Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of Different Virtual Reality Based Exercises in addition to Routine Physiotherapy on Chronic Low back Pain

Protocol summary

Study aim
To compare different Virtual reality based exercises with routine physiotherapy in patients with chronic low back pain

Design
A concealed, single blinded randomised controlled trial will be conducted on 100 patients,single centered study

Settings and conduct
University of lahore teaching hospital,Pain Center, single blinded study (patient will be blinded to the recruited group)

Participants/Inclusion and exclusion criteria
Inclusion Criteria: Both male and female patients, age between 25-80 years, Clinically diagnosed with Chronic Low back pain and willing to participate in the study. Exclusion Criteria: Any fracture or dislocation of lumber spine, Any history of surgery on lumber spine, hip or pelvis, Spinal tumors or infections in the intervertebral disc, Inflammatory diseases such as rheumatism, Spinal deformity such as scoliosis, spondylolysthesis.Patients taking medications e.g Non-Steroidal Anti-Inflammatory Drugs (NSAIDS) for pain,Pregnant females,Virtual reality Phobia

Intervention groups
Patients will be randomly divided into control and experimental groups. The control group will receive routine physical therapy while the experimental groups will receive Virtual reality based exercises alongwith the routine physical therapy

Main outcome variables
Pain, Functional Disability , fear avoidance belief and Range of Motion

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20230426057995N1**
Registration date: **2023-05-01, 1402/02/11**
Registration timing: **prospective**

Last update: **2023-05-01, 1402/02/11**
Update count: **0**

Registration date
2023-05-01, 1402/02/11

Registrant information

Name
Muhammad Waqar

Name of organization / entity
The University of Lahore

Country
Pakistan

Phone
+92 42 111 865 865

Email address
waqarafzalpt@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-05-13, 1402/02/23

Expected recruitment end date
2023-07-20, 1402/04/29

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of Different Virtual Reality Based Exercises in addition to Routine Physiotherapy on Chronic Low back Pain

Public title

Effects of Virtual Reality Based Exercises on Chronic Low back Pain

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Both male and female patients, age between 25-80 years.Clinically diagnosed as Chronic Low Back Pain and willing to participate in the study

Exclusion criteria:
Any fracture or dislocation of lumber vertebra, history of any surgery of lumber spine, hip or pelvis Spinal tumors or infections, any disc Inflammatory diseases such as rheumatism, Spinal deformity such as scoliosis, spondylolysthesis Patients taking medications e.g NSAIDS for pain, Pregnant females, Virtual reality phobia

Age
From **25 years** old to **80 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **90**

Randomization (investigator's opinion)
Randomized

Randomization description
By using computer generated random number table, patients will be randomly assigned into two groups. All those random numbers will be enclosed in sealed envelopes. A third person (who will further not be the part of research) will open envelops and the patients will be allocated to the mentioned group accordingly.

Blinding (investigator's opinion)
Single blinded

Blinding description
An independent assessor, who will be a senior and experienced physiotherapist and further will not be the part of study will perform the assessment of patients

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Instititional Review Board

Street address
1-Km Defence Road, near Bhuptian Chowk, Lahore, Punjab

City
Lahore

Postal code
54000

Approval date
2020-01-23, 1398/11/03

Ethics committee reference number
IRB-UOL-FAHS/696-IV/2020

Health conditions studied

1

Description of health condition studied
Chronic low back pain

ICD-10 code
M54.5

ICD-10 code description
Low back pain

Primary outcomes

1

Description
Pain

Timepoint
Before Intervention then after 3rd and 6th Week after Intervention

Method of measurement
Numeric pain rating scale

2

Description
Functional status

Timepoint
Before Intervention then after 3rd and 6th Week after Intervention

Method of measurement
Back Pain Functional Scale

3

Description
Fear Avoidance

Timepoint
Before Intervention then after 3rd and 6th Week after Intervention

Method of measurement
Fear avoidance belief questionnaire

Secondary outcomes

1

Description
Range of Motion

Timepoint
Before Intervention and 6th week after Intervention

Method of measurement

Inclinometer

Intervention groups

1

Description
Intervention group: Virtual Reality Exercises with Body ball game
Category
Rehabilitation

2

Description
Intervention group: Virtual Reality Exercises with Rally Ball game
Category
Rehabilitation

3

Description
Intervention group: Virtual Reality Exercises with Fruit Ninja game
Category
Rehabilitation

4

Description
Control group: Routine Physiotherapy
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
University of Lahore teaching hospital
Full name of responsible person
Umair Ahmad
Street address
1-Km Defence Road, near Bhuptian Chowk, Lahore, Punjab
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Sponsors / Funding sources

1

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Name of organization / entity
University of Lahore
Full name of responsible person
Umair Ahamd
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
University of Lahore
Proportion provided by this source
1
Public or private sector
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
University of Lahore
Full name of responsible person
Umair Ahmad
Position
Head of the department
Latest degree
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Other areas of specialty/work
Physiotherapy
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
Primary outcome measure wil be available (Effects of VR on Chronic low back) through email at waqarafzalpt@gmail.com
When the data will become available and for how long
After 4 weeks of publications
To whom data/document is available
people working in academic, clinician dealling with low back pain
Under which criteria data/document could be used
By providing the educational background as academic institutions or registered clinician through registerted by the registering body of the Country
From where data/document is obtainable
Through email at waqarafzalpt@gmail.com
What processes are involved for a request to access data/document
Requesting through email at waqarafzalpt@gmail.com with all relevant details
Comments