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Erasmus+ TECH2MATCH

Teaching guide for the Monitoring module

Prepared by the TECH2MATCH Consortium





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Introduction

This document presents the Teaching Guide for the Monitoring Module of the TECH2MATCH course prepared to support lecturers in delivering effective, evidence-informed teaching on health monitoring technologies. The module explores the use of digital tools and wearable devices to monitor health parameters, with a special focus on their application to patients with pain (PwP).

The guide provides a structured pedagogical framework integrating both basic and advanced learning levels. It includes theoretical resources, practical exercises, quizzes, and reflective tasks that promote a deep understanding of monitoring technologies. From their principles and setup to their clinical application and ethical considerations. Through these activities, students develop both technical competence and critical awareness of how monitoring supports patient-centred care and self-management.

Designed for students in nursing, midwifery, physiotherapy, occupational therapy, and related health sciences, this guide encourages interdisciplinary collaboration and experiential learning. It aligns with the Reflective Practice-based Learning (RPL) approach, promoting analytical thinking, ethical reflection, and professional readiness for the digital transformation of healthcare.



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MONITORING Empowering Pain Management DEVICES

How monitoring helps with pain

Monitoring technology enables healthcare providers to gather **insights** about pain levels, patterns, and influencing factors.

Try it with your patients



Predicting pain trends



Tailored interventions



Empowering patients



Want to know more?
Go to www.tech2match.eu



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Content

Introduction to the module

Welcome video

Welcome video on iMoox

Module overview

Students write an introduction about themselves, and we offer feedback to motivate the students.



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Unit 1: Introduction to the technology

Unit 1.1: Terminology – Monitoring

Students will be able to understand key terms related to monitoring from a clinical perspective and demonstrate their comprehension through quizzes and other assessment activities.

1.1.1

Level: Basic

Activity description: Students watch the video provided.

Activity rationale: The students watch a video that serves as the foundation for understanding monitoring technology and identifying relevant devices. The purpose of this activity is to ensure that all students share a common baseline of knowledge before engaging in more advanced discussions and tasks. From a didactic perspective, using a visual and auditory medium supports diverse learning styles and facilitates comprehension of complex technical concepts through concrete examples. This shared introduction promotes inclusivity and prepares students for deeper analytical activities later in the course.

Resource: iMoox Task 1.1.1 (Video)

1.1.2

Level: Basic

Activity description: Students read the supplied information.



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Activity rationale: The students read the supplied information, which provides the foundation for understanding monitoring technology and identifying relevant devices. The purpose of this activity is to ensure that all students develop a common starting point before progressing to more complex tasks. From a pedagogical standpoint, reading structured material allows students to engage at their own pace, fostering comprehension and reflection. This approach promotes equal access to fundamental knowledge, supporting later discussions and critical analysis of monitoring technologies.

Resource: iMoox Task 1.1.1 A Monitoring and related terms (Text)

1.1.3

Level: Basic

Activity description: Students will complete a quiz.

Activity Rationale: Specific content for the task: Students complete a short quiz consisting of ten questions to assess their understanding of the material covered in the teaching. The purpose of this activity is to allow students to assess whether they have understood the key concepts presented in the teaching. By completing a 10-question quiz, students actively retrieve and apply knowledge, which strengthens long-term retention and deepens comprehension. From a didactic perspective, this activity promotes active learning and self-assessment, encouraging students to take responsibility for their own understanding. It also provides the instructor with valuable feedback on areas that may require further clarification or discussion.

Resource: iMoox Task 1.1.1 Monitoring and related terms (Quiz)

TEST QUESTIONS (10 QUESTIONS)



1. Which of the following statements best describes the concept of monitoring in the field of health?

a) Monitoring refers solely to tracking an individual's physical activity.

b) Monitoring involves the continuous recording of various physiological and biometric parameters to assess health status.

c) Monitoring is limited to tracking brain function through electroencephalograms.

d) Monitoring has no application in the field of mental health.

e) Monitoring is only carried out in hospital and clinical settings.

2. Which of the following parameters is NOT commonly monitored in vital signs monitoring?

a) Blood glucose level

b) Heart rate

c) Blood pressure

d) Respiratory rate

e) Body temperature



3. What device is commonly used for monitoring physical activity and exercise?

a) Pulse oximeter

b) Glucometer

c) Pedometer

d) Thermometer

e) Electroencephalogram (EEG)

4. Which of the following statements is true about psychological monitoring?

a) It is mainly used to measure blood pressure.

b) There are no wearable devices available for this purpose.

c) It involves using questionnaires and assessment scales.

d) It must include online therapy.

e) It is irrelevant in the field of health.



5. What type of monitoring is essential for assessing the body's ability to transport oxygen to tissues?

a) Heart rate monitoring

b) Blood pressure monitoring

c) Blood oxygen saturation monitoring

d) Sleep monitoring

e) Brain activity monitoring

6. What type of monitoring is fundamental for diabetes management?

a) Body temperature monitoring

b) Sleep monitoring

c) Physical activity monitoring

d) Blood glucose monitoring

e) Blood pressure monitoring

7. What device is commonly used to record brain electrical activity?



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- a) Electrocardiogram (ECG)
- b) Pulse oximeter
- c) Thermometer

d) Electroencephalogram (EEG)

- e) Electromyogram (EMG)

8. What type of monitoring is important for assessing cardiovascular health?

- a) Pulse oximeter
- b) Brain activity monitoring
- c) Blood pressure monitoring

d) Heart rate monitoring

- e) Electrocardiogram (ECG)

9. What device is used to measure blood pressure automatically?

- a) Glucometer
- b) Pedometer



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c) Pulse oximeter

d) Digital sphygmomanometer

e) Thermometer

10. Which of the following is NOT a common method of psychological monitoring?

a) Electromyography (EMG)

b) Questionnaires and assessment scales

c) Wearable devices

d) Online therapy and telepsychology

e) Activity logs and personal diaries

1.1.4

Level: Basic









Activity description: Drag and drop images on the correct term.



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Activity rationale: Students complete a short frag and drop to assess their understanding of the material covered in the teaching. The purpose of this activity is to allow students to assess whether they have understood the key concepts presented in the teaching. By completing this activity, students actively retrieve and apply knowledge, which strengthens long-term retention and deepens comprehension. From a didactic perspective, this activity promotes active learning and self-assessment, encouraging students to take responsibility for their own understanding. It also provides the instructor with valuable feedback on areas that may require further clarification or discussion.

Resource: iMooc Task 1.1.2 Identifying technologies

<p>Glucometer</p>  <p>+1</p>	<p>Sphygmomanometer and stethoscope</p>  <p>+1</p>	<p>Activity bracelet</p>  <p>+1</p>
<p>E</p>  <p>+1</p>	<p>Pulse Oximeter</p>  <p>+1</p>	<p>Electro</p> 
<p>Sleep monitoring</p>  <p>+1</p>	<p>Cardiotocography</p>  <p>+1</p>	



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Unit 1.2: State-of-the-Art Technology

Learning Outcome:

Students understand the recent technological solutions regarding to monitoring health.

Tasks

1.2.1

Level: Basic

Activity Description: Students read the supplied information.

Activity rationale: The students read the supplied information, which provides the foundation for understanding recent technological solutions regarding monitoring health. The purpose of this activity is to ensure that all students develop a common starting point before progressing to more complex tasks. From a pedagogical standpoint, reading structured material allows students to engage at their own pace, fostering comprehension and reflection. This approach promotes equal access to fundamental knowledge, supporting later discussions and critical analysis of monitoring technologies.

After that students will complete a short quiz consisting of ten questions to assess their understanding of the material covered in the teaching. The purpose of this activity is to allow students to assess whether they have understood the key concepts presented in the teaching. By completing a 10-question quiz, students actively retrieve and apply knowledge, which strengthens long-term retention and deepens comprehension. From a didactic perspective, this activity promotes active learning and self-assessment, encouraging students to take responsibility for their own understanding. It also provides the instructor with valuable feedback on areas that may require further clarification or discussion.



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Resource: iMoox Task 1.2.1 A (Read the two papers on current health monitoring technology)

iMoox Task 1.2.1 B (Quiz)

1. For sleep apnea detection, what limitation did the ApneaDetector smartwatch system face?

a. Excessive false alarms during REM sleep

b. Dependence on user-reported symptoms

c. Inability to distinguish between OSA, CSA, and hypopnea events

d. Requirement for invasive sensors

2. How can smartwatches contribute to managing chronic diseases?

a. By diagnosing diseases without any need for doctor consultation

b. By replacing all medications for chronic conditions

c. By providing continuous monitoring and alerts for abnormal health patterns

d. By curing chronic diseases over time

3. Which of the following is NOT a potential application of smartwatches in healthcare?



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a. Tracking physical activity

b. Heart rate monitoring

c. Performing surgical procedures

d. Stress monitoring

4. What was the reported accuracy of smartwatches in detecting aggressive movements in patients with dementia?

a. 99.6%

b. 75%

c. 96.7%

d. 89%

5. What future development is suggested to enhance the role of smartwatches in healthcare?

a. Refining the monitored outcomes

b. Reducing the size of smartwatches to fit children

c. Developing medical-grade smartwatches and AI-assisted hospital systems

d. Reducing the number of outcomes monitored



6. What is the primary purpose of smartwatches in healthcare?

a. To serve as a fashion accessory with minimal health benefits

b. To assist in monitoring health indicators and diagnosing symptoms of diseases

c. To replace traditional medical diagnostic tools entirely

d. To reduce the need for hospital visits for all patients

7. What is a significant challenge in integrating smartwatches into healthcare systems?

a. The limited battery life of smartwatches

b. The high cost of smartwatches for patients

c. The lack of interest from healthcare providers

d. The reliability and accuracy of the data they provide

8. Which technology do smartwatches use to measure heart rate?

a. Electrocardiography

b. Ultrasound



c. Photoplethysmography

d. Magnetic resonance imaging

9. Which machine learning method performed best for stress detection in the reviewed studies?

a. Neural Networks

b. Support Vector Machines

c. Naive Bayes

d. Logistic Regression

10. Which of the following health indicators can smartwatches track, according to the articles?

a. Genetic mutations and hormone levels

b. Bone density and muscle mass

c. Heart rate, sleep patterns, and blood pressure

d. Brainwave activity and lung capacity



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1.2.2

Level: Advanced

Activity Description: Students will search information about the main health monitoring devices.

Activity Rationale: Students are required to research and compile information on the primary health monitoring devices to complement the previous information provided by the teacher. The focus should be on devices that are widely recognized for their innovation, accuracy, and contribution to healthcare. Students are encouraged to explore a diverse range of sources, including academic journals, industry reports, product reviews, and expert interviews, to gather a well-rounded perspective on the topic. This task is designed to enhance students' research skills and their ability to critically assess technological innovations in the healthcare system.

Resource: Monitoring Advanced Folder: 1.2.3

1.2.3

Level: Advanced

Activity Description: Students will reflect on a document the main conclusions about the main health monitoring devices found.

Activity rationale: A written report summarizing the findings (one A4 page), including a detailed comparison of at least three health monitoring devices. Students are encouraged to consider ethical, practical, and technological aspects of health monitoring devices and their adoption in everyday life. The report should conclude with the student's assessment



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of which device(s) offer the most promising solutions for health monitoring and why. The assessment criteria should be:

Depth and breadth of research

Critical evaluation of technological solutions

Quality of written communication

Quality and originality of personal insights

This reflective task is designed to encourage critical thinking and personal engagement with the topic, fostering a deeper appreciation for the role of technology in healthcare.

Resource: Not applicable (Students must submit a PDF file)

1.2.4

Level: Advanced

Activity Description: Students will watch a series of videos with examples of devices that monitoring health.

Activity rationale: The student is tasked with watching an educational video that showcases different health monitoring devices and their applications in real-world scenarios. The video should include examples of devices that monitoring health. While watching the video, the student should take notes on the types of devices presented, their purposes, and the ways they are used to monitor health indicators.

Resource: Monitoring Advanced Folder: 1.2.5 (Videos 1,2 and 3)



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1.2.5

Level: Advanced

Activity Description: Students will reflect on a document the main conclusions about the video.

Activity rationale: A summary report (maximum one A4 page) that outlines the key points from the video, detailing the different health monitoring devices and their uses. The report should also include the student's reflections on how these technologies can be integrated into healthcare practices and the benefits they offer to individuals and healthcare providers. This task is designed to provide the student with visual and practical insights into the use of health monitoring technologies, enhancing their understanding through observation and critical analysis. Assessment Criteria:

Accuracy in capturing the information presented in the video.

Comprehensiveness of the summary report

Insightfulness of the reflection on the use of health monitoring technologies

Resource: Not applicable (Create a Forum in the platform)

Unit 2: How to set up the technology

Unit 2.1: Setting up the technology

Students will understand how to prepare devices for its use.

Tasks



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2.1.1

Level: Basic

Activity Description: Students will understand the steps involved in preparing a health monitoring device, from unboxing to making it operational.

Activity rationale: This task aims to familiarize students with the process of preparing and setting up a health monitoring device for use. Students will be provided with a health monitoring device. This could be a blood pressure monitor, pulsioximeter or a glucose meter, for example. The task will guide them through the entire setup process, including unboxing, understanding the components, charging (if necessary), turning the device on, and installing any required software or apps. Students will follow the instructions to calibrate the device, enter user data, and perform a test run to ensure the device is functioning correctly. They will also learn about the maintenance and troubleshooting of the device, including how to interpret error messages and perform basic fixes. This task is designed to provide hands-on experience with health monitoring devices, ensuring that students not only understand the theoretical aspects but also gain practical skills in device preparation.

Resource: iMoox 2.1 (Text)

2.1.2

Level: Basic



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Activity Description: Students will understand the steps involved in preparing Xiaomi Mi Smart Band 6, from unboxing to making it operational. We expect it will take the student about 2 hours.

Activity rationale: This task aims to familiarize students with the process of preparing and setting up Xiaomi Mi Smart Band 6 for use. Students will be provided with a Xiaomi Mi Smart Band 6. The task will guide them through the entire setup process, including unboxing, understanding the components, charging (if necessary), turning the device on, and installing any required software or apps. Students will follow the instructions to calibrate the device, enter user data, and perform a test run to ensure the device is functioning correctly. They will also learn about the maintenance and troubleshooting of the device, including how to interpret error messages and perform basic fixes. This task is designed to provide hands-on experience with health monitoring devices, ensuring that students not only understand the theoretical aspects but also gain practical skills in device preparation.

Resource: iMoox 2.1 (Setting up the Xiaomi Smart Band 6)

2.1.3

Level: Advanced

Activity Description: Students will understand the steps involved in preparing Polar Vantage 3-H10, from unboxing to making it operational. We expect it will take the student about 4 hours.

Activity rationale: This task aims to familiarize students with the process of preparing and setting up Polar Vantage 3-H10 for use. Students will be provided with a Polar Vantage 3-H10. The task will guide them through the entire setup process, including unboxing, understanding the components, charging (if necessary), turning the device on, and



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installing any required software or apps. Students will follow the instructions to calibrate the device, enter user data, and perform a test run to ensure the device is functioning correctly. They will also learn about the maintenance and troubleshooting of the device, including how to interpret error messages and perform basic fixes. This task is designed to provide hands-on experience with health monitoring devices, ensuring that students not only understand the theoretical aspects but also gain practical skills in device preparation.

Resource: Not applicable (Group work on campus)

Unit 2.2: Side effects and risks

Students will be able to identify and analyse the possible adverse effects and risks associated with health monitoring devices, as well as evaluate recent technological solutions and strategies for risk management in monitoring technologies.

Tasks

2.2.1

Level: Basic

Activity Description: Critical analysis of side effects of health monitoring technology and risks.

Activity rationale: The students read the supplied information, which provides the foundation for understanding monitoring technology and identifying relevant devices. The purpose of this activity is to ensure that all students develop a common starting point before progressing to more complex tasks. From a pedagogical standpoint, reading structured material allows students to engage at their own pace, fostering comprehension and reflection. This approach promotes equal access to fundamental knowledge, supporting later discussions and critical analysis of monitoring technologies.



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Resource: IMoox 2.2 (Read the following two papers to get an insight of potential issues when using monitoring devices)

2.2.2

Level: Basic

Activity description: Analysis and comprehension of the articles read.

Activity rationale: The aim of this task is to assess students' comprehension of the assigned articles by engaging them in a paragraph-sorting activity. This exercise encourages active reading and critical thinking, as students must identify logical connections and thematic progression within the text. From a didactic perspective, it reinforces text-structure awareness and supports deeper understanding through interaction with the material rather than passive reading.

Resource: iMoox Task 2.2.1

Answer: 1.The first challenge comes from the sensitive nature of health information. Protecting patient data against cyberattacks and clarifying who owns and controls it are essential starting points for safe digital health adoption.

2.Once data is secured, the next issue is ensuring that digital systems can communicate with one another. Limited interoperability prevents clinicians from viewing complete patient records, reducing the potential benefits of digital health tools.

3.Beyond technical concerns, regulation plays a crucial role. Because rules differ from country to country, developers and providers often face uncertainty, slowing down the safe and consistent use of digital health technologies.



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4. Even when tools are available and regulated, they cannot succeed without users. Many healthcare professionals and patients remain hesitant, highlighting the need for better education and awareness about both benefits and risks.

5. Finally, existing laws sometimes fail to keep up with rapid technological change. For instance, unclear rules once limited telemedicine until updated guidelines were introduced, showing the need for stronger legal frameworks to support innovation.

2.2.3

Level: Advanced

Activity Description: Students will collect information about the main risks of health monitoring devices.

Activity rationale: A discussion that outlines the findings, detailing the side effects and risks associated with devices studied. The report should also include an evaluation of the severity and likelihood of these risks, as well as potential mitigation strategies. It aims to foster a balanced understanding of health monitoring devices, considering both their advantages and the precautions that need to be taken when using them.

Resource: Not applicable (Create a Forum in the platform)

Unit 3: Matching technologies with PwP

Unit 3.1: How does the technology help PwP

Students understand the recent technological solutions regarding to monitoring pain.

Tasks



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3.1.1

Level: Basic

Activity Description: Students will watch a video of 15 minutes.

Activity rationale: The students watch a video with explanations that serve as the basis for understanding the recent technological solutions regarding to monitoring pain. The purpose of this activity is to ensure that all students share a common baseline of knowledge before engaging in more advanced discussions and tasks. From a didactic perspective, using a visual and auditory medium supports diverse learning styles and facilitates comprehension of complex technical concepts through concrete examples. This shared introduction promotes inclusivity and prepares students for deeper analytical activities later in the course.

Resource: iMoox 3.1.1 Video Parts 1 and 2

3.1.2

Level: Advanced

Activity Description: Students will search for information about the main pain monitoring devices.

Activity Rationale: Students is required to research and compile information on the pain monitoring devices to complement the previous information provided by the teacher on the video. The focus should be on devices that are widely recognized for their innovation, accuracy, and contribution to management of people with pain. Students are encouraged to explore a diverse range of sources, including academic journals, industry reports, product reviews, and expert interviews, to gather a well-rounded perspective on the topic.



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This task is designed to enhance students' research skills and their ability to critically assess technological innovations in the healthcare system.

Resource: Not applicable (Online Web Search)

3.1.3

Level: Advanced

Activity Description: Students will collect information about the main pain monitoring devices. We expect it will take the student about 45 minutes.

Activity rationale: Students should assess the functionality, benefits, and potential limitations of these devices, considering factors such as ease of use, data accuracy, integration with healthcare systems, and patient outcomes. They should sort found evidence depending on the component that the device assess:

Psychological Component

Physical Component

Physiological Component

Resource: Not applicable (Create a Forum in the platform)

Unit 3.2: Choosing technology based on PwP needs

Students understand how to select technology based on PwP needs.



Tasks

3.2.1

Level: Basic

Activity Description: Students will read a description of a patient with pain and reflect what device is convenient for him. After reading it they will perform a quiz.

Activity rationale: This clinical case enables students to understand the importance of a comprehensive assessment of patients with pain and highlights how monitoring devices can serve as valuable tools in managing and tracking treatment progress. Through this activity, students connect theoretical knowledge with clinical reasoning in a practical context. To consolidate learning, they complete a short five-question quiz, reinforcing key concepts and ensuring comprehension.

Resource: iMoox 3.2.1 Clinical Case 1

Clinical Case 1 Quiz:

Why is a device with sleep monitoring valuable for this patient?

a) Poor sleep can exacerbate pain perception and recovery

b) Sleep disturbances are unrelated to chronic pain

c) It replaces the need for physiotherapy

d) Sleep data is only useful for diagnosing insomnia



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How could activity data from the wearable device guide physiotherapy adjustments?

a)By replacing in-person clinical assessments

b)By diagnosing spinal stenosis automatically

c)By prescribing medication doses

d)By identifying different sources that might worsen pain (e.g., prolonged sitting)

What metric would BEST indicate treatment adherence?

a)Heart rate variability

b)Skin temperature fluctuations

c)Step count compared to exercise program goals

d)Sleep fluctuations

How might the device improve patient-provider communication?

a)By sharing real-time data with the physiotherapist for tailored adjustments

b)By replacing all follow-up visits

c)By automatically adjusting treatment without consultation



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d)By diagnosing radiculopathy without imaging

What potential barrier might this patient face with wearable use?

a)Device discomfort during movement

b)Lack of interest in pain improvement

c)Preference for handwritten journals

d)Low battery life

3.2.2

Level: Basic

Activity Description: Students will read a description of a patient with pain and reflect what device is convenient for him. After reading it they will perform a quiz.

Activity rationale: This clinical case enables students to understand the importance of a comprehensive assessment of patients with pain and highlights how monitoring devices can serve as valuable tools in managing and tracking treatment progress. Through this activity, students connect theoretical knowledge with clinical reasoning in a practical context. To consolidate learning, they complete a short five-question quiz, reinforcing key concepts and ensuring comprehension.

Resource: iMoox 3.2.2 Clinical Case 2



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Clinical Case 2 Quiz:

Why is mood tracking integrated into the device?

a) To replace antidepressant medication

b) To correlate pain episodes with depressive symptoms

c) To diagnose new psychiatric conditions

d) To discourage therapy attendance

How could pain location data improve treatment?

a) By replacing rheumatologist consultations

b) By automating antidepressant dosage

c) By predicting future episodes

d) By guiding targeted joint interventions

Which data trend would prompt a medication review?

a) Stable step count

b) Occasional elevated heart rate



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c) Persistent high pain scores + low mood logs

d) Consistent sleep duration

How might the device reduce hospital visits?

a) By replacing all lab tests

b) By eliminating depression

c) By enabling coordinated care between her rheumatologist and psychologist

d) By providing remote data for therapy adjustments

What usability challenge might this patient encounter?

a) Difficulty charging the device regularly

b) Excessive accuracy in mood tracking

c) Uninterest in pain relief

d) Preference for manual vital sign checks



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Unit 4: Using technologies with patients, Real-Life Scenarios

Unit 4.1: Preparation and mindset

Learning Outcome:

Students understand the benefits of using technology with patients in a RLS.

Tasks

4.1.1

Level: Basic

Activity Description: Students will read a description of a patient with pain. After that they will perform a quiz.

Activity Rationale: This clinical case enables students to understand the importance of a comprehensive assessment of patients with pain, the case will include the patient's medical history, current symptoms, and the challenges faced in managing their condition in a resource-limited environment. Through this activity, students connect theoretical knowledge with clinical reasoning in a practical context. To consolidate learning, they complete a short five-question quiz, reinforcing key concepts and ensuring comprehension.

Resource: iMoox 4.1.1 Preparation And Mindset Quiz

1. Why is sleep monitoring critical for this patient?

a. To track calorie burn during sleep



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- b. To diagnose sleep apnea
- c. To replace antidepressant medication

d. Poor sleep exacerbates both pain and depression

2. Which device is LEAST relevant for this patient's needs?

a. Blood pressure cuff

b. Meditation app with guided relaxation

c. Continuous glucose monitor

d. Smartwatch with activity and mood tracking

3. How could a smartwatch reduce this patient's reliance on painkillers?

a. By replacing physiotherapy sessions

b. By diagnosing spinal abnormalities

c. By identifying activity patterns that worsen pain

d. By automatically adjusting medication doses



4. What is the PRIMARY benefit of remote monitoring for this patient's healthcare team?

- a. Automating medication prescriptions
- b. Replacing psychological therapy

c. Providing real-time data to tailor therapy

- d. Reducing all in-person visits

5. Why might it be important to track physical activity in a patient with chronic lower back pain?

- a. To discourage movement entirely

b. To calculate calories burned only

- c. To detect signs of overexertion and inactivity
- d. To encourage extreme workouts

6. Which multifactorial barrier is MOST likely to limit this patient's adherence to wearable use, given her occupation?

- a. Lack of Bluetooth connectivity in her classroom
- b. Temporary skin irritation from the device's materials



c. Cognitive overload from cross-referencing mood logs with biometric trends during work hours

d. Device incompatibility with her smartphone OS

7. For optimal engagement, which interface feature should PRIORITIZE behavioral activation principles for this patient?

a. A heatmap showing pain-mood-sleep correlations with drill-down analytics

b. Automated SMS summaries sent to her rheumatologist

c. Gamified "activity streaks" with adaptive goals based on real-time pain thresholds

d. A passive continuous data stream with no patient input

8. Why is it essential to involve the patient in goal-setting and self-awareness regarding their own wellbeing

a. It replaces the need for therapy

b. It empowers the patient and improves treatment adherence

c. It reduces the workload of healthcare providers

d. It ensures the patient doesn't ask for medication



9. Why might a patient with concerns about painkiller dependence prefer non-pharmacological options like guided meditation or CBT?

a. Because they are quicker in relieving pain

b. Because they reduce reliance on medications while managing symptoms

c. Because they provide distraction without effect

d. Because these options are more entertaining

10. What are the benefits of online support communities for patients with chronic pain and depression?

a. They reduce isolation and offer peer-based emotional support

b. They replace clinical care completely

c. They help patients learn new recipes

d. They provide a social space to play games

4.1.2

Level: Advanced



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Activity Description: Students choose an available device and monitoring data by a role play.

Activity rationale: The students engage in a two-part activity, beginning with an analysis of a case study to identify suitable technological solutions for a Resource-Limited Setting (RLS), followed by a role-play scenario between a healthcare provider and a patient. The purpose of this multi-stage approach is to bridge the gap between theoretical knowledge and practical, empathetic clinical decision-making.

From a didactic perspective, the initial case analysis fosters critical thinking and problem-solving by requiring students to evaluate technology against real-world constraints like cost, accessibility, and ease of use. This establishes a foundation of practical considerations. The subsequent role-play then builds upon this by immersing students in a simulated, human-centered interaction. This experiential learning technique develops crucial soft skills, such as active listening, communication, and empathy, as students must not only select a device based on clinical data but also justify and explain its use to a "patient." This method effectively transitions learning from abstract analysis to applied, patient-focused practice, preparing students for the complex realities of healthcare delivery in challenging environments.

Resource: Not applicable (Role-play in class)

4.1.3

Level: Advanced

Activity Description: Students extract and analyse data.

Activity rationale: Following the initial case analysis, students are tasked with extracting and analyzing the data obtained from Task 2. The purpose of this activity is to develop



students' competencies in data literacy and evidence-based practice. It moves the learning focus from solution identification to outcome evaluation, requiring them to interpret real or simulated data to assess the effectiveness of a chosen intervention.

From a didactic perspective, this sequential design, from planning (Task 1) to analysis (this task), mirrors a complete professional workflow. Engaging directly with data cultivates critical analytical skills, as students must draw meaningful conclusions, identify trends, and assess whether the technological solutions they previously proposed are truly meeting the clinical objectives for pain management. This process of evaluation and reflection is essential for fostering a scientific mindset and preparing students to make informed, data-driven decisions in their future practice.

Resource: Not applicable (Group work on campus)

4.1.4

Level: Advanced

Task Description: Students will submit in a forum their opinion about RLS on the user-friendliness and preferences of the different devices used.

Activity rationale: Students are tasked with formulating an opinion for a simulated forum, condensing their main conclusions about technology in RLS into a concise one-page document. The purpose of this activity is to synthesize acquired knowledge and articulate a reasoned, evidence-based stance for a public, professional audience.

From a didactic perspective, this task advances learning beyond comprehension and analysis to the higher-order cognitive skill of evaluation and creation. Crafting a succinct



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argument for a forum context requires students to prioritize key insights, justify their position, and communicate complex ideas with clarity and persuasion. This mirrors real-world knowledge dissemination, bridging academic understanding and professional discourse. The activity thereby strengthens critical thinking, written communication skills, and the ability to engage in a community of practice, ensuring students can not only understand the issues but also actively contribute to the conversation.

Resource: Not applicable (Create a Forum in the platform)

Unit 4.2: Support and guidance

Learning Outcome:

Students will be able to know the importance of good communication while explaining to patients how to use the devices.

Tasks

4.2.1

Level: Basic

Activity Description: Critical analysis of the need for good communication with patients while using monitoring devices.

Activity rationale: The students read the supplied information, which provides the foundation for understanding the importance of communication in PwP. The purpose of this activity is to ensure that all students develop a common starting point before progressing to more complex tasks. From a pedagogical standpoint, reading structured



material allows students to engage at their own pace, fostering comprehension and reflection.

Resource: iMoox 4.2.1 A. The importance of good communication in treating patients' pain.

4.2.2

Level: Basic

Activity description: Succeed in a quiz. We expect it will take the student about 30 minutes.

Activity rationale: Students complete a short quiz consisting of ten questions to assess their understanding of the material covered in the teaching. The purpose of this activity is to allow students to assess whether they have understood the key concepts presented in the teaching. By completing a 10-question quiz, students actively retrieve and apply knowledge, which strengthens long-term retention and deepens comprehension. From a didactic perspective, this activity promotes active learning and self-assessment, encouraging students to take responsibility for their own understanding. It also provides the instructor with valuable feedback on areas that may require further clarification or discussion.

Resource: iMoox 4.2.1 B. Quiz

1. According to the text, what is one key reason the patient's daughter was grateful for the care provided?

- a. The physician used advanced technology during treatment
- b. The patient was completely cured before passing away



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c. The patient received regular home visits

d. There was good communication and sympathy shown by the physician

2. How can a physician help guide a chronic pain patient in a fragmented or resource-limited healthcare system?

a. Refer the patient elsewhere without further discussion

b. Empower the patient through empathy, validation, and shared decision-making

c. Ask the patient to research their own treatment options online

d. Focus only on prescribing narcotics for faster relief

3. How can effective communication benefit patients with chronic pain?

a. It reduces the need for any treatment

b. It replaces the need for diagnostic testing

c. It can be as effective as medication in managing pain

d. It shortens the length of medical appointments



4. Why should physicians use “I” statements when speaking with patients in pain?

a. They sound less accusatory and foster empathy

b. They make the patient feel less responsible for their care

c. They prevent patients from asking too many questions

d. They help shorten the conversation

5. What is one suggested way to improve communication between doctors and patients with pain?

a. Limit appointment time to focus only on prescriptions

b. Encourage patients to avoid discussing emotions

c. Give patients forms to write down questions before appointments

d. Avoid using personal language during consultations

6. In which situation might patient self-monitoring be particularly helpful for someone with chronic pain?

a. When the patient is not interested in participating in care

b. When physicians do not believe the patient's pain is real



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c. When pain intensity varies and affects daily function

d. When medication is the only treatment being used

De-Briefing

Resource: iMoox Monitoring Debrief Video