The use of Virtual Reality for Patient Diversion during colonoscopy feasability study

Gepubliceerd: 11-10-2016 Laatst bijgewerkt: 18-08-2022

Patients who undergo colonoscopy are subject to discomfort related to the procedure; is it feasable to enhance patient comfort with Virtual Reality glasses worn during colonoscopy?

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON25837

Bron NTR

Verkorte titel VR-PADI

Aandoening

colonoscopy, anxiety, pain, distraction, virtual reality, feasibility coloscopie, angst, pijn, afleiding, virtual reality, haalbaarheid colonoscopy, anxiety, pain, distraction, virtual reality, feasibility coloscopie, angst, pijn, afleiding, virtual reality, haalbaarheid

Ondersteuning

Primaire sponsor: Radboud University Medical Centre **Overige ondersteuning:** fund = initiator = sponsor

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Feasibility of the use of virtual reality glasses during current default colonoscopic procedures including sedation.

(patient wear virtual reality glasses whole procedure, communication with patient is not restricted, effect on combining sedation and VR)

Toelichting onderzoek

Achtergrond van het onderzoek

Colonoscopy is a highly invasive examination performed for: 1) screening, diagnosis, and sometimes treatment of colorectal cancer; 2) evaluating inflammatory bowel disease; and 3) detecting other structural lesions in the colon. In 2014, 242,900 colonoscopic procedures were performed in the Netherlands [1], and these numbers increase by the year. Due to the invasive nature of the examination, patients may experience pain and discomfort during colonoscopy [2]. Unpleasant experience with colonoscopy may cause anxiety of experiencing the same amount of unpleasantness during prospective colonoscopy, causing patients to refuse colonoscopy [3]. Sedative medication is used to relieve pain and discomfort during the procedure. Although sedative medication has positive effects on pain and discomfort, it may cause adverse effects [4].

Several studies were performed to reduce pain and discomfort during endoscopy [5-11]. These studies were focused on visual [6, 8, 11], auditory [5, 7, 11], acupunctural [10], and slow-wave photic [9] distraction, and show promising results. Lembo et al. suggested that combined visual and auditory distraction has a higher effect on reducing abdominal discomfort during flexible sigmoidoscopies compared to auditory distraction alone [11].

A technique which uses a combination of visual and auditory distraction and which is suggested to have an analgesic and relaxing effect is virtual reality (VR) [12, 13]. VR allows the user to participate in a simulated environment. The field of burn wound therapy has been the primary interest in implementing VR, since wound debridement in patients with burn wounds is a painful intervention. Several studies have shown the potential of VR in pediatric and adult burn wound patients [14-16]. In addition, a study of Furman et al. VR distraction was used to relieve pain and unpleasantness in patients receiving dental treatment [17]. This study showed that a higher patient satisfaction was reached by procedures using VR distraction compared to procedures using auditory distraction or without any distraction at all.

Research has been performed towards the functional mechanism of action of VR in the brain. Hoffman et al. investigated the effects of VR distraction on pain related brain activity using fMRI [13]. The results show that VR distraction has positive effects on pain related brain activity in five regions associated with pain sensation, when VR is used as an additional analgesia. The results of the study of Hoffman et al. are promising for implementing VR distraction into other medical procedures, e.g. colonoscopy, to relieve procedural pain and discomfort.

Although studies have been performed to reduce pain and discomfort during endoscopic procedures. To the best of our knowledge, no studies have been performed to reduce pain and discomfort during colonoscopy using VR. Therefore, in our study we wanted to investigate the feasibility of using VR distraction during colonoscopy to reduce pain and anxiety.

Doel van het onderzoek

Patients who undergo colonoscopy are subject to discomfort related to the procedure; is it feasable to enhance patient comfort with Virtual Reality glasses worn during colonoscopy?

Onderzoeksopzet

Questionnaires are filled out at:

Inclusion (at home)

Pre colonoscopy (in the hospital)

During colonoscopy (by the researcher)

Post colonoscopy (in the hospital)

Onderzoeksproduct en/of interventie

Patients wear a set of virtual reality glasses showing 360 degrees nature video's during colonoscopy

Contactpersonen

Publiek

Radboudumc, Department of Gastroenterology

Govert Veldhuijzen Geert Grooteplein-Zuid 10

Nijmegen 6525 GA

3 - The use of Virtual Reality for Patient Diversion during colonoscopy - feasabilit ... 4-05-2025

The Netherlands

Wetenschappelijk

Radboudumc, Department of Gastroenterology

Govert Veldhuijzen Geert Grooteplein-Zuid 10

Nijmegen 6525 GA The Netherlands

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

-Aged above 18

-Indication of colonscopy

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

-Visual and/or auditory impaired

-Dementia

-Limited Dutch language skills

-Diagnosed with balance disorders or epilepsy

Onderzoeksopzet

Opzet

Type: Onderzoeksmodel: Interventie onderzoek Parallel

4 - The use of Virtual Reality for Patient Diversion during colonoscopy - feasabilit ... 4-05-2025

Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	Geneesmiddel

Deelname

Nederland	
Status:	Werving nog niet gestart
(Verwachte) startdatum:	18-10-2016
Aantal proefpersonen:	24
Туре:	Verwachte startdatum

Ethische beoordeling

Positief advies	
Datum:	11-10-2016
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

RegisterIDNTR-newNL5583NTR-oldNTR6175Ander registerCommissie Mensgebonden Onderzoek Nijmegen-Arnhem : 2016-2750

5 - The use of Virtual Reality for Patient Diversion during colonoscopy - feasabilit ... 4-05-2025

Resultaten

Samenvatting resultaten

N/a