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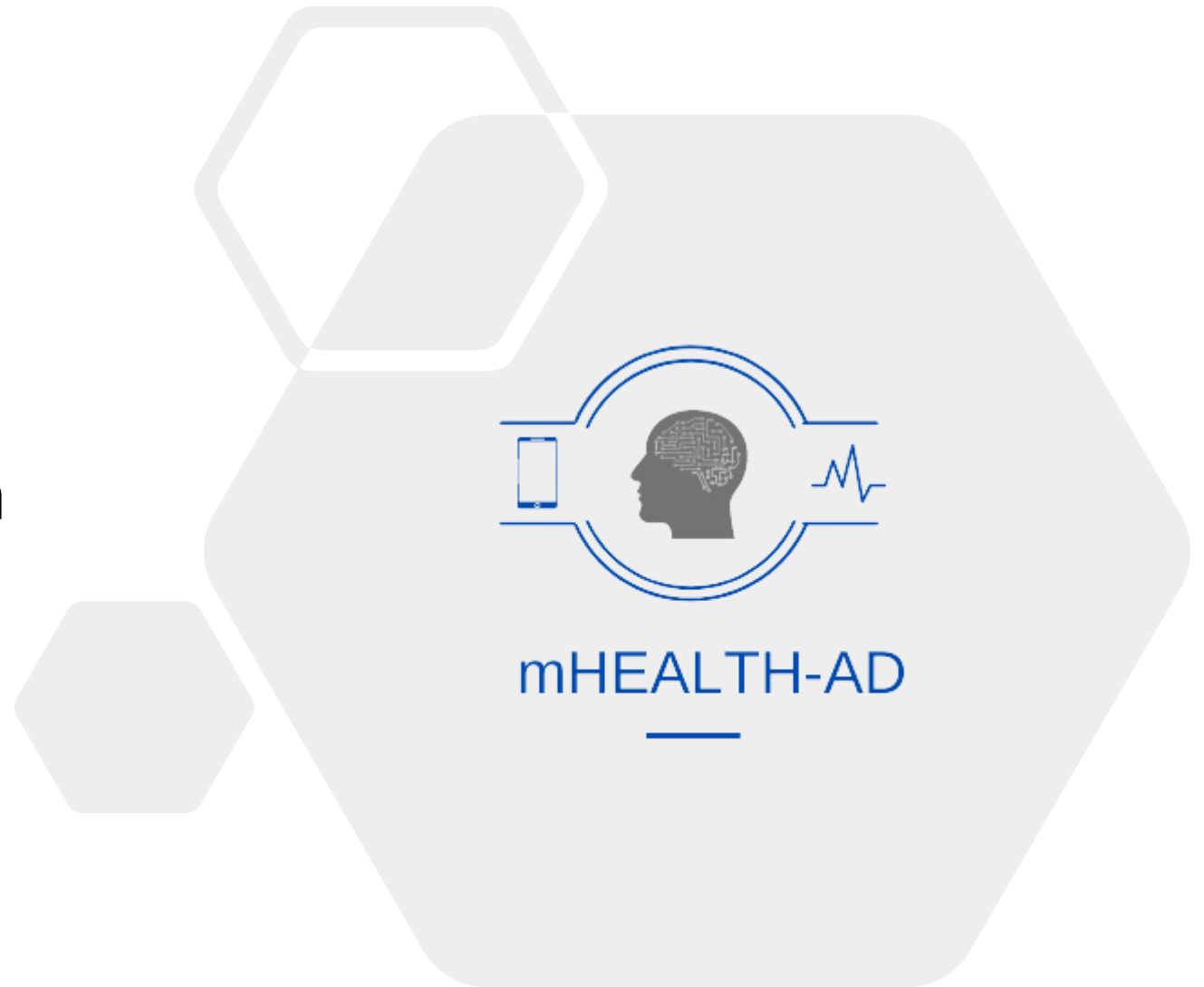
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Module 3

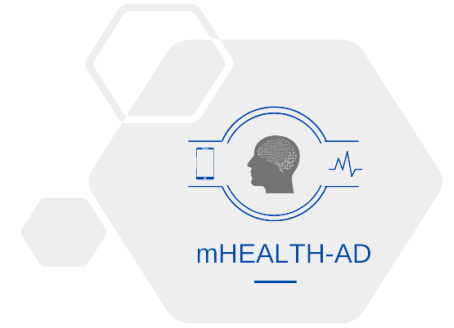
mHealth for training health condition



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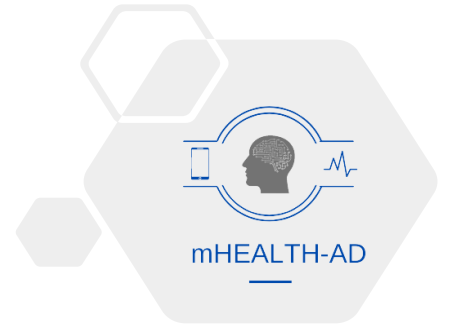


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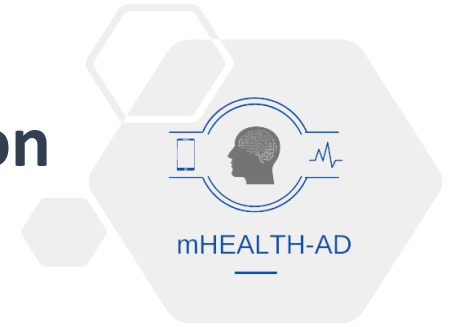
1. mHealth for Monitoring Health Indicators

2. mHealth for Tracking and Feedback

3. mHealth for Training Health Condition

4. mHealth for Communication and Planning

TRAINING ACTIVITY 3_mHealth for Training Health Condition



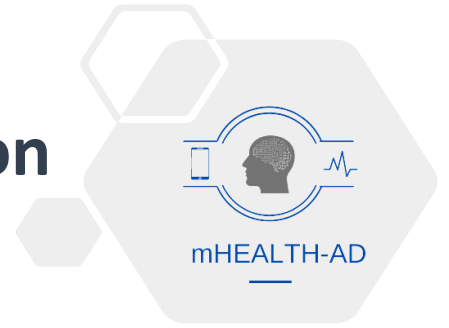
CONTENTS

- **What is the purpose to train health conditions?**
- **How can we manage daily activities with the support of health technologies?**
- **Training to use devices that measure internal parameters**
- **Sleep monitoring and why to do that**
- **Tracking daily activities**
- **Mental fitness and serious games**
- **Training to use the Apps**
- **Available technologies**
- **Complementary videos**

TRAINING ACTIVITY 3_mHealth for Training Health Condition

INTRODUCTION

- **Aging** results into variety of **molecular and cellular damage over time**.
- This leads to a gradual **decrease** in **physical and mental capacity**.



Tracking the health condition, **adapting the behavior** and **visiting the professional on time** is crucial for the wellbeing of an older adult.

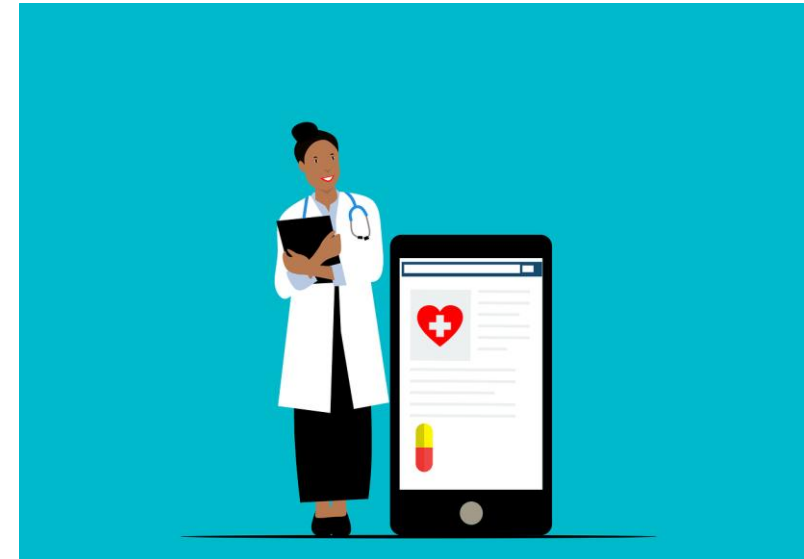
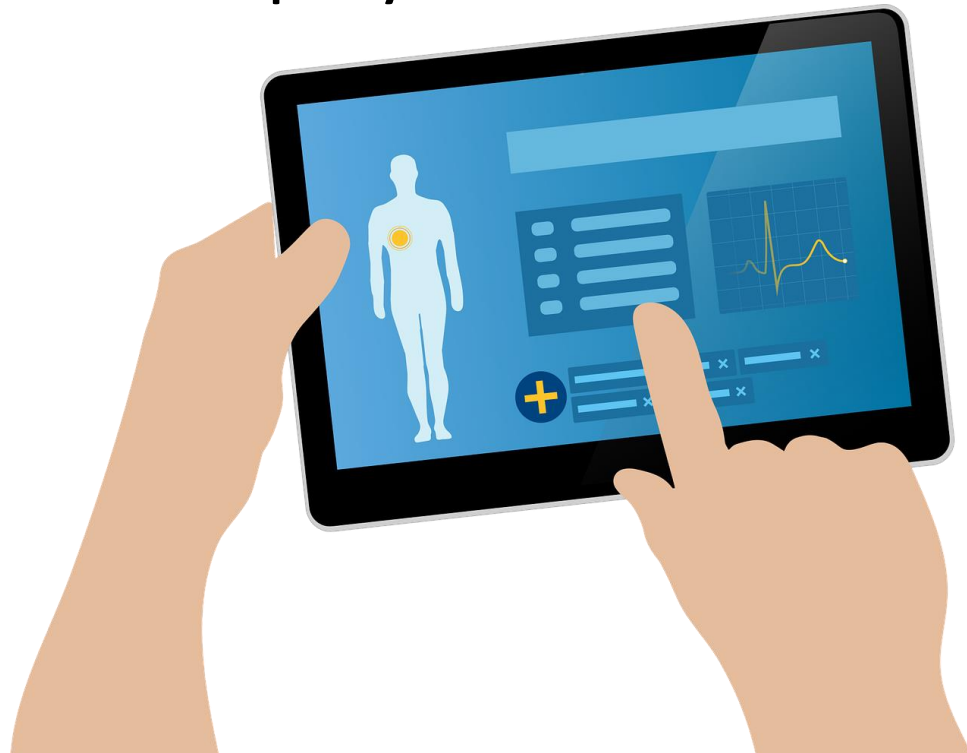
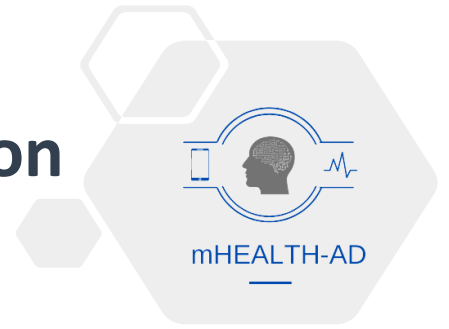


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TRAINING ACTIVITY 3_mHealth for Training Health Condition



What is the purpose to train health conditions?

Use of tools that help with self-monitoring conditions may **empower** elderly in daily challenges faced, but also with the prevention of health deterioration.

The use of mobile apps **has impacted** the way **the population** **has managed healthcare.**



Photo: Pixabay

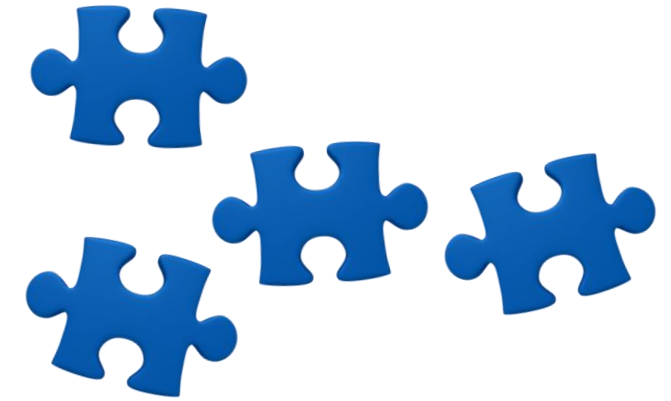
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Manage and prevent dementia comorbidities



Comorbidities are common among persons with dementia:

- High blood pressure
- Cardiovascular disease and stroke
- Depression
- Diabetes



Prevention, early treatment and care can protect against the development of dementia.

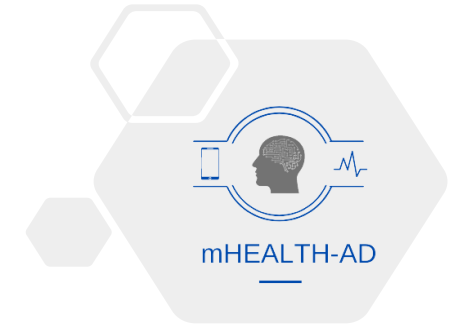
This includes:

- Regular heart health screening to check cardiovascular risks
- Control blood pressure
- Eat a healthy diet – reduce sugar intake
- Regulate mood – with the help of family, caregiver, friends, social connections and therapists
- Stay physically active and live a healthy lifestyle



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How can it be applied to manage daily activities?



Small changes in each of these areas can go a long way to support healthy aging.

- **Including physical activity in a daily routine.**
- **Eating a healthy diet.**
- **Managing stress.**
- **Improve quality of sleep.**



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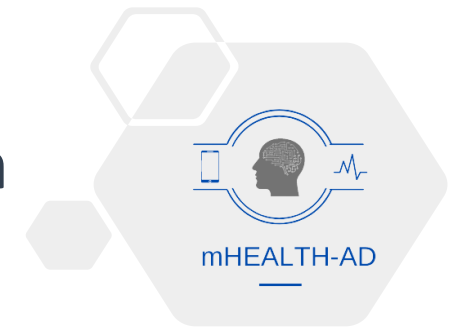


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TRAINING ACTIVITY 3_mHealth for Training Health Condition



Training to use the external devices for health condition monitoring

- **Quality of sleep** and daily management, managing sleep behavior
- **Activity monitoring** and **daily activities** (mood, water intake, tobacco and alcohol use etc.)



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TRAINING ACTIVITY 3_mHealth for Training Health Condition

Sleep monitoring and daily activities

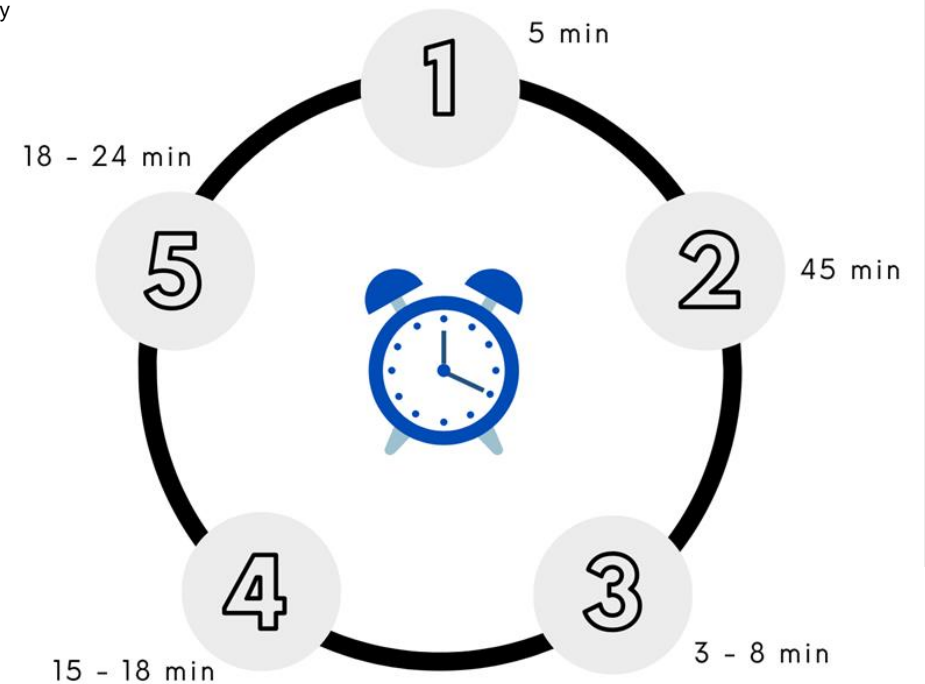
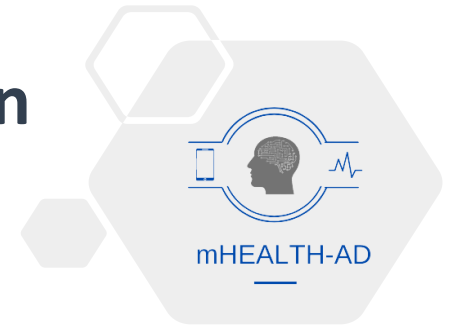
Insight into sleep habits, depth of sleep, interruptions, etc. can aid in adjusting behavior and daily activities.

The sleep cycles occur regularly **every ninety minutes on average**, the average individual experiences around **four to six sleep cycles** in a full seven to nine-hour night of sleep.

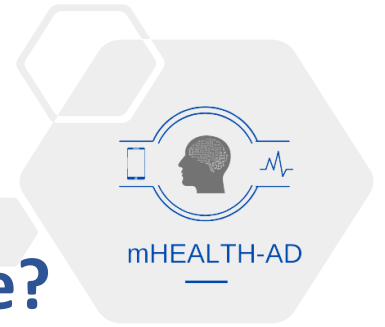
stage 1 - light sleep, feel drowsy, easy wake up
stage 2 - light sleep, relaxation
stage 3 and 4 - deep sleep
stage 5 - REM sleep



Photo: Pixabay



TRAINING ACTIVITY 3_mHealth for Training Health Condition



What types of devices for sleep quality tracking are available?

Wearables

Wristbands, smart-watches



<https://www.fitbit.com/global/us/products/smartwatches/versa3>
<https://www.techradar.com/best/best-fitness-trackers>

Bedside devices



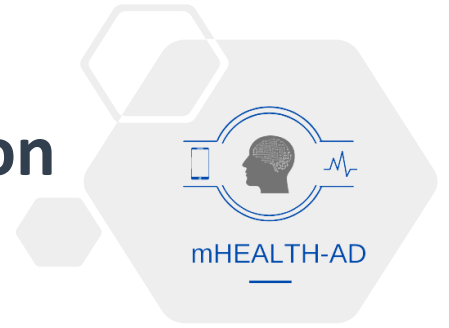
<https://us.sleepace.com/pages/reston>

Bed sensors



<https://www.withings.com/si/en/sleep-analyzer>

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Activity monitoring and daily activities



Regular exercise can help older adults stay **independent** and **prevent health problems** that come with age.

Exercise can **delay mild cognitive impairment (MCI)** and **improve brain function** in older adults who may be at risk for developing Alzheimer's disease.

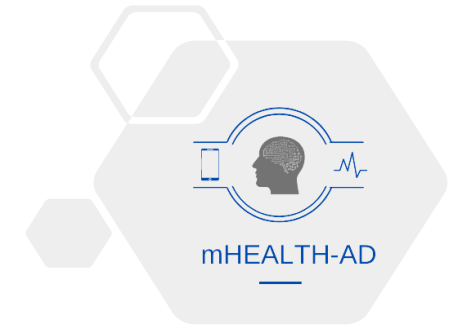


- Pros of activity monitoring and step counting:
- (1) Can keep you motivated, since you can visually see the progress;
 - (2) It allows you to set goals for yourself



There are many devices that can help you **preventing sedentary behaviour** and to **estimate how active you are**.

TRAINING ACTIVITY 3_mHealth for Training Health Condition



What types of devices for tracking daily activity are available?

pedometers



<https://img.aws.livestrongcdn.com/ls-1200x630/ds-photo/getty/article/69/124/183182952.jpg>

ring



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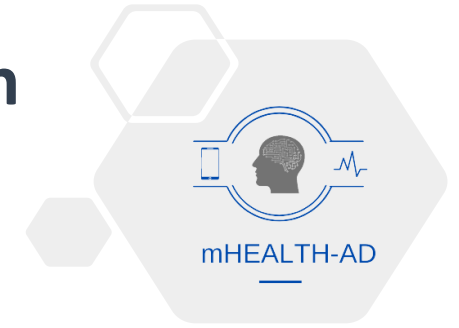
wristbands, smart-watches



<https://www.fitbit.com/global/us/products/smartwatches/versa3>
<https://www.techradar.com/best/best-fitness-trackers>

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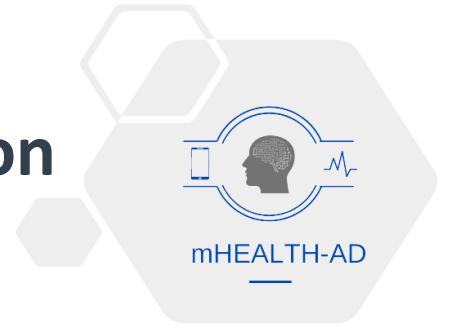
Important individual aspects on sleep quality and physical activity tracking



- The timing and duration of our sleep cycles change as we age.
- Older individuals tend to experience a much longer sleep cycle.
- When a person wants to use the sleep tracking device to help himself/herself with a daily routine and insights, he/she shall follow:

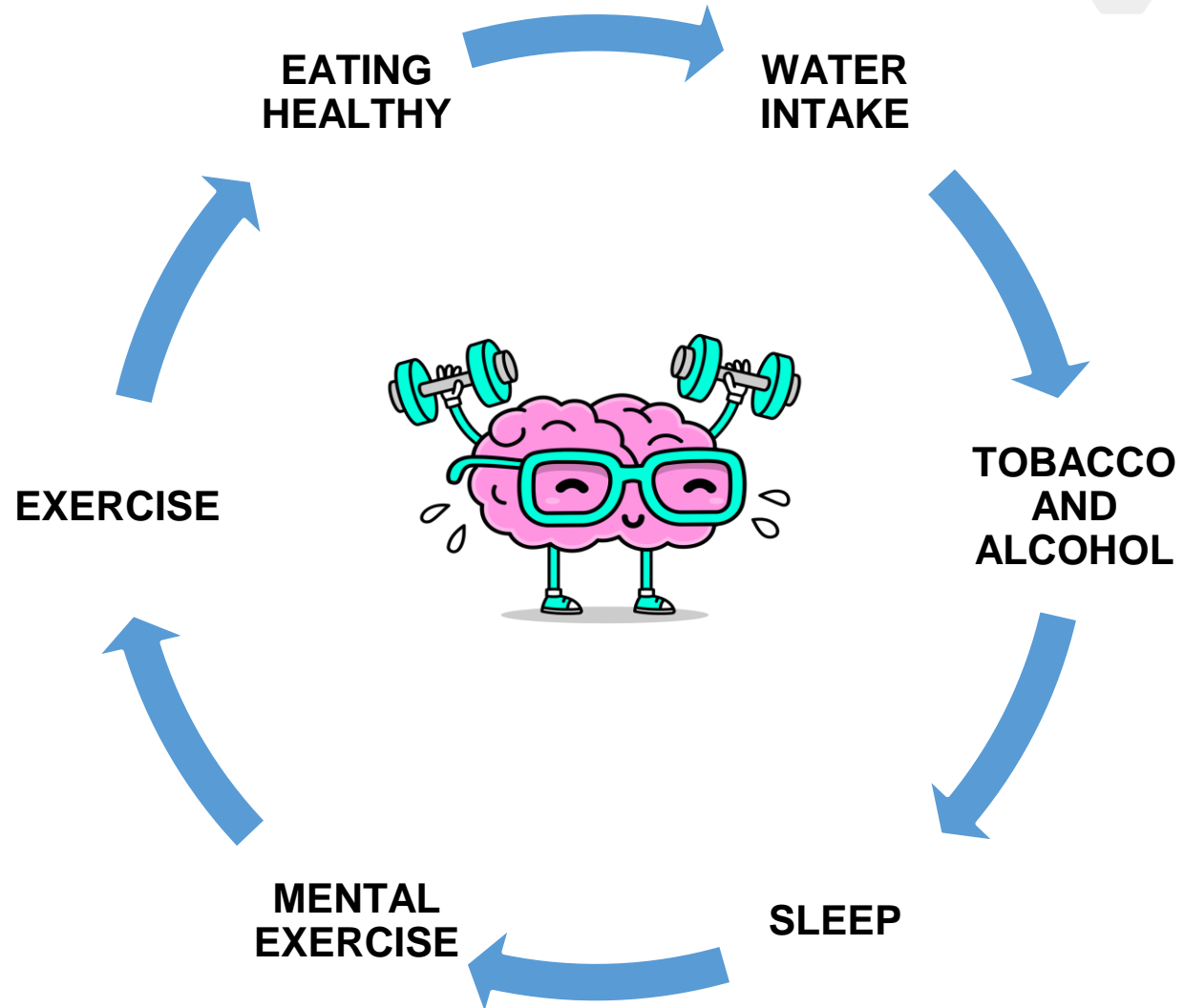
- ✓ **Use your sleep tracker for total sleep time and sleep habit goals (constancy, daily routine...).**
- ✓ **Use sleep analysis as an added value - sleep quality assessment - not as a diagnostic measure of sleep disorders.**
- ✓ **Remember that a consistent routine of regular exercise is more important than random vigorous exercise or fixating on numbers.**
- ✗ **Lose sleep over your sleep data - don't overly anxious about meeting your sleeping goals**

TRAINING ACTIVITY 3_mHealth for Training Health Condition

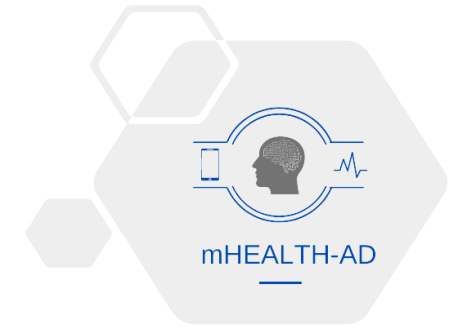


- **Brain health**

Brain health refers to how well the brain works in areas like thinking, senses, emotions, behavior, and movement.



TRAINING ACTIVITY 3_mHealth for Training Health Condition



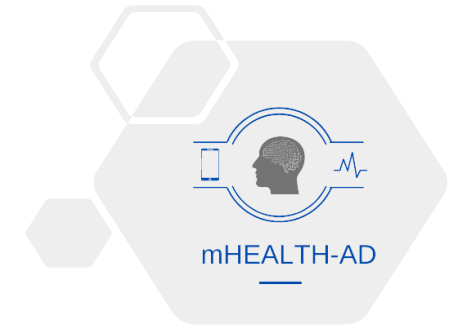
- **Mood**

Mental health and mood can affect every area of life, from work performance to relationships and physical health.

Monitoring them through devices can provide valuable insights into patterns, triggers, and potential problems.

- **Mindfulness** can help reduce stress and improve mood. Being present in the moment and paying attention to thoughts, feelings, and sensations without judgment.
- **Exercise** has been shown to improve mental health and mood by reducing stress and anxiety, boosting self-esteem, and increasing the production of endorphins.
- **Getting enough sleep** is essential. Aim for 7-9 hours of sleep per night, and establish a regular sleep routine.
- **A healthy diet** can help improve mental health and mood. Eating a variety of nutrient-rich foods, including fruits, vegetables, whole grains, lean protein, and healthy fats.
- **Social connections** are important. Spend time with friends and family, join a club or organization, or volunteer in your community.
- **A mental health professional** can help you develop coping strategies, manage symptoms, and improve overall well-being.
- **Relaxation techniques** like deep breathing, meditation, or yoga can improve mental health and mood

TRAINING ACTIVITY 3_mHealth for Training Health Condition



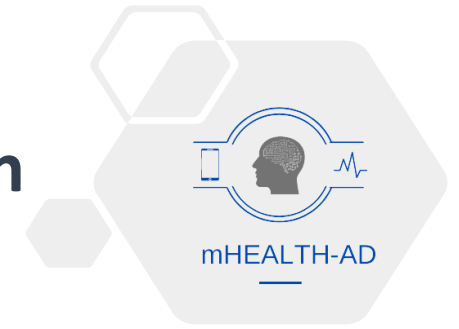
Digital Serious game - mHEALTH project What are the possibilities that it offers ?

Through the game you will answer questions about health parameters and learn about the use of mobile technologies.

Avatar HealthTraits	
1.Blood glucose	92
2.Total Cholesterol	189
3.Heart Rate	73
4.Blood pressure	99
5.Body temperature	98
6.Mood	42
7.Loss of orientation	44
8.Steps per day	5905
9.Other physical activity	37
10.Hours of sleep / Awaking hours	7
11.Medication and appointments	3
12.Meals per day	5
13.Water intake	3



TRAINING ACTIVITY 3_mHealth for Training Health Condition



PRACTICAL ACTIVITY:

Steps:

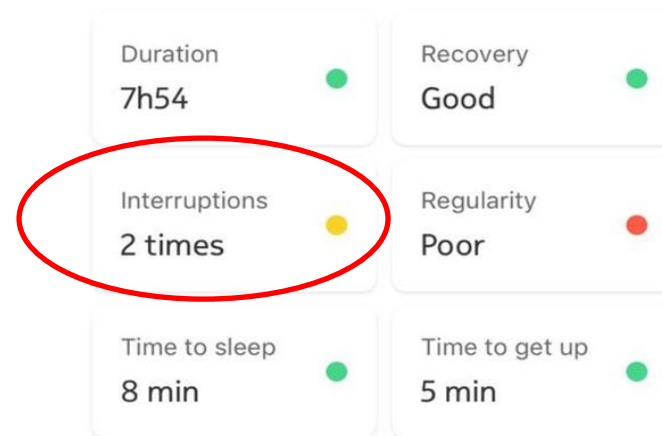
- **Checking the scenarios (that are following)**
- **Presenting the devices and/or Apps that can be used for training**
 - **Where to have it**
 - **How to use it**
 - **How to check the results**
- **Discussion and feedbacks**

Scenario A: SLEEP QUALITY



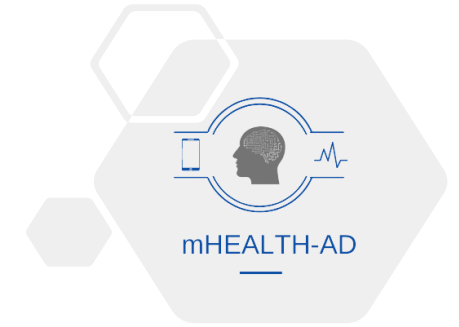
The sleep tracking shows that the score of **sleep quality is low**. This may be due to:

- there were several (2 is still acceptable, 3 or more is not ok) **interruptions** during the night;



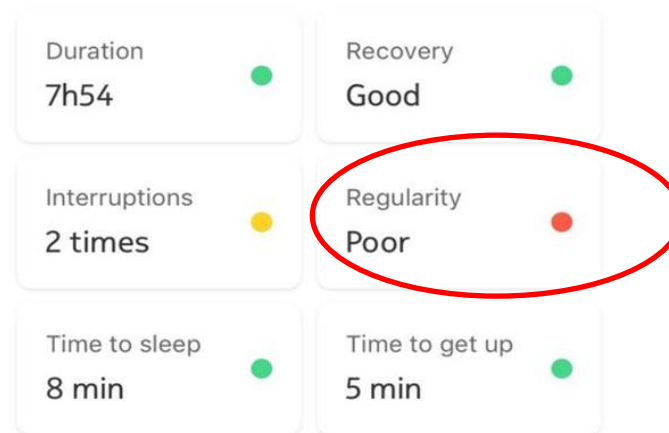
Try to **avoid** heavy meals in the evening, be physically active during the day, and have a relaxing activity before going to sleep (don't use tablet, phones etc immediately before going to sleep!).

Scenario B: SLEEP QUALITY



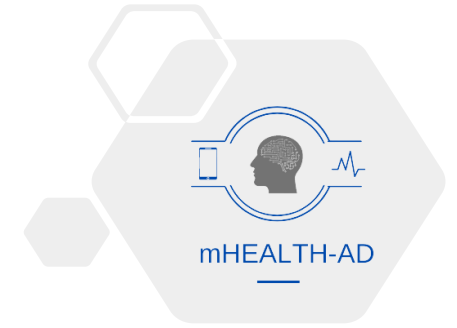
The sleep tracking shows that the score of **sleep quality is low**. This may be due to:

- The person doesn't hold healthy habits – like constancy of going to bed and waking up



Have a **regular time for going to sleep** at the same hour every day, maintain this good habit!). You can also adapt some daily activities accordingly.

SLEEP QUALITY



PRACTICAL ACTIVITY

1. Chose a device you would like to use
2. Go to bed, no worries!
3. In the morning you can see the report for the previous night
4. Follow the scenario B, C
5. discussion

Scenario C: ACTIVITY TRACKING



The step counter shows **that the score set is not achieved for several days.**

120

You can make an **reminder** not to forget to go for a walk, and if necessary, extend the length of the walk during the day.

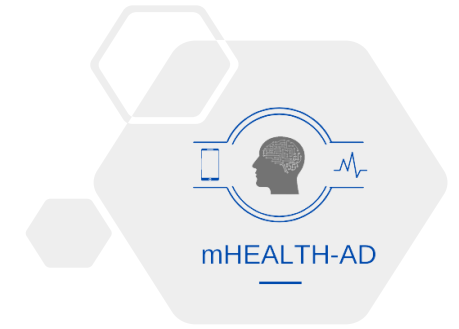
You can set up SEDENTARY REMINDER in the smartwatch or app.

You can also use your calendar to track your progress!

Or: we can train how to set THE DAILY GOAL FOR STEPS



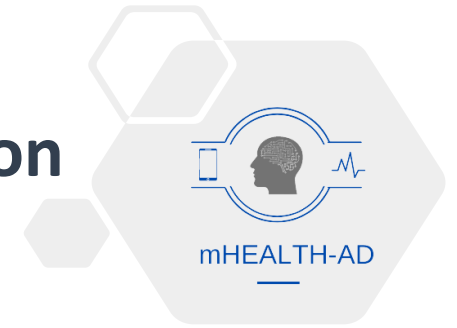
ACTIVITY TRACKING



PRACTICAL ACTIVITY

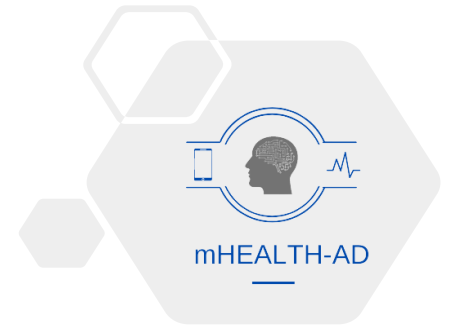
1. Chose a device you would like to use
2. Check the number of steps taken and combine the HBR (Heart Beat Rate) values – if the activity was physically demanding enough to rise your HBR
3. Follow the scenario C
4. discussion

TRAINING ACTIVITY 3_mHealth for Training Health Condition



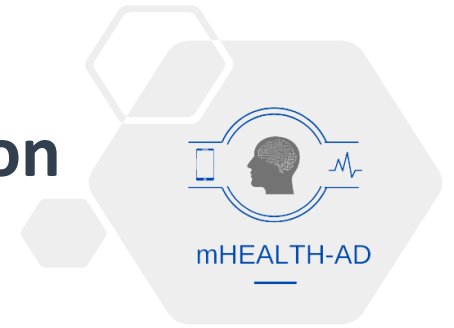
Complementary Videos

- Sleep analyzer Withings: <https://www.withings.com/si/en/sleep-analyzer>
- Change the activity goal - smartwatch: <https://www.youtube.com/watch?v=Qw0NxOsp4rc>
- How to set the Health App: <https://www.youtube.com/watch?v=tH61kmcAVLc>
- A Tour of the mySugr App: <https://www.youtube.com/watch?v=2J651YaRI6A&t=108s>
- Fitbit Charge 5 smart watch: <https://www.youtube.com/watch?v=QprVwk9YAk>
- Understanding blood pressure and cholesterol: <https://www.youtube.com/watch?v=4YNdp3pRjig>



- **Do you think that the use of such a technology would help you?**
- **Are you willing to apply a mHEALTH technology as an assistant tool in order to improve an activity of life?**
- **Do you find it difficult?**

TRAINING ACTIVITY 3_mHealth for Training Health Condition

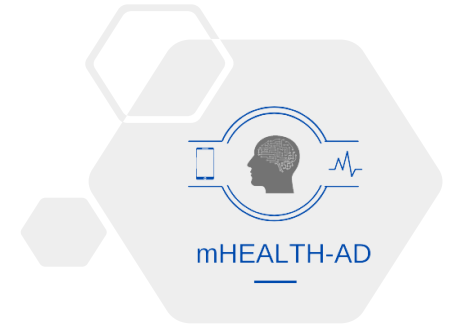


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Module 3