

An Innovative Management For The Exercise By Community Exercise Equipment

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<p>KEYWORDS: Exercise Management, Innovation, Community, Equipment</p>	<p>ABSTRACT The purpose of this research is to develop an innovative management strategy for exercise equipment with the aim of promoting good physical fitness in the community. It uses analysis and expert interviews to manage and use workout machines efficiently. Steps exist: 1). Analyze communal exercise equipment uses. 2. Have in-depth discussions with 18 specialists to innovate data collection management. 3). The revolutionary exercise uses 4 exercise equipment to assess physical fitness. Results of research 1. Community exercise machine management is essential for health and fitness. Gather the following information to maintain communal exercise machines: 1). Exercise machine history. 2) Show how to utilize each tool. 3) Exercise method 4). Exercise 5) The physical examination criteria; 6) The maintenance routine; and 7) The caregiver interaction. These statistics will help the community maintain and use exercise equipment sustainably to improve member health. 2. The results of physical fitness tests demonstrate the improvement of test takers using innovative exercises. Additionally, this study helps the community build or improve workout equipment specific to each region's requirements and peculiarities. Community engagement will foster awareness and support, enabling successful usage of exercise</p>
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Introduction

Natural self-care is becoming increasingly popular, prompting individuals to turn towards health care, particularly through more exercise. For those who value health and exercise, community fitness serves as a vital tool for enhancing their well-being. However, many communities face disruptions in their fitness equipment, often due to inconsistent administrative support, budgeting issues, and participation rates. These challenges can adversely affect the economic conditions of communities (Lee & Trimi, 2016). Innovative management for community exercise equipment is essential for promoting public health and fostering inclusive physical activity. By incorporating technology such as fitness apps, wearable devices, and interactive screens, local authorities can enhance user engagement, providing real-time feedback, personalized workout plans, and progress tracking. This innovation ensures that exercise equipment remains accessible to all members of the community, encouraging people of all ages and backgrounds to engage in regular physical activity without the barriers of expensive gym memberships.

Exercise in community gyms not only improves physical health but also fosters enjoyment and engagement, reducing boredom. Introducing innovations to enhance these gyms could improve learning management efficiency and modernize learning processes to align with the rapidly evolving technological era. These innovations can create tools and personnel with specialized training skills, generating new knowledge to enhance gym performance and attract members in line with the National Sports Development Plan (Supachaya Sunanta, 2018).

According to the 20-Year National Strategy (Office of the Commission for Economic and National Social Development, 2561), regular physical exercise promotes strong health and a better quality of life, which are crucial for the development of human resource potential. The strategy emphasizes sports

as a tool for lifelong development, with a focus on creating high-quality sports and recreation facilities suitable for all populations (Vasitti SaiSudjai & Wongsangsap, 2022).

Local government agencies play a crucial role in managing community-based exercise equipment, but several issues, such as damaged equipment and inadequate maintenance, often hinder the effectiveness of these initiatives. These challenges can prevent the community from fully benefiting from accessible fitness opportunities, thus undermining the promotion of physical activity and sports as a way of life (Adair, 2009). Without proper management, the community may lose access to valuable resources that can contribute to healthier lifestyles and reduced healthcare costs. To address these concerns, it is essential to implement an efficient management system that ensures timely repairs, proper maintenance, and continuous monitoring of community exercise equipment. Such a system can also help identify opportunities for improvement, ensuring that the equipment remains functional and accessible to all. By investing in management practices that prioritize maintenance and user satisfaction, local governments can foster a more active and health-conscious community, ultimately enhancing the overall well-being of residents.

As technology significantly enhances human life quality, it becomes the driving force for societal progress. Good health, fostered by regular exercise and sports participation, is essential for leading an effective life in today's digitally influenced world (Organization for Economic Co-operation and Development [OECD], 2005).

In response to urbanization challenges, the National Innovation Agency (NHI) launched the City & Community Innovation Challenge 2024, inviting collaborative proposals to address the growth of cities and communities through innovation (SamPak Pornthep Li Thong-in, 2022). Innovation, characterized by new ideas and practices, is crucial for achieving organizational performance and efficiency. The implementation of innovative community exercise machines can enhance the management of exercise patterns and knowledge generation, leading to increased efficacy and community benefits (Lee & Trimi, 2016).

Each type of community exercise machine, such as the Twist and Shape, Exercise Bike, Machine, and Elliptical, offers unique benefits that contribute to overall physical health. These machines engage various muscle groups, promote improved blood circulation, and reduce the risk of exercise-related injuries by providing low-impact workouts that are easier on the joints (SamPak Pornthep Li Thong-in, 2022). Regular use of these machines can improve cardiovascular health, increase muscle strength, and enhance flexibility, making them valuable tools for promoting fitness within the community. By offering a variety of machines targeting different body parts, community exercise areas ensure that individuals of all fitness levels can engage in exercise routines tailored to their needs. Whether for strengthening the core with the Twist and Shape machine, improving leg strength with the Exercise Bike, or enhancing overall fitness with the Elliptical, these machines allow users to choose equipment that suits their specific health goals. Consequently, their accessibility in community spaces can lead to long-term benefits for public health, encouraging more people to participate in regular physical activity. In conclusion, addressing the administration and maintenance of community exercise machines is a critical responsibility for community leaders. By integrating innovation into the design and management of these machines, communities can foster positive exercise behaviors, enhance communication with relevant agencies, and improve the quality of life for all population segments (Adair, 2009).

Objectives of the research

1. Conduct a thorough study and analysis of the issues related to exercise equipment in the community.
2. Using in-depth interviews with 18 experts, develop innovative strategies for managing exercise equipment.
3. Evaluate the effectiveness of physical fitness by applying the exercise innovations that were acquired in step two.

Research Methodology

Therefore, the researcher determined the scope of the research “Management innovation exercise with community exercise equipment” as follows:

The researcher employed a methodology that involved analyzing the content found in the literature. The researcher collected theories or issues related to the condition of the community's exercise equipment

management problems, then studied and explained the key words in the findings in consultation with the stakeholders and in accordance with the objectives. Determine the extent of the situation in the interview form. The tools utilized for research and data display take the shape of Google. By using QR Codes to enter the community's exercise innovation with exercise machines and find out the effectiveness of exercise by testing the physical fitness of test participants

The main informants' population is 18 people, divided into 5 groups.

Sampling Method: Purposive Sampling The study focuses on "Management innovation in the use of community exercise equipment" over a period of six months. The following groups will be specifically selected for participation based on their relevance to the research topic: 2.1 Senior Executives and **Community Leaders:** Three senior executives and community leaders from the agency responsible for managing the community's exercise equipment and organizing related activities. 2.2 Users of **Community Exercise Equipment:** Four individuals who actively use the community's exercise equipment. 2.3 Non-Users of Community Exercise Equipment: Four individuals who have never used the community's exercise equipment. 2.4 Fitness Experts: Three professionals in the field of fitness who can provide expert opinions on the management and use of exercise equipment. 2.5 Exercise Testers: A group of four individuals who will be involved in testing the exercise equipment for the study. This purposive sampling method ensures that participants are chosen based on their direct involvement or expertise related to the research focus, providing valuable insights for the study's objectives. (November 2023 – April 2024).

Tool Design: The research tool is developed to create an innovative exercise model utilizing community exercise machines, employing a questionnaire-based approach. The tool consists of three sections: Part 1: General Information of Interviewees Part 2: Questions on Community Exercise Machine Management Part 3: Additional Suggestions Data Collection and Validity Testing: 3.1.1.1 To ensure the accuracy and reliability of the data collection tools, the researcher will conduct an analysis using the interview forms. The questionnaire will undergo an audit in two steps (refer to Appendix E): Content Validity: To verify the content accuracy of the expert interview tool, the researcher will consult with three experts. These experts will evaluate whether the questionnaire covers all necessary components. They will consider the coherence of each question, the definition of research terminology, and its clarity. The questions will include multiple-choice options, and the language used will be appropriate for the target respondents. The criteria for selecting each expert to assess and provide feedback on the questionnaire are as follows: A +1 point will be assigned if the expert believes the question is representative and aligns with the characteristics of the target group. A 0 point will be assigned if the expert is uncertain about the question's relevance or consistency. A -1 point will be assigned if the expert believes the question is not representative or does not align with the target group characteristics. This process will ensure that the questions are valid and suitable for the intended respondents, helping to guarantee the reliability of the data collected. when $IOC = \frac{\sum R}{N}$ = Measure the consistency between questions and operational definitions.

$$\begin{aligned} \sum R &= \text{Sum of Expert Points} \\ N &= \text{Number of specialists} \end{aligned}$$

Each question in the research questionnaire undergoes an Expert Objective Assessment (IOC). It uses 3 measurement levels: +1 = accuracy, 0 = no accuracy, and when the score obtained from the expert is used to calculate the consistency between the question and the objective, it must be not less than 0.5, which is considered to represent the accuracy of the question to be measured.

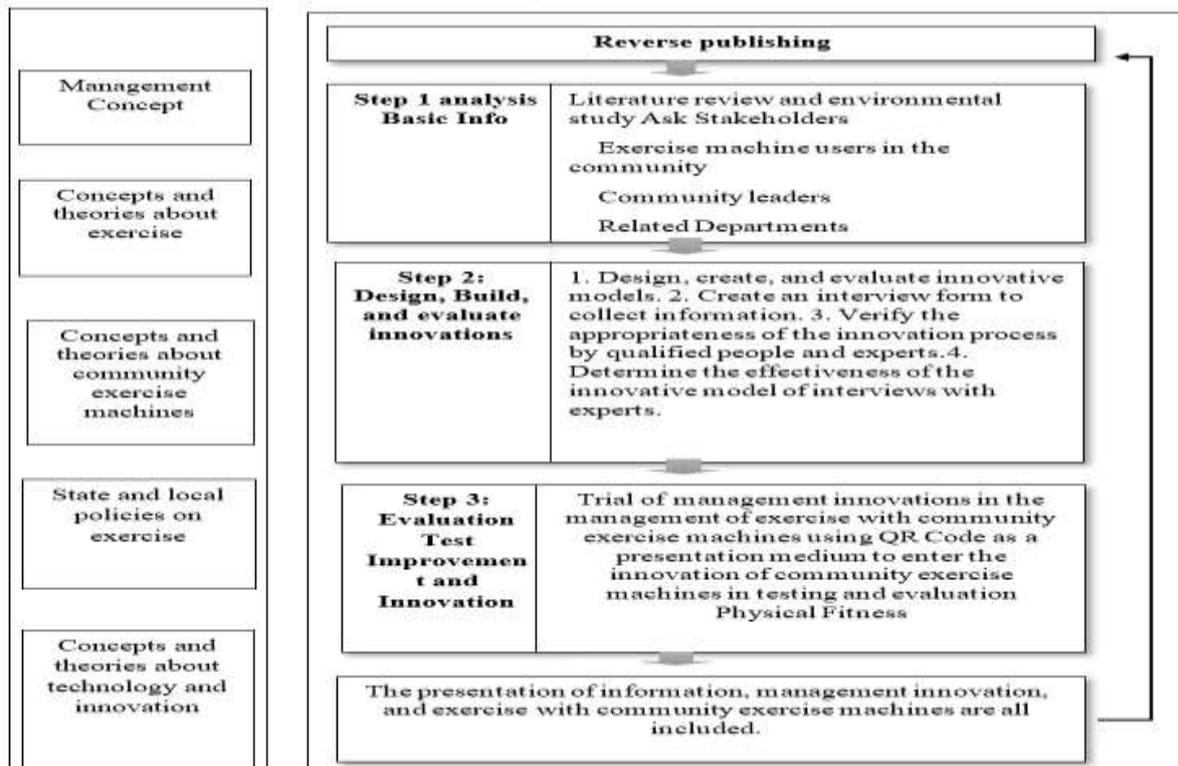
1. In this study, the community's users of the central exercise machine and the experiment's results were verified by qualified individuals. The researcher will not recollect data from this group once the actual data is collected to determine the sample size. The researcher uses the data to confirm the accuracy of the data set, codes it, and then employs a ready-made program for analysis to compute Cronbach's Coefficient of Alpha. It is a favorable measure of the consistency of the variables, with the following commitment level values: < 0.6 unacceptable, 0.6 to 0.69 acceptable, 0.70 to 0.79 acceptable, 0.80 to 0.89 acceptable, and > 0.89 very good. An acceptable confidence value must be greater than 0.7 or more. If the confidence value falls below that threshold, we should either

- improve the questionnaire or remove certain questions. The platform will gather information for the community's fitness machine innovations.
- The results were analyzed to analyze the innovative model of the community's exercise equipment from the questionnaire on satisfaction after using QR codes obtained from the main group of informants. The researcher collected all the data from the in-depth interviews with each main informant, reviewed it to ensure its accuracy, and made necessary corrections to other comments. The researcher will use the primary informant's information, verifying its reliability, to supplement the preliminary information from the interview and the information he compiled. Analyze and interpret it, and then turn it into information in content on Google from Next.

Conceptual framework for research

In the research on "Management Innovation in Exercise with Community Exercise Equipment," the researcher conducted a comprehensive investigation by visiting the survey area, reviewing relevant literature, and analyzing concept papers, theories, and existing research findings. The conceptual framework developed from this research outlines the key issues and requirements of the community's exercise equipment users, focusing on four types of equipment, with the goal of guiding users toward healthier exercise habits. The conceptual framework includes the following components: Concepts related to community exercise equipment usage. Theory of Community Exercise Machine Management, addressing the administration and utilization of exercise equipment within the community. Concept of an Exercise Model Using Community Exercise Equipment, which proposes a structured approach to exercising with the available equipment. Concept of Management Innovation, which explores new methods and approaches to improving the management of exercise resources. Theory of Management Innovation, which provides a theoretical foundation for the application of innovative management techniques. The innovation process focuses on using QR Codes to enhance access to exercise management systems. This technology enables effective utilization of the community exercise machines by facilitating better management and tracking of users' exercise patterns. The research will also apply these exercise models with a group of participants to assess how exercise patterns change over time. The aim is to determine whether these innovations can improve physical fitness and, if successful, be adapted for use in other community areas.

Conceptual framework



LITERATURE REVIEW

Research on " Management innovation exercise with community exercise equipment " This study examines the relationship between various factors derived from the analysis of documents. Related Theories and Research We analyze and synthesize it to create a conceptual framework and hypotheses for the research. Subsequently, we will integrate it to attain knowledge and truth. In response to the research objectives, we have conducted a comprehensive review that covers all issues.

Management Concept: Management involves planning, organizing, leading, and controlling resources to achieve organizational goals efficiently and effectively (Robbins & Coulter, 2020). Effective management in community fitness requires strategic planning and operational oversight to ensure the sustainability of fitness programs and facilities (Mintzberg, 1990).

Concepts and Theories About Exercise: Regular physical activity contributes to improved cardiovascular health, mental well-being, and reduced risk of chronic diseases (Warburton, Nicol, & Bredin, 2006). Theories such as the Health Belief Model (HBM) suggest that perceived benefits and barriers significantly influence individuals' exercise behaviors (Rosenstock, 1974).

Exercise Machine Concept and Theory: Exercise machines provide controlled environments for resistance training and cardiovascular workouts, facilitating the safe and effective performance of exercises (Kraemer & Ratamess, 2004). Proper machine usage can enhance muscle strength, endurance, and overall fitness levels (ACSM, 2021).

Technology and Innovation Concepts: Innovation in technology, including smart fitness equipment and mobile health applications, has revolutionized how people engage in physical activity, offering personalized and adaptive fitness experiences (Foster, 2018). The diffusion of innovations theory highlights how new technologies are adopted within communities (Rogers, 2003).

Government and Local Policies on Healthy Exercise: Government policies play a crucial role in promoting public health through initiatives that encourage physical activity, such as providing community fitness facilities and programs (World Health Organization [WHO], 2018). Local governments are often tasked with the implementation and maintenance of these programs to ensure accessibility and effectiveness (Supachaya, 2018).

National Sports Development Plan No. 7 (2021-2027): The National Sports Development Plan No. 7 emphasizes the role of sports in improving the population's physical health and fostering excellence in athletic performance (Office of the National Economic and Social Development Council [NESDC], 2021). The plan outlines strategies to enhance sports infrastructure and promote inclusive participation across all demographics.

Physical Fitness Test and Assessment Criteria: Physical fitness assessments are essential for evaluating individuals' health status and designing personalized exercise programs (Heyward & Gibson, 2014). Standardized tests, such as the VO₂ max test and the sit-and-reach test, help measure various fitness components, including cardiovascular endurance and flexibility (Cooper Institute, 2010).

Research Results

The community's exercise machines are affected by various factors and problems.

Environment. The interview revealed that exercise equipment in remote locations often suffers damage due to exposure to weather and lack of visibility. The success of exercise equipment is influenced by the installation environment, which affects its accessibility and safety. A well-maintained, safe environment with available amenities like drinking water can increase community interest in using the equipment. Outdoor equipment is prone to rust and deterioration, requiring regular maintenance. Placing equipment in easily accessible areas, protected from extreme weather, encourages consistent use and supports community well-being.

Community Exercise Equipment. Each exercise machine enhances different body parts, but limited space and substandard materials can pose safety risks. The absence of user manuals leads to improper use and potential damage. To ensure safe and effective use, the community should provide detailed instructions and establish maintenance protocols. This approach reduces equipment damage, enhances user experience, and promotes safety.

Exercise Activity Management. Regular promotion of exercise activities fosters community engagement, good manners, and unity. Organizing diverse activities like sports competitions and regular exercise sessions encourages participation. Community leaders should serve as role models,

creating a supportive environment that motivates individuals to adopt regular exercise habits. Activities should be inclusive, catering to all genders and ages, to strengthen community involvement in physical fitness.

An innovative exercise model with community exercise equipment. History of Community Exercise Equipment. The evolution of exercise equipment reflects the technological advancements of each era, significantly influencing human behavior and promoting easier access to fitness. The introduction of innovative exercise machines in community settings often aligns with a broader societal recognition of the importance of physical health. Historically, community exercise equipment became prominent in the latter half of the 20th century when public awareness about the benefits of exercise for both physical and mental health surged. Community exercise machines serve as vital tools for enhancing communal health and fostering interpersonal relationships. Users benefit from free access to these resources, which play a critical role in promoting well-being. The history of exercise machines varies by locality and social conditions, often originating from government health promotion policies and delegated to local authorities for better community utilization.

Popular types of community exercise equipment include: Treadmills: These machines allow for controlled running or walking, providing safe and adjustable conditions.

Exercise Bikes: Available in various forms such as upright and recumbent bikes, these machines cater to different user needs.

Elliptical Machines: These combine walking and running motions, offering a balanced workout.

Strength Training Machines: These include arm curl machines, abdominal machines, and weightlifting equipment designed to enhance muscle strength.

Steppers: These simulate stair climbing, improving cardiovascular fitness and lower body strength.

Community exercise equipment positively impacts members' physical and mental health, reinforcing the importance of accessible fitness solutions.

Patterns of Exercise with Community Equipment. The analysis of group discussions reveals that different exercise machines provide varied benefits, enhancing specific body strengths. To maximize these benefits, users must have access to correct usage information and should engage in regular exercise sessions, ideally for at least 30 minutes daily or three days a week. Proper use of exercise machines, even those lacking resistance, can mimic fitness equipment in promoting physical fitness.

Key insights from the analysis include: Regular exercise with community machines can yield significant physical improvements, making them a viable alternative for those unable to access conventional fitness facilities. Sports scientists recommend selecting equipment based on individual needs, ensuring safety across different age groups and genders.

Exercise routines should incorporate stretching for both upper and lower body muscles, enhancing overall flexibility and strength. In conclusion, the strategic use of community exercise equipment, guided by informed practices, can substantially improve public health and foster a stronger, healthier community.

Principles of Proper Exercise and Benefits of Exercise

The interview focused on the principles of proper exercise and its associated benefits. Experts emphasized that utilizing four types of community exercise equipment can significantly enhance cardiovascular endurance, particularly benefiting the elderly by improving their ability to withstand exercise fatigue. They recommend a routine of exercising 3-5 days a week to enhance muscle strength, improve the capacity to lift and push objects, and prevent falls. This approach follows the principle of progressive training, which suggests that the body adapts gradually to increased levels of physical activity. Once adaptation occurs, individuals should increase the intensity or amount of exercise to maintain continuous improvement in physical performance.

For example, walking is a fundamental exercise that enhances cardiovascular endurance. As individuals adapt, they should increase the intensity and distance to further improve their fitness levels. The specificity training principle underscores the importance of targeting specific body parts through appropriate exercises. For cardiovascular endurance, continuous activities like walking or water aerobics are recommended, while muscle strength can be developed through resistance exercises such as weightlifting or using resistance bands. The principle of progressive training further highlights that

regular, incremental increases in exercise intensity are essential for sustained physical fitness improvements.

Exercise Training Using Community Exercise Equipment

Exercise is critical, and the approach should vary based on individual physical conditions, progressing from light to vigorous intensity over an eight-week period. This gradual progression ensures noticeable impacts on strength and balance, preparing individuals for more advanced exercises in the future.

General Guidelines for an 8-Week Workout Plan:

- Weeks 1-2: Focus on light training exercises to strengthen muscles and acclimate the body, such as brisk walking or short runs, performed 2-3 times per week.
- Weeks 3-4: Increase the number and duration of training sessions, incorporating methods like light weights or exercise machines to build strength.
- Weeks 5-6: Engage in more rigorous activities to enhance muscle strength and balance, including lifting or yoga.
- Weeks 7-8: Implement intense fitness exercises, such as using heavy exercise machines or circular training, tailored to individual needs and readiness.

Exercise activities using community equipment aim to improve the physical capabilities of participants. Proper training ensures safe and effective use of this equipment, enhancing overall community fitness. The training should adhere to sports science principles, emphasizing safety, efficacy, and the comprehensive development of physical fitness skills.

Management and Development of Community Exercise Equipment. Experts discussed the application of the 4M qualitative management principles—Manpower, Methods, Machines, and Materials—in the development of community exercise equipment.

Personnel Management. Effective management involves knowledgeable personnel who can guide and support community members in exercise activities. Leaders should exhibit planning, coordination, and problem-solving skills, fostering harmony and encouraging participation. Personnel providing exercise guidance should ideally hold a minimum of a bachelor's degree in health sciences, sports science, or physical education to ensure reliability and confidence in the exercise programs.

Key Quotes:

- "Expert personnel introduce community exercise equipment, fostering interest and promoting exercise."
- "Community leaders should exemplify good planning and coordination, solving problems effectively and serving as role models."
- "Service personnel should have a minimum bachelor's degree in relevant fields and pass instructor certification courses."

Budget Management

A modern budget allocation system managed by responsible sports officials is crucial for effective management. Adequate budgeting supports decision-making and fosters community trust and engagement in exercise activities. The principles of POSDCoRB (Planning, Organizing, Staffing, Directing, Coordinating, Reporting, Budgeting) are instrumental in addressing budget-related challenges, enhancing the management process.

Key Quotes:

- "Budget allocation should use a modern system to ensure efficient management and foster community trust."
- "Integrating knowledge with practical theories, like POSDCoRB, can help overcome budget limitations."
- "A well-managed budget promotes good health and quality of life through modern public relations and high-quality exercise equipment."

Effective management of community exercise equipment involves fostering a health-conscious environment, promoting physical and mental well-being, and enhancing positive community interactions through well-organized activities and expert guidance.

Exercise Recommendations

Exercise is vital for maintaining good health, enhancing strength, and boosting mental well-being. It promotes quick thinking and decision-making. The ideal exercise intensity can be gauged by calculating the maximum pulse using the formula $220 - \text{age}$, which represents 100% of the maximum pulse. Light exercise, below 50% of this maximum pulse, may not yield significant benefits as the body doesn't adapt effectively. The body transitions from oxygen-based energy consumption to anaerobic processes at a heart rate of 85-92%, requiring energy from fat breakdown, which provides the highest energy per gram.

1. **Stretching and Warming Up** Before exercising, it is essential to warm up. For instance, if planning to run, begin with gradual movements like swaying your shins, shaking your legs, swinging your arms, or jogging slowly in place. This helps raise body temperature and prepares the body for more intense activities.
2. **Exercise Range** Choose activities you enjoy and that suit your physical condition, such as brisk walking, soccer, or basketball, for 20-30 minutes. Aim for a heart rate of 60% of your maximum, leading to moderate tiredness. Proper exercise helps the body utilize oxygen efficiently for energy production.
3. **Relaxation Period** After exercising, engage in light activities to help the body gradually return to its normal state. This should also be around 20-30 minutes and help in effective energy use and recovery.

2.10 Benefits of Exercising with Community Exercise Machines

Exercising with community machines not only strengthens the body but also adds enjoyment, preventing boredom and encouraging regular participation.

1. **Muscle Strengthening** Muscles repair and grow stronger when exercised regularly, becoming larger and more resilient to injury.
2. **Improved Blood Flow** Exercise significantly increases blood flow to muscles, delivering more nutrients and oxygen, while aiding in the removal of metabolic waste.
3. **Stress Reduction** Exercise releases endorphins, enhancing mood and reducing stress. It also allows for mental focus akin to meditation and offers opportunities to socialize and alleviate worries.
4. **Accessibility and Cost** Community exercise machines are widely available and free, making it convenient to exercise at any time.

Exercise Routine with Community Exercise Equipment. To begin training with community exercise machines:

1. **Measure Body Fat and Fitness** Assess your body fat and physical fitness against standard criteria.
2. **Stretching** Perform stretches to prepare your body.
3. **Workout Testing** Use fitness machines for 30-45 minutes per session, at least twice a week over eight weeks, to observe physical improvements.

Contact Us for More Suggestions

We aim to continuously improve community exercise innovations and welcome feedback on user satisfaction with our exercise equipment.

DISCUSSION

Research on Management Innovations, Exercise with Community Exercise Equipment People's lifestyle, both within the community and in the surrounding area, influences their focus on health care, including activities that encourage exercise within the community. The researcher developed a model for playing with four different types of equipment in the community to ensure optimal play practices. The model provides useful information about exercise, including running, walking, cooperation, fitness assessment, and convenient and quick contact with the supervising agency. Based on the analysis and conclusions from key data providers, experts, community leaders, and exercisers, they will collaborate to make these devices available in innovative forms that accurately display information. The application of technology serves as a guide to maximize the community's use of exercise equipment, showcasing modernity. The results can be discussed as follows:

Factors Influencing the Condition and Issues of Community Exercise Machines. The environment significantly affects the condition and use of community exercise machines. Inappropriate placement in hidden or unsafe areas leads to deterioration and reduced usage. A positive environment, with safe and accessible equipment, attracts more users and encourages physical activity. Providing amenities like drinking water enhances the exercise experience, fostering social and recreational activities.

Condition of Exercise Equipment. Proper maintenance and durable materials are crucial for the functionality and safety of exercise equipment. Limited space and poor-quality materials can lead to equipment damage and safety hazards. Ensuring high-quality equipment boosts user confidence and promotes consistent use.

Exercise Activity Management. Regularly organized exercise activities foster community engagement, promote health, and encourage consistent use of the equipment. Hosting events with fitness experts can enhance participation and ensure proper exercise techniques are followed. This is particularly beneficial for the elderly, promoting their physical and social well-being.

Innovative Exercise Model with Community Exercise Equipment. Innovation significantly drives technological advancement seen in various sectors, including health and fitness. Integrating innovative approaches into community exercise equipment enhances accessibility and convenience, providing comprehensive information on equipment components, usage methodologies, and the benefits of physical activity. It also facilitates coordination with relevant agencies to support community management of exercise equipment. By applying management theories such as the 4M and 7P frameworks, community leaders can implement systematic and in-depth strategies that reflect the department's vision. The following sections outline the results of these innovations:

Historical Background of Community Exercise Equipment. Community exercise equipment emerged in the latter half of the 20th century as a response to growing awareness of the importance of physical activity for health. The history of these machines varies by region and purpose but generally aims to provide accessible fitness opportunities for all community members. Research by Baptista and Oliveira (2017) suggests that incorporating fitness tracking applications can further encourage exercise by enhancing user engagement and behavioral changes.

Patterns of Exercise with Four Types of Equipment. Different exercise machines target various body parts and can enhance overall fitness when used correctly. While these machines may not offer the same resistance as those in fitness centers, they effectively improve muscle strength and flexibility, aiding in the recovery from muscle tension and fatigue. Scott et al. (2014) highlighted the diverse benefits of outdoor exercise equipment in improving joint elasticity and reducing bone-related ailments.

Principles of Proper Exercise and Benefits. Exercising with community equipment can improve cardiovascular endurance and muscle strength, particularly in older adults. Regular exercise, as recommended by the Ministry of Tourism (2017), involves engaging in physical activities for at least 30 minutes, 3-5 days a week, at 70-85% of maximum heart rate to maximize benefits.

Community Exercise Practices. A well-structured exercise regimen, lasting around eight weeks, is essential for noticeable health improvements. Thammachat Nakhaphan (2014) emphasizes circuit training as a method to enhance cardiovascular endurance and muscular strength, preparing individuals for higher intensity workouts.

Management and Development of Community Exercise Equipment. Applying the 4M theory (Man, Machine, Material, and Method) to manage community exercise equipment ensures systematic maintenance and development. Successful management considers personnel, budget, materials, and overall operations, aligning with the community's health objectives. This comprehensive approach echoes Malakarn (2008) and the organizational insights of Albert and Hahnel (2007).

Innovative Workout Styles. Incorporating modern technology into exercise equipment can increase user engagement. Liu et al. (2019) found that technology, like fitness apps and smartwatches, offers intrinsic motivation by making exercise enjoyable and trackable, leading to sustained use and improved health outcomes.

Developing an Innovative Exercise Model with Community Equipment. An innovative management model for community exercise equipment includes safety systems, executive oversight, data management, and fitness assessment modules. Pelet et al. (2017) suggest that engaging users through

technology can create a psychological state of flow, enhancing focus and commitment to fitness activities.

The Impact of Innovative Exercise Patterns. Implementing innovative exercise management using community equipment significantly impacts health policies. Innovations motivate community participation in fitness, necessitating continuous education and budget support for equipment development. This approach aligns with Rungsrichai (2012) on the importance of technology acceptance in promoting behavioral change.

Physical fitness tests comparing BMI, flexibility, and endurance before and after using innovative exercise models reveal notable improvements, as supported by research from Praman et al. (2018) and Chalao and Kanungsukkasem (2012). These findings underscore the effectiveness of structured exercise programs in enhancing community health and performance.

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