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Service Development and Implementation of an Exercise Therapy Unit in a Psychiatric Hospital in Iran: A Brief Report

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Abstract

According to the existing evidence, physical health in patients with mental disorders is poorer than in the general population. After a comprehensive literature review, we developed and implemented the first structured sports and exercise unit in a psychiatric hospital in Iran. After running workshops and supervision sessions for nurses and personal trainers, we provided a nutrition education program (NEP) alongside a combination of aerobic and resistance exercise three times a week. After unit development, we made several efforts to introduce the services to psychiatrists and residents by sending emails, holding a symposium, and notifications in hospital virtual channel. In about five months, 69 patients were introduced to sports and exercise specialists, 67 were included in exercise therapy, and three high-risk patients were excluded. The age range of participants was 19 - 50 years, and the mean age was 33.54 years. The total number of provided exercise therapy service was 533, and the mean of sessions was eight. The average duration of participation in the program was 24 days. Exercise therapy and lifestyle modification package for patients with mental illness should be integrated into a comprehensive treatment program. Starting this intervention during patients' admission may lead to more engagement after discharge.

Keywords: Exercise Therapy, Implementation, Inpatient, Mental Disorders

1. Background

Patients with mental illness have poorer physical health compared with the general population (1). Prevalence of diabetes mellitus (DM), respiratory and cardiovascular diseases, and metabolic syndrome is increasing in this population. Smoking, poor diet, unhealthy lifestyle behaviors, obesity, physical inactivity, and using psychotropic medications are among the contributing factors. Therefore, life expectancy in these patients might be reduced up to 25 years (2, 3).

Physical activity is an effective intervention in the management of metabolic syndrome and cardio-metabolic risk factors, and it can improve socialization and depressive symptoms (4).

Most literature has been conducted on outpatient and community-based populations. Limited studies show positive health outcomes through short-term and long-term exercise interventions for hospitalized patients with mental disorders. Therefore, there is an urgent need to address the lack of literature in this field (5). Although implementing exercise interventions in an inpatient setting may be challenging, and the evidence is limited, but it is an encouraging issue.

2. Objectives

This study aims to report our experience in the development and implementation of an exercise therapy unit in Roozbeh Psychiatric Hospital in Tehran, Iran.

3. Methods

Our services were provided by a multidisciplinary team consisting of sports and exercise medicine specialists, psychiatrists, nurses, psychologists, occupational therapists, and personal trainers. The staff training included holding workshops and supervision sessions. In designing this unit, safety and special concerns were considered.

After two weeks of admission, mentally stable patients were visited by a specialist in sports and exercise medicine. The study process was explained to all the patients, who participated in the study voluntarily. The participants were excluded if there was any contraindication for exercise therapy. Contraindications for receiving interventions were: manic excitement, full-blown psychotic symptoms, high risk for aggression or suicide, uncontrolled epilepsy, cardiovascular sign and symptoms, uncontrolled hypertension or diabetes mellitus, and other serious medical conditions contraindicated for exercise.

3.1. Diet Program

We designed a nutrition education program (NEP)that was provided in a group manner. After introducing the team members, general advice for lifestyle modification, different food groups, and false beliefs were discussed with participants.

3.2. Exercise Program

Two personal trainers and two nurses supervised the exercise sessions. Duration of each exercise session was approximately 45 - 60 min including a 5 - 10 min warm-up (low-intensity walking and flexibility exercises), 15 - 30 min of aerobic training (upright bicycle ergometer and elliptical machine), 15 min of resistance training with machines (lower and upper body exercise), followed by 5-min cool-down. The initial exercise session intensity was 11 - 14 according to the Borg rating of perceived exertion scale (RPE) (6). Vital signs were assessed and documented before and after the exercise program.

Exercise prescriptions were progressed weekly (7). The personal trainers documented the intensity and duration of the exercises in a logbook.

For resistance training, participants were advised to rest between each set for at least 3 seconds, breathing normally, and lightweight in a slow controlled manner (2 s eccentric and 3 s concentric movement). In the first exercise session, a moderate load was selected for each of the exercises that would yield a value of < 15 on the Borg 6 - 20 RPE; two sets of 10 repetitions were prescribed. Participants gradually increased the number of repetitions to 15. Once they could perform three sets of 15 repetitions comfortably, the weight increased 1 - 2 kg; and the repetition decreased to 10. When the patients could perform three sets of 10 repetitions with new weights, the repetition increased to 15.

We used motivational techniques including motivational counselling, structured physical activity protocol, group exercise program, and gift. During the exercise session, music was played to avoid a boring environment.

At the end of each session, the nurse talked to the patients about their views on exercise therapy, and patients were encouraged to continue exercise therapy in the outpatient system.

As a pleasurable activity, morning exercise was added to the previous services. All patients were invited to participate in the morning exercise in the hospital yard.

4. Results and Discussion

After unit development, we made efforts to introduce the services to psychiatrists and residents by sending emails, holding a symposium, and notifications in the hospital virtual channel.

In about five months, 69 patients were introduced to sports and exercise specialists, 67 were included in exercise therapy (schizophrenia [n = 25, 39.06%], mood disorders [n = 21, 32.81%], substance-related disorders [n = 11, 17.18%], personality disorders [n = 4, 6.25%], adjustment disorder [n = 3, 4.68%]). Meanwhile, three high-risk patients were excluded from the study.

The age range of participants was 19 - 50 years, and the mean age was 33.54 years. The total number of provided exercise therapy service was 533, and the mean of sessions was eight (min: 1, max: 24). The average duration of participation in the program was 24 days.

According to the cardio-metabolic risks in mental illness and the established effect of physical activity on both mental and physical health outcomes, planning for more physical activity is recommended (4).

To the best of our knowledge, this is the first structured sports and exercise unit in psychiatric hospitals in Iran that provides services under the supervision of a multidisciplinary team.

Some studies emphasize the dose-dependent effect of regular exercise on mood and anxiety (1, 8). Therefore, we provided moderate to high intensity exercise at least three times a week. Initiation of exercise therapy during admission in a psychiatric hospital can reduce anxiety and depressed mood and improve aerobic fitness. Our goal was to increase physical activity, promote patient motivation, and create a link between inpatient and outpatient service after discharge.

We provided a combination of aerobic training and resistance training under the supervision of nurses and personal trainers. This combination is more effective than aerobic training alone for improving glucose regulation, muscle mass accretion, reducing fat mass, and improving muscular strength and endurance (9, 10).

Studies suggest that structured and supervised exercise may produce superior results compared to unstructured and unsupervised physical activity. Patients seemed

to exercise irregularly without the support of a health care provider (11). The nurses and personal trainers observed the performance, motivated the patients, and provided some corrective feedback.

In Iran, there are various barriers to provide non-pharmacological treatments. The socio-economic status in most of our patients was low. Therefore, the cost of the service was one of our limitations. Some clinicians did not accept the necessity of exercise therapy for these patients, and they did not refer them. Some patients did not accept this service as a part of their comprehensive treatment plan. The medication side effects and the illness presentation, depressed mood, and negative symptoms may impose low motivation in some patients. Providing motivational strategies may promote the attendance rate (12).

More advocacy efforts to support non-pharmacological services are recommended in developing countries.

5. Conclusions

Exercise therapy and lifestyle modification package for patients with mental illness should be integrated into a comprehensive treatment program. Starting this intervention during patients' admission may lead to more engagement after discharge.

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Footnotes

Authors' Contribution: Mohammad Hossein Pourgharib Shahi, Sayedeh Elham Sharafi, Hamidreza Naghavi, and Azarakhsh Mokri conceived the presented idea. Behnaz Tazesh, Zahra Mirsepassi, Mohammad Hossein Pourgharib Shahi, Azarakhsh Mokri, and Sayedeh Elham Sharafi did the literature review. Behnaz Tazesh, Zahra Mirsepassi, Mohammad Hossein Pourgharib Shahi, and Azarakhsh Mokri supervised the project, and Hamidreza Naghavi and Sayedeh Elham Sharafi provided critical feedback. Behnaz Tazesh, Zahra Mirsepassi, and Hamidreza Naghavi drafted the manuscript. All authors discussed and contributed to the final manuscript.

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