Promoting Inuit health through a participatory whiteboard video

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Abstract

Setting The Inuit community of Rigolet experiences greater rates of self-reported acute gastrointestinal illness (AGI) compared to southern Canada.

Intervention A whiteboard video tool was collaboratively developed by Rigolet youth, community members, the research team and key regional stakeholders to share public health recommendations for reducing the risk of AGI. The video debuted in Rigolet at a community event in August 2016 and was later provided online for community members and local and regional health departments. Interviews and focus group discussions were used to evaluate the ability of the video to communicate public health information to community members in Rigolet.

Outcomes Community and government viewers reported that the whiteboard video was novel and engaging. Evaluation participants believed the video was suitable for promoting Inuit health because of the use of locally relevant visuals and narrative, which reflect Inuit art and storytelling traditions. Furthermore, participants indicated that the video co-development process was critical to ensuring community relevance of the video. Short-term outcome results suggest the video can reinforce health knowledge and potentially encourage behavioural change.

Implications The results suggest this whiteboard video was an effective tool to share information and could increase intention to change behaviours to reduce the risk of AGI in Rigolet. While tools like the whiteboard video are gaining popularity, the participatory approach was used to develop the video, and its use in an Inuit context illustrates its innovation and novelty. This tool may be a useful health promotion tool among Indigenous communities in Canada.

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Résumé

Lieu Dans le village inuit de Rigolet, les taux de maladie gastrointestinale aiguë (MGA) autodéclarée sont plus élevés que dans le Sud du Canada.

Intervention Des jeunes et des résidents de Rigolet, notre équipe de recherche et les principaux acteurs régionaux ont créé ensemble une vidéo sur tableau blanc pour diffuser des recommandations de santé publique sur la réduction du risque de MGA. La vidéo a été présentée à Rigolet en août 2016 dans le cadre d'une activité socioculturelle, puis mise en ligne pour les résidents et les services de santé locaux et régionaux. Au moyen d'entrevues et de groupes de discussion, nous avons cherché à déterminer dans quelle mesure cette vidéo permet de communiquer des informations de santé publique aux résidents de Rigolet.

Résultats Les résidents et les fonctionnaires qui ont visionné la vidéo sur tableau blanc l'ont trouvée innovante et captivante. Selon les participants de l'évaluation, c'est un bon outil de promotion de la santé pour les Inuits parce qu'elle utilise des images et des mots ancrés dans les traditions artistiques et narratives inuites. Les participants ont aussi indiqué que le processus de création concertée a été essentiel à la création d'une vidéo pertinente pour les résidents. Selon les résultats à court terme, cette vidéo peut renforcer les connaissances sur la santé et peut-être encourager la modification des comportements.

Conséquences Les résultats indiquent que cette vidéo sur tableau blanc est un outil efficace pour diffuser de l'information et qu'elle pourrait accroître les intentions de changer de comportements afin de réduire le risque de MGA à Rigolet. Les outils comme les vidéos sur tableau blanc gagnent en popularité, mais la démarche participative employée pour créer la vidéo, et son utilisation dans un contexte inuit, illustrent son caractère novateur. Ce pourrait être un bon outil de promotion de la santé dans les communautés autochtones du Canada.

Keywords Inuit · Health promotion · Community-based participatory research (CBPR) · Acute gastrointestinal illness · Nunatsiavut · Whiteboard video

Mots-clés Inuits · Promotion de la santé · Recherche participative communautaire (RPC) · Maladie gastrointestinale aiguë · Nunatsiavut · Vidéo sur tableau blanc

Introduction

Whiteboard videos are a novel public health tool, which utilize visual, audio and oral elements to communicate narratives. These videos depict a hand drawing images on a whiteboard, accompanied by narration, sound effects and music. This format can be tailored to specific populations and used to share information, including research results (Bradford and Bharadwaj 2015).

Studies suggest individuals are more likely to change behaviour when public health interventions are culturally appropriate and locally relevant (Kreuter and McClure 2004). Research indicates that preferred public health promotion tools for Inuit in Canada reflect cultural values and traditions, such as using storytelling to share information and developing skills through observation (Latycheva et al. 2013; Smylie et al. 2009). Effective public health interventions are particularly important given the health disparities that Indigenous people often experience (Smylie et al. 2009), including higher incidence rates of infectious disease, higher prevalence of chronic diseases and lower life expectancies when compared to the Canadian average (Adelson 2005). These health disparities are attributed to social determinants of health, including colonial legacies and the resulting inequities in socio-economic status, access to healthcare and public health services, food

security, as well as racism and social exclusion (King et al. 2009; Reading and Wien 2009).

The goal of this project was to share public health information about acute gastrointestinal illness (AGI) in Rigolet, Labrador, by co-developing a whiteboard video with Inuit youth, community members and government partners and evaluating its efficacy. This research intended to develop and provide contextually relevant tools to share and facilitate retention of important public health information within Inuit populations.

Setting

Rigolet is one of five remote communities in the Labrador Inuit Land Claims Area (hereafter referred to as Nunatsiavut), governed by the Nunatsiavut Government. Rigolet has a population of 305, with 92% of residents identifying as Inuit (Statistics Canada 2013). The town is accessible by plane year-round or by boat/ferry service during the summer. Spending time on the land is important to cultural identity and well-being in Rigolet, and residents engage in cultural activities such as hunting, trapping, fishing, gathering food and visiting cabins located outside the community (Cunsolo Willox et al. 2013; Harper et al. 2011).

Acute gastrointestinal illness

AGI is characterized by symptoms of acute vomiting and/or diarrhea (Majowicz et al. 2008). The estimated annual incidence of self-reported AGI is three times higher in Rigolet than in southern regions of Canada (Harper et al. 2015b). Research suggests Rigolet residents infrequently seek medical assistance for AGI symptoms for a variety of reasons, limiting the ability to detect enteric illness in surveillance programs (Harper, Edge, Ford, Thomas, IHACC Research Group, et al. 2015a; Harper et al. 2015c).

Intervention

Whiteboard video development

A whiteboard video was co-developed with Rigolet Inuit youth, with substantial input from community members, government representatives and researchers. The goal of the video was to disseminate research results regarding AGI in Rigolet (Harper, Edge, Ford, Thomas, IHACC Research Group, et al., 2015a; Harper et al. 2015b; Harper et al. 2011), along with

public health information on how to reduce risk of AGI. Co-creating the video involved the following iterative steps: (1) presenting video concept and determining interest in this approach, (2) video content planning, (3) illustrated storyboard development, (4) audio selection, (5) video production and post-production editing and (6) video dissemination (Fig. 1) (Saini 2017). Tivoli Films, Inc. drew the images, produced the video and completed post-production editing.

Community engagement

Rigolet community members, local public health practitioners and government representatives indicated that a novel approach reflecting Inuit culture was needed to share information with community members. Based on these discussions, a whiteboard video was selected, as they contain visual and oral elements reflective of Inuit storytelling traditions, which can be tailored to their specific context. This tool received wide support from community research partners and government representatives. Community engagement methods were employed throughout video development and dissemination, including a youth workshop, community open houses, regional government stakeholder meetings, semi-structured

Fig. 1 The participatory whiteboard video development process used in a public health campaign to share public health messaging around acute gastrointestinal illness in Rigolet, Canada

interviews and focus group discussions. The research team maintained close contact with partners and participants via in-person meetings, telephone calls, e-mails and social media communication. The project was approved by the Research Ethics Board at the University of Guelph.

Youth engagement

Inuit research team members and government partners identified youth as an important group to lead the project, as they

believed youth would be interested in the video medium and would encourage others in Rigolet to engage with the project. Youth were invited to participate in a 3-day workshop in Rigolet in July 2015; six youth (3 males, 3 females) between 11 and 12 years old participated, representing most Rigolet youth in this age group. The workshop introduced youth to the project and whiteboard video concept. Youth developed whiteboard video components, including relevant public health messages, script language, character look and names, local visuals and local narrators (Fig. 2a–d) (Saini 2017). In

Fig. 2 Illustrative photos of community events used for the co-development and presentation of the whiteboard video with Rigolet community members, health professionals, and decision makers. **a–d** Youth

workshop activities and outcomes. **e, f** Community open house to share work and obtain community input

December 2015, the youth selected video characters, and in May 2016, they reviewed the illustrated storyboard and provided feedback. Throughout the process, a Facebook™ group facilitated information exchange about the video and its development with the youth.

Community open houses

The research team introduced the whiteboard project in July 2015, and community members were invited to (1) view examples of whiteboard videos to explore the concept and approach (Fig. 2e); (2) review the youths' ideas, public health messages and video script (Fig. 2f); and (3) complete a survey to give feedback and provide details of health information seeking behaviour. Additional open houses featured updates on video progress and elicited feedback from the community. The final open house was held in May 2016, to share illustrated whiteboard images and recorded narration and receive further feedback.

Interviews and focus group discussions

Government partners and key decision makers, health professionals and Rigolet community members were invited to participate in two sets of face-to-face, audio-recorded, semi-structured interviews and focus group discussions. First, in July 2015, participants' opinions on the whiteboard video, development of public health messages to be communicated and use of whiteboard videos in the community to share health information were captured (Saini 2017). Then, in August and September 2016, participants were asked to evaluate the final video product (Fig. 3) (Saini 2017).

Whiteboard video release

The whiteboard video debuted at a screening event in Rigolet in August 2016. Surveys were used to collect community perspectives on the whiteboard video tool and its use as a medium for communication (Saini 2017). The video was also shared with local health professionals, decision makers and community members in-person in August 2016 and regional health professionals and decision makers in September 2016. It was released on YouTube™ in September 2016. The video is available online through the project website (<https://rigoletwhiteboard.com>), YouTube™ (<http://bit.ly/rigoletwhiteboardvideo>) and Facebook™ (<http://bit.ly/rigoletwhiteboardfacebook>). The final video was delivered to local and regional health authorities via USB and online links, for use within the community and across the region.

Evaluation data analysis

A short-term outcome evaluation examining the initial reaction of community and government viewers to the whiteboard video was conducted. The Framework for Program Evaluation in Public Health guided the analysis of the whiteboard video, including the overall medium, the components of the video (such as narrative and imagery), the viewer's intent to change behaviour and potential uses of the video (Centers for Disease Control and Prevention 1999). The research team analyzed interviews and focus group discussions using thematic analysis (Braun and Clarke 2006). Audio recordings were transcribed, and a combination of inductive and deductive approaches was used to code the transcripts using the qualitative analysis program ATLAS.ti (Version 7.5.10) (Fereday and Muir-Cochrane 2006). Codes were then expanded, collapsed and organized to develop themes regarding the efficacy of the video development process and the use of a whiteboard video for sharing health information (Table 1). Peer debriefing and member-checking was conducted: the themes and interpretations of the findings were shared, refined and finalized with Inuit research team members, government representatives and community members to ensure validity (Creswell and Miller 2000). We also explored responses to surveys from the research open houses and video screening. Survey questions pertaining to opinions on narration, language, use of video to share information and intent to change behaviour were explored.

Outcomes

A short whiteboard video (4 min and 46 s) was produced discussing locally identified and developed public health messaging about ways to reduce the risk of AGI, including washing hands, preparing food, consuming brook water and cleaning water containers (Fig. 4). Information was collected from 54 individuals over the course of the video development and 37 individuals during evaluation (Fig. 3).

Overall perceptions of the whiteboard video medium

All participants in the evaluation of the final video responded positively. When the project was introduced in July 2015, the whiteboard video medium was found to be engaging, with participants stating that the tool was “different”, “eye-catching” and that “it [does] keep your attention”. During evaluation, participants said the video was engaging and helped reinforce public health messages because of the novelty of the tool and inclusion of visual and auditory elements.

Fig. 3 Description of interviews, focus group discussions and surveys conducted in Happy Valley-Goose Bay and Rigolet, Canada in July 2015 and August/September 2016, including location, number of participants, participant characteristics and average duration of each data collection activity

When asked about the memorability of the message, one interviewee stated,

“See, you got the audio from Jack [the local narrator] talking, and the music, and you got the visuals from the pictures, and then you got the list [of public health action items] that you’re actually reading along with. So, I mean you got three different ways to remember, right?”

Respondents also perceived the whiteboard video format to be more “interesting” and “better” than other health promotion tools such as posters, pamphlets and other video formats. All community members who completed a survey reported the

video was a good way of sharing the information. Furthermore, participants believed the contextually relevant features of the video (i.e., community imagery, personal connection to video participants and language) and community engagement process played a role in the positive response of community members. As a regional health professional described,

“I really like the graphics ‘cause they’re as local as you can get. Like, it is Rigolet ... It’s very local, that’s what’s very good. People are going to relate to the images, they’re going to relate to the people, even though it’s cartoon. And people pay more attention when it’s in

Table 1 The codes and resulting themes from the evaluation of the whiteboard video

Themes	Codes	
Whiteboard video medium	Eye-catching	Information presentation
	Community connection	Information sharing
	Community involvement	Keeps focus and attention
	Community-specific	Length
	Comparison to other mediums	Time for development
	Cost and payoff	Memorable
	Effective medium	New information
	Engaging	Opportunities for involvement
	Generates interest	Positive response
	Visuals	Relevant images
	Useful information	Relate to youth
	Time versus quality	Relationships
	Easy to understand	Narrative
	Local narrator	Simple language
Intent to change behaviour	Voice	
	Intent for repeated viewing	
	Intent to change behaviour	
Potential uses for the video	Good for different groups	Use in community
	Targeting different groups	

their context and it's things that are familiar to them. So, I liked it for sure."

Another regional health professional commented,

"You can tell by looking at this [video] that it was done right. Because I looked at other [public health promotion] products... Supposed to be for Aboriginal Inuit, and the graphics are not applicable at all. So, it goes to show that the engagement that you have with the community came across in the video."

Whiteboard video narrative

The overall video narrative, including the local voice, language, and storytelling style were positively received. A local community Elder narrated the video because the youth felt he was an authoritative figure with a distinct voice. Many community members enjoyed the narrator choice, stating it was familiar, distinct and authoritative. Additionally, one respondent brought up "tradition," saying that Elders "have the most clout and most say." Multiple community members suggested the voices of the youth participants should have been included because it would have added to their ownership and participation in the video.

Participants emphasized the importance of local language and the value of a local narrator. Nearly all survey responses rated the language as being "easy" or "slightly easy" to understand. Additionally, most community survey respondents stated

they "really liked" or "somewhat liked" the narration, and that they "really related" or "somewhat related" to the voice used in the narration. One government employee discussed the use of clear language and a local narrator in the final video, stating,

"You almost notice when you have more of clinical language [in public health messaging] ... People sort of stumbling over their words or you can tell this is not at all what they'd be speaking about normally. So, I found you really merged that really well, so it sounded as though Jack [the local narrator] could have actually been [saying those public health messages] if you went up to his office and had a cup of coffee."

Intent to change behaviour

Participants believed that the whiteboard video reinforced knowledge and helped motivate adoption of AGI prevention practices. Nearly all survey respondents stated they would follow one or more of the tips outlined in the video. During a focus group, a regional Inuit health professional discussed her experience with the messaging regarding cleaning water containers, stating,

"For me personally, I grew up in a community where there was no running water ... People go pick up their water using buckets and dippers. And I mean, I worked ... as a nurse and I never really thought of

Fig. 4 Images from the whiteboard video “Keeping Stomach Illness Out of Rigolet”. Images share messaging around **a** washing hands for 20 s, **b** storing food appropriately, **c** cooking food thoroughly, **d** boiling

brook water after heavy rain and snowfall and **e** cleaning water containers. **f** A summary list of all key messages described through the video was also provided at the end of the video

telling mom [about safe water handling tips] ... But I guarantee when I go home this evening and talk to them, that’s the first thing I’m going to say. That’s the first thing I’ll say because I never thought about it, so already I can tell you if it’s having that sort of transcending effect on me; it will have a transcending effect on other people who are living in the communities and have those practices.”

This sentiment was also expressed by community members who commented that messaging from the video stood out and was visually “engrained”. One community member stated,

“Now I have these images. So, right now as I think of washing my hands, I think of those balloons and [the narrator] saying sing happy birthday twice ... Or further on, the germ lying back in the container floating around.

You know? I mean those images are there, so when I look at my [water] container there.... I’ll think about it.”

Potential uses for the video

Participants noted the video was “good” and “useful” for all age groups. A local health professional stated that she felt her “playgroup kids which are 3 and 4 year olds would understand that.” Another community member stated about the video, “I’m sure it would be useful for anyone in Rigolet. Like, even the seniors.” Additionally, both local and regional health professionals expressed the possibility of using this tool in collaboration with existing health programs for school children. Due to the short video length, the video was seen as being easily screened to other groups by targeting locations or situations in which they already congregate, such as “card games over to the DHSD [building], the seniors’ building, and then [the

youth] like to congregate at the youth centre...Anywhere there is a gathering of a group of people, just put the video on.”

Perceived impact

The video was viewed by approximately 40–50 community members of all ages at the open house. The community Facebook page has a total of 77 followers, and the post regarding the video has reached over 800 people, predominantly from Eastern Canada. Approximately 24 months after the video release, it has been viewed 345 times on YouTube, with 323 of those views coming from across Canada.

Implications

This study showed that whiteboard videos created collaboratively with the target population can be an effective tool to deliver health messages in Inuit communities. Individuals discussed their intention to change specific behaviours related to messages provided in the video. While there is a challenge in determining whether intention to change behaviour leads to a subsequent behavioural change, it has previously been found to be a promising indicator (Webb and Sheeran 2006). A long-term study could determine whether behavioural change has taken place, although the documented response from the community thus far shows promise.

The whiteboard video can also be shared easily via social media, which is an important communication platform for many Indigenous communities (Molyneaux et al. 2014). Facebook™ is widely used throughout Nunatsiavut to communicate and maintain networks with individuals across the region. Indeed, the ability to share the video through social media complements the cultural importance of social networks in many Indigenous communities, reflects the role that social support networks often play in promoting Indigenous health (Richmond et al. 2007), facilitates peer-to-peer sharing of information within the community (Turner and Shepherd 1999) and allows individuals to contextualize and discuss the information in the video. Considering the ability of the tool to share health information that is customized to local contexts, the whiteboard video can serve as an engaging tool to disseminate Indigenous health messages.

Lessons learned

This paper outlines an innovative example of how participatory approaches can be used to co-develop an effective communication tool to share Inuit health information. While we present an example of a whiteboard video communicating AGI prevention messages in one Inuit community, this medium and/or process could be applied in a variety of Canadian public health settings and in other communities.

The lessons learned through the process were reflective of challenges and opportunities identified more widely within community-based participatory research and evaluation strategies (Castleden et al. 2012; Tobias et al. 2013; Wallerstein and Duran 2010). Based on our evaluation results, we believe meaningful collaboration was foundational to the success of the tool. We strove to create meaningful, reciprocal and respectful partnerships with community and regional partners throughout the project (Israel et al. 1998). Importantly, these partners collaboratively set priorities and agendas and made decisions throughout the health tool development and implementation. This was critical in moving from involvement of community members in the process toward community control of the program. Meaningful collaboration and engagement are critical in many Indigenous contexts, considering historic research and public health efforts were often disempowering through the imposition of research activities on Indigenous communities (Israel et al. 1998; Koster et al. 2012; Wallerstein and Duran 2010). The team was also cognizant that this form of participation can unintentionally exclude some people (Cornwall 2003; Israel et al. 1998; Tobias et al. 2013); as such, we attempted to be attentive to who was (and was not) participating, in what capacity and to what end. For this project, discussions with partners led to the identification and engagement of youth to be agents of local community change. Finally, these collaborations and partnerships supported a process and whiteboard video which respected, reflected and was built from local social networks and in turn helped facilitate sharing and exchange of public health information in a way that was culturally appropriate and locally relevant (Richmond and Ross 2008; Tobias et al. 2013).

Conclusions

Contextually relevant tools and programs developed through participatory methods can improve the acceptance and retention of health information in Indigenous populations. The success of our whiteboard video for sharing public health information was largely due to the participatory partnership with the Inuit community of Rigolet. Results indicated the video was positively received and encouraged discussion about the public health messages. While tools like whiteboard videos are gaining popularity, the participatory approach and use of this tool in an Inuit context underpin its innovation and novelty. Creative and culturally relevant approaches to sharing health information, such as whiteboard videos, could encourage sharing and retention of health messages to change behaviour and reduce burden of illness.

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Compliance with ethical standards

The project was approved by the Research Ethics Board at the University of Guelph.

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