Barriers to the Use of Virtual Reality in Physical Therapy Practice

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PURPOSE/ABSTRACT

The purpose of this cross-sectional study was to examine the current usage of Virtual Reality (VR) across a variety of Physical Therapy clinic settings and regions as well as examine the perceived barriers to implementing VR-based interventions in Physical Therapy practice.

INTRODUCTION

There has been a rise in the use of Virtual Reality (VR) across all fields of healthcare and more specifically, in physical and occupational therapy. Prior research has revealed a wide variety of benefits to using VR technology for patient care and treatment; however, there remains the need to determine the barriers that impact the use of this technology in clinical practice.

Number of Subjects

47 clinicians completed the survey

METHODS

A cross-sectional exploratory survey was distributed through a series of networks to practicing physical therapists. The 26-question survey consisted of multiple choice, Likert scale, and open-response questions. The survey focused on: 1) clinical use of VR, 2) overall comfort in the use of VR, 3) supports and barriers to VR use in clinical practice, and 4) belief in the clinical relevance of this intervention. The survey data was assessed using descriptive analysis.

RESULTS

Participants: Of the 47 participants 18 (38%) indicated they currently use VR in their clinical practices while 29 respondents (62%) did not.

Practice Settings; 70% of respondents practiced in an outpatient ambulatory setting, 11% Rehabilitating Center, 11% Acute Care, and 6% Subacute.

Years of Clinical Practice. 18% of respondents had 1-5 years of clinical experience, 50% had 6-10 years, and 32% had over 10 years of clinical experience

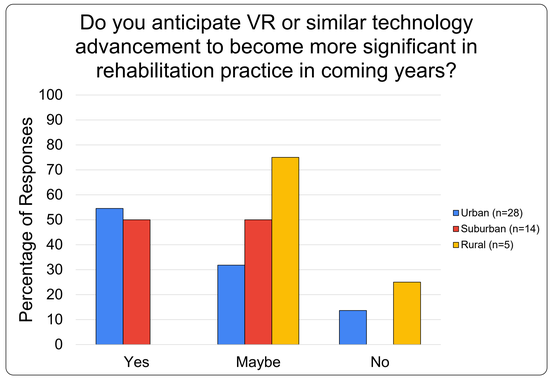

Fig 1. 54.5% of urban and 50% of suburban clinicians believe VR will become more significant.

31.8% of urban, 50% of suburban, and 42.1% rural clinicians see the possibility of VR use increasing.

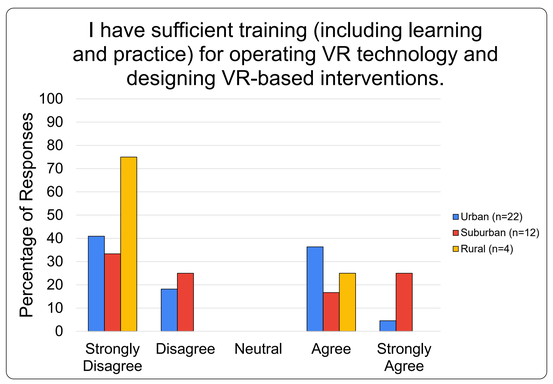

Fig 2 A significant percentage of clinicians did not feel they had the appropriate level of training to effectively use VR as a therapeutic intervention

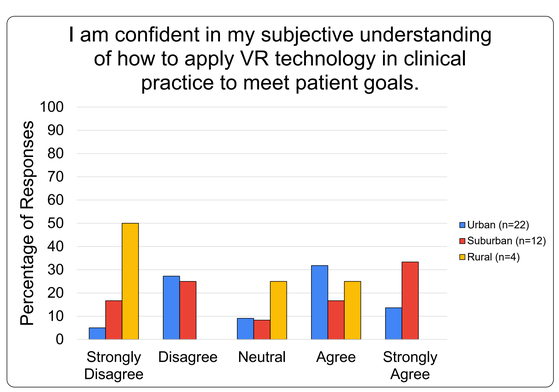

Fig 3. There was a wide range of confidence among the clinicians that they had the understanding of how to efferently apply VR interventions in clinical practice.

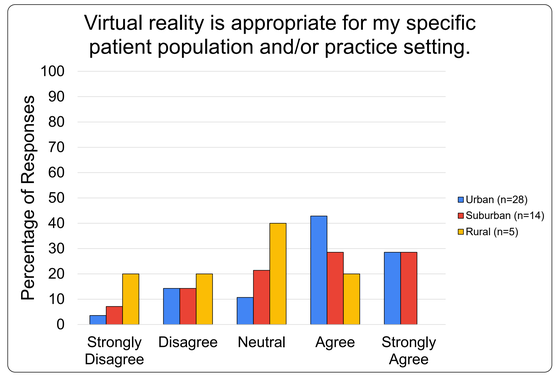

Fig 4. PTs in various clinical settings believe VR is appropriate for their practice; 71.43% Urban, 57.14% Suburban, 20% Rural.

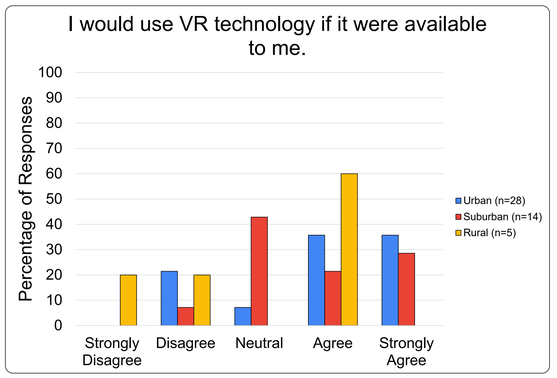

Fig 5. The majority of participating clinicians stated they would use VR technology if it were available to them.

Perceived Barriers to use VR in Clinical Practice

1. Funding for purchase of the equipment (64.29% Urban, 64.29% Suburban, 80% of Rural PTs)
2. Expertise to use the equipment (60.71% Urban, 42.86% Suburban, 60% Rural)
3. Expertise for maintaining the equipment (28.57% Urban, 35.71% Suburban, 40% Rural)

CONCLUSION

The majority of therapists surveyed were not currently using VR-based intervention in their clinical practice and were unsure about if and how to use this technology with their patient populations.

CLINICAL RELEVANCE

If there is to be greater uptake of VR as a therapeutic intervention the following will be needed: 1) Need for more research that demonstrates efficacy of using VR-based intervention, 2) need for training on how to used, setup, and maintain VR equipment, and 3) need for cost to decrease or reimbursement for this type of intervention to overcome the perceived barriers cost is.