

# Does a YouTube video improve pain management for babies during immunization?

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## Introduction

Childhood immunization is crucial for optimal health; however, it can be a distressing experience for both the child and the caregivers. There is extensive evidence from randomized controlled trials and systematic reviews demonstrating pain reducing effects of **breastfeeding, sucrose, and front-to-front holding** for infants during immunization. Despite this evidence, studies show they are not being used consistently in clinical practice.

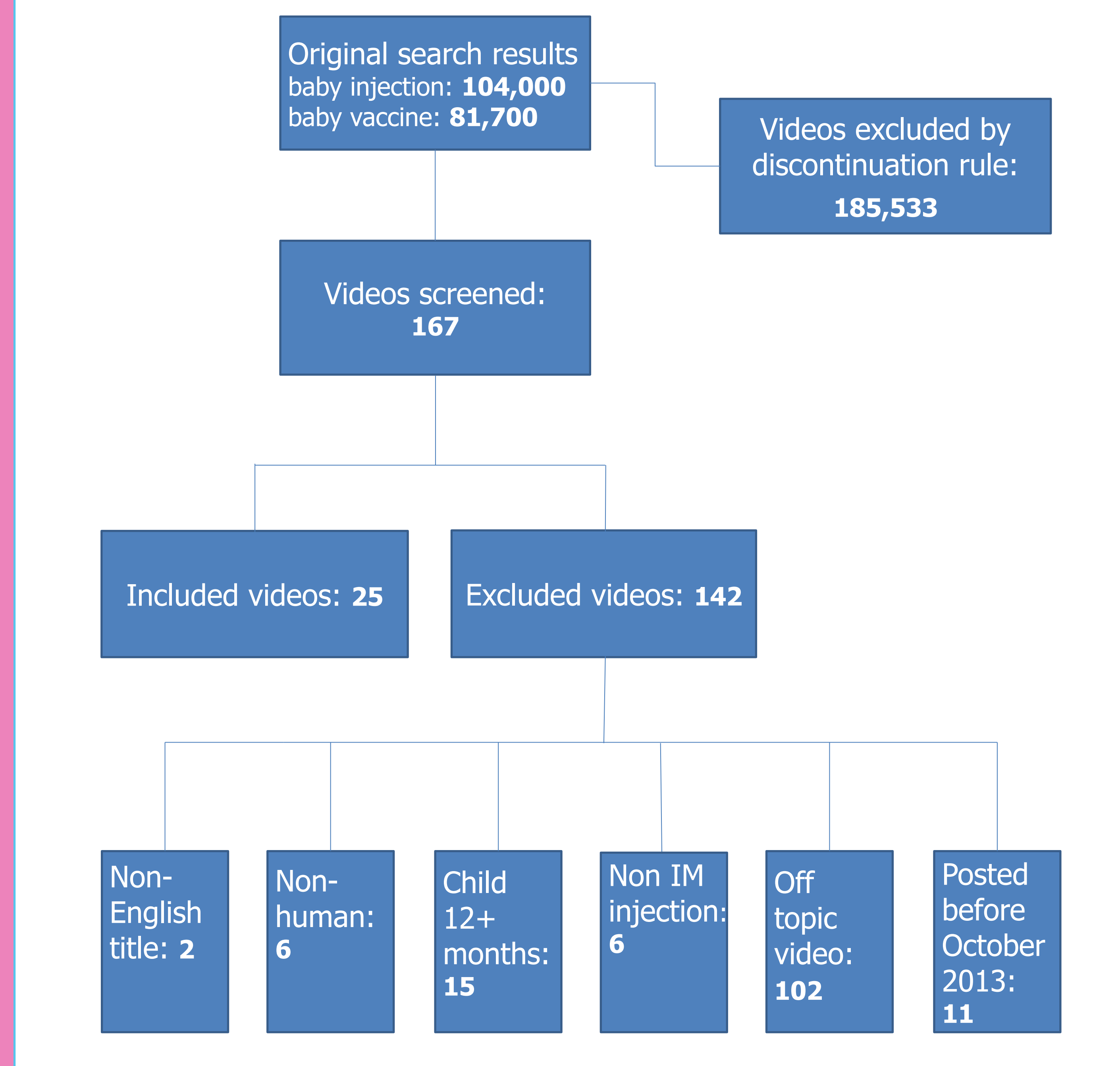
An intervention video showing the use of breastfeeding, sucrose, and front-to-front holding during infant immunization was posted to YouTube in October 2013. The aim of this study was to test the effectiveness of this intervention YouTube video, as evidenced by use of these strategies in subsequent postings of infant immunization videos on YouTube.



## Methods

- The intervention video was posted on YouTube in October 2013 and has >75,000 views.
- 12 months after the intervention video was posted to YouTube, a post-intervention systematic review of YouTube videos was conducted using identical methods to the baseline systematic review.
- The search terms used were "baby injection" and "baby vaccine."
- **Inclusion criteria:** Videos showing one or more intramuscular injection; infants less than 12 months; and videos posted within one year after the intervention video.
- Included videos were assessed for type of pain management strategies used during and after immunization, and infant pain and distress as measured by cry duration.
- Results were compared to the results from the pre-intervention systematic review of YouTube videos.

Figure 1. Video screening flow chart



## Results

- 25 videos were included in the post-intervention systematic review:
- The median length of the videos was 86 seconds.
  - The number of intramuscular injections ranged from one to five (median = 2).
  - 48% of infants were receiving their 2 month vaccinations.

### During the Procedure

- The median length of the immunization procedure was 39 seconds.
- Most infants (92%) cried during the procedure (median = 17 seconds).
- 72% of infants were laid on their back during immunization.
- **No videos showed the use of breastfeeding, sucrose or front-to-front holding.**
- Distraction using talking was the most commonly used pain management strategy (72%).

### After the Procedure

- Twenty videos were able to be assessed for pain management strategies after completion of the injection, the remaining five videos ended immediately after the injection.
- No videos showed the use of breastfeeding.
- 70% of infants were held after the procedure; 20% of these were held front-to-front.
- Distraction using talking or singing was the most commonly used pain management strategy (100%).

## Discussion

This repeat systematic review of YouTube videos showed that most infants were highly distressed during their immunizations. There is still inconsistent use of breastfeeding, sucrose, and front-to-front holding, despite evidence supporting their effectiveness and despite the extensive reach of the intervention YouTube video, with >75,000 views.

After comparing the results of this systematic review of 25 YouTube videos to the pre-intervention video systematic review of 142 videos, the results demonstrate:

- Neither the pre-intervention or post-intervention systematic reviews showed any use of breastfeeding or sucrose.
- Infants were distressed in both systematic reviews: in the post-intervention systematic review 92% of infants cried during the procedure, and in the pre-intervention systematic review 94.4% of infants cried during the procedure.

## Conclusions

This systematic review of YouTube videos showed that to date, the intervention video has not led to an increase in immunization videos showing the use of breastfeeding, sucrose, or front-to-front holding.

Study limitations include:

- The assessed videos may not be representative of the general population.
- Holding the camera to videotape may have prevented breastfeeding, administering sucrose, or holding the child.
- A one year intervention period may not be long enough to induce change in clinical practice.

The results of this study will inform future knowledge translation strategies using social media to increase effective pain management in babies and children.

