

# Be Sweet to Babies during immunizations: Showing the evidence

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## Introduction

- Early childhood immunizations, although vital for preventative health, are painful, cause distress and can result in fear of future injections and other medical care.
- High quality and synthesized evidence on the use of **breastfeeding**<sup>1-3</sup>, **sucrose**<sup>3-5</sup>, and **upright front-to-front holding**<sup>2</sup> has been established as effective pain treatment strategies during immunizations, and recommended in national guidelines, yet uptake in clinical practice remains suboptimal.

Aim: to address the **knowledge to action gap** by producing a combined parent and health care provider-targeted video to widely disseminate knowledge about the use of breastfeeding and sucrose to reduce pain and distress during infant immunizations.

## Methodology

- This knowledge translation project is informed by the **Canadian Institute of Health Research (CIHR) Knowledge to Action framework**<sup>6</sup>. The development of the video in partnership with consumers (families of young children), researchers and healthcare providers addresses the "Knowledge creation" step of the framework, specifically, the "Knowledge/Tools" component (figure 1).
- Our knowledge translation tool (i.e. the video) is informed by the evidence of analgesic effects of breastfeeding and sucrose for pain reduction during infant immunizations. The video will clearly illustrate the effectiveness of these strategies, and show the ease of the technique for immunizers.
- Development of the video will involve:
  1. Collaboration with an interprofessional team to develop the video script and storyboard
  2. Recruitment of families of infants to be featured in the video
  3. Filming of families and infants during immunization in primary health care setting.

The video will be produced using two cameras to offer two views in a split screen format (figure 2):

- One view will focus on the infant and administration of the pain intervention (i.e. the breastfeeding or sucrose)
- The second view will focus on administration of the injection to ensure that best practices are being promoted by HCP viewers

The use of voice-overs that will describe the pain management in a user friendly language will ensure that parents are given sufficient information to advocate for, and use the demonstrated pain management strategies.

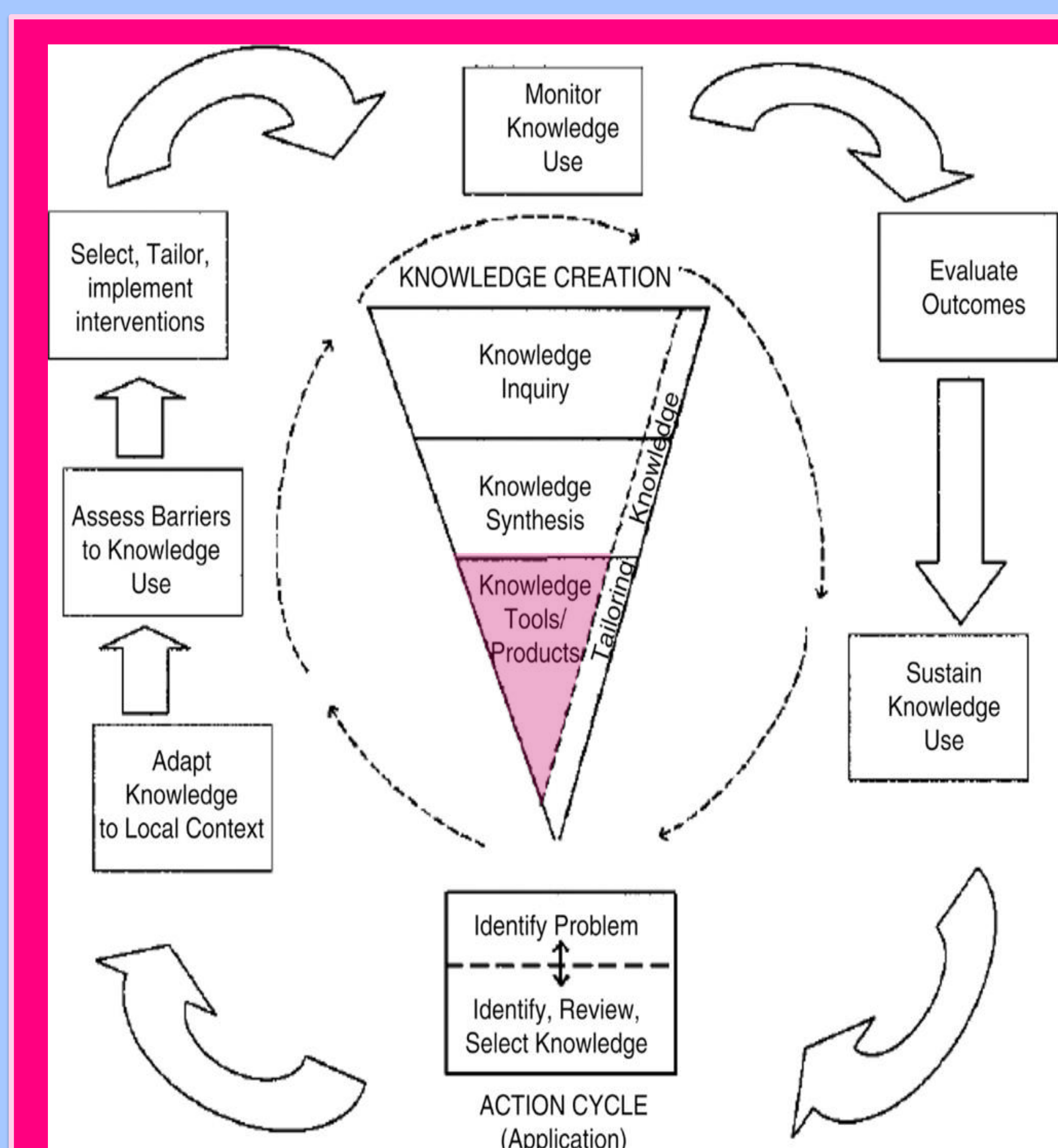


Figure 1: CIHR Knowledge to Action Framework

## Results

- The video script has been developed and reviewed by an interdisciplinary team and parents to ensure the content is relevant and understandable (figure 3).
- To date, two mother-infant dyads have been filmed breastfeeding before, during and after the 2-month immunizations in a primary health care setting. Recruitment and filming processes are proceeding well and further families are being recruited.

"When babies have their vaccinations, there are things we can do to reduce their pain and distress during their injections. Research shows that breastfeeding can provide much more than nourishment to babies, it also helps reduce their pain and distress from injections.

As you can see in this video, the doctor or nurse gives the injections while the baby is breastfeeding.

In order for breastfeeding to have a maximum effect it should be started before the injections, long enough for your baby to be attached and sucking well.

As a mother, you can help by holding and breastfeeding your baby while the injections are being given. Ask your nurses or doctors about breastfeeding during vaccinations or other needles as well as other ways we can help babies during painful procedures.

Figure 3: Script for Breastfeeding Video

## Conclusion

Once complete, the video will be disseminated to health consumers and health care provider audiences by promoting it through:

- Press releases and media interviews
- Social media (YouTube, Facebook, Twitter)
- Email campaigns
- Search engine optimization
- Guest blogs
- Immunization fact sheets
- Parent programs

We anticipate this project will reduce infants' pain and distress during immunizations by:

- Giving parents sufficient information to advocate for, and use breastfeeding and sucrose during infant immunizations
- Demonstrating the recommended injection technique for health care providers



Figure 2: Split screen format showing the infant and technique

## References

1. Shah PS, et al. Breastfeeding or breast milk for procedural pain in neonates. *Cochrane Database Syst Rev.* 2012;(Issue 12. Art. No.: CD004950. DOI: 10.1002/14651858.CD004950.pub3). doi:10.1002/14651858.CD004950.pub3.
2. Taddio A, et al. Reducing the pain of childhood vaccination: an evidence-based clinical practice guideline. *C Can Med Assoc J.* 2010;182(18):E843-E855. <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=medl&AN=21098062>.
3. Shah V, et al. Effectiveness and tolerability of pharmacologic and combined interventions for reducing injection pain during routine childhood immunizations: Systematic review and meta-analyses. *Clin Ther.* 2009;31(SUPPL. 2):S104-S151.
4. Harrison D, et al. Efficacy of sweet solutions for analgesia in infants between 1 and 12 months of age: a systematic review. *Arch Dis Child.* 2010;95(6):406-413. doi:10.1136/adc.2009.174227.
5. Kassab M, et al. Sweet-tasting solutions for needle-related procedural pain in infants one month to one year of age. *Cochrane Database Syst Rev.* 2012;(Issue 3 Art. No.: CD008411. DOI: 10.1002/14651858.CD008411).
6. Graham ID, et al. Lost in Knowledge Translation: Time For A Map? *J Contin Educ Health Prof* 2006; 26(1): 13.

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