Effects of internet-based telerehabilitation on pain for patients with knee osteoarthritis: A study of randomized controlled trial in the community setting

Su-hang Xie

Sichuan University, China

Background: Internet-Based Rehabilitation (IBR) could ease the accessibility of rehabilitation service in the remote area. The potential benefits of IBR intervention for the patients with chronic knee Osteoarthritis (OA) in the community setting were unknown.

Objective: The aim of this study was to explore the effectiveness of IBR intervention on pain for the patients with knee OA in a community setting.

Methods: Fifty-six subjects with knee OA were recruited in the community setting in Chengdu district. An assessor-blinded randomized controlled trial was performed, in which the recruited subjects were randomly allocated into the IBR group or the control group. The IBR group provided the interventions through the purposely-designed application program named as "For KOA" and the wearable bracelet, while the outcome measures were conducted at baseline, 6 weeks and 12 weeks post-intervention. The feasibility was tested by the proportion of patients who completed the IBR intervention during the study. Compliance and satisfaction with IBR intervention were also assessed. Additionally, the effectiveness of internet-based rehabilitation was assessed by the Western Ontario and McMaster Universities Osteoarthritis Index, 11-point Numerical Rating Scale and Short Form-36 quality-of-life questionnaire.

Results: The 11-NRS showed that the experimental group was 3.43 ± 0.79 at week 6 and 2.07 ± 0.94 at week 12. The two phases had significant changes compared with those before the intervention ($p<0.05$). The control group at week 6 was 4.04 ± 0.79, and week 12 was 3.11 ± 0.88. The two stages were significantly changed compared with those before the intervention ($p<0.05$). At the same time, the experimental group had significant changes compared with the control group in week 6 and week 12 ($p<0.05$); 2) The WOMAC pain subscale showed that the experimental group was 2.00 ± 1.19 in the week 6. The score at week 12 was 1.25 ± 0.84, and the two phases had significant changes compared with those before the intervention ($p<0.05$). The control group at the week 6 was 2.75 ± 1.00, and the week 12 was 1.61 ± 0.79. The two stages had significant changes compared with those before the intervention ($p<0.05$). The experimental group had a significant change compared with the control group at week 6 ($p<0.05$), but there was no significant change at week 12 ($p>0.05$). SF-36 showed that after 6 weeks of intervention, the experimental group and the control group suffered from Bodily Pain compared with the status of each group at baseline, there were significant changes ($p<0.05$). After 12 weeks of intervention, the Bodily Pain of the experimental group and the control group had significant changes compared with the state of each group at baseline ($p<0.05$).

Conclusion: The 12-week Internet-based rehabilitation could effectively relieve knee pain for patients with knee OA, which was better than oral guidance.

Biography

Su-hang Xie had completed his Master Degree in Physiotherapy by West China School of Medicine of Sichuan University. He has worked as a physiotherapist of Chronic Pain at First Medical Center of Chinese PLA General Hospital. He has published more than 10 papers in reputed journals.