



Use of the Facebook™ social network in data collection and dissemination of evidence

Uso da rede social Facebook™ na coleta de dados e disseminação de evidências

Uso de la red social Facebook™ en la recolección de datos y diseminación de evidencias

Ana Cláudia Vieira¹

Denise Margaret Harrison²

Mariana Bueno³

Natalia Guimarães⁴

1. Universidade Federal de Pelotas. Pelotas, RS, Brasil.
2. University of Ottawa. Ottawa, Canadá.
3. Hospital for Sick Children. Toronto, Canadá.
4. Pontifícia Universidade Católica de Minas Gerais. Belo Horizonte, MG, Brasil.

ABSTRACT

Aim: The aim of this study was to evaluate the use of the Facebook™ platform as a means of disseminating a video in Portuguese demonstrating the use of three interventions of pain management (breastfeeding, skin-to-skin contact, and sweet solutions) during minor procedures, and to evaluate prior knowledge, the range, dissemination and intent to use the strategies in the future.

Method: This is a cross-sectional survey, which used the "virtual snowball" sampling method, aimed at parents and health professionals caring for neonates. The study was conducted in Brazil, through a Facebook™ page (<https://www.facebook.com/sejadocecomosbebes>), in which the video and a brief questionnaire were posted. **Results:** After three months the page reached 28,364 "views", in 45 municipalities across Brazil, 1531 people accessed the page, 709 responses to the questionnaires, 1126 "likes", and multiple positive comments. Almost all viewers (99.71%) answered they would use one of the pain reducing strategies.

Conclusion: Our results indicate that using Facebook™ to deliver and evaluate an intervention is feasible, rapid in obtaining responses at a low cost, and it is promising for data collection and knowledge dissemination.

Keywords: Pain management; newborn; social media; blood collection; knowledge.

RESUMO

Objetivo: Avaliar o uso do Facebook™, como plataforma de mídia social, para disseminar um vídeo em português, demonstrando as três intervenções de manejo da dor (amamentação, contato pele a pele e soluções adocicadas) durante procedimentos dolorosos menores, e avaliar conhecimento prévio, alcance, disseminação e intenção de uso das estratégias no futuro. **Método:** Estudo transversal do tipo *survey*, com método de amostragem virtual "snowball", direcionado a pais e profissionais de saúde, aplicado no Brasil, em uma página no Facebook™ na qual um vídeo associado a um breve questionário foi postado. **Resultados:** Três meses de coleta online mostraram alcance de 28.364 visualizações em 45 municípios brasileiros, acesso à página por parte de 1531 pessoas, 709 respostas ao questionário. 99,71% recomendariam o uso de uma das estratégias. **Conclusão:** A utilização do Facebook™ para apresentar e avaliar uma intervenção é viável, rápida na obtenção das respostas, de baixo custo e promissora para coleta de dados e disseminação do conhecimento.

Palavras-chave: Manejo da dor; Recém-Nascido; Coleta de Amostras Sanguíneas; Rede Social; Conhecimento.

RESUMEN

Objective: Evaluar el uso de la plataforma Facebook™ para diseminar un vídeo em português, demostrando las intervenciones de manejo del dolor neonatal (amamantamiento, contacto piel a piel y soluciones dulces) durante procedimientos dolorosos menores, y evaluar conocimiento previo, alcance, diseminación e intención de uso de las estrategias en el futuro. **Metodo:** El estudio transversal del tipo *survey*, con método de muestreo virtual "snowball", dirigido a padres y profesionales de salud, aplicado en Brasil, a través de una página creada en Facebook™, en la cual un vídeo fue publicado, asociado a un cuestionario corto. **Resultados:** Tres meses de recolección en línea mostraron un alcance de 28.364 visitas en 45 municipios del país, acceso a la página por parte de 1531 personas, 709 respuestas al cuestionario. El 99,71% respondieron que recomendarían el uso de una de las estrategias. **Conclusión:** La utilización de Facebook™ para presentar y evaluar una intervención es viable, rápida en la obtención de respuestas, de bajo costo y prometedora para la recolección de datos y la diseminación del conocimiento.

Palabras clave: Manejo del dolor; Recién nacido; Recolección de Muestras de Sangre; Red Social; Conocimiento.

Corresponding author:

Ana Cláudia Vieira.

E-mail: cadicha10@gmail.com

Submitted on 12/15/2017.

Accepted on 05/08/2018.

DOI: 10.1590/2177-9465-EAN-2017-0376

INTRODUCTION

In Brazil, all newborns (NB) are submitted to blood collection procedures for screening and immunizations in their first hours or days of life as part of the care recommended by the Public Health Programs and Policies of the Ministry of Health, which are meant for disease prevention and promoting the healthy growth and development of this population.¹

In cases of prematurity or worsening of clinical conditions, there is a considerable increase in the number of procedures performed in the neonatal period, which causes pain and stress.²

Experiencing pain that is repeated yet untreated in the neonatal period can trigger deleterious effects on the central nervous system and increase the risk of unfavorable neurological outcomes, including impairment of cognitive, motor and behavioral functions, especially in preterm infants.³

In this scenario, implementing strategies for pain relief and prevention is essential. There are three ways that are considered effective, simple, feasible and inexpensive to reduce pain during minor painful but necessary procedures in newborns: breastfeeding,⁴ skin-to-skin contact,⁵ also known as kangaroo care, and use of sweetened solutions, specifically sucrose⁶ and glucose.⁷

This systematic review of the effects of breastfeeding or breast milk for neonatal pain relief included 20 studies, 10 of which investigated breastfeeding.⁵ Its analgesic mechanism is considered to be multifactorial and it includes the effects of skin-to-skin contact, a suction mechanism combined with the slightly sweet, pleasant taste of milk, and possibly the presence of several endorphins in breast milk.

Regarding skin-to-skin contact, a recent systematic review⁵ which included 25 studies showed that this intervention reduces the behavioral and physiological responses resulting from pain in pre-term and full-term neonates submitted to heel lancing, venipuncture and intramuscular lancing in comparison to those neonates who received no treatment.

With regard to the use of sweetened solutions, it is a more widely researched strategy for neonatal pain relief⁸ and the results of systematic reviews on sucrose⁶ and glucose,⁷ which included 74 and 38 studies respectively, support their use as safe and effective interventions.

However, despite the exponential increase of scientific evidence about the particularities of neonatal pain and its potentially deleterious events, and about strategies proven effective in the control of pain, there is consensus in the literature about the insufficient or inadequate management of pain in NB.^{2,9,10}

Thus, it is necessary to use strategies of knowledge translation in order to guide the implementation of scientific evidence in scenarios of clinical practice.^{11,12}

From this perspective, the recent phenomenon of using social media as a strategy for translation and dissemination of knowledge^{13,14} has become the focus of researchers' attention in a distinct contemporary context of broad internet use and access to social networks, with the aim of verifying the potential

and the impact of these interventions on virtual consumers of information about health.^{15,16}

In this sense, developing and evaluating new strategies for translating knowledge to reduce the gaps between evidence of the best practices in health care and their implementation in the clinical context is relevant and ethical, and at the same time, doing so through social media platforms with the use of educational messages seems to have a promising potential for dissemination, especially on the Facebook™ platform, which is considered the most popular one in the world, when compared to others such as Instagram, Twitter, LinkedIn, etc.¹⁷

Thus, the video called *Be Sweet to Babies* (<https://youtube/L43y0H6XEh4>) which was created and has been available on YouTube since 2014, having been updated in 2016 and aligned with the Baby Friendly Hospital Initiative, is considered to be a knowledge translation strategy meant for parents and health professionals. The video presents the three strategies that have previously been described, which are breastfeeding, skin-to-skin contact, and sweetened solutions, as methods of neonatal pain control. This resource has been culturally adapted and translated into several languages, one of which is Portuguese (<https://youtube/ZGLSNdYtppo>).

The video was produced in the audiovisual department of Children's Hospital of Eastern Ontario (CHEO) in Ottawa, Canada in collaboration with parents of newborns, clinicians, and the research team of one of the authors. The Portuguese language version lasts 6 minutes and 8 seconds (6:08) and presents a sequence of three scenarios, describing the interventions in clear and friendly language, informing parents how they can help while performing painful procedures. One scene shows a mother breastfeeding, another holding her baby in skin-to-skin contact during heel lancing, and a neonate receiving sucrose and non-nutritional suction while undergoing a venipuncture, showing the analgesic effects of each strategy.

However, it is also necessary to evaluate the reach and impact of the video, using social media platforms as a method of disseminating knowledge.

Therefore, this study aimed to evaluate the use of Facebook™ as a social media platform, to disseminate a video in Portuguese, demonstrating the three pain management interventions during minor painful procedures, and to evaluate prior knowledge, scope, dissemination and intentions of using the strategies in the future.

METHOD

This is a cross-sectional study of the survey type, with data collection carried out over three months, using the Facebook™ social media as a data collection tool through the virtual snowball sampling method, in which each member of the social network establishes connections with other contacts in their network and disseminates invitations.^{18,19}

The use of the virtual sampling method known as the "snowball" was observed and monitored through the evolution of a daily increase in the number of respondents, which was

likewise verified in other studies that have been developed, and the efficacy of this method in online data acquisition associated with Facebook™ was shown, when compared to the traditional technique that foregoes using the internet.¹⁸

The ease of using this method for data collection in a digital age can be attributed to or possibly related to two factors in this study: 1) the attractive, flexible mode and ease of access and response through smartphones (82%) as compared to computers and laptops (15%) and tablets (3%), and 2) the availability of a "user-friendly product" or strategy in the form of a video, allowing the rapid dissemination among the virtual network of contacts.

Initially, a Facebook page with the title "Be Sweet to Babies" was created. This media was chosen because it is one of the most popular and widespread social networks in the world and in Brazil,¹⁷ the possibility of wide reach due to the number of connections established among the people who use it, and because it is a method that is easy to use at a low cost and with rapid dissemination.

The video was inserted on the page, and it was decided to prevent the user from being redirected to YouTube, in order to encourage respondents to stay on the page. At the end of the video, a questionnaire was developed and validated for the Portuguese language, based on previous studies,^{20,21} in which the questions were related to the respondents' profile, their prior knowledge of the video (yes/no), strategies for breastfeeding, skin-to-skin contact and using sweetened solutions for the relief of neonatal pain ("did you know ..."), the intention to use or encourage the use of these strategies for analgesia (yes/no), as well as questions related to the acceptability and utility of video (is it useful, yes/no).

Before the page was published on Facebook™, a pilot test was carried out with 25 individuals (parents, researchers and clinical professionals who had Portuguese as their native language) to evaluate ease of access to the page and the clarity of the instrument that had been validated and adjusted in the process of data collection.

After the pilot test, the page was published. Invitations to colleagues and researchers in the field of neonatology in several Brazilian states were sent via e-mail, as well as invitations through Facebook™ personal pages of the team of Brazilian researchers.

Associated to this, they were published in a popular newspaper in Pelotas, RS, and in the official web page of the Federal University of Pelotas (<http://portal.ufpel.edu.br/>). In addition, non-governmental organizations such as the Brazilian Association of Parents of Premature Babies (Prematuridade.com), specialized pages and discussion group of neonatal professionals in Brazil, on Facebook™ also contributed, answered and disseminated the study.

The data were collected between September 26 and December 26, 2016, using an online form developed in the platform called Typeform. In addition to the data entered in the questionnaire by the users, the number and geographical location of page views, "likes" and comments were monitored daily. The data were stored in a Windows 2007 Excel spreadsheet and they

were protected by access passwords. Descriptive data analysis was performed in version 18.0 SPSS software (SPSS Inc., USA). The comparison of the responses before and after watching the video was made using McNemar's test, which is appropriate for the comparison of two correlated samples or evaluating effects in the same sample before and after the test.

The study was approved by the Ethics Committee of the Children's Hospital of Eastern Ontario (CHEO) Research Institute, to which one of the researchers is affiliated, with the opinion number (REB protocol 14/108X).

RESULTS

Results showed a range of 28,364 views, with a total of 709 responses to the questionnaire by the 1531 people who actually accessed the page, the average time to respond was 3 minutes, 35 seconds, and the majority of participants (82%) used smartphones to access the page and answer the questionnaire.

On the page that was created, the video received 1126 "likes" and comments with positive messages, such as: "Great video ... very educational and really ... dealing with babies requires a lot of patience and dedication", "Very good! The simple methods make a difference. Congratulations." There were 35 evaluations in which scores between 1 and 5 can be attributed by users, of which 34 were with scores 5 and 1 with a score of 4.

According to Table 1, it was observed that most of the respondents were health care professionals (63.9%).

Table 1. Description of the typology and the locations of the participants of the present study.

Variables evaluated	N	%
Typology#		
Health Care Professionals	453	63.9
Parents or guardians	191	26.9
Researchers	22	3.1
Others	43	6.1
Location or region*		
Rio Grande do Sul	547	72.6
Paraná	44	5.8
São Paulo	32	4.2
Bahia	28	3.7
Minas Gerais	24	3.2
Rio de Janeiro	21	2.8
Santa Catarina	12	1.6
Acre	10	1.3
Other regions	27	3.6
Other countries	8	1.1

Data expressed in absolute and relative frequency; #Refers to a total of 709 subjects; * Refers to a total of 753 responses.

Regarding the location and origin of the responses, the page was accessed in 45 municipalities in Brazil and by Brazilians living in eight other countries, with a predominance of participants from the state of Rio Grande do Sul (72.6%).

Table 2 presents the results of the answers related to previous knowledge about the three interventions to reduce pain, comparing the subjects before and after watching the video.

After watching the video, there was a statistically significant increase in the responses of parents and health professionals regarding the use of pain reduction strategies, according to the value of $p < 0.001$.

Most participants are aware of the use of the three interventions for pain reduction in newborns, and as regards the intention to use or recommend the three interventions for them, there is no statistically significant difference.

Regarding the opinion about the duration of the video, 86.17% (611/709) considered it to be ideal, 13.25% (94/709) thought it was very long and 0.56% (4/709) found it to be very short.

Regarding the usefulness of the video, 98.58% (699/709) considered it useful, 1.41% (10/709) did not, 99.43% (705/709) agreed that it is easy to understand and 97.32% (690/709) said it is easy to apply in real-life situations.

DISCUSSION

After three months, the video posted on the Facebook™ social media platform allowed a fast and growing reach of the interest group in a short period of time, reaching several municipalities in different states of Brazil, at a low cost when compared to other studies that involve applying questionnaires in person, all of which shows the potential of geographical coverage of this media tool both in the collection of data in research and also in the dissemination of the message contained in the video.¹⁹

In this study, the conceptual Knowledge to Action Cycle¹² was used to guide the dissemination of the best available evidence (systematic reviews) related to the management of neonatal pain through the video "product", the result of the knowledge synthesis, highlighting the potential of Facebook™ as a strategy for translating and disseminating knowledge in the educational intervention of a topic of scientific interest, observed by the quantitative visualizations in a relatively short period of time, similar to the results obtained in study developed on the YouTube platform.^{21,22}

With regard to the access to the page/respondents (1531/709), a satisfactory percentage (46.3%) of the response rate can be considered, suggesting that this social media platform is suitable for online data collection.

The high percentage of intention-to-use and recommendation of the interventions after watching the video (skin-to-skin contact 87.9%, breastfeeding 86.9% and sweetened solutions 67.8%) proved to be promising in the adherence of parents and health professionals to use of pain control strategies, similar to the percentages found in previously developed studies with the same approach and directed at parents and health professionals,^{21,22} although the data in this study is insufficient to evaluate and measure the impact of these interventions in the medium and long-term in neonatal care settings.

It is known that there are readily available guidelines, but they are not entirely reliable and can cause harm when misinterpreted or adopted in inappropriate situations, especially in cases of parents who are jeopardized when faced with periods that involve a high level of stress such as seeing their children undergo painful procedures without the possibility of participating in comfort and pain relief because they feel unprepared, and conflicting issues were also found in the study by Orr et al.²³

In this sense, it seems that this virtual model of obtaining health information implies using media for the support of

Table 2. Comparison of the responses obtained before and after the informative video about the use of one of the three pain control strategies.

Variables evaluated	Before the video† (n = 709)	After the video* (n = 709)	p
Breastfeeding, n (%)			
Yes	525 (74.0)	616 (86.9)	< 0.001
No	184 (26.0)	93 (13.1)	
Skin-to-skin contact, n (%)			
Yes	513 (72.4)	623 (87.9)	< 0.001
No	196 (27.6)	86 (12.1)	
Sucrose, n (%)			
Yes	434 (61.2)	481 (67.8)	< 0.001
No	275 (38.8)	228 (32.2)	

Data presented in absolute and relative frequency; p-value refers to the McNemar Test; † Before watching the video, did you know that breastfeeding, skin-to-skin contact, and sucrose reduce pain during baby procedures; * After watching the video, do you intend to use or encourage the use of one of three pain management strategies.

stakeholders, which can be done by researchers and professionals with expertise in the given field regarding the knowledge of consistent evidence and the sharing of decisions, coming from choices that contemplate preferences, beliefs, values, social context and available resources.^{13-15,23-27}

The current tendency of people to seek health care information quickly on the internet involves issues that are crucial in the decision-making of patients, family members, and health care professionals,^{15,16} which in this study reinforces the need to support the parents of newborns with the aim that they can advocate for better practices of pain reduction along with health professionals, and which has also been described in studies that have evaluated the use of YouTube and smartphones.²¹⁻²³

All of this can be translated as a challenge to change attitudes and ways of thinking and promoting health, specifically in this study, concerning parents of newborns, who are seen as participants in health care that are engaged in a less "prescriptive and paternalistic" model with greater possibility of empowerment in what concerns the appropriation of validated knowledge to participate in the management of their children's pain,²⁵ which is not yet usual in Brazil, with few studies that have explored parental involvement in pain management.

The connectivity of Internet users in a network system imposes the judicious use of information, which is not always revealed as knowledge of good quality of evidence or knowledge that can be applied in clinical practice.^{15,24} At the same time, it allows rapid, efficient dissemination of people's needs and information that can increase the impact of health demands on vulnerable populations with difficult access to centers of greater resources or in critical situations.¹⁵

This is a discussion that recognizes the online or virtual character that is present in the real world of countless people, regardless of geographical, cultural, religious, social, economic and educational boundaries. The important role of the Internet as an opportunity for instant communication and the use of effective interventions in promoting children's health are undeniable, although some critics see this only through a negative perspective or inappropriate use.

In the case of parents who experience the stress of having a newborn exposed to invasive and painful procedures, social networks have been used to obtain information and exchange experiences with other parents and health professionals, as shown in recent studies that addressed these issues.²¹⁻²⁴ Therefore, it is emphasized that there is a need for health professionals to understand the participation of parents and family members as being fundamental in reducing pain, providing comfort and promoting self-confidence to deal with stressful situations involving, for example, collecting blood for screening or immunization tests.^{25,27}

Implications and Limitations of the Study

This study about the range, acceptability and effect of a video presenting effective strategies in pain management in neonates showed a wide range and reasonable response rate (46.3%) of those who actually accessed the page.

In the present study, the use of Facebook™ social media has shown to be plausible for disseminating evidence and good health care practices in the management of neonatal pain, reiterating the need for researchers to appropriate new strategies that are different from the traditional way of presenting research results. Obviously, these new strategies do not exclude the others, but together they can probably reach the attention of parents and health professionals, seen as an audience or stakeholders, which perhaps represents in a broad sense the possibility of reducing disparities of the health care system and exposure to unnecessary, iatrogenic risks.

The predominance of responses from the subjects who identified themselves as health care professionals proved to be a response bias in this segment since the video that was produced was intended for the parents of newborns, with the intention of informing them about how to prevent and reduce pain in minor procedures, a similar finding encountered in a previous study that evaluated the dissemination of evidence on YouTube.²²

Although there is a high percentage of respondents (99.71%) stating the intention to use the strategies that were shown, the study does not measure the potential for their implementation and results of their impact on adoption of recommendations for pain reduction in neonates.

CONCLUSIONS

The use of Facebook™ to present and evaluate an intervention can be considered viable, quick to obtain responses, inexpensive, and promising for collecting data and disseminating knowledge.

In addition to this, this study can be seen as a basis for developing future studies that intend to address similar issues related to the use of social media platforms as tools or strategies which media are used by researchers and health care professionals in order to bring them closer to users of knowledge. It represents a spectrum of possibilities in real time, using low-cost technology with the potential to demystify the appropriation of this virtual social network of contacts among health care professionals and researchers, increasing their connection to users.

It is necessary to provide training and education to health care professionals and researchers for their basic training, so that they feel comfortable and secure in this process of media usage, which also implies the evaluation of the effectiveness and cost-benefit ratio of the use of these medium- and long-term media and the impact on health improvement outcomes, or in this study, specific issues such as pain management in newborns.

It refers back to the reflection and flexibilization of more conservative or orthodox positions taken by researchers and health care professionals in order to evaluate the best available information for a given situation with the users or consumers of health care on the Internet, with a viewpoint for reducing common inequities in countries of great territorial extension and regional, economic and cultural differences that hinder access to quality information.

Furthermore, the "Be Sweet to Babies" video also stands out as a promising educational approach by being a knowledge translation strategy which is easy to understand and assimilate so as to disseminate evidence about pain reduction in the different scenarios and levels of attention and complexity of neonatal care.

FINANCING

CAPES. Project: Utilization of evidence on improving acute pain management practices in Neonatal Units in the southern region of Brazil. Process: 99999.007463/2015-04 Program: 227 Post-doctoral research abroad.

ACKNOWLEDGEMENT

To Dr. Denise Gastaldo for the support of the postdoctoral route, and also to Jéssica da Costa Jaks for the support in finalizing this manuscript.

REFERENCES

1. Ministério da Saúde (BR). Portaria Nº 2.829, de 14 de dezembro de 2012. Inclui a Fase IV no Programa Nacional de Triagem Neonatal (PNTN), instituído pela Portaria nº 822/GM/MS, de 6 de junho de 2001. Brasília (DF): Ministério da Saúde; 2012.
2. Cruz MD, Fernandes AM, Oliveira CR. Epidemiology of painful procedures performed in neonates: A systematic review of observational studies. *Eur J Pain* [Internet]. 2016 Apr; 20(4):489-98. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Epidemiology+of+painful+procedures+performed+in+neonates%3A+A+systematic+review+of+observational+studies>. DOI: 10.1002/ejp.757. Epub 2015 Jul 29
3. Valeri BO, Holsti L, Linhares MB. Neonatal pain and developmental outcomes in children born preterm: a systematic review. *Clin J Pain* [Internet]. 2015 Apr; 31(4):355-62. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=+Neonatal+Pain+and+Developmental+Outcomes+in+Children+Born+Preterm%3A+A+Systematic+Review.+Clin+J+Pain.+2015%3B31\(4\)%3A355-62](https://www.ncbi.nlm.nih.gov/pubmed/?term=+Neonatal+Pain+and+Developmental+Outcomes+in+Children+Born+Preterm%3A+A+Systematic+Review.+Clin+J+Pain.+2015%3B31(4)%3A355-62). DOI: 10.1097/AJP.0000000000000114
4. Shah PS, Herbozo C, Aliwalas LI, Shah VS. Breastfeeding or breast milk for procedural pain in neonates. *Cochrane Database Syst Rev* [Internet]. 2012 Dec; 12:CD004950. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23235618>. DOI: 10.1002/14651858.CD004950.pub3
5. Johnston C, Campbell-Yeo M, Disher T, Benoit B, Fernandes A, Streiner D, et al. Skin-to-skin care for procedural pain in neonates. *Cochrane Database Syst Rev* [Internet]. 2017 Feb; 2:CD008435. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/28205208>. DOI: 10.1002/14651858.CD008435.pub3
6. Stevens B, Yamada J, Ohlsson A, Haliburton S, Shorkey A. Sucrose for analgesia in newborn infants undergoing painful procedures. *Cochrane Database Syst Rev* [Internet]. 2016 Jul; 7:CD001069. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27420164>. DOI: 10.1002/14651858.CD001069.pub5
7. Bueno M, Yamada J, Harrison D, Khan S, Ohlsson A, Adams-Webber T, et al. A systematic review and meta-analyses of nonsucrose sweet solutions for pain relief in neonates. *Pain Res Manag* [Internet]. 2013 May/June; 18(3):153-61. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=A+systematic+review+and+meta-analyses+of+nonsucrose+sweet+solutions+for+pain+relief+in+neonates.+Pain+Res+Manag+and+Management+2013%3B18\(3\)%3A153-61](https://www.ncbi.nlm.nih.gov/pubmed/?term=A+systematic+review+and+meta-analyses+of+nonsucrose+sweet+solutions+for+pain+relief+in+neonates.+Pain+Res+Manag+and+Management+2013%3B18(3)%3A153-61)
8. Harrison D, Bueno M, Yamada J, Adams-Webber T, Stevens B. Analgesic effects of sweet tasting solutions in infants: current state of equipoise. *Pediatrics* [Internet]. 2010 Nov; 126(5):894-902. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Analgesic+effects+of+sweet+tasting+solutions+in+infants%3A+Current+State+of+equipoise>. DOI: 10.1542/peds.2010-1593
9. Harrison D, Bueno M, Reszel J. Prevention and management of pain and stress in the neonate. *Res Rep Neonatol* [Internet]. 2015 Jan; 2015(5):9-16. Available from: <https://www.dovepress.com/prevention-and-management-of-pain-and-stress-in-the-neonate-peer-reviewed-article-RRN>
10. Harrison D, Sampson M, Reszel J, Abdulla K, Barrowman N, Cumber J, et al. Too many crying babies: a systematic review of pain management practices during immunizations on You Tube. *BMC Pediatr* [Internet]. 2014 May; 14:134. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Too+many+crying+babies%3A+a+systematic+review+of+pain+management+practices+during+immunizations+on+You+Tube.+BMC+Pediatr+2014%3B14%3A134>. DOI: 10.1186/1471-2431-14-134 PMID: 24885559
11. Straus SE, Tetroe J, Graham ID. Knowledge translation: What it is and what it isn't? In: Straus SE, Tetroe J, Graham ID, eds. *Knowledge Translation in Health Care Moving from Evidence to practice*. 2nd ed. New York: Wiley Blackwell; 2015.
12. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? *J Contin Educ Health Prof* [Internet]. 2006; 26(1):13-24. Available from: [https://www.ncbi.nlm.nih.gov/pubmed/?term=Lost+in+knowledge+translation%3A+time+for+a+map%3F+J+Contin+Ed+Health+Prof+2006%3B26\(1\)%3A13-24](https://www.ncbi.nlm.nih.gov/pubmed/?term=Lost+in+knowledge+translation%3A+time+for+a+map%3F+J+Contin+Ed+Health+Prof+2006%3B26(1)%3A13-24)
13. Farkas C, Solodiuk L, Taddio A, Franck L, Berberich FR, LoChiatto J, et al. Publicly available online educational videos regarding pediatric needle pain: a scoping review. *Clin J Pain* [Internet]. 2015 Jun; 31(6):591-8. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Publicly+Available+Online+Educational+V%3C%ADdeos+Regarding+Pediatric+Needle+Pain%3A+A+Scoping+Review>. DOI: 10.1097/AJP.0000000000000197
14. Maloney S, Tunnecliff J, Morgan P, Gaida JE, Clearihan L, Sadasivan S, et al. Translating Evidence Into Practice via social Media: A Mixed-Methods Study. *J Med Internet Res* [Internet]. 2015 Oct; 17(10):e242. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/26503129>. DOI: 10.2196/jmir.4763
15. Hordern A, Georgiou A, Whetton S, Prgomet M. Consumer e-health: an overview of research evidence and implications for future policy. *Health Inf Manag* [Internet]. 2011; 40(2):6-14. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Consumer+e-health%3A+an+overview+of+research+evidence+and+implications+for+future+policy>
16. Sampson M, Cumber J, Li C, Pound CM, Fuller A, Harrison D. A systematic review of methods for studying consumer health YouTube videos, with implications for systematic reviews. *Peer J* [Internet]. 2013 Sep; 1:e147. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=A+systematic+review+of+methods+for+studying+consumer+health+YouTube+videos%2C+with+implications+for+systematic+reviews.+Peer+J+2013+1%3Ae147>. DOI: 10.7717/peerj.147
17. Duggan M, Ellison NB, Lampe C, Lenhart A, Madden M. *Social Media Update 2014* [Internet]. 2015 Jan; Washington: Pew Research Center. Available from: <http://www.pewinternet.org/2015/01/09/social-media-update-2014/>
18. Baltar F, Brunet I. Social research 2.0: virtual snowball sampling method using Facebook. *Int Res* [Internet]. 2012 Feb; 22(1):57-74. Available from: <https://www.emeraldinsight.com/doi/abs/10.1108/10662241211199960>
19. Brickman Bhutta C. Not by the Book: Facebook as a Sampling Frame. *Sociol Meth Res* [Internet]. 2012; 41(1):57-88. Available from: <http://journals.sagepub.com/doi/abs/10.1177/0049124112440795?journalCode=smra>

20. Larocque C, Harrison D, Reszel J. Be sweet to babies: Pilot evaluation of a brief parent-targeted video to improve pain management practices. Abstract in Canadian National Perinatal Research Meeting, Ottawa, Canada. Available from: <https://www.ruor.uottawa.ca/handle/10393/32902>
21. Harrison D, Wilding J, Bowman A, Fuller A, Nicholls SG, Pound CM, et al. Using YouTube to Disseminate Effective Vaccination Pain Treatment for Babies. *PLoS One* [Internet]. 2016 Oct; 11(10):e0164123. DOI: 10.1371/journal.pone.0164123
22. Harrison D, Reszel J, Dagg B, Aubertin C, Bueno M, Dunn S, et al. Pain Management During Newborn Screening: Using YouTube to Disseminate Effective Pain Management Strategies. *J Perinat Neonatal Nurs* [Internet]. 2017 Apr/Jun; 31(2):172-7. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Pain+Management+during+newborn+screening+-+Using+YouTube+to+disseminate+effective+pain+management+strategies>. DOI: 10.1097/JPN.0000000000000255
23. Orr T, Campell-Yeo M, Benoit B, Hewitt B, Stinson J, McGrath P. Smartphone and Internet preferences of Parents: Information Needs and Desired Involvement in Infant Care and Pain Management in the NICU. *Adv Neonatal Care* [Internet]. 2017 Apr; 17(2):131-8. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Smartphone+and+Internet+preferences+of+Parents%3A+Information+Needs+and+Desire+d+Involvement+in+Infant+Care+and+Pain+Management+in+the+NICU>. DOI: 10.1097/ANC.0000000000000349
24. Bueno M, Nishi ET, Costa T, Freire LM, Harrison D. Blood Sampling in Newborns: A Systematic Review of YouTube Videos. *J Perinat Neonatal Nurs* [Internet]. 2017 Apr/Jun; 31(2):160-4. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Blood+Sampling+in+Newborns%3A+A+Systematic+Review+of+YouTube+Videos>. DOI: 10.1097/JPN.0000000000000255
25. Franck LS, Oulton K, Bruce E. Parental involvement in Neonatal Pain Management: an empirical and conceptual update. *J Nurs Scholarsh* [Internet]. 2012 Mar; 44(1):45-54. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Parental+involvement+in+Neonatal+Pain+Management%3A+An+Empirical+and+Conceptual+Update>
26. Bueno M, Costa RN, de Camargo PP, Costa TE, Harrison D. Evaluation of a parent-targeted video in Portuguese to improvise pain management practices in neonates. *J Clin Nurs* [Internet]. 2018 Mar; 27(5-6):1153-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Evaluation+of+a+parent-targeted+video+in+Portuguese+to+improvise+pain+management+practices+in+neonates>. DOI: 10.1111/jocn.14147.
27. Harrison D, Larocque C, Reszel J, Harrold J, Aubertin C. Be Sweet to Babies During Painful Procedures: A Pilot Evaluation of a Parent-Targeted Video. *Adv Neonatal Care* [Internet]. 2017 Oct; 17(5):372-80. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Be+Sweet+to+Babies+During+Painful+Procedures>