European Journal of Occupational Health Nursing

EJOHN is the scientific journal of FOHNEU

Federation of Occupational Health Nurses within the European Union

Research Protocol

Project for implementing an intervention to improve the physical condition of hospital workers through gamification. A quasi-experimental design

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ABSTRACT

Introduction. Overweight and obesity with a sedentary lifestyle are two of the main global health problems, and two important risk factors of chronic non-transmissible diseases. They increase the social and sanitary costs and reduce productivity. The Occupational Risk Prevention Services has a fundamental role because the workplace is considered the ideal place for the implementation of health programs.

Hypothesis. Participation in a program with gamification improves the physical condition and the perception of health status.

Objective. To evaluate the effectiveness of an intervention to improve the physical condition and the health status perception using a gamification application for Hospital workers.

Methods. Quasi-experimental, before-and-after, prospective and longitudinal study. The intervention will last 20 weeks. It consists of a gamification mobile application, connected to a pedometer, and 4 face-to-face sessions. The sampling will be non-probabilistic for convenience, with a sample of 40 workers. To assess the physical condition, it will be used anthropometric and analytical measurements and blood pressure. The Goldberg General Health Questioner (GHQ-28) and International Physical Activity Questioner (IPAq), will be used to assess health status perception and physical condition, respectively. Four measurements will be carried out, before the start, in week 10, at the end, and six months after the end.

An univariate descriptive analysis of qualitative and quantitative variables will be done, as well as a hypothesis contrast using the Mc Neman and the T-Student test, considering a confidence interval of 95% and significant values of $p<0,05$. If the hypothesis is verified, it could be used in future research.

Keywords: Obesity; Occupational Health; Gamification; Motor activity; Workplace

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Arenal-Ferreira E. Project for implementing an intervention to improve the physical condition of hospital workers through gamification. A quasi-experimental design. *Eur J Occ Health Nurs*. 2025; 4(2): 49-66. DOI: 10.70324/ejohn.v4i2.73

Introduction

According to the WHO (World Health Organization), overweight and obesity are defined as an abnormal or excessive accumulation of fat that can be harmful to health. It defines overweight as a body mass index (BMI) ≥25 and obesity as ≥30 (1).

It is estimated that around 2.1 billion people worldwide are overweight or obese, and the number is expected to continue to rise. According to WHO data, obesity has tripled since 1975, making it a global problem (1,2).

According to the European Health Survey in Spain, in 2020, 16.5% of men over 18 years of age were obese and 44.9% were overweight, and in women, 15.5% and 30.6% were overweight, respectively. The combined prevalence in adulthood was 53.6% (3).

These entities establish overweight and obesity as risk factors for chronic non-communicable diseases (NCDs), such as cardiovascular and musculoskeletal disorders, diabetes mellitus, multiple types of cancer, and kidney failure (4). They constitute a serious public health problem, resulting in increased demand for and consumption of healthcare resources, social costs, and the consumption of healthcare resources for their control and prevention (5).

The main causes of overweight and obesity are the imbalance between calories consumed and calories expended, due to the increased intake of sugary, high-calorie foods, and the decrease in physical activity resulting from technology, transportation, and the type of work in industrialized countries (1, 6).

It has been proven that, regardless of the existence and effectiveness of bariatric surgery and pharmacological treatments, lifestyle interventions are essential to improve health, reduce morbidity and mortality, and reduce premature death (7). Currently, it is estimated that one-third of all deaths are due to cardiovascular disease (8).

The main objective of lifestyle interventions is to achieve caloric balance and maintain it long-term through proper nutrition and increased physical activity (5).

The WHO recommends that adults do 150 to 300 minutes of moderate-intensity aerobic activity, or 75 to 150 minutes of vigorous-intensity aerobic activity per week, or an equivalent combination (1, 9, 10).

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Scientific evidence establishes that physical activity plays a fundamental role in preventing obesity and its associated pathologies. Studies show that 35% of the population does not exercise enough (11).

According to the WHO, sedentary lifestyle occurs when daily activities do not increase the energy expended at rest (basal metabolism) by more than 10% (1). It is linked to health, both physical and psychological, and is associated with increased mortality and reduced life expectancy. This leads to increased costs and decreased productivity due to absenteeism (2, 5, 6, 12, 13).

It has been shown that between 65-82% of work time involves sedentary activities, making this an emerging health problem in the workplace (6). It is estimated that adults spend more than a third of their time in the workplace (11, 14), making this the ideal place to implement health promotion interventions aimed at reducing sedentary lifestyles, preventing obesity and overweight, and increasing physical activity (11).

In this area, Occupational Risk Prevention Services (ORPS) play a fundamental role. The WHO established the Global Action Plan on Workers' Health, stating that workers' health must not only be protected but also promoted in the workplace (7, 14).

One possible solution to this problem is the use of mobile device applications. These have now become an important part of everyday life. They are ideal for implementing workplace interventions and promoting physical activity, as these devices are accessible and used by more than 3.6 billion people worldwide (12).

Several studies have shown that integrating gamification (the use of game elements in non-game environments (16)) into smartphone applications (apps) supports technology-based behavior change and can lead to comprehensive lifestyle changes (5, 12, 14).

One of the advantages of these applications is that they allow real-time monitoring of physical activity, increasing awareness of sedentary lifestyle patterns and improving the support workers believe is necessary to make these lifestyle changes, potentially even extending their application outside the workplace (7, 17). Incorporating the use of gamification through scoring games and group competitions could intensify their impact (2, 13, 17).

On the other hand, high dropout rates have been observed, with employee participation being the primary issue when interventions are implemented solely through technological means (14).

In conclusion, we are facing two global health problems that continue to increase: overweight and obesity and physical inactivity, which have a significant impact on individuals, the workplace, the economy, and society. Given this situation, the WHO has established working and action groups to prevent them in the workplace.

The purpose of this project is to determine whether a mobile application using gamification, combined with a personal intervention, would improve the physical condition of healthcare workers and, consequently, their self-perceived health.

To this end, the effectiveness of this intervention on physical condition (using BMI, waist circumference, blood pressure (BP), cholesterol levels, and glycosylated haemoglobin (HbA1c)) and self-perceived general health (using the Goldberg General Health Questionnaire-GHQ-28) will be evaluated in a group of hospital workers exposed to high healthcare demands, varied schedules, and different job roles.

Hypothesis and objectives

Hypothesis

- Null hypothesis: "Participation in a gamification program would not improve workers' physical fitness or perceived health."
- Alternative hypothesis: "Participation in a gamification program would improve workers' physical fitness and perceived health."

General Objective

To evaluate the effectiveness of a health promotion program in improving physical fitness and perceived health, using a gamified application, among hospital workers.

Specific Objectives

1. To measure physical fitness using BMI, weight, waist circumference, BP, cholesterol, and HbA1, before and after the program.
2. To measure perceived health status before and after the program using the Goldberg scale.

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3. Determine whether there were significant changes in physical activity levels before and after the program using the International Physical Activity Scale (IPAq).
4. Evaluate whether there were significant differences in physical fitness and perceived health status before and after participation in the program.

Methods

Reference and Study Population

The study will be conducted among healthcare personnel at a hospital who meet the inclusion criteria and wish to participate in the program.

Non-probability convenience sampling was used to recruit participants. A sample of 40 workers will be selected during health examinations.

The program will be implemented by the occupational health and safety nursing staff of the Occupational Risk Service (SPRL).

Design

A quasi-experimental, before-and-after, longitudinal, and prospective study will be conducted.

This study includes an intervention, a mobile application, a hypothesis to be tested, and a response. However, there will be no control group; the group to which the intervention will be applied will act as the control.

Eligibility Criteria

The following inclusion and exclusion criteria will be taken into account for participation in the program.

Inclusion Criteria

- Voluntary participation.
- Age between 18 and 64 years.
- Hospital employee.
- Overweight/obese employees (BMI ≥ 25).
- Employees with a waist circumference >88 cm for women and >102 cm for men.
- A low score on the short version of the International Physical Activity

Questionnaire (IPAQ) (does not meet WHO activity recommendations).

- Knowledge and understanding of Spanish.
- Access to a mobile device to download the app.
- Internet access from the mobile device.

Exclusion Criteria:

- Pregnant postpartum women.
- Employees whose medical condition requires medical supervision to engage in physical activity or participate in the program:
  - Neurological disease.
  - Cardiac disease.
  - Endocrine disease.
  - Psychiatric illnesses.
- Respiratory illnesses.
- Workers taking medications with a side effect such as weight gain
- Workers with functional disabilities (physical or mental).
- Workers in postgraduate training.

Study Variables

The variables to be analyzed are divided into independent and dependent variables.

Independent Variables

Sociodemographic: Age (measured in years), sex, marital status.

Employment: Professional category, Shift, Service, Psychoeducational program: Program to improve the physical condition of workers (see Annex 1).

Dependent Variables

- Physical Condition: will be measured through the following variables:
  - Weight (measured in Kilograms (kg)).
  - BMI (measured in kg/square meter).
  - Abdominal circumference (measured in centimetres; the individual's sex will be taken into account)).

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- Blood Pressure (BP) (Divided into 4 categories according to the American Heart Association (20)).
- Cholesterol: (measured in milligrams/deciliters).
- Glycated haemoglobin (HbA1c): (Divided into 3 categories).

- Perceived general health: This variable will be measured using the Goldberg General Health Questionnaire (GHQ-28). The GHQ-28 is a self-administered questionnaire composed of 28 items grouped into 4 scales of 7 items each. These scales assess somatic symptoms, anxiety, insomnia, social dysfunction, and depression. Each scale has a score range of 0 to 21, with the overall score between 0 and 84. Divided into two categories:
  - (1) Perception of being healthy (score ≤ 23).
  - (2) Perception of being ill (score ≥ 24).
- Physical activity: This variable will depend on the program and will be measured using the International Physical Activity Questionnaire (IPAQ). It collects information on the frequency, duration, and intensity of activity (moderate, vigorous) performed in the past 7 days, as well as time spent walking and sitting. The questionnaire consists of two versions; the short version recommended for population-based monitoring will be used. This consists of 7 items. Weekly activity will be recorded in Metabolic Rate Units (METs) per minute per week. Divided into two categories:
  - (1) Medium or high category: meets WHO recommendations.
  - (2) Low category: does not meet WHO recommendations.

Data collection

The sample will be collected purposefully, taking advantage of the health surveillance examinations conducted by the Occupational Risk Prevention Service.

The estimated time for recruiting participating workers will be two months.

During the health surveillance examination, participants will be informed of the purpose and implementation of the study.

Workers who decide to participate in the study will sign the Informed Consent Form, which may be revoked at any time.

Weight and height will be measured to calculate the BMI and waist circumference. The IPAq and GHQ-28 questionnaires, as well as a sociodemographic and occupational questionnaire, will be administered. Blood pressure will be measured. Cholesterol and HbA1c values will be obtained from the health examination analysis, and these will be added to the application form if necessary. With this data, those who meet the inclusion criteria will be included in the study.

Once the analysis results are obtained, the selected participants will be contacted to set the date for the initial session and begin the program.

Folders will be created for each participant, and a unified database will be created to record all the information generated during the project. The data will be treated anonymously and will only be accessible to the researchers.

Ethical and legal considerations

All employees who wish to participate will be asked to sign an informed consent form.

The project will be approved in writing by the Hospital's Ethics Committee to ensure compliance with the ethical principles outlined in the 1964 Declaration of Helsinki.

The confidentiality of the data obtained and the identity of the participants will be guaranteed, as established in the Personal Data Protection and Digital Rights Act, Law 3/2018, of December 5.

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Statistical analysis

To present and analyze the data obtained, a database will be created using SPSS version 23.0 and Microsoft Excel 2010.

A univariate descriptive analysis of the qualitative variables will be performed to describe the sample used, using frequency tables. Data will be expressed in relative, absolute, and percentage frequencies, and will be represented using bar and pie charts.

A univariate descriptive analysis of the quantitative variables will also be performed, using measures of central tendency and dispersion, such as the mean and standard deviation. These will be represented using a histogram (continuous quantitative variables) and a bar chart (discrete quantitative variables).

To perform hypothesis testing, we will use parametric tests, assuming a normal distribution. Since all polychotomous qualitative variables will be dichotomized, we will use the McNemar test for qualitative variables and the Student t-test for quantitative variables, performing a comparative analysis of the pre- and post-intervention data.

A 95% confidence interval will be established, with a statistical significance level of $p<0.05$ (allowing for a type I error, rejecting the hypothesis).

Program Evaluation

Coinciding with the completion of the program and the assessment conducted in week 20, a satisfaction questionnaire will be administered, gathering information on the organization, methodology, strengths and weaknesses, and applicability, with the goal of implementing improvements in future programs.

Budget and available resources

To implement the program, we will need human and material resources.

Regarding human resources, the Occupational Health and Safety nursing team will be required; they will be responsible for implementing the program. A programmer will need to be hired to develop the application.

The material resources will be those typically found in a classroom, as well as stationery and technological supplies.

Scientific and socio-health relevance of the study

Both a sedentary lifestyle and overweight and obesity are considered two of the main risk factors for NCDs and constitute a serious public health problem with a significant social and economic impact, as demonstrated by the literature review.

The main recommendation for preventing, reducing, and treating these risk factors is to promote healthy lifestyle habits. Hence the importance of SPRLs in identifying and implementing programs that address these risks, as they operate in the most suitable setting for implementing this type of intervention.

The use of these interventions, combined with the use of technology and gamification, can be a good combination for extending changes beyond the workplace and achieving lifestyle changes for workers.

The results obtained will be applicable to the conditions described and in which the program was implemented. In the event that the results of the program are beneficial for workers, these will not be extrapolated to the general population, due to the sample size of the study, but they may be considered of interest and serve as a trend in future research even transferring them to similar scenarios.

Limitations

The limitations that may be encountered when carrying out this project are the following:

- Selection procedure bias: Given that this is a non-probability convenience sample, the sample obtained may not be representative of the study population.
- Hawthrone or attention bias: Study participants may change their habits and behaviors because they know they are being observed.
- The failure to collect other variables may interfere as confounding factors, such as diet or other physical activity not measurable by the application.
- The IPAq questionnaire refers to physical activity performed in the previous seven days and may be influenced by personal circumstances and environmental factors, among others.
- The use of technology may lead to problems with the devices, such as not having

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timely internet access, resulting in data loss.

- Since the motivational interviews and the session will be conducted during business hours, there may be a conflict of interest.

References

1. World Health Organization. WHO. Health Topics, Obesity and Overweight. [Accessed October 2022]. https://www.who.int/es/news-room/fact-sheets/detail/obesity-and-overweight

2. Kouwenhoven-Pasmooij TA, RobroekSJ, Ling SW, van Rosmalen J, van Rossum EF, Burdorf A, Hunink MG. A Blended Web-Based Gaming Intervention on Changes in Physical Activity for Overweight and Obese Employees: Influence and Usage in an Experimental Pilot Study. JMIR Serious Games. 2017 Apr 3; 5(2):e6.

3. Ministry of Health. Health in Data. European Health Survey in Spain EESE2020. [Accessed October 2022]. .https://www.sanidad.gob.es/estadEstudios/estadisticas/EncuestaEuropea/EncuestaEuropea2020/EESE2020_inf_evol_princip_result.pdf

4. GBD 2015 Obesity Collaborators, Afshin A, Forouzanfar MH, Reitsma MB, Sur P, Estep K, Lee A, Marczak L, et all. Health Effects of Overweight and Obesity in 195 Countries over 25 Years. N Engl J Med. 2017 Jul 6;377(1):13-27. doi: 10.1056/NEJMoa1614362. Epub 2017 Jun 12. PMID: 28604169; PMCID: PMC5477817.

5. Han MK, Cho B, Kwon H, Son KY, Lee H, Lee JK, Park J. A Mobile-Based Comprehensive Weight Reduction Program for the Workplace (Health-On): Development and Pilot Study. JMIR MhealthUhealth. 2019 Nov 4; 7(11):e11158. doi:10.2196/11158. PMID: 31682576; PMCID: PMC6861994.

6. Stephenson A, Garcia-Constantino M, Murphy MH, McDonough SM, Nugent CD, Mair JL. The "Worktivity" mHealth intervention to reduce sedentary behaviour in the workplace: a feasibility cluster randomised controlled pilot study. BMC Public Health. 2021 Jul 18; 21(1):1416.

7. Bonn SE, Löf M, Östenson CG, Trolle Lagerros Y. App technology to improve lifestyle behaviors among working adults - the Health Integrator study, a randomized controlled trial. BMC Public Health. 2019 Mar 7; 19(1):273.

8. Rosengren A. Obesity and cardiovascular health: the size of the problem. Eur Heart J. 2021 Sep 7; 42(34):3404-3406.

9. WHO guidelines on physical activity and sedentary behavior: at a glance. Geneva: World Health Organization; 2020. License: CC BY-NC-SA 3.0 IGO.

10. Carrera Y. International Physical Activity Questionnaire. Journal of Occupational Nursing. 2017; 7:11 (49-54)

11. Dadaczynski K, Schiemann S, Backhaus O. Promoting physical activity in worksite settings: results of a German pilot study of the online intervention Healingo fit. BMC Public Health. 2017 Sep 8; 17(1):696.

12. Bort-Roig J, Puig-Ribera A, Contreras RS, Chirveches-Pérez E, Martori JC, Gilson ND, McKenna J. Monitoring sedentary patterns in office employees: validity of an m-health tool (Walk@Work-App) for occupational health. Gac Sanit. 2018 Nov-Dec; 32(6):563-566.

13. Lier LM, Breuer C. The motivation power of gamification. International JournalofWorkplace. 2020. 1; 13:1-15.

14. Zhang C, van Gorp P, Derksen M, Nuijten R, IJsselsteijn WA, Zanutto A, Melillo F, Pratola R. Promoting Occupational Health through Gamification and E-Coaching: A 5-Month User Engagement Study. Int J Environ Res Public Health. 2021 Mar 10; 18(6):2823.

15. Mamede A, Noordzij G, Jongerling J, Snijders M, Schop-Etman A, Denktas S. Combining Web-Based Gamification and Physical Nudges With an App (MoveMore) to Promote Walking Breaks and Reduce Sedentary Behavior of Office Workers: Field Study. J Med Internet Res. 2021 Apr 12; 23(4):e19875.

16. Patel MS, Small DS, Harrison JD, Fortunato MP, Oon AL, Rareshide CAL, Reh G, Szwartz G, Guszcza J, Steier D, Kalra P, Hilbert V. Effectiveness of Behaviorally Designed Gamification Interventions With Social Incentives for Increasing Physical Activity Among Overweight and Obese Adults Across the United States: The STEP UP Randomized Clinical Trial. JAMA Intern Med. 2019 Dec 1; 179(12):1624-1632.

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17. Bort-Roig J, Chirveches-Pérez E, Giné-Garriga M, Navarro-Blasco L, Bausà-Peris R, Iturrioz-Rosell P, González-Suárez AM, Martínez-Lemos I, Puigoriol-Juvanteny E, Dowd K, Puig-Ribera A. An mHealth Workplace-Based "Sit Less, Move More" Program: Impact on Employees' Sedentary and Physical Activity Patterns at Work and Away from Work. Int J Environ Res Public Health. 2020 Nov 28; 17(23):8844.

18. National Institute of Statistics. INE. Determinants of health. [Accessed October 2022]. https://www.ine.es/ss/Satellite?L=es_ES&c=INESeccion_C&cid=1259926457058&p=%5C&pagename=ProductosYServicios%2FPYSLayout&param1=PYSDetalle&param3=1259924822888

19. Lowensteyn I, Berberian V, Berger C, Da Costa D, Joseph L, Grover SA. The Sustainability of a Workplace Wellness Program That Incorporates Gamification Principles: Participant Engagement and Health Benefits After 2 Years. Am J Health Promot. 2019 Jul; 33(6):850-858.

20. American Heart Association. AHA. Health issues, Hypertension. [Accessed October 2022]. https://www.heart.org/en/health-topics/high-blood-pressure

ANNEXES

Annex 1. PROGRAM TO IMPROVE THE PHYSICAL CONDITION OF WORKERS

Taking advantage of the widespread and widely accepted use of technology in our society, we will use a mobile phone application, along with a device (pedometer), to implement our program.

The program will run for 20 weeks and will consist of four in-person sessions and the application with gamification. The first will take place on the first day of the program. The second and third sessions will take place in the second and third weeks, respectively, and the fourth session will take place midway through the program (week 10).

All variables will be measured at the beginning of the study (BMI, weight, blood pressure, cholesterol levels, HbA1c), at week 10, at the end (week 20), and 6 months after the end of the program to assess the implementation of the new healthy lifestyle habits.

The number of participants will be 40 per session, divided into groups of 10 for in-person sessions.

Depending on the program's success, future sessions will be held.

App Content

The app, which will be installed on each participant's phone, will be synchronized with the pedometer, which will measure the participant's daily activity in steps. The pedometer will be worn as many hours as possible, except during sleep, and it must be kept in mind that it cannot be submerged in water.

Each participant will register with a pseudonym that will appear in the app; this will be the only information the other participants will have access to.

In the app, you'll find five scenarios (aquatic, jungle, urban, desert, and aerial), with the scenario changing every four weeks. Each scenario has four levels, one per week. Participants must reach 100% of the goal for each level to unlock the next and earn a related badge. Once all the badges have been earned, that scenario will be considered complete. If the goal is not

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achieved in a level, the next level will not be accessible. Badges not achieved at that time cannot be earned later.

The app consists of several sections:

- Objectives:
    - Daily Individual Objectives: Each participant will have access to the percentage of the daily goal required to achieve the goal for the current level. They will also have access to the percentage of the goal achieved up to that point for the individual monthly challenge.
    - The daily and monthly objectives will progressively increase in difficulty.
    - Weekly Team Objectives: Participants will be able to access the percentage of the goal achieved up to that point in the weekly team challenge in real time.
- Challenges:
    - There will be an individual challenge lasting four weeks. A goal will be set, and upon reaching it, participants will be rewarded with specific badges related to the scenario's theme. A total of 5 special badges can be earned.
    - There will be 20 team challenges, one per week. We will have 8 teams (of 5 participants), which will remain in place throughout the program. In each challenge, teams will have to achieve a minimum number of steps, while trying to be the team with the most steps. The winning team will receive 3 stars, the second-place team 2, and the third-place team 1.

- Badges earned/achievements
    - This section displays the badges earned, reflecting their progress throughout the program.
    - Ranking, both individual and team.
    - Participants will be able to see their current position relative to the rest. Every step counts; participants will appear in the individual ranking in descending order from those who have taken the most steps to those who have taken the fewest, along with the number of levels and stages completed.

- At the end of each weekly challenge, a ranking will be displayed showing all the teams, showing who won the challenge and the ranking of the other teams.

If the app is not accessed for two consecutive days, the app will send a reminder message about the inactivity period along with a motivational phrase for physical activity.

Content of the in-person sessions

The program will consist of four in-person sessions. As there are four groups, there will be two sessions, one in the morning and one in the afternoon. Two groups will participate in each session (two in the morning and two in the afternoon), to ensure accessibility and facilitate attendance.
The duration, objective, and content of each session are detailed below:

Session 1. Presentation of the application (APP).

- Duration: 45 minutes
- Objective: To learn about the APP
- Content:
    - Introduction of the nursing team (people responsible for the program and those who will conduct the sessions).
    - Information on the program's structure and objectives will be provided.
    - The application will be presented.
    - The application will be installed on mobile devices.
    - The correct use of the pedometer will be explained, and a test will be conducted.
    - Questions will be answered.
    - A contact email address will be provided to address any questions or difficulties that may arise.

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Session 2. Obesity and Overweight

- Duration: 45 minutes
- Objective:
    - To raise awareness about obesity and overweight.
    - To resolve problems and difficulties encountered during the first week of the program.
- Content:
    - The concept of BMI will be introduced.
    - Current data on the prevalence and consequences of obesity and overweight will be provided.
    - Questions, problems, and difficulties regarding the initial contact with the program will be addressed.
    - A reminder will be given that a contact email address is available for resolution of problems and concerns.

Session 3. Importance of Physical Activity

- Duration: 60 minutes
- Objective:
    - To understand the importance of physical activity.
    - To resolve problems and difficulties that may have arisen up to this point regarding the program.
- Content:
    - The concept of METs, moderate and vigorous physical activity, and the METs included in each activity will be introduced.
    - Regular physical activity will be calculated and translated into METs.
    - The medium- and long-term consequences of a sedentary lifestyle will be explained.
    - The benefits and importance of physical activity will be presented.
    - Questions, problems, and difficulties regarding the program will be addressed.

- The WHO recommendations on physical activity will be presented.
- Brief tips will be given to increase physical activity in daily life.
- A reminder to contact participants to resolve any questions.

Session 4. Motivation and Feedback

- Duration: 45 minutes
- Objective:
  - Motivate participants
  - Obtain direct feedback from participants
- Content:
  - Importance of what they are doing.
  - Benefits of physical activity.
  - Participation figures and percentage of achievements.
  - Positive reinforcement of participation in the program.
  - Motivational quotes.
  - Obtaining feedback, benefits, and difficulties encountered up to that point.
  - Resolving doubts and problems that may have arisen.