own knowledge and experience through participation.

Objectives

Despite the potential of social media platforms as a means to support geographically diverse maternal populations, there have been limited publications regarding features of virtual communities that enhance or inhibit the health information-seeking behaviors of breastfeeding mothers. Additional study is needed to fully understand the features of online communities that promote breastfeeding duration. The aims of this study were to describe levels of perceived informational social support among mothers in an online virtual community and to determine which features of the virtual community were perceived most favorably by breastfeeding mothers. An understanding of these perceptions is necessary for insightful design of social mediabased interventions for lactating and breastfeeding women in the future.

Methods

Methods are reported in compliance with STROBE guidelines for cross-sectional studies.⁸ The study protocol was reviewed and approved by Oakland University's Institutional Review Board as study 1474529-1. Informed consent was obtained by embedding an information sheet on the landing page for the study. Participants were asked to close their browser if they did not wish to participate in the study. They were also informed that they could exit the study at any time.

Study design

The study design was a cross-sectional survey of members of an existing social media community of breast-feeding mothers with use of the Online Social Support Scale (OSSS)—Informational subscale, Breastfeeding Self-Efficacy Short Form (BFSE-SF), and additional open-ended questions.

Setting

The study was conducted within an existing social media community/group during Spring 2020, shortly after the COVID-19 pandemic resulted in the closure of many physical healthcare offices. The virtual lactation community was located through communication with a lactation consultant known to the primary investigator (PI). Because the intention of this work is to inform future social media-based health interventions, it was determined that the social media community should be inclusive of and ideally administered by healthcare professionals. The community was founded by and administered by a lactation support team (one RN International Board Certified Lactation Consultant (IBCLC) and one lay certified lactation counselor (CLC)) to provide virtual support to their past, present, and potential clients.

The IBCLC and CLC acted as group administrators within the social medical community. Administrators in a social media community are able to monitor and modify content, add and remove group members, and communicate with group members. The community was private, and participant identity verification was confirmed by the IBCLC and/or CLC prior to participants being allowed to

Munyan and Kennedy 3

enter the group. The group had a total membership of 2300 members, of which approximately 500 individuals were currently active in posting and interacting within the group. The administrative team was active within the group and had established group rules and norms that were "pinned" to the top of the group page and visible for all members. In addition, group membership was dependent on agreeing to the group rules, which included respectful communication between members. The administrators' actively surveilled and monitored content posted within the group. The PI was granted admission to the community and introduced by the administrators in a posting prior to conducting the study.

Participants and study size

To participate in the survey study, participants were required to be members of the online virtual lactation group and be able to read/understand English. There was no power calculation used to determine ideal sample size as the community was a limited group and findings would not be expected to be widely generalizable to all breastfeeding women.

Variables and data sources/measurement

Variables included participant perceptions of social support within the group, measured using the OSSS–Informational subscale with permission from the original author. The complete OSSS⁹ measures social support of respondents in the four major types of social support typically derived from in-person social interactions: esteem/emotional support, social companionship, informational support, and instrumental support. The instrument was developed through adaptation of existing social support measurement scales in consideration of social theory and previously conducted social media research.⁹ The OSSS has strong psychometric properties in each of the four subscales when tested across several participant populations.

For this study, the informational support subscale was used to measure perceived social support as it related to "includes help in defining, understanding, and coping with problems; it may take the form of giving advice, offering appraisal support, sharing new information or perspectives, or providing reference to new resources" with a Cronbach's alpha of 0.95. As the aim of this study was to inform future healthcare professionals efforts to use social media as an intervention to provide health information to support breastfeeding duration, this subscale was determined to be most appropriate for the scope of a healthcare provider/patient relationship. Participants responded to questions about their perceptions of support received in the virtual community on a Likert-type scale from frequency from 0 "never" to 4 "a lot").

Participants were also asked to complete the Breast-feeding Self-Efficacy Scale-Short Form (BSES-SF).¹⁰

This questionnaire, used with author permission, has been validated as predictive of breastfeeding duration across numerous populations. The BSES-SF is recommended for use in identifying mothers at risk for prematurely discontinuing breastfeeding and as a measure to evaluate the efficacy of clinical interventions. The questionnaire was used to assess the overall self-efficacy of group members and to provide additional context to the findings of the OSSSI. The BFSE-SF is a 14-item instrument and has a total possible score of 70, indicating a very high level of self-efficacy related to breastfeeding. Items are scored using a 5-point Likert-type scale with 1 "being not at all confident" and 5 "being always confident." The instrument has been well validated as a measure of breastfeeding self-efficacy.

Open-ended questions were also used to elicit further information regarding what features of the group members found most supportive. The open-ended questions were authored by the research team and reviewed by a content expert prior to introducing the survey.

Data were collected during Spring 2020 using secure Qualtrics survey links and posted in the social media group with IRB-approved language for recruitment. Participants were offered the incentive of participating in a drawing for a gift card for taking the survey. Link sharing was disabled, so participants could not share the link with individuals who were not part of the group. As the survey was online, participants could take the survey at a time and place of their choice.

Bias

Analysis of open-ended item responses introduced potential for bias. To control for this, the authors independently and then collaboratively reviewed data.

Quantitative variables and statistical analysis

Participant responses to the BFSE-SF and OSSS-I subscale were analyzed independently. Descriptive statistics were used in analysis of responses as there was no intervention or group comparison to consider. Correlational analysis was performed to examine relationships between age, years of breastfeeding experience, BFSE-SF responses, and responses to OSSSI items. Analysis was performed using SPSS (add vers, IBM Corp: Armonk, NY), Open-ended items were analyzed through content analysis with discussion for congruence between authors.

Results

Participants

A total of 56 group members participated in the survey. Participants had an average age of 30.57 years with a

4 Women's Health

Table I. Average responses OSSS-I.

When I am online people give me useful advice.	2.855
Online, people provide me with helpful information.	3.000
If I had a problem, people would help me online by saying what they would do.	2.945
Online, people would tell me where to find help if I needed it.	3.164
People help me learn new things when I am online.	3.036
People offer suggestions to me online.	2.964
People tell me things I want to know online.	3.071
When I am online, people help me understand my situation better.	2.800
If I had a problem, people would share their point of view online.	3.073
If I talked about a problem online, people would help me figure it out.	3.109
If I talked about a problem, people online would suggest an action I could take to solve it.	3.218
People help me to see things in new ways when I am online.	2.745
Aggregate total	35.554

range of 23 to 41. The majority of participants identified as Caucasian (87.5%, n=49), 5.4% (3) of participants identified as Hispanic/Latino, 3.6% (2) as Black/Haitian, 1.7% (1) as Native American and 1.7% (1) as Asian. The average years of breastfeeding experience of participants was 1.32 years with a range of 1 month to 2.5 years. The group had a generally high level of education, with 5.4% (3) of participants holding a doctoral degree, 23.2% (13) holding a master's degree, 37.5% (21) holding a bachelor's degree, an additional 25% (14) indicating they had attended some college or earned an associate degree, and 8.9% (5) of participants indicating they had finished high school or received a diploma.

The OSSS-I responses are displayed in Table 1. The overall reported social support was moderate to high (M=35.53). Most items had a score average of approximately 3, indicating that participants perceived informational support "Pretty often" from their group interactions.

Of the items, participants reported the highest levels of perceived support in locating help (3.164) ("In this online community/group, people would tell me where to find help if I needed it."), problem solving (3.108, 3.218) ("If I talked about a problem online in this community/group, people would help me figure it out.," and "If I had a problem, people online in this community/group would suggest an action I could take to solve it."). Participants reported the lowest level of perceived support in gaining new perspectives (2.745) ("People help me see things in new ways when I'm online in this community/group."), receiving useful advice (2.855) ("When I'm in my online community/group, people give me useful advice."), and sharing personal experiences (2.945) ("If I had a problem, people would help me online by saying what they would do.").

BFSE-SF findings

Participants in this study had an average BFSE-SF score of 57.91, indicating a moderately high level of breastfeeding self-efficacy. Individual item response averages are

displayed in Table 2. All items demonstrated a moderate-to-high level of breastfeeding self-efficacy. The lowest scored item, "I am always comfortable breastfeeding my baby, even in the presence of or in front of other family members." had an average response of 3.750. The highest scored item, "I can always manage to breastfeed every time my baby asks for milk.," had an average response of 4.446.

Correlational analysis of demographics and perceived support

Pearson's correlation coefficients revealed no significant relationship between any combination of variables with the exception of previous years of breastfeeding experience and age (r=0.453). Mature mothers were more likely to endorse a longer history of previous breastfeeding experience. No relationships were found to exist between previous breastfeeding experience and OSSSI scores, BFSE-SF score and OSSSI scores, or previous breastfeeding experience and BFSE-SF score. An interitem correlation matrix was developed using responses from the OSSSI. There were several moderate and high relationships between items, indicating positive interitem consistency.

Content analysis

In addition to survey instruments, participants were asked to answer four open-ended questions about their perceptions of receiving breastfeeding-support online. Responses were analyzed through content analysis process as described by Elo and Kyngäs. ¹² Both authors participated in both the preparation and organization phase of the content analysis. In preparation, both authors holistically examined the complete data set from the open-ended items and familiarized themselves with the content. As the content was collected using a survey, and there was not participant interaction, the authors examined manifest content.

Munyan and Kennedy 5

Table 2. Average responses BFSE-SF.

I believe I can always make sure that my baby is getting enough milk.	4.179
I believe I can always breastfeed my baby, the same as I do other challenging tasks.	4.268
I believe I can always breastfeed my baby without the need to add formulated milk.	4.339
I believe and am always sure that my baby is suckling in the right method, over the period of breastfeeding.	4.036
I believe I can always manage breastfeeding to my satisfaction.	4.071
I believe I can always breastfeed, even when my baby is crying.	4.000
I always want to breastfeed my baby.	4.250
I am always comfortable breastfeeding my baby, even in the presence of or in front of other family members.	3.750
I am always satisfied with my breastfeeding experience.	3.911
I can always accept the fact that the breastfeeding process will take a long time.	4.179
I can always fully breastfeed on the same breast, before switching to the second breast.	3.929
I can always continue to breastfeed my baby without problems, at each feeding session.	4.036
I can always manage to breastfeed every time my baby asks for milk.	4.446
I am always able to recognize the time my baby is finished and satisfied with the breastfeeding session.	4.268
Aggregate Total	57.911

There was no latent content to analyze. The authors collaborated in organizing data into categories related to the open-ended survey items.

Participants were asked "What appeals to you about receiving breastfeeding support online?." The most common responses to this item referred to the convenience of seeking support online. Numerous participants expressed that they appreciated the ability to receive responses quickly and the accessibility of being able to post their questions to the greater community. Exemplars of these statements included: "Quick and accessible" and "Convenient, need support at odd times, not one solution oriented with many people contributing to the conversation."

Specifically, participants appreciated the immediacy of feedback they were receiving. Group members shared comments regarding their appreciation of "Immediate advice/feedback. Quicker than an office visit that takes time to schedule, etc." and "I love that my questions can be answered quickly and easily.." Several participants also noted that the resource was provided without cost, which they perceived as favorable.

Participants were additionally asked, "Are there specific features of this online community/group that you find more or less helpful than other online community/groups that you are a part of? What are these components?." Three categories emerged in organization of this data: professional moderation, evidence-based information, and peer support.

Participants expressed their appreciation for the presence of "experts"/lactation support professionals within the group. They offered comments of "Group is closely monitored/moderated," "That there are actual IBCLCs who give educated answers . . .", and "There are professional lactation consultants in this group so of course they are more helpful than other mom groups."

Participants expressed that the social media community provided a source of evidence-based information related to breastfeeding, which they perceived favorably. Examples of these comments included "Research based answers and solutions." and "It was founded as an evidence-based group, whereas most other online groups are strictly experience-based."

Participants were also asked about their preferred source of breastfeeding information. A majority of participants (n=32, 57.14%) indicated that they preferred to seek support/answers to breastfeeding-related questions online. Other preferred sources of support included lactation support professionals and peers. In describing barriers to receiving face-to-face lactation support, 21.4% (n=12) of participants indicated that the COVID-19 pandemic was a perceived barrier, 17.8% (n=10) indicated that timing of scheduling visits or time spent with a provider was a barrier, and 12.5% (n=7) identified a lack of healthcare provider knowledge of breastfeeding as a barrier.

In addition, participants were asked "What do you feel are the limitations of seeking breastfeeding support/advice online?." Participant responses largely focused on perceived limitation of the assessment of breastfeeding issues without an in-person encounter and concerns with connectivity in accessing online support. Participants shared comments including "Technology can be glitchy at times, sometimes making viewing potential issues difficult," "In-person connection, ability or convenience to physically show things when needed," and "When the problem is physical it's hard to get help virtually."

Discussion

The findings of this study are consistent with findings of Skelton et al.⁴ and Sriraman and Kellams.³ Mothers had positive perceptions of support received in the social media community and reported positive perceptions associated with the convenience of accessing support in this way. Mothers also endorsed appreciation for the professional

6 Women's Health

moderation of the content of this particular social media group. Previously published studies on social media support for lactating mothers focused on support derived from organically formed social groups, rather than on groups moderated by healthcare professionals.

While the intent of this study was not to specifically examine the perceived social support derived from breast-feeding-supportive social media communities in relation to the COVID-19 pandemic, the contextual impact mandates further consideration. Participants expressed that they found the online social media community to provide an alternative to face-to-face lactation support during the COVID-19 pandemic. It is possible that the perceived benefit of the social media community in supporting participant's breastfeeding information seeking may have been inflated by the crisis due to the closure of many physical healthcare offices.

Currently, there is a paucity of literature examining the viability of social media communities as an effective source of breastfeeding information and support for lactation mothers. While the results of this study are congruent with the findings of previous studies, there is a strong need for examination of outcomes related to social mediabased interventions. Specifically, this work suggests that interventions supported by healthcare professional participation within virtual communities may be of particular interest to lactating mothers.

Limitations

Several limitations to this study are acknowledged. Most notably, the homogeneity of the sample limits the generalizability of the findings of this work. This is a consistent problem in social media studies. Additional studies should be conducted with greater emphasis on the inclusion of persons of color and mothers identifying as part of the LGBTQIA+ community. This study did not address sexual orientation in the demographic questionnaire, further limiting interpretation of the findings.

The cross-sectional design of this study did not allow for nuanced interpretation of participant responses. Responses were anonymous, and the researchers had no ability to estimate the extent of the participant's engagement in the social media community. As such, it is important to note that correlations between breastfeeding duration and group participation are not to be considered causative. With OSSSI scores being generally high, even the lowest scored items still indicated a moderate-to-high level of perceived support. It is difficult to fully interpret the differences in perceived levels of support among members without understanding their social participation in the group. This element may be best explored in a mixed methods design.

Implications of study to future work

The findings of this study indicate that mothers who participated in a lactation consultant moderated social media

community perceived the community to be a positive social support for breastfeeding information seeking. Content analysis of the open-ended questions suggested positively perceived key features were the presence of a breastfeeding expert, the focus of the group on evidence-based breastfeeding information, and the convenience of receiving breastfeeding information in an online format. Interestingly, the participants of the group averaged over a year of breastfeeding experience.

While there is no ability to claim correlation between participation in this breastfeeding social media community and duration of breastfeeding, the participants exceeded current recommendations for breastfeeding duration on average. Future research should examine the impact of professionally moderated breastfeeding social media groups on breastfeeding duration among first-time mothers seeking support and health information in this setting. More direct measures of the impact of participation in social media "communities of learning" would be beneficial in designing interventions to support lactating mothers.

In addition to the "real time" nature of interactions occurring in these groups, the process-inherent archive of questions and answers is a benefit that merits discussion. Mother expressed that the convenience of being able to search previous discussions within the group was also perceived as valuable. The easy retrieval of relevant information pertaining to specific lactation health needs is valuable to health consumers.

Specifically, social media may hold potential as a costeffective delivery method for interventions for geographically diverse maternal populations. Registered nurses and lactation professionals appear to be influential in the overall perceived efficacy and usefulness of such communities among breastfeeding mothers. Health systems, provider practices, or even payers may enhance their service offerings and promote greater breastfeeding duration by implementing social media-based supportive interventions.

Conclusion

The aim of this study was to examine the perceived social support of mothers participating in a healthcare professional moderated social media community for breastfeeding mothers. While this study was designed prior to the onset of the COVID-19, data collection occurred in spring of 2020, resulting in data of relevance to the experience of lactating mothers during the lockdowns in early phases of the pandemic. Using a cross-sectional survey design, mothers were questioned regarding their perceived social support, as measured by the OSSSI, and breastfeeding self-efficacy, as measured by the BFSE-SF. Mothers reported high levels of both perceived social support and breastfeeding self-efficacy. Open-ended items allowed for additional sharing of details about specific components of the online community that mothers felt were most supportive. Positively perceived elements including ease of Munyan and Kennedy 7

access, convenience, and the presence of professional moderators. Participants also appreciated the economic accessibility of the online community and the option to receive lactation support virtually regardless of the restrictions in place due to COVID-19. Perceived limitation included concerns regarding the assessment of breastfeeding issues without an in-person encounter and the limits of using technology to access breastfeeding support.

Declarations

Ethics approval and consent to participate

The study was reviewed and approved by the Oakland University IRB. All participants were consented via embedded survey prior to participate.

Consent for publication

Not applicable.

Author contribution(s)

Kristen Munyan: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Writing –original draft; Writing – review & editing.

Erin Kennedy: Formal analysis; Visualization; Writing – original draft.

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Availability of data and materials

Data available by reasonable request to the corresponding author.

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Supplemental material

Supplemental material for this article is available online.

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