HEPATITIS C AND YOUR TRANSPLANT

An animated video to educate transplant candidates about treating HCV-positive donor organs

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Abstract

A 2D-animated, educational video was for transplant candidates and their caregivers to learn about a protocol at Toronto General Hospital (TGH) that is safely treating organs from hepatitis C-positive donors. This animation serves as audio-visual material that augments the informed consent process. Patient feedback on the final iteration gave insight into the clarity and efficacy of the communication and visual style of this animation, and found that patients were receptive to the use of this visual aid during the informed consent process.

Introduction

Direct-acting antiviral (DAA) drugs in recent years have made it possible to cure organs infected with HCV and safely use them in transplantation, addressing the chronic shortage of donor organs[1,2]. Critically, wait list times for patients can be reduced, thereby decreasing the risk of waitlist mortality[1,3]. However, poor understanding of the associated risks of HCV infection and stigma surrounding HCV result in low willingness to accept HCV-positive organs[4-6].

To address this problem, an animation was created to educated transplant candidates and their caregivers about a new protocol at TGH that is treating HCV-positive organs with a success rate of over 95%[1]. The video explains the clinical protocol, treatment, and follow-up schedules. Importantly, it remediates common misconceptions associated with the risk of HCV infection and transmission post-transplant.

The informed consent process traditionally involves providing patients with written documents that are lengthy and often contain complex language. This creates a barrier for patients to understand all the information relevant to their medical care, and therefore give truly informed consent. Enhancing patient education by providing a visual aid as an adjunct to lengthy written documents in the informed consent process may improve patient understanding and confidence, as patients are offered a new format for learning that improves understanding and recall. Currently, no visual resources for patient education about HCV exist at TGH. This visual aid makes the information more accessible and easy to digest for patients and their caregivers. Visual aids for decision-making during the informed consent process are becoming increasingly recognized as a core application of patient-centred care[7].

Materials & Methods

Pre-production

The script and storyboard were created after consultation with the clinical expert, Nikki Marks, and using written documents about HCV (which are provided to transplant candidates during informed consent) as reference for the content. An important piece to capture in the animation was the visualization of the medication schedule,

Visual design

All graphics in the animation were done in 2D. No complex spatial relationships are being explained, and the target audience are patients who vary in their level of health literacy. Therefore, we determined that simple, clean 2D graphics would make the animation more accessible and would mitigate cognitive load for patients who already experience a high level of stress. The main character design was informed by a real-life transplant patient and advocate. Background characters were designed to be diverse and inclusive. Environments were done in a painterly style to create a warm atmosphere.

Adobe Illustrator was used for building assets including the main character; Adobe Photoshop and Savage Procreate were used to render the background environments and characters; After Effects was the primary software for animation and final rendering.

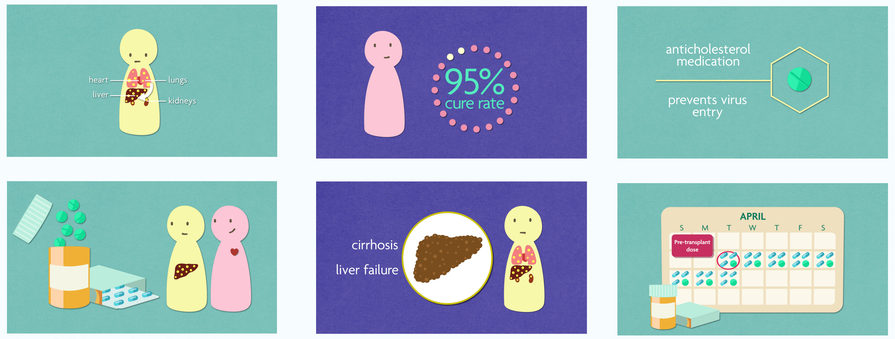

Fig 1. Still frames from final animation.

Patient post-survey

A survey was developed to solicit feedback on the final iteration of the animation. It was sent to eight participants in the Patient Partners Program at UHN and responses were collected between August–September 2020. Using a combination of Likert scales and written feedback, the survey assessed the degree to which participants felt the animation clearly explained HCV infection and transmission, as well as patients' response to and preference for the visual style.

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Results

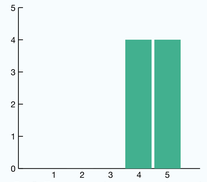

Fig 2. The degree to which participants agreed the animation helped them understand what HCV is (1=Strongly disagree; 5=Strongly agree).

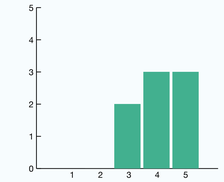

Fig 3. The degree to which participants liked the visual style of the animation (1=Did not like; 5=Liked).

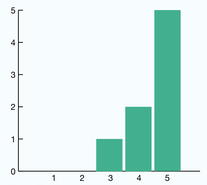

Fig 4. The degree to which participants agreed the animation helped them understand how HCV is transmitted.

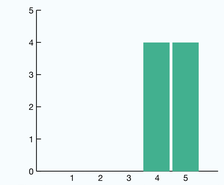

Fig 5. The degree to which participants agreed the animation helped them understand how HCV is not transmitted.

Conclusion

Patient feedback indicates the animation is generally useful for understanding what HCV is, and explaining how HCV is and is not transmitted post-transplant. Participants commented that the visual style clear, effective, and visually pleasing. Further, patients were responsive to and excited about the use of such visual communication aids to improve understanding and confidence in this life-saving procedure. Further study is required to assess the efficacy of this visual aid when used in conjunction with written documents to improve patient understanding and confidence, as opposed to written documents alone.

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