

FULL-LENGTH ARTICLES

Understanding the Potential of a Short-Term Participatory Video Project for Long-Term Change

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Participatory video (PV) allows communities to explore issues of concern by making short videos. PV has been used in public health research by focusing the topic of video-making on a specific health issue in order to both raise awareness of this issue and to support communities to effect change with regard to this issue. Although evaluations of PV-in-health approaches yield positive findings in terms of community empowerment, it is difficult to measure changes in behaviour regarding the focal topic. This is important in the context of public health, as the impact of an intervention often determines its future usage. This study discusses a rare opportunity to consider the longer-term impacts of a PV project on the topic of antimicrobial resistance (AMR).

Thematic analysis of a focus group discussion conducted with six PV participants demonstrates a retention of accurate knowledge about AMR over two years after original engagement. Participants reported changes in their own attitudes and practices around antibiotic and pesticide use, and described how they advocate for behaviour change in their wider communities.

Findings also speak to the legacy of PV. While over time, videos may have impact through being viewed by others, participation in the project was also shown to have lasting legacy. Participants developed knowledge and changed attitudes on the topic, which continues to impact their behaviour. Beyond having co-produced the videos, participants are now experts in the video topic, and as such their opinions and actions represent a distinct, measurable impact of the PV process.

Introduction

Participatory Video (PV) is an arts-based methodology in which videos are co-produced through a series of workshops run by skilled facilitators who train community members on story-telling and videomaking methods (Jones, 2022). The intention of PV is to engage participants in exploring issues that affect them, voicing concerns or expressing group creativity (Lunch & Lunch, 2006). Within the wider literature, PV is viewed as a positive means of knowledge exchange, generating prompts for positive social change (Milne et al., 2012). PV achieves these positive outcomes through creating shared learning spaces which diminish traditional hierarchies between researchers

and participants (Kindon, 2003). In creating these spaces of shared knowledge, PV has the potential to support and amplify the voices of marginalised communities, allowing community voices to inform and shape responses to the issues that affect them (Jiang & Kobylinska, 2020). Since it first emerged as a method in the 1960s, PV has been used in a variety of targeted interventions to engage participants with a specific focal issue, be that climate change or a range of health-related topics, such as asthma, diabetes or antimicrobial resistance (Blumenstock et al., 2015; Cooke et al., 2020; Jones, 2022; Sharma et al., 2011; Wilding et al., 2021). In these *PV-in-health* examples, typically, a community is introduced to a particular topic. Via a series of workshops, participants then co-produce, with a trained video facilitator and other researchers, a series of videos that share their perspective on the topic, how the topic impacts their everyday, lived experience and what they might do to mitigate its impact. Thus, video outputs are designed to share community knowledges on the focal topic and become a trigger for dialogue and meaningful action going forward.

PV projects can generate extremely rich datasets that would be difficult to create using traditional methods alone, such as interviews. These data represent the multiple steps and activities within the PV process and can include: observations and recordings of PV workshops, feedback from workshop participants, observations and field notes from researchers, Focus Group Discussions (FGDs) and interviews, audience feedback from video screenings in the participants' wider community, which are a common feature at the end of a PV process. However, these data are gathered during the intervention period, not beyond, thus limiting our understanding of any long-term impacts of a PV study (Cooke et al., 2020; Milne et al., 2012).

From the existing literature available on *PV-in-health* projects, it is not yet clear if PV interventions directly lead to positive health outcomes beyond initial awareness raising, or even what the longer-term impacts of PV in health projects might be (Jones, 2022). This lack of long-term evaluation is particularly interesting when considering that *PV-in-health* projects often form around a need to create awareness, improve knowledge or change behaviours on a given health issue. In the wider literature there are examples of these projects specifically aiming to generate educational materials on a health topic relevant to the participant community (Blumenstock et al., 2015; Green et al., 2015; Harou & Dougherty, 2017; Ntuulo-Mutanda & Namutamba, 2016; Park et al., 2017) or as a prompt for behaviour change (Acosta et al., 2014; Clabots & Dolphin, 1992; Green et al., 2015; Gupta et al., 2013; Koniz-Booher et al., 2013; Poureslami, Kwan, et al., 2016; Poureslami, Shum, et al., 2016; Sharma et al., 2011; Stewart et al., 2008). However, the impact of such educational and/or behaviour change campaigns is notoriously difficult to measure (Davidson & Scholz, 2020), particularly when they are delivered as part of a wider research project or public health campaign (Haenssger et al., 2018).

Some PV researchers suggest that monitoring the long-term use of videos could provide measurable indicators of impact, where there is data available (Harou & Dougherty, 2017). For example, tracking online dissemination of videos could provide estimates of the number of people who have engaged with them (Warren et al., 2014). To our knowledge, there has been only very limited follow-up research that monitors if and how any PV films are used post-intervention. The one notable exception is Luchs and Miller's study, which followed a group of refugees in Montreal who used PV to raise awareness of their experience amongst school students via a series of school outreach events that involved screening the videos they created in the months following the production period. This study was focussed on how best to curate film screenings to facilitate audience discussions rather than the longer-term impact of taking part in the project on participants (Luchs & Miller, 2016). Taken together, these points reveal that evaluating the medium to long-term impact of PV beyond the lifespan of project delivery is rare within the published literature. This is an important gap in the context of public health research, as the impact of an intervention often determines its future usage and funding (O'Cathain et al., 2019).

This paper presents findings from a unique opportunity to re-engage with participants over two years since their original involvement in PV. In this setting, PV participants were originally engaged with the topic of antimicrobial resistance (AMR), a global challenge whereby microbes learn to resist the drugs we use to treat them (Murray et al., 2022; WHO, 2023). AMR is a natural process which occurs because microbes are alive and, as such, evolve to find ways to survive their stressors. However, the overuse and misuse of antimicrobial drugs, such as failing to complete a full course of antibiotics, or using pesticides on healthy crops, can speed up this evolutionary process, leading to infections which are much harder and sometimes impossible to treat (Laxminarayan, 2022). In 2019 bacterial AMR was responsible for 1.3million human deaths alone (Murray et al., 2022). Once a resistant infection has evolved it can infect humans, animals, plants, and the environment, crossing geographic and species boundaries via food, water, soil and waste products. AMR is thus considered a One Health challenge requiring multi-sectoral action to tackle it (Laxminarayan, 2022; McEwen & Collignon, 2018; Murray et al., 2022; Velazquez-Meza et al., 2022).

In the original study, 'Community arts against Antimicrobial Resistance Across Nepal' (CARAN: Grant number AH/R005869/1) which ran from 2017 to 2019, participants were encouraged to explore their experiences of community level drivers of AMR in human and animal health (See *Background* section for full details). At the end of the project participants advocated for information on AMR to be shared with school-age children. As such, from 2019 to 2020 the project team applied for, and were successfully awarded, follow-on funding to develop AMR educational materials (Grant number AH/T007915/1). The original PV participants were re-engaged in

2021 to be co-researchers within this new project and as such had the unique opportunity to reflect on their PV experiences to consider what information should be used as the basis for these education resources and why. It is this re-engagement process that has allowed the authorship team to consider the longer-term impacts of PV upon participants' knowledge, behaviour, and advocacy.

Aims

This paper explores the legacy of a participatory video (PV) project on the knowledge, attitudes and practices (KAP) of community members by re-engaging participants two years after their original involvement. Specifically, we examine:

1. What participants consider to be the most important knowledge or information they gained from their PV experience.
2. What self-reported individual behaviour and or practice changes have persisted since their engagement in the PV project.
3. How has their engagement in the PV project changed their sense of agency, and their ability to advocate for behaviour change on the topic of AMR in their community?

We focus our discussion on how these findings speak to the longer-term legacy of the PV method in the specific context of peri-urban Nepal. Whilst over time, the videos may have various levels of impact through being viewed by other people, the participant group involved in the original process of PV also have the potential for legacy. These people have developed knowledge and changed attitudes around a topic which may subsequently impact on their behaviour. Beyond having co-produced the videos, these individuals are now local experts in the topic of AMR and as such their opinions and actions represent a distinct and separate impact of the PV process.

Methods

This paper applies an inductive thematic approach to the analysis of a focus group discussion with PV participants, who were re-engaged with this current project in 2021, two years after their initial involvement in a PV intervention.

Setting

Both this and the original project took place in the Chandragiri Municipality, an urban settlement on the fringes of the major city region of Kathmandu, Nepal.

Table 1. Anonymised participant details

Participant Number	Age	Gender	Occupation
1	39	F	Female Community Health Volunteer/ Agriculture
2	38	M	Service
3	38	M	Business
4	27	F	Pharmacist
5	41	F	Handicraft
6	38	F	Agriculture and Handicraft

Background to original PV project (CARAN)

From 2017-2019 the authorship team delivered a PV project ('CARAN') within the Chandrigiri Municipality of Nepal to engage local people with the broad topic of antimicrobial resistance (AMR) but with a specific focus on safe antibiotic use in humans and animals. Six participants took part in a week-long series of facilitated workshops following the PV process, outlined in CE4AMR (2019) and Jones (2024). In brief, the process allows participants to explore the concept of AMR and global information on the topic. This is used as a starting point for them to consider how AMR relates to their own lives. Participants are supported, by local researchers, to use video equipment, create their own storylines on AMR and then act these out and film them. Videos are edited by researchers in conjunction with the participants to develop self-efficacy and raise awareness of the focal issue with key stakeholders in the participants own communities (Cooke et al., 2020). The final videos are then shared with the community in a 'showcasing' event where local people and stakeholders gather to watch the films and reflect on the issues they raise. Researchers join this process to interview attendees regarding their opinions of the videos and how the content relates to their daily lives. It is within this final stage on the 2017-19 project that Focus Group Discussions revealed many PV participants, showcase attendees and wider stakeholders believed that AMR should be communicated to school-age children as part of their education (Mitchell, Cooke, et al., 2023).

Participants, recruitment, and consent

The same six participants (Table 1) were re-engaged and recruited for the present study in 2021. The initial recruitment phone call notified participants that they were being invited to take part in a follow-on project which would allow them to share their experiences of CARAN, their learnings on AMR and reflect on their AMR-related behaviour after CARAN. After the initial recruitment phone call, participants were provided with written information packs and given two weeks to consider their involvement in the project. All six participants notified the research team by phone call that they wished to join the study and then they provided fully informed consent in separate phone calls with members of the research team (AS and SM) on 25 July, 2021. At this point the research team also discussed participants' ability to take part in online Zoom calls as Nepal was still under COVID-19 lockdown restrictions.

Ethical statement

Ethical approval for this project was granted from both the University of Leeds, Faculty of Arts, Humanities and Cultures Ethics Board (Reference Number: FAHC 19-056) and The Nepal Health and Research Council (Reference Number: 04022020). Due to the project occurring over the pandemic, several changes were made to the ethical applications, namely relating to the move from face-to-face engagement to online and phone call engagement. An updated University of Leeds approval number was then provided (MREC 22-012). All changes in Nepal were recorded under the same reference number.

Data collection

An online focus group discussion was held via Zoom on 26 July 2021 and facilitated by two members of the research team (SM and AS). The focus group was semi-structured to allow participants to reflect on their past experiences of PV with a focus on the knowledge they gained, behaviours they personally changed and their sense of agency and ability to advocate for change on this topic, and how this has changed since their involvement in the project. The Focus Group Discussion tool is shared in the supplementary file. The focus group discussion was recorded by the zoom record and transcribe function, but a member of the research team also took notes in real time to resolve any spelling/grammar issues in the automated transcript.

Data analysis

Team members (AS, JM and PC) analysed the final transcript in two phases. Firstly, JM and AS organised data into three a priori themes representing our research objectives. These were 1) Knowledge and or Information. 2) Changes to behaviour and or practice. 3) Agency and Advocacy. Secondly, an inductive thematic approach (Braun & Clarke, 2006) was applied by AS, JM and PC, allowing sub-themes within the data to be created as they appeared. This stage was an iterative process with each researcher creating their own sub-themes, reviewing each other's work and finally consolidating a list of sub-themes in relation to each research objective (See supplementary material).

Results

With regard to the specifics of AMR and the cultures of drug use, thematic analysis found that three over-arching themes emerged in terms of participants' lasting memories of their engagement in a PV project. These are: 1) The value of antimicrobial drugs, 2) The need to use antimicrobial drugs appropriately and 3) The risks associated with what participants defined as the 'haphazard' use of antimicrobial drugs. Each theme can be further divided into the subthemes in relation to participant's knowledge, self-reported behaviour change, and capacity for agency and advocacy.

1) The value of antimicrobial drugs

Participants were particularly focussed in their understanding of the antimicrobials that they experience in their daily lives, particularly antibiotics and pesticides. They were very clear that these are ‘special drugs’, and when used well they can save lives:

The thing that touched me is, all the people do not understand pesticides and antibiotics. We went through the simple method [referring to PV] that everyone understood. That was the one that touched me.

P4 (27 year old female pharmacist)

This CARAN project [referring to PV] has played important role in spreading public awareness about antibiotics. I feel this antibiotic is an important topic, as antibiotics cure the disease if taken appropriately.

P2 (38 year old male service industry professional)

I also want to say that antibiotics are the last option [for a cure] among medicines if taken timely. Otherwise, it can be poisonous as well.

P3 (38 year old male businessman)

Here, P4, P2 and P3 point to the value of the original project in terms of the way it communicated clear information about the value of antimicrobials in disease control. P6, similarly emphasises the importance of valuing antimicrobials as a particular type of drug that needs to be used carefully, suggesting:

Old parents used to provide the name of the medicine [to buy] saying that the medicine will cure them. Now I have told them not to do so. I have made a rule in my home that they should visit a doctor and then bring medicine after doing a proper health check-ups.

P6 (38 year old female agricultural worker and handicraft artisan)

Through their participation in the project, P6 sought to change her and her family’s approach to using antimicrobials, seeing her role to be that of advocating for changes in behaviour and practice. Similarly, P2 goes on to say:

These days, if I see people with some illness, the first thing that [comes to my mind] is what medicines are they using and if they are using antibiotics then are they completing the dose or not? I remember the aim exactly with which we worked [in

CARAN]. I feel like I should teach and make people aware of how to use antibiotics as we learned about antibiotics through engagement in CARAN project.

P2 (38 year old male service industry professional)

For P2, CARAN has given participants a duty to advocate in their wider community for the value of antibiotics, in particular, as a valuable resource that must be used carefully. Moreover, the project not only gave them a sense of duty to advocate, it also helped them to develop the necessary skill to undertake this task.

After participating in the CARAN project, we learned different participatory methods to engage community people as such: games, storytelling... It might look inappropriate when we approach people directly to not take antibiotics but through these methods, we can explain them in an interactive way. We can use the games which we learned in CARAN in order to make people aware. We can also share stories and convince them.

P2 (38 year old male service industry professional)

2) The need to use antimicrobial drugs appropriately

At the heart of the participant's approach to advocacy is the commitment to the appropriate use of antibiotics that they developed during their engagement in CARAN. P1, for example, emphasises the need for people to complete a full course of drugs when they are prescribed, again highlighting the important information they learnt from CARAN:

the doctor prescribes us medicines for 3 days or a week. And what we do is we do not complete the dose if we get cured. We feel like we do not need the medicine anymore and do not consume it after that. We learned that we should complete the dose of the medicine prescribed by the doctor.

P1 (39 year old female community health volunteer and agricultural worker)

P1 then goes on to emphasise further the importance of consulting a medical professional before consuming any drugs:

Previously, I didn't know about antibiotics but now I am aware that they shouldn't be consumed without a doctor's consultation. Everyone in my surrounding used to consume antibiotics without proper consultation. Now, through CARAN, I am well aware of it.

P1 (39 year old female community health volunteer and agricultural worker)

Similarly, P2 picks up on the need to consult a doctor, ‘even for the children’, emphasising the way in which CARAN has helped him to change his health-seeking behaviours:

In my behavior, there has been a lot of changes. Before I used to buy medicines directly and provide them to family members. Even for the children, medicines were brought from pharmacies. After the CARAN training, we started the system of taking medicines as per the doctor’s advice and even completing the dose even we feel better after few doses.

P2 (38 year old male service industry professional)

CARAN also clearly supported reflection on the One Health dimension of AMR in this regard, with participants equally learning about, and changing their behaviour towards the use of both antibiotics and pesticides, emphasising the need to only use them when a person or animal is sick, or a plant is infected or infested:

In Agriculture I learned that we should not use pesticides all the time. We should only use pesticides when the plants are infested with insects.

P6 (38 year old female agricultural worker and handicraft artisan)

Sometimes we ask nearby meat shop owners where they are buying the fish and meats, how is the condition of the chickens in that place. Nowadays, chickens are vaccinated so we ensure by asking them whether those chickens are injected with antibiotics or not. If so, then it might be harmful to all of us.

P2 (38 year old male service industry professional)

Indeed, participants emphasised that at times the right choice might be to not use drugs at all, and that natural alternatives that might be better, such as using manure in agriculture:

We learned that pesticides should not be used to extent while doing agriculture and we can harvest well by using cattle’s manure.

P6 (38 year old female agricultural worker and handicraft artisan)

3) The risks associated with the participant defined ‘haphazard’ use of antimicrobial drugs

At the same time, participants emphasised the potential consequence of the misuse or, as they repeatedly put it, the ‘haphazard’ use of such drugs.

There is no need to take antibiotics when we get a common cold and mild fever. In any case, if we suffer from a disease like pneumonia then with the doctor’s consultation, we need to take antibiotics. If we use the antibiotics haphazardly then in the future, they cannot cure the disease. Such things were [talked about in CARAN].

P5 (41 year-old female handicraft artisan)

My father was not well a few days back. He had chest pain and we assumed it could get serious. He advised me to bring some medicines from the pharmacy believing that will cure him. I told him we should not use the medicine haphazardly and convinced him to visit a doctor in Gangalal hospital for a check-up.

P2 (38 year old male service industry professional)

Here, participants also highlighted the ways in which CARAN helped them to understand the nature of antibiotic *resistance*, the need for their communities to engage specifically with this concept and what they consider to be the most appropriate ways to help educate the rest of their community in this regard:

When we say CARAN...We talked about antibiotic resistance, pesticides in [CARAN]. I remember everything we discussed...I would say it is very good to give [education about antibiotics] to school students. We only get to know about antibiotic resistance after studying diploma level. If we start educating children now, then future generations will be better. They get to learn the appropriate use of antibiotics from an early age. And I think antibiotics will be used properly if we can tell about antibiotics in school now.

P4 (27 year old female pharmacist)

Participants were very clear on the consequences of this in terms of their own health, understanding that the misuse of antibiotics can lead to increased resistance, thus making the drugs they have access to less effective:

We knew that if we take antibiotics without consulting doctors then antibiotics might not cure the disease later. This will upsurge our difficulty. Hence, the antibiotics should be consumed in an appropriate manner.

P5 (41 year-old female handicraft artisan)

They also had a sense of misuse having wider societal ramifications, thereby understanding the significance of antibiotics in the wider health system. As P4 makes clear in her approach to being an advocate for the appropriate use of such drugs:

Yes. I share them the things learned about antibiotic. And also alert them not to sell it in the market otherwise police may catch them. I reminded them that they are misusing the antibiotics and it can create a health hazard later.

P4 (27 year old female pharmacist)

Discussion

Inductive thematic analysis reveals that Participatory Video (PV) projects can result in: 1) long-lasting increases in participants' knowledge of the focal topic, 2) sustained motivation for behavior change in relation to the focal topic and 3) a capacity for agency in participants, specifically, a willingness to advocate for changes within their community around the focal topic.

In this example, PV was used as a tool to engage members of the community with the concept, drivers and impacts of antimicrobial resistance (AMR). Two years after the participants were engaged in the participatory videomaking process, all retained detailed knowledge of appropriate antibiotic use and wider dimensions of AMR. This includes the value of antibiotics and pesticides as important drugs which should only be used when directed to do so by trained professionals (WHO, 2023). Additionally, participants understood the concept of 'proper use', for example, seeking a prescription, completing a full dose, and not sharing antibiotics with other people or animals (Guglielmo, 1995; Mitchell, Arjyal, et al., 2023; Niederman, 2003; Pokharel et al., 2020; WHO, 2023). Participants also showed a clear understanding of the concept of AMR and could describe how 'haphazard usage' such as not completing a course of drugs, or the non-prescription consumption of antibiotic medicines, could drive AMR by making microbes stronger (Malagón-Rojas et al., 2020; Pokharel et al., 2020; Su et al., 2020). This suggests PV is an effective tool to develop lasting knowledge on complex issues such as AMR. Authors and project partners are not aware of any additional AMR interventions within the participant's local areas; thus participants' AMR knowledge base appears to have been developed solely by their engagement in the PV intervention of 2017-19.

Participants also report specific changes in their own behaviours around antibiotic and pesticide usage, which reflect the knowledge they have gained. Here one might mention only using pesticides on infected plants, rather than prophylactic application which could drive resistance (Malagón-Rojas et al., 2020; Pokharel et al., 2020). Their behaviour also extends beyond their own lives to promote appropriate AMR use in their communities. Some participants discuss how they have advised family members to avoid buying medicines from ‘pharmacies’, by which they mean local drug stores usually run by staff without clinical training (Parajuli et al., 2024). Additionally other extracts show participants using their increased sense of agency, and concomitant ability to advocate themselves for changes in behaviour around AMR, to discuss the safety of food by asking market traders if chickens being sold for meat had been given antimicrobials to help them grow. In this sense, the participants appear to have become ‘AMR champions’; sharing AMR information locally and helping to guide local people towards improving their use of antimicrobials.

This concept of participants becoming ‘AMR champions’ resonates with the wider literature on the impact of PV (Crocker, 2003; Milne et al., 2012; White, 2003). Alongside using video production as a means of capturing community level perspectives on a given issue, the process of taking part in a PV project is often shown to increase the confidence of communities to speak out on issues that concern them. For example, the original usage of PV was designed to capture life on the island of Fogo, off the coast of Canada, prior to the population being relocated to the mainland. Part of a wider project instigated by the National Film Board of Canada, Challenge for Change, the films produced were to highlight what poverty ‘looked like’ in Canada in the mid 1960 (Baker, 2010). In the process, the films became a medium for communication between the community and distant decision makers in government (something that became known as the *Fogo Process*). This study provided evidence for how such communities had been marginalized by decision-makers but then provided a means by which to realign power and instigate dialogue (Crocker, 2003). The act of co-producing films was shown to be influential in the empowerment of the community. Since then, PV has been used globally to address a wide range of issues and support community engagement and empowerment. (White, 2003). In recent years it has also been explored in the literature within the context of Participatory Action Research (Cooke et al., 2020; Sarria-Sanz et al., n.d.). This is particularly noticeably in the use of PV as a public health or One Health intervention tool (Davies et al., 2022). PV has been used to engage communities with issues including climate change, mental health, gender, Ebola, displacement, breastfeeding, cancer, hypertension, violence, stroke, maternal health, and recycling (Jones, 2022). In all such examples, the impact of PV is suggested to include community empowerment, the development of practical communication skills as well as specific knowledge around the focal topic. That said, this is often more asserted than proven. PV is not routinely

evaluated in the long term and where skills-based evaluation is conducted it often tends to focus on the development of video-making skills, or curational skills, as already noted, rather than focal topic knowledge (Chávez et al., 2004; Koniz-Booher et al., 2013; Peters et al., 2016). This lack of evidence for knowledge, attitude and practice (KAP) changes is a barrier when applying public health evaluation frameworks to PV. Although recent adaptations do consider the challenges of complex interventions, these frameworks are generally designed to measure linear changes in KAP and/or behavior which are then used to evidence impact of the intervention (Craig et al., 2008; O’Cathain et al., 2019).

The present study provides initial evidence for the legacy of PV to impact upon participants’ knowledge, behaviour, and advocacy. When participants were first interviewed after showcasing their videos during the CARAN project, they reported an increased knowledge of AMR and an awareness of the behaviours they engaged in which could be contributing to AMR (Cooke et al., 2020). They pledged to only use antibiotics via prescriptions, to complete full courses and to only provide antibiotics to sick animals. These data are the immediate knowledge and attitudinal changes reported at the end of an intensive process of videomaking. Across the academic literature, such pledges are not always followed through, and projects can be criticized for using self-reported statements as evidence of impact, especially with regards to behaviour change (Dang et al., 2020; Haenssger et al., 2018). However, in the current analysis we demonstrate longer-term evidence of AMR knowledge gains plus sustained (albeit still self-reported) behavioural changes and advocacy actions resulting from the participants’ involvement in the CARAN project. This speaks to the legacy of PV beyond the co-created video output. In this study we consider the participants themselves to be a legacy, as they are now actively promoting the knowledge they developed as part of the CARAN project, changing their behaviours in light of this knowledge, and using such knowledge to advocate for wider behavioural changes in their community to minimize the drivers of AMR.

Limitations

This study focuses on self-reported changes in knowledge, attitudes, practices, agency and advocacy. Within behavioral ecology there is a lack of consensus over how to effectively measure behavior change, and widespread criticism of the reliability of self-reported changes in behavior (Chan, 2010; Dang et al., 2020; Davidson & Scholz, 2020; Davis et al., 2015). Studies have suggested that self-reported behavior change evidence is weakly correlated with observed indicators of behavior, and that only measures with high reliability should be used to determine individual behavior change (Dang et al., 2020). However, for AMR observable indicators are challenging and invasive to collect (Mitchell et al., 2022). For example, monitoring pharmacy sales of antibiotics or people’s health-seeking behaviors can be intrusive from a practical and ethical perspective. In this study, given the lengthy relationship of the six participants with the research team, and their eagerness to re-engage

with the project, their reflections are considered reliable evidence of long-term behavior change. We can confidently attribute these changes in behavior to the CARAN project, as our authorship team is well-connected to the Nepali public health sector and is not aware of any additional AMR education, outreach, or engagement interventions within the study area.

Of course, to fully understand the capacity for PV projects to impact on knowledge, behavior and advocacy in the long term would require further follow-up studies to be conducted. In this single study, only six participants were engaged with and could simply represent very motivated individuals. However, these six people represent 100% of the original PV cohort, suggesting their videomaking experience has had a lasting impression, if only through the motivation to re-engage with researchers and reflect upon their journey. A final limitation is the specific context of this follow-up study. Participants were re-engaged following the research teams' successful acquisition of funding to act upon participants' suggestions from their original Focus Group in 2019. Here participants specifically identified children and young people as an important target audience for AMR engagement. Perhaps this open acknowledgement of the value of the participants' views increased their connection to the original project and kept their knowledge-based memories fresh. This, in turn, could have increased their motivation to enact behavioral changes in their own lives and advocate for wider changes in their communities (Mitchell et al., 2019).

Limitations notwithstanding, this study demonstrates that PV projects can have long lasting impacts on participants' knowledge of the focal topic plus their individual behaviours and agency in terms of driving community-level change. In this example, the CARAN participants have gone on to become community AMR champions who share their knowledge of AMR and how to prevent it with the rest of their community. Our data suggests this is mainly informal, via providing advice around human and animal health-seeking behaviours, such as suggesting people visit a qualified doctor or vet rather than a drug seller. However, following the Focus Group Discussions described in this paper, all participants were involved in the co-creation of AMR educational materials as part of a follow-on funding project (AH/T007915/1). In this project, participants suggested key AMR facts to be shared with children and supported the design and content development of a suite of educational resources. They also helped to implement the project by providing AMR orientation sessions to schoolteachers who were also recruited to co-design the educational materials. Finally, two participants attended the pre-test of the materials in schools. Full details of this follow-on project are available in Mitchell et al., 2024.

Such outcomes speak to both the impact and cost-effectiveness of PV as a research method. PV is a resource-intensive intervention which engages a small number of community members as video makers and requires specialist researchers in terms of videomaking and participatory research skills but also expertise in the focal topic (Cooke et al., 2020; Milne et al., 2012;

Mistry et al., 2016). The justification for such a resource intensive process is often based around the impact of video outputs which can be disseminated far and wide, reaching a much larger audience than the small cohort who produced them (Chávez et al., 2004; De Lange & Mitchell, 2012; Harou & Dougherty, 2017; Warren et al., 2014). In this study we demonstrate that the impact and legacy of PV goes beyond the video outputs and includes the participants themselves. Through PV, participants gain knowledge which in time can promote behaviour change around the focal issue of their PV project (in this case AMR) and the agency to advocate for wider change in their communities. We demonstrate that not only did CARAN participants contribute to ongoing dissemination of knowledge for the two years following their involvement in a PV project, they also directly shaped the direction of, and were active within a new academic research project. We believe this shows a high return on investment in terms of both the time and resources involved in the delivery of PV.

Conclusion

This paper demonstrates that the legacy of a PV project should be considered in terms of the impact of participants themselves. Many PV projects focus on the dissemination and longer-term use of videos, but neglect to consider the legacy of participants post-intervention. The videos from CARAN have informed policy, research projects and toolkits, but the participants are also an ‘output’. Participants have developed lasting knowledge on the focal topic of AMR and used this to change some of their own behaviors around antibiotic medicine and pesticide use. They now act as AMR champions in their own communities by suggesting alternative behaviors to their peers which could minimize AMR. Finally, participants have contributed to ongoing research by identifying a target group for AMR information, co-designing and delivered a training and educational program for schoolteachers and children in their local area (for full details see AH/T007915/1). Hence, the legacy of participatory video is more extensive than the video outputs alone. The development of participants’ knowledge, attitudes, practices, and agency around the focal topic can lead to long-lasting impacts within their community. We suggest future PV projects consider feasible options for longer term re-engagement with participants to realize the direction and scale of the project’s impact and legacy.

Author contributions

JM, PC, RK and SB designed the study. JM led all project implementation and management, data analysis and evaluation and manuscript preparation. SB and AA provided in-country project management and contributed the design, implementation and analysis of the study. SM collected the data. SM, AA and PC supported data analysis. NJ and PC contributed significant

theoretical underpinnings to the Participatory Video prose within the manuscript. All authors have read, reviewed and approved the final version of the manuscript.

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Ethics

Ethical approval for this project was granted from both the University of Leeds, Faculty of Arts, Humanities and Cultures Ethics Board (Reference Number: FAHC 19-056) and The Nepal Health and Research Council (Reference Number: 04022020). Due to the project occurring over the pandemic, several changes were made to the ethical applications, namely relating to the move from face-to-face engagement to online and phone call engagement. An updated University of Leeds approval number was then provided (MREC 22-012) all changes in Nepal were recorded under the same reference number (04022020).

Conflicts of interest

Authors have no conflict of interest to declare.

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Supplementary Materials

Supplementary material

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