Title:
> A Low cost VR group support system for people living with HIV

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Abstract:
Social support has been shown to improve the quality of life of HIV/AIDS patients, and HIV/AIDS counseling and support groups have traditionally been used as a means of providing social support to patients. Given the high HIV infection rate, South Africa faces a shortage of counseling resources. This study investigated the possibility of using virtual reality technology to provide emotional and informational support to HIV/AIDS patients. Our system was partly motivated by other systems which have been successfully used to provide support for breast cancer patients (eg. *Breast Cancer Lighthouse* and *Easing Cancer Park*). If a low cost VR support system were effective, it could greatly increase the number of HIV/AIDS patients receiving support.

We developed a low cost, deployable desktop PC based system using custom software. The system implements a VR walkthrough experience of a tranquil campfire in a forest. The scene contains four interactive avatars who relate narratives compiled from HIV/AIDS patients. These narratives cover the aspects of receiving an HIV+ diagnosis, intervention, and coping with living with HIV+ status. To evaluate the system, seven computer semi-literate HIV+ volunteers from townships around Cape Town used the system under the supervision of a clinical psychologist. The participants were interviewed about their experiences with their system, and the data was analyzed qualitatively.

In terms of emotional impact, the participants found their experience with the system mostly encouraging, particularly the narratives relating to adjustment and coping. They found it encouraging hearing from other HIV+ individuals rather than from other sources. The participants liked the availability of the computer system, and found it preferable to TV or pamphlets as a source of information, due to its interactivity and the control it affords over content delivery. The system was also preferred due to the anonymity it provides to those not willing to reveal their HIV status. The system highlighted the potential benefits of joining a support group, and motivated some participants to make more use of support groups. In general, participants found using the system an uplifting experience, reinforcing their strength in coping with HIV. As compared to other forms of therapeutic intervention, participants reported that they received a similar cathartic experience. The system was considered ideal for patients who because of their fear of disclosing their HIV status are not receiving support. The participants generally preferred real support groups

rather than the VR system, but felt that the system could augment counseling tools, and that it could be of benefit in places where counseling resources were not available, or in cases where joining a support group was difficult.

Our study establishes the usefulness of low-cost VR systems in the counseling of HIV/AIDS patients in developing communities. Such systems cannot replace counseling, but can play a role in steering people towards seeking counseling, as well as providing limited support in cases where counseling resources are not available. Our findings, although preliminary, have encouraged the further development of our system by extending the degree of informational and emotional support it provides.

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