



# Effect of cycle ergometer training on balance and cognition in moderate to severely demented elderly, a Randomized Clinical Trial

09/08/2025 08:00:07

## Main Information

### Primary registry identifying number

LBCTR2020012391

### Protocol number

LBCTR2020012391

### MOH registration number

NA

### Study registered at the country of origin

Yes

### Study registered at the country of origin: Specify

### Type of registration

Retrospective

### Type of registration: Justify

We thought that IRB approval (2018) was enough to start recruiting, especially that the intervention is not invasive. Additionally, the subjects are either treated by random exercises or not treated by exercise

### Date of registration in national regulatory agency

### Primary sponsor

Centre National de Recherche Scientifique (CNRS) Lebanon

### Primary sponsor: Country of origin

Lebanon

### Date of registration in primary registry

29/01/2020

### Date of registration in national regulatory agency

### Public title

Effect of cycle ergometer training on balance and cognition in moderate to severely demented elderly, a Randomized Clinical Trial

### Acronym

NA

### Scientific title

Effect of cycle ergometer training on balance and cognition in moderate to severely demented elderly, a Randomized Clinical Trial

### Acronym

NA

### Brief summary of the study: English

Studies on demented populations worldwide have dramatically increased in the last decades. Demented people present with a set of symptoms that may include memory loss and difficulties with thinking, problem solving or language, as well as change in mood and behavior. Physical activity was proved to be the most successful key factors in preserving mental and physical health among elderly persons. Nowadays, physical therapists and health professionals are seeking passive exercise tool that can provide the demented elderly the needed amount of daily physical activity despite the cognitive impairment they are suffering from. One of those passive exercise tool is the motorized cycle ergometer (MCE), which is a motorized bicycle that can be run on passive mode. Therefore, we will investigate the effectiveness of cycle ergometer as a method of exercise for elderly persons with moderate to severe dementia.



## Brief summary of the study: Arabic

ان الدراسات على كبار السن وخاصة اولئك الذين يعانون من الخرف قاد زادت بشكل ملحوظ. قد لقد تم اثبات ان النشاط البدني هو من اهم الاستراتيجيات العلاجية والتي برهنت فعالية بالحفاظ على الصحة الجسدية والعقلية لدى المسنين. ان من اهم المشاكل المصاحبة لكبار السن، خاصة المصابين بالخرف، هي صعوبات التفكير، الذاكرة، بالإضافة الى التغيرات السلوكية والمزاجية. حالياً، يقوم المعالجين الفيزيائيين والعاملين بالقطاع الصحي بمحاولات للتغلب على هذه الصعوبات عبر ادراج هذه المجموعة من المرضى ضمن برامج رياضية تدريبية لا تتطلب مستوى مشاركة فكرية من قبل المريض احدى هذه الطرق قد تكون الدراجة الثابتة المزودة بمحرك احدى هذه الطرق العالجية. ان هذه الدراسة تهدف الى معرفة تأثير الترتيب بالدراجة الثابتة المزودة بمحرك على التوازن والقدرات المعرفية عند المسنين المصابين بالخرف المتوسط او الشديد.

## Health conditions/problem studied: Specify

Geriatric  
Moderate to severe dementia

## Interventions: Specify

exercise program  
motorized cycle ergometer

## Key inclusion and exclusion criteria: Inclusion criteria

### •Inclusion criteria:

- ☐Subjects should be above the age of 65
- ☐They should be diagnosed with moderate to severe dementia
- ☐They should not have any other severe orthopedic or neurological conditions like stroke, Parkinson, or hip fracture
- ☐They should be ambulating independently with or without the need for a gait assistance device (walker or crutches...)

## Key inclusion and exclusion criteria: Gender

Both

## Key inclusion and exclusion criteria: Specify gender

## Key inclusion and exclusion criteria: Age minimum

65

## Key inclusion and exclusion criteria: Age maximum

99

## Key inclusion and exclusion criteria: Exclusion criteria

### Exclusion criteria:

- ☐Patients previously suffering or still suffering from severe neurological condition
- ☐Any orthopedic surgery on the lower limbs in the last 12 months prior the recruitment in this study
- ☐Subjects that were diagnosed with mild dementia or mild cognitive impairment
- ☐Subjects that are below the age of 65.

## Type of study

Interventional

## Type of intervention

Rehabilitation strategies

## Type of intervention: Specify type

N/A

## Trial scope

Therapy

## Trial scope: Specify scope

N/A

## Study design: Allocation

Randomized controlled trial

## Study design: Masking

Open (masking not used)

## Study design: Control

Active

## Study phase

N/A

## Study design: Purpose

Treatment

## Study design: Specify purpose

N/A

## Study design: Assignment

Parallel

## Study design: Specify assignment

N/A

## IMP has market authorization

## IMP has market authorization: Specify



<b>Name of IMP</b>	<b>Year of authorization</b>	<b>Month of authorization</b>
<b>Type of IMP</b>		
<b>Pharmaceutical class</b>		
NA		
<b>Therapeutic indication</b>		
NA		
<b>Therapeutic benefit</b>		
NA		
<b>Study model</b>	<b>Study model: Explain model</b>	
N/A	N/A	
<b>Study model: Specify model</b>		
N/A		
<b>Time perspective</b>	<b>Time perspective: Explain time perspective</b>	
N/A	N/A	
<b>Time perspective: Specify perspective</b>		
N/A		
<b>Target follow-up duration</b>	<b>Target follow-up duration: Unit</b>	
<b>Number of groups/cohorts</b>		
<b>Biospecimen retention</b>	<b>Biospecimen description</b>	
None retained	NA	
<b>Target sample size</b>	<b>Actual enrollment target size</b>	
60	60	
<b>Date of first enrollment: Type</b>	<b>Date of first enrollment: Date</b>	
Anticipated	03/01/2019	
<b>Date of study closure: Type</b>	<b>Date of study closure: Date</b>	
Anticipated	31/01/2020	
<b>Recruitment status</b>	<b>Recruitment status: Specify</b>	
Complete		

**Date of completion**

31/03/2020

**IPD sharing statement plan**

No

**IPD sharing statement description**

NA

**Additional data URL****Admin comments****Trial status**

Approved

## Secondary Identifying Numbers

Full name of issuing authority	Secondary identifying number
Beirut Arab University	2018H-0043-HS-R-0270

## Sources of Monetary or Material Support

Name
Beirut Arab University
Centre National de Recherche Scientifique (CNRS) Lebanon

## Secondary Sponsors

Name
Dar Al Ajaza Al Islamiah Hospital



## Contact for Public/Scientific Queries

Contact type	Contact full name	Address	Country	Telephone	Email	Affiliation
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## Centers/Hospitals Involved in the Study

Center/Hospital name	Name of principles investigator	Principles investigator speciality	Ethical approval
Dar Al Ajaza Al Islamiah Hospital	Rami Abbas	Physical Therapy	Approved

## Ethics Review

Ethics approval obtained	Approval date	Contact name	Contact email	Contact phone
Beirut Arab University	22/03/2018	Dr. Issam Othman	irb@bau.edu.lb	00961376695224

## Countries of Recruitment

Name
Lebanon

## Health Conditions or Problems Studied

Condition	Code	Keyword
dementia	Dementia in other diseases classified elsewhere (F02)	Dementia



## Interventions

Intervention	Description	Keyword
exercise	regular exercise program	Ex
motorized cycle ergometer	motorized cycle ergometer	Mo

## Primary Outcomes

Name	Time Points	Measure
Cognition	Before and after 12 weeks of intervention	Mini Mental State Exam
Balance	Before and after 12 weeks of intervention	Berg Balance Scale
Gait	Before and after 12 weeks of intervention	Timed up and Go test

## Key Secondary Outcomes

Name	Time Points	Measure
Gait	before and after 12 weeks	Timed up and go test



## Trial Results

Summary results

Study results globally

Date of posting of results summaries

Date of first journal publication of results

Results URL link

Baseline characteristics

Participant flow

Adverse events

Outcome measures

URL to protocol files