ORIGINAL RESEARCH

Effectiveness of a human milk donation promotion program in a virtual group of mexican women

Rosa del Carmen Castillo Valenzuela, Salvador Ruiz Cerrillo, Serena Brigidi

Introduction

Regarding exclusive breastfeeding (EBF), Mexico presents statistical oscillations that do not yet allow us to affirm that this practice is a habitus among women and health professionals.1,2 In fact, the consolidation of EBF as a habitus is still utopian in most countries in the world, for different reasons. Sometimes, there are strong inequalities in terms of access to health and education.3 In order cases it has to do with the effects of syndemics4 and extreme poverty. The fact is that there is no global consolidation of breastfeeding (BF)5 culture, and that success rates are still low - if we consider the shortand long-term benefits that breastfeeding would bring.

Rosa del Carmen Castillo Valenzuela.

Doctor in Medical Sciences. Universidad del Valle de Atemajac Campus León.León, Guanajuato, Mexico. https://orcid.org/0000-0002-0360-1018
Email: rosy castillo 3@hotmail.com

Salvador Ruiz Cerrillo.

Master in Higher Education. La Salle Bajío University. León, Guanajuato. Mexico. ORCID: http://orcid.org/0000-0001-8665-3392

Email: sruiz@delasalle.edu.mx

Serena Brigidi. Ph.D.

Anthropology of Medicine. Department of Anthropology, Philosophy and Social Work, Universitat Rovira i Virgili. Tarragona. Spain. ORCID: 0000-0001-9325-3880

Email: serena.brigidi1@urv.cat

Received: September 5, 2023. Accepted: January 31, 2024. Conflict of interest: none.

On an international level, various virtual and digital promotion strategies for breastfeeding and milk donation have been employed by institutional entities such as milk banks or hospitals, or by local initiatives, either private or by civil associations. Some of these have used social networks and closed virtual communities such as Facebook and Instagram6-9. Open virtual communities are those in which the public can meet to discuss the proposed topic and closed virtual communities are those in which only members who meet specific criteria are admitted. It is worth mentioning that many of these support and/or advocacy groups showed great activity and sociodigital relevance during the COVID-19 confinements, due to the fact that they were the only source of more individualized attention and accompaniment during the pandemic. 6-9

A review of theinternational literature has identified the effectiveness of breast milk donation through various social groups and collectives in socio-digital networks, which are developed in the framework of virtuality and can have public or closed characteristics. A study conducted in Beirut (Lebanon) during the COVID-19 pandemic on the impact of a breastfeeding promotion group on Facebook, Twitter and Instagram, observed that these types of socio-digital networks encourage breastfeeding, promotion of female empowerment through milk donation and, in addition, the distribution of knowledge.9

Another study conducted in USA explored the use and application of a Facebook group for breastfeeding promotion among a group of 277 African American women. This study used a survey to analyze perceptions, self-efficacy, and attitudes towards breastfeeding. Women reported

that they received greater support from the Facebook group than from other sources. Support received through Facebook was found to be positively correlated with breastfeeding duration (p<0.05).10

In the case of Latin America and Mexico, no research was foundabout breastfeeding support or promotion groups in sociodigital networks. However, existing research has analyzedthe digital practices of activist groups on other issues of social interest, such as animal protection, promotion of reading, political subjectivity, and respected childbirth.11,12 It should be noted that scientific literature has systematically demonstrated, for more than two decades, the importance of mutual support groups for the people who participate in them, in terms of the management of health, disease, and prevention processes, and in terms of self-care or the care of a loved one.13.14

The aim of this research was to analyze the effectiveness of a milk donation promotion in a sociodigital network of Mexican women on Facebook. Stemming from the first author's postgraduate work in the "Interuniversity postgraduate course on breastfeeding and human milk donation" (UVic, UAB, Spain), the study was developed around a central research question: How effective is a program to promote human milk donation in a socio-digital network of Mexican women on Facebook?

In this context, we reused the data from the graduate study, amplifying the scope of inquiry and the analysis of the data. We hypothesized that a socio-digital Facebook network of Mexican women improves the promotion of human milk donation by consolidating unofficial support networks. These networks allow women to agree on information related to donation processes and protocols, as well as to configure the social significance of breast milk.

The program was evaluated using a qualitative methodology based on the following parameters:
a) effectiveness, b) impact, c) efficiency, d) relevance (pertinence, validity and significance) and e) evaluability. For the purposes of this article, special emphasis was placed on the parameter of

effectiveness, which refers to the result in the form of a significant change regarding the program's main objective, both in the short and the long term.15

To assess the program's effectiveness, the recommendations of Sánchez-Candamio16 were taken into account: (a) the active participation of the participants during the sociodigital practices reported in the social networks, (b) the broadening of the analysis by incorporating medical and anthropological sociology as theoreticalmethodological cross-references. (c) limitations of the social and cultural context and of the group itself, and finally (d) the relevance of the impact of the program as a complex process emanating from the discourses of the participants and the empirical evidence of the milliliters of milk donated, 15

The social and cultural meaning of the practice of breastfeeding, as well as the significance of breastmilk, indicate the need for a qualitative exploration of the topic based on mothers' experiences.17 Finally, we hopethe results presented here will generate empirical evidence to improve the promotion of maternal and child health in Mexico, and in general, in Latin and Central America, through strategies that have been scantly documented, such as sociodigital networks.

Materials and Methods

This is a quantitative, longitudinal, interventional, and prospective study.

Sample

A non-probabilistic purposive sample was used, in which voluntary participants were sought for the program according to the following inclusion criteria: women who agreed to answer the survey to be donors, active donors in the human milk bank, women not admitted as donors in the human milk bank. Finally, a population of 5 women was established who had been donors or had expressed the desire to donate but were not selected. The participants answered a digital questionnaire to become donors published in the sociodigital network "Grupo virtual de apoyo a la lactancia

Fuente de Vida". The telephone number of the participants was requested, and they were invited through this medium to participate in the study. The women who accepted to participate were contacted to carry out the semi-structured in-depth interview by video-call.

To describe the social characteristics of the interlocutors, the following matrix (Table 1) was designed to describe the involvement, interaction, and participation of the interlocutors, identifying 3 types of actors: a) subjects participating in the dissemination and design of content for the Facebook social network, b) subjects targeted by the social networks, and c) activist subjects who promote donation activities through various actions. The following were used as indicators of social description: 1.- description of the actors and actresses, 2.- actions of interaction with the support group, 3.- characteristics of the social micro-unit, and 4.- implications for breast milk donation.

The private Facebook group "Fuente de Vida" is an initiative formed by Mexican women living in the state of Guanajuato (Mexico), specifically in the municipality of León (Mexico). This group, composed of more than 6,100 members, carries out significant work in promoting the donation of human milk.

The administrators and members of the private Facebook group are key players in the creation and dissemination of content. With more than 6,100 members, these women and their partners form a strong community, united by the shared experience of breastfeeding. The group also has an official Facebook page that reaches the same number of followers. Here, six official activists are highlighted, presented through professional videos and descriptions. These activists play a crucial role in sharing their experiences and knowledges, thus contributing to the core purpose of the group.

Mexican breastfeeding women, health professionals and human milk donation activists make up the core audience of the "Fuente de Vida" social networks. This demographic, hailing from diverse social classes, shares the experience of being mothers, some of them for the first time. Their interaction on the Facebook page reflects an

active interest in promoting breastfeeding and milk donation.

The "Fuente de Vida" activists carry out various actions to promote human milk donation. They establish rules in the private group to ensure a respectful and ethical environment. In addition, they share testimonies in videos, organize events such as mass breastfeeding and prevention talks against gender violence. They act as mediators between health institutions and the community, consolidating the group as a relevant actor in resource management and social and political participation.

The rules established by breastfeeding social media account managers play a vital role in creating and maintaining healthy online communities. These regulations, which range from respectful communication to the prohibition of sales, provide a necessary structure that encourage positive interaction and trustworthiness of information shared. In a digital world where information flows rapidly, the implementation of effective rules becomes essential to preserve the authenticity and purpose of these valuable online spaces.

The social micro-unit created by "Fuente de Vida" on social networks, especially Facebook, reveals itself as a space for maternal solidarity and the promotion of human milk donation. Through interaction, dissemination of information and concrete actions, this group impacts both its members and broader society. The diversity of actors and their roles demonstrates the complexity of social networks as tools for social change and collective awareness. Ultimately, "Fuente de Vida" emerges as an inspiring example of how digital platforms can be used to foster solidarity and contribute to important humanitarian causes.

The fact that breastfeeding women are the driving force behind these interactions suggests the importance of empathy and maternal solidarity online. These women not only share their personal experiences, but also support each other, creating a virtual space where motherhood is experienced collectively and in solidarity.

Table 1. Analysis of social and cultural characteristics of the actors involved in the research.

Indicator of	Subjects and subjects involved in the	Subjects and subjects targeted by	Activist subjects who promoted
social description	dissemination and design of content for the Facebook social network.	social networks	donation activities through various actions.
Description of actors	The private Facebook group has a total of 6,100 members and the official Facebook page is followed by the same number of users.	Mexican women residents of the state of Guanajuato (Mexico) and, particularly, of the municipality of León (Mexico), as well as their partners and family members.	A total of 6 official activists participate and are presented on the Facebook page through various introductory videos and a brief professional description, sharing their main function within the association.
Interactions with the support group	They establish a series of rules for group interaction which are supervised by the administrators of the social network account. These include respect in communication and language, ethical-professional limits for intervention, identification of user profile (mother, lactation consultant, specialized lactation consultant, internationally certified lactation consultant, health personnel and perinatal educator), prohibition of sales, no myths, respect for the central theme of the group.	All the people who react to the "posts" on the Facebook page are breastfeeding women, health professionals who are activists in the donation of human milk such as nutritionists, psychologists, general practitioners and medical specialists, and students of careers related to the health sciences (nutrition, medicine, and psychology).	They continuously upload videos recorded directly by those responsible for the group, as well as share experiences and witness accounts of women who currently breastfeed their children, as well as several health professionals who share the same ideology and moral principles for the promotion of the group.
Characterist ics of the social micro-unit	The Facebook group is private and therefore requires approval for access, for the group registration process it is necessary to answer 3 questions about the media through which the group was identified, the breastfeeding situation and number of breastfeeding children.	The targets are Latinos, from lower-middle (C-), upper-middle (C) and upper (A/B) * social class. Some of the subjects have completed professional studies, others have only basic Mexican schooling. Some of them are single mothers and others are married. According to some of the group's testimonies, many of them are first-time breastfeeding mothers, so they come to the group by chance or through the recommendation of other participants.	The creators of the Fuente de Vida group carry out social promotion functions, communicate state and federal policies on breastfeeding, share photographs and multimedia material to raise awareness of the donation, and contribute to other activities of interest to the group, such as mass breastfeeding, talks on the prevention of gender violence, and breastfeeding circles.
Implications for human milk donation	Promote milk donation by sharing YouTube links to the main channel of the group, promote campaigns of the state health secretariat, share other state and local campaigns of women's activism, promote workshops on ergonomic techniques of contact with the infant (babywearing), promote photographs of social circles of support to the group, share stories or "reels" of women who promote human milk donation, promote childbirth preparation courses, interact with other national and international networks promoting breast milk donation, upload videos to dispel breastfeeding myths.	React to publications and share them on their personal social networks, hyperlink to other digital spaces such as YouTube. Participate in activities in support of other interested women in the group.	They act as mediators between state and federal health institutions, as well as other social institutions that allow the organization and consolidation of the group through the management of resources, human talent and active social and political participation in various forums in support of breast milk donation.

^{*}Socioeconomic levels were determined based on the descriptors of the Asociación Mexicana de Agencias de Inteligencia de Mercado y Opinión A.C. (Mexican Association of Market and Opinion Intelligence Agencies) https://www.amai.org/NSE/index.php?queVeo=niveles.

Source: Own elaboration with resources from the official Facebook page of the group Fuente de Vida. Breastfeeding.

The active presence of health professionals, such as nutritionists, psychologists, general practitioners, and medical specialists, in this digital community highlights the importance they attach to maternal health and human milk donation. Their participation not only provides valuable information, but also educates the community about the benefits and importance of milk donation, raising awareness and demystifying possible myths related to this altruistic act.

The active participation of students from allied health science majors indicates a growing interest and early awareness of the importance of human milk donation in academic training. These students not only learn from shared experiences, but also contribute their enthusiasm and fresh perspectives, possibly sparking new ideas and innovative approaches to maternal health management.

The Facebook page dedicated to human milk donation is a fascinating example of how social networks can act as catalysts for building virtual communities committed to specific causes. In this case, breastfeeding women, health professionals and health science students converge to form a strong network that not only shares knowledge, but also drives action towards a common goal: improving maternal health and the lives of newborns through human milk donation. This phenomenon highlights the transformative capacity of social networks when used as platforms for building communities dedicated to altruistic and health causes

Instruments

An interview guide of 37 open-ended questions was used. The questions were applied by means of the in-depth interview technique after virtual informed consent and the provision of the study information in which the objectives of the research were explained, as well as the possibility of revoking consent at any time. The interview guide was elaborated based on theoretical references, after an exhaustive review of the literature.

To promote donation, an awareness campaign for human milk donation was developed and published in the social-digital network for breastfeeding promotion, on a weekly basis for six months. This campaign was developed according to the motivations for donation mentioned in the literature.18-21 Data on potential donors was collected from the digital questionnaire for the purposes of this study, and data on the variables of interest was requested from the human milk bank of the state of Guanajuato. The number of views of the publications, number of women responding to the publications, number of women answering the questionnaire, number of women contacting the milk bank, number of women becoming donors, and volume of milk donated were measured.

Analysis

For the qualitative analysis, the Atlas. Ti software (version 9.0 for Macintosh) was used. The digital files or transcripts of the interviews were used as primary documents for their fragmentation and identification. Subsequently, a total of 32 central categories were generated, which emerged from the discursive corpus of the participants. Likewise, the fragments of empirical evidence were counted in quotes or incidents from the primary documents. Content analysis wasbased on the Grounded Theory methodology.

The central categories that were generated and their operationalization are shown in Table 2. During the analysis, different levels of coding were generated, the first level being open coding, identifying the central categories. Once these were identified, the narrative elements corresponding to each central category were selected for axial coding, in which the subcategories were related to the central categories. The third level of analysis was selective coding, for which a conceptual, theoretical, and methodological relationship was made. To give qualitative rigor to the data, a data triangulation was made, crossing the quotations with the theoretical references and the hypothetical assumptions of the research.

For the analysis of the quantitative data, descriptive statistics (frequencies, percentages, means, medians) were used with the SPSS program.

Table 2 Table of mother categories and number of appointments per participant

Category	General position by	Competitor			Total		
	number of citations	1	2	3	4	5	Appointment
A				3	-		S
Accompaniment		5	5	_	7	3	twenty
Self-knowledge	3 **	7	eleven	5	7	4	3. 4
Self-perception	3 **	fifteen	twenty- one*	8	12*	13*	70**
Self realisation		14	eleven	5	8	6	44
Midwife		12	8	7	3	9	39
Social comunication		12	12	1	6	3	3. 4
Context		4	8	8	5	4	29
Covid			1		2		3
Dialectics		6	3	2	1	4	16
Empowerment				4	3		18
Nutritional status of the donor		eleven	2	4	4	3	24
Personal experience		4	5		1	eleven	twenty-one
Habitus		8	eleven	9*	10	9	47
Social impact of breastfeeding		9	24*	7	10	2	52
Hierarchy		3	twenty- one*	3	5	4	36
Maternity	4**	fifteen	14	9*	12	10	66**
Motivation	5**	twenty*	eleven	9*	13*	1	63**
Obstacles		7	fifteen	4	9	2	36
Orientation		6	14	5	2	6	29
Gender perspective		7	7	5	5	4	30
Belonging		7	5	7	13*	4	36
Hygiene practices		12	fifteen	5	3		35
Prejudices		2	2		3	4	eleven
Identity reconfiguration		9	13	3	6	4	35
Social networks	2**	27*	26*	6	9	12	80**
Socio-digital networks		1	5	4	2	3	fifteen
Mother-child relationship		eleven	4	5		12*	32
Social responsability		twenty*	3	7	6	16*	52
Sensitization		3	1	2	7		13
Significance of milk	1**	19*	24*	16*	17**	7	83**
family system		1	7	5	5	8	26
Sustainability			1				1
Fears		3	12	2	7		24
Tic			2	1			3
Transcendence		7	17	9*	8	3	46
couple life		3	8	7	5	4	27
Total appointments						1230	

^{*}Categories with the highest number of appointments to participate **Categories with the highest number of citations in the samples

Results

Qualitative

After conducting the interviews, direct coding was performed on the digital file of the interview with the help of the "Atlas.Ti" software. Quotes were created for each fragment and associated to one of the previously proposed categories. Thus, the total number of quotes per main code within the responses of each patient was obtained. It was found that the most important categories by number of citations were, firstly, the significance of milk, followed by social networks, self-perception, motherhood, and motivation. Table 2 shows the mother categories and number of citations per participant.

A semantic network was constructed through the qualitative analysis of the categories that emerged from the discourses of each of the participants (Figure 1). This graph shows the relationship between the categories in this sample. The central categories within the network are highlighted in yellow, the position of the participants is identified in blue, and the linking word states the correspondence between the categories and the participants. The categories that show no correspondence between them are represented in white. The categories that show a greater co-occurrence among the participants are shared in the mothers' discourses, even though they do not have a personal relationship with each other.

Initially, the category of "significance of milk" was defined as the biological, social, and anthropological appreciation of the value of human milk. The analysis found that this variable emanates from the discourse of 4 of the 5 participants, also being the category with the highest number of citations. Therefore, it can be said that this is an important category for this group of women with respect to the subjective value they place on human milk, and it also reflects one of the reasons why they are willing to donate.

The "Self-perception" category, which was defined as the internal perception of the phenomenon of human milk donation, was identified in 3 of the 5 participants. Their narratives evidenced that for this group of women,

personal and life experiences imbue the act of donating with meaning. The categories of motherhood, social networks, motivation, and social responsibility also showed correspondence, but only in two of the five participants.

For this group of women, understanding the value of breastfeeding for them and for their own children is a very important factor in making the donation. Thus, breastfeeding itself is important for the donation, and receiving milk could influence future breastfeeding for the recipient mother and baby, thus contributing to the culture of breastfeeding within our society.

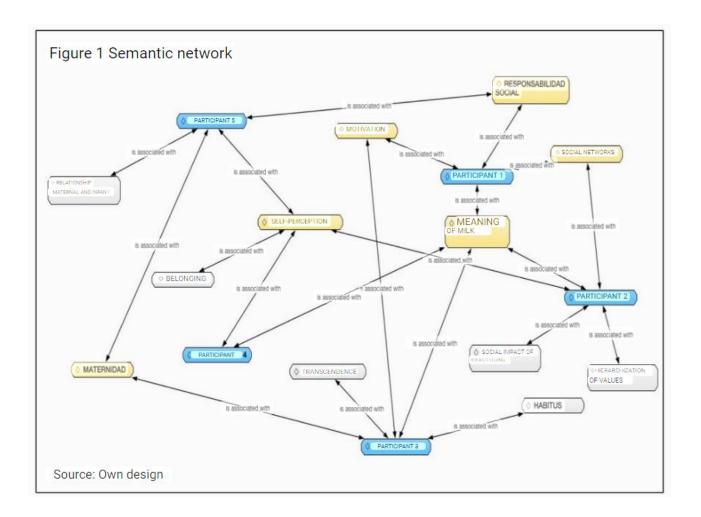
The support that women receive for donation and breastfeeding itself is also an important factor for this group of women, highlighting the role of the family and the environment in the donation process.

The internal perception that women have of the donation process is important to understand how they perceive the process, being one of the bases for the development of empathy.

The experience of being a mother and of caring for one's own children influences the decision to donate. For example, being the mother of a premature child who was hospitalized in an intensive care unit, knowing what it is like for a mother to be separated from her child and the need of these children for human milk, can be a significant experience for mothers who decide to donate human milk.

Some of the women decide to donate before the birth of their children or just after birth. This highlights the importance of carrying out campaigns aimed at pregnant women, to motivate donation and breastfeeding from that moment. Through this we can, on one hand, encourage breastfeeding and access women who wish to donate early, which would make it possible to have potentially longer donation periods - since, as mentioned above, it is only possible to donate during the first 12 months after birth.

Understanding the motivators related to the decision to donate is very important. In this sample they occupy the fifth place among the mentioned categories.



In this sample of Mexican women,we found that altruism, the hope of receiving support if they found themselves in a similar situation, and empathy were some of their motivations to donate. Even though some women reported that the process implies an extra effort, this is compensated for by the benefit that this donation can represent for the beneficiary children. *Quantitative*

Periodic publications of the donation promotion program were made in the breastfeeding support group "Fuente de Vida". The number of people reached by the publications was measured, as well as the number of people who interacted with the publications. The publication with the greatest impact reached 1,910 people, with an interaction of 527 people. Table 3 shows the people reached and the interactions of people with the publications promoting donation.

Table 3 People reached by digital publications promoting donation in the Sociodigital Group and interactions with the publications.

	Average	Maximum minimum
People Reached by Publications	847.4np	1910 - 365 np
People who interacted with posts	148.66 np	527 -15 np

np : number of people Source: Own design During the 6 months of the promotion program, 80 women answered the questionnaire to register as human milk donors. 57.2% of these women were between 20 and 30 years old (46 women), 91.3% of them were practicing exclusive breastfeeding, and 39.2% of these women's children were between 4 and 6 months old. The general description of the population is given in Table 4.

Table 4 Description of the women who answered the questionnaire to register as potential human milk donors

		Percentage (n)
	20 - 30 years	57.50% (46)
Women's age	30 - 40 years	41.25% (33)
	> 40 years	1.25% (1)
Breastfeeding style	Exclusive Breastfeeding	91.25% (73)
	Mixed Breastfeeding	8.75% (7)
	4 - 6 months	38.75% (31)
	7 - 9 months	21.25% (17)
Age of boys and girls*	10 -12 months	3.75% (3)
	They did not report the age	36.25% (29)

*Children of potential donor women who were being breastfed

Source: Own design

As of October 2020, 43 of the 80 women who registered in the group answered the questionnaire of the Human Milk Bank of the State of Guanajuato. 21 women were candidates for the process and, of these, 12 were eligible for donation after being evaluated by the Guanajuato State Milk Bank. The Bank's criteria for a woman to be suitable for donation are: 1) women must be in the first 24 months of lactation, 2) be healthy and have a healthy lifestyle, 3) not consume alcohol, nicotine derivatives and drugs, 4) present a surplus of human milk after feeding their own child, 5) be willing to undergo laboratory studies for disease detection (HIV, syphilis, hepatitis B and C), 6) have restricted use of medications or herbal supplements, 7) no history of tattooing, acupuncture, or body piercing in the last 12

months, 8) no blood transfusion, tissue or organ implants in the last 12 months.

The total volume of human milk donated by women belonging to the Fuente de Vida group was 21, 595 ml in the period from April to October 2020 (Table 5).

Table 5 Women who were donors and total volume of human milk donated at the end of the promotion campaign

Women who answered the Human Milk Bank questionnaire	43
Women who were candidates for donation	twenty-one
Women who were eligible for donation	12
Volume of donated human milk	21,596 ml

Source: Own design

Discussion

By way of conclusion, the research was able to respond to the proposed objective as follows: virtual support groups and the promotion of human milk donation in socio-digital networks show effectiveness based on the consolidation of support networks, reciprocity, personal significance, and the circulation of knowledge on human milk.

These types of strategies to promote breastfeeding and human milk donation through socio-digital networks have been tested in other international contexts. Thus, we affirm that the conclusions of this research reinforce the results obtained by other authors regarding the impact of social networks on so-called "community assets".9 The latter are defined as those collective resources that individuals and communities have at their disposal, which in turn allow them to have a better quality of life through mechanisms that promote social inclusion and improve the public health of citizens. Communityassetsincludeorganizations, associations and individuals.20

According to data from the Guanajuato State Milk Bank, 482,190 ml were received during the April - October 2020 period. 21,500 ml represent 4.45%

of the volume received during that period. The number of active donors during the same period was 41, of which 12 were referred by Fuente de Vida. This represents a percentage of 29.2%. For the scope of the research group, the amount of milk donated by mothers (21,596 ml) constitutes a small change in the percentage of the volume of milk donated in the state of Guanajuato (Mexico) since, according to the latest figures for the year 2022, the state milk bank pasteurized a total of 602, 445 ml, which would imply a participation of the group that accounts for 3.5% of the total milk donated in the whole state.

Although the figures are not so numerically significant, the implications of social participation, resource management and social synergy are substantive elements to consolidate public health strategies that promote actions such as human milk donation in countries like Mexico. It should be considered that the milk bank opened its doors on July 12, 2019, so the knowledge of the existence of the bank is limited and the culture of human milk donation is beginning to emerge in the region, both within the general population and among pregnant or breastfeeding women who could be potential donors. Before the campaign, there were no donors in the Fuente de Vida group.

The awareness campaign for human milk donation within the Fuente de Vida group was developed, considering the motivations to donate reported in the literature, but also including information about donation and the benefits for recipient children. The campaign was well received and had a reach of up to 1,910 people reached by a single publication. It is expected that this could have an impact on knowledge about donation. However, it is not possible to know if this will have a direct impact on the amount of milk donated. As occurred in a study where an educational strategy (video) was evaluated to increase organ donor registration, an increase in registration was reported in the group of those who had seen the video, compared to the control group, but it has not been evaluated whether this will have an impact on the number of organs available in the region. Thus, the strategy may be good to provide information about donation and increase the number of registrations, but follow-up is

needed to see if this translates into an increase in the number of organs available23.

A review that included studies involving webbased strategies or internet-related media reported that these campaigns can considerably increase the number of contacts with organ donation centers. However, as in the case described above, the real impact on the increase in organ availability that these contacts will have is not known24. One study reported that the main reasons for not donating breast milk were: a) lack of knowledge of the donation process in 36.8% of the women evaluated, and b) concern that donation would affect the availability of sufficient milk for their own children (40.4%)25. 4%)25. Both reasons can be addressed if mothers are adequately educated and informed about the donation processes, benefits and myths related to breast milk donation. These aspects have been addressed within the awareness campaign and it is necessary to continue with the educational work within the virtual group. Finally, future environments will be required to evaluate the impact on these aspects.

Similarly, through the narrative discourses of the participants, the presence of a perception of empowerment was corroborated. That is, through these sociodigital networks of donor mothers, the women observed how they received support while at the same time providing accompaniment to other women by sharing their experiences in the support group, a finding confirmed by another study.9

The social, cultural, and economic value of this socio-digital group or network is considered to lie directly in the consolidation of community assets.9 These types of resources and social arrangements are made by individuals in a community, as in the case of the women in the Facebook group. They occurthrough contact between donors, or by promoting the donation within their social and cultural fields. The mapping of community assets allows for the development of strategies and policies based on the capacities of communities.20

Regarding the willingness to donate during the COVID-19 pandemic, it is possible to affirm that this strategy of promotion by groups or sociodigital networks allowed for the preservation of

the safety schemes and perceptions of the donors, despite the health emergency. This data coincides with those obtained by St Croix,21,26 in which she suggests the need to structure strategies based on strengthening the ties of participants in breastfeeding promotion programs during confinement, and to innovate in community health education spaces.

Socio-digital groups or networks are a powerful tool for the promotion of breastfeeding. Theyhelp shape and consolidate public health and global health strategies such as community assets. This situation also allows for specific, innovative interventions on the important issues of breastfeeding and breast milk donation. This proves even more important in the face of an environmental catastrophe, a war, or a sanitary emergency.

Acknowledgements

To the virtual breastfeeding support group Fuente de Vida, to its organizing committee for the facilities to carry out the awareness campaign, and to the users for their participation.

To the Human Milk Bank of the State of Guanajuato (Mexico) for all its support and collaboration in carrying out this project.

References

- 1. Sámano R, Chico G, Armenteros T, Escamilla N, Piélago C, Aguilar J, et al. Barreras y facilitadores para la práctica de lactancia materna exclusiva en un grupo de madres de la ciudad de méxico. Arch latinoam nutr [Internet]. 2018;68(1):41–50. Available from: https://www.aeped.es/sites/default/files/documentos/recomendaciones_aep_sobre_alimentacio_n_complementaria_nov2018_v3_final.pdf
- 2. Instituto Nacional de Salud Pública y UNICEF México.. Encuesta Nacional de Niños, Niñas y Mujeres 2015. Encuesta de Indicadores Múltiples por Conglomerados 2015, Informe Final. 2016. Ciudad de México, México; nstituto Nacional de Salud Pública y UNICEF México.
- 3. Abramo, L.; Cecchini, S.; Ullmann, H. Enfrentar las desigualdades en salud en América Latina: el rol de la protección social. Ciência&SaúdeColetiva; 2020. 25(5) 1587-1598.

https://doi.org/10.1590/1413-81232020255.32802019

- 4. Singer M, Rylko-Bauer B. The Syndemics and Structural Violence of the COVID Pandemic: Anthropological Insights on a Crisis. *Open AnthropologicalResearch*. 2021;1(1): 7-32.https://doi.org/10.1515/opan-2020-0100
- 5. Ávila-Ortiz, M.N.; Castro-Sánchez, E.A.; Martínez-González, E.A.; Núñez-Rocha, G.M.; Zambrano-Moreno, A. Factors associated with abandoning exclusive breastfeeding in Mexican mothers at two private hospitals. International BreastfeedingJournal. 2020: 15(1).
- 6. Regan, S., Brown, A. Experiences of online breastfeeding support: Support and reassurance versus judgement and misinformation. Maternal &childnutrition. 2019;15(4): e12874.
- 7. Perrin, M. A Mixed-Methods Observational Study of Human Milk Sharing Communities on Facebook. *Breastfeeding Medicine*. 2019;9(3): 128-134.
- 8. Wagg, A., Hassett, A., Callanan, M. "It's more than milk, it's mental health": a case of online human milk sharing. International BreastfeedingJournal. 2022; 17(5): 2-12.
- 9. Bridges, N., Howell, G., Schmied, V. Exploring breastfeeding support on social media. International BreastfeedingJournal. 2018; 13(22): 1-9.
- 10. Marcon, AR, Bieber, M, Azad, MB. Protecting, promoting, and supporting breastfeeding on Instagram. *MaternChildNutr*. 2019; 15:e12658.

https://doi.org/10.1111/mcn.12658

11. Ramadan, N., Bonmatí-Tomas, A., Juvinyà-Canal, D., Ghaddar, A. Online breast-feeding support groups as a community asset in Lebanon after Beirut explosion. Publichealthnutrition. 2022; 1–11. Advance online publication.

https://doi.org/10.1017/S1368980022000295

12. Robinson, A., Lauckner, C., Davis, M., Hall, J., & Anderson, A. K. (2019). Facebook support for breastfeeding mothers: A comparison to offline support and associations with breastfeeding outcomes. *Digital health*, 5, 2055207619853397.

https://doi.org/10.1177/2055207619853397

13. Flores, D. La búsqueda del cambio social en la era digital: Activismo y expresión pública en

- Internet. Anuario electrónico de estudios en comunicación social. 2017; 10(1): 125-138.
- 14. Flores-Márquez, D. En mi corazón caben dos países: activismo digital transnacional y subjetividad política en migrantes mexicanos. Comunicación y Sociedad. 2019; 1(21): e7260
- 15. Canals, L. El regreso de la reciprocidad. Grupos de ayuda mutua y asociaciones de personas afectadas en la crisis del Estado de Bienestar (tesis doctoral). Tarragona: Universitat Rovira i Virgili; 2003. Recuperado a partir de: https://www.tesisenred.net/handle/10803/8411#pa ge=1
- 16. Sánchez-Candamio M. Evaluación de programas de salud desde la perspectiva de la metodología cualitativa. Atencion primaria. 2019; 24(8), 487–491
- 17. Powell R, Davis M, Anderson AK. A qualitative look into mother's breastfeeding experiences. J Neonatal Nurs. 2014; 20(6):259–65
- 18. Doshmangir, L., Naghshi, M., Khabiri, R. Factors Influencing Donations to Human Milk Bank: A Systematic Review of Facilitators and Barriers. Breastfeeding Medicine. 2019; 14(5), 298–306.
- 19. Estevez de Alencar, L. C., SeidlFleury, E. M. F. Breast milk donation: women's. 2009; Rev SaúdePública, 43(1), 1–7.
- 20. Sierra Colomina, G., García Lara, N., EscuderVieco, D., Vázquez Román, S., Cabañes Alonso, E., &Pallás Alonso, C. R. Características de las mujeres donantes de un banco de leche materna y relación con el tiempo de donación. Anales de Pediatría. 2020; 80(4), 236–241.

- 21. Toro Huerta, C., Mendoza Vergara, D., Pérez Dávila, F., Silva Leal, F., Cofré Hidalgo, C. Características y motivaciones de las mujeres donantes del banco de leche en el Complejo Asistencial Dr. Sótero del Río. Revista Chilena de Nutrición. 2020; 47(1), 105–113.
- 22. Gobierno del Estado de Guanajuato, (2023). Banco de Leche Humana. (17 mayo 2023).https://boletines.guanajuato.gob.mx/tag/ban co-de-leche
- humana/#:~:text=Guanajuato%2C%20Guanajuato%2C%2017%20de%20mayo,beb%C3%A9s%20de%20todos%20sus%20municipios.
- 23. Thornton JD, Alejandro-Rodriguez M, León JB, Albert JM, Baldeon EL, De Jesus LM, et al. Effect of an iPod Video Intervention on Consent to Donate Organs: A Randomized Trial Analysis and interpretation of the data Collection and assembly of data: NIH Public Access. Ann Intern Med [Internet]. 2012;156(7):483–90. Available from:
- <u>www.acponline.org/authors/icmje/ConflictOfInter</u> estForms.do?
- 24. Barnieh L, Collister D, Manns B, Lam NN, Shojai S, Lorenzetti D, et al. Scoping review for strategies to increase living kidney donation. Clin J Am Soc Nephrol. 2017;12(9):1518–27.
- 25. Tian C, Li Y, Soowon L, Xu Y, Zhu Q, Zhao H. Lactating Women's Knowledge and Attitudes About Donor Human Milk in China. J Hum Lact. 2020;00(0):1–10.
- 26. St Croix, K. Supporting breastfeeding in rural Newfoundland and Labrador communities during COVID-19. Can J Public Health. 2021; 112(4): 595-598

