

## Protocol of physical and technical-tactical training in football for schizophrenic patients

Daniele Masala <sup>1\*</sup>, Marco Giangiuliani <sup>2</sup>, Daniele Mipatrini <sup>3</sup>, Giancarlo Vinci <sup>4</sup>

<sup>1</sup> University of Cassino and Southern Lazio, Viale dell'Università - Loc. Folcara 03043 Cassino (FR), Italy;

<sup>2</sup> Football trainer and person in charge of DSM for Daily Centre Mazzacurati, Rome, Italy;

<sup>3</sup> Department of Public Health and Infectious Diseases, Sapienza University of Rome, P.le A. Moro, 5 - 00185 Rome, Italy;

<sup>4</sup> Psychiatrist of DSM Daily center Mazzacurati, Rome, Italy.

\*Corresponding author: Prof. Daniele Masala, University of Cassino and Southern Lazio. Viale dell'Università - Loc. Folcara 03043 Cassino (FR), Italy. Tel.: +39-0776.2994417; e-mail: daniele.posta@danielemasala.com

### Article history

Received: June 16, 2014

Accepted: June 24, 2014

Published: June 30, 2014

### Abstract

*The central idea of this work is that Sport may enhance the therapeutic effects of medical treatment. In particular football is an healthy activity stimulating the psychophysical wellness, the clinical stabilization and the social interaction. Starting from this background and from empirical experiences in roman environment we down this pilot work with the aim of develop a standard training protocol for schizophrenic patients.*

**Keywords:** Schizophrenia, sport, football.

## 1. Introduction

Schizophrenia is a complex disease with pattern chronic and crippling. Recent studies demonstrate the positive effects of therapeutic approaches combining pharmacological therapy with creative and physical activities. Sport may be an important tool in rehabilitation for psychiatric patients for its effects on muscular tonicity and plasticity, on emotional state – anxiety reduction – and on social life – increase of social relationships -.

Team sports (Segal J, Segal A, 1967), and football in particular (Vinci G et al, 2012), add effectiveness to the rehabilitation process because require interaction with trainers and teammate, spatio-temporal organization, self-care, group-work and respect of rules. Being part of a group and developing a social interaction out of medical limits lead to enhance self-esteem and to better coping with stress and frustrations (shared). Moreover football is easy to access, requires no logistical efforts and helps to control weight gain due to drugs intake, to lowering

cigarette consumption and to improve motor coordination.

The aim of this project is to organize and standardize a football course for psychiatric patients and to evaluate the effects of a systematic trainer on subjects involved.

Football training will be contextualized in personalized rehabilitation programs in order to systematize and transfer into daily life the healthy behavior proposed by the sport activity.

Training will be mild, 120-150 min per week in two times, and not finalized to agonistic activity, it will last the whole year and will consider official matches for a part of the season.

## 2. Aim

1. Achievement and maintenance of clinical stability of subjects involved in terms of: symptomatology's regression, reduction of hospitalization, reduction of drugs intake.

2. Improve social inclusion and psycho-physical wellness of patients.
3. Reduce social stigma related to mental disease.

### 3. Material and Methods

Participants will follow football training from September to June, organized with two training sessions per week of 60-90 minutes each on Monday and Thursday. During the official season regular football matches are planned every Sunday.

Every lesson will be organized in two parts:  
 -Introductory part made up by reception of players (participants) and talk about psycho-physical condition of each participant, week activities every one made, and about problems and difficulties might have occurred.  
 -Training part varying according to the week days (Monday or Thursday) and the season period.  
 Frameworks of training lessons are explained in detail below.

**Table 1. Training purpose for football lessons for participants of DSM.**

1		Seasonal period not providing football match on Sunday (Two 90' training lessons per week)
Monday		5 minutes of jogging (aerobic work)
		5 minutes of reactive run on 15 m -skip high knees, kicked behind, low knees quickly skip forward, etc.- (activation of anaerobic systems)
		<b>Invariable part of training</b> 5 minutes of exercises for speed and agility with low barriers of 30 / 40 cm (with technical assistance of field operators of the sector)
		10 minutes of game with special rules: handball headed goal, possession with their hands or feet, tutorials of tactics and schematics with steps by hand (with technical assistance of operators of the sector)
		5 minutes of general static and dynamic stretching
		4 x 20/30m in stretch run, with a recovery of 30" between repetitions.
		-----
		<b>15/20 minutes of general muscle strengthening circuit (for arms, legs and waist):</b>
		Exercises for abdominal muscles: 20 x 3 reps (recovery 1' - 1' 30" between sets)
		Exercises for paravertebral muscles: 10 times x 3 reps“
		Exercises pushups: 8/10 times x 2 reps“
		Exercises springing calves, natural load: 20 x 3 reps “
		Exercises Semi - Squat, natural load: 10 x 2 reps “
		Legs Lunges: 3 x 8 reps“
	<b>20 minutes of technical- tactical tutorials</b>	
	<b>30 minutes of football game</b>	
Thursday		<b>35 minutes of “Invariable part of training”</b>
		<b>20 minutes of exercises for the development of resistance to speed:</b>
		15 m fast running for 6 times (with 1' recovery between reps)
		Macro recovery of 3/5'
		8 x 10 m fast running for 8 times (with 40" recovery between reps)
		Macro recovery of 3/5'
	15 x 10 m fast running times (with 30" recovery between reps)	
	<b>40 minutes of football game</b>	
2		Seasonal period providing football match on Sunday (Two 90' training lessons per week)
Monday		<b>35 minutes of “Invariable part of training”</b>
		Exercises explosive strength: 4 x 6 foot jumps alternating foot + 10 m sprint (recovery of 1' between reps)

(continued on the next page)

(continued)

	10 minutes of decompression exercises to strain the spine of athletes
	20 minutes of technical – tactical tutorial
	40 minutes of football game
Thursday	5 minutes of jogging (aerobic work)
	5 minutes of reactive ran on 15 m -skip high knees, kicked behind, low knees quickly skip forward, etc.- (activation of anaerobic systems)
	5 minutes of general static and dynamic stretching
	20 m + 20 m ran way in and return, x 2 times, with recovery of 30" between repetitions
	Shots on Goal (with technical corrections)
	Controlled football game

## Expected Results

1. Achievement and maintenance of clinical stability of subjects involved in terms of: symptomatology's regression, reduction of hospitalization, reduction of

drugs intake.

2. Improve social inclusion and psycho-physical wellness of patients.

3. Reduce social stigma related to mental disease.

## References

1. AA.VV. Sport di squadra: Riabilitazione psichiatrica? L'esperienza del calcio nella regione Lazio. Atti della prima giornata seminariale regionale a partecipazione nazionale. Stampata in proprio dalla ASL Roma D, Roma 1997.
2. AA.VV. In gioco o in fuorigioco: lo sport come terapia nel disagio giovanile. Cooperativa sociale "Villa Maraini", Roma 2001.
3. Bellack A.S, Mucser K.T, Gingerich S, Agresta J. Social skill training for schizofrenia. A step-by step guide. The Guilford Press (second edition), London 2004.
4. Deimel H. Sport therapy with psychiatric patients. *Psychiatry* 1960; 7 (2): 97-103.
5. Fowler D, Garety P, Kuipers E. Cognitive behavioural therapy for psychosis. John Wiley & Sons: Chichester. Traduzione italiana (1997): Terapia cognitivo-comportamentale delle psicosi. Masson, Milano 1995.
6. Gigantesco A, Pioli R, Vittorielli M, Cascavilla I, Bertocchi E, Morosini P. Valutazione breve, multidimensionale e multiassiale dei pazienti dei servizi di salute mentale: il SAVE. *Giornale Italiano di Psicopatologia* 2003; 9: 251-4.
7. Knechtle B. Influence of physical activity on mental well-being and psychiatric disorders. *Praxis* 2004; 93: 1403-11.
8. Langle G., Siemssen G., Hornberger S. Role of sport in treatment and rehabilitation of schizophrenic patients. *Rehabilitation* 2000; 39 (5): 276-82.
9. Lawlor A.L, Hopker S.W. The effectiveness of exercise as an intervention in the management of depression: systematic review and meta-regression analysis of

randomised controlled trials. *British Medical Journal* 2001; 322 (7289): 763.

10. Magliano L, Fadden G, Economou M, Held T, Xavier M, Guarneri M, Malangone C. Family burden and coping strategies in schizophrenia: 1-year follow-up data from the Biomed Study. *Social Psychiatry Epidemiology* 2000; 35:109-15.

11. Magliano L, Malangone C, Guarneri N, Marasco C, Fiorillo A, Maj M. La situazione delle famiglie dei pazienti con schizofrenia in Italia: carico familiare, risposte dei SSM, sostegno sociale. *Epidemiologia e Psichiatria Sociale* 2001; 10: 96-106.

12. Meyer T, Broocks A. Therapeutic impact of exercise on psychiatric diseases: guide for exercise testing and prescription. *Sport Medicine* 2000; 30 (4) 269-79.

13. Mirabella F. Manuale di statistica per psicologi. Edizioni Kappa, Roma 1994.

14. Morosini R, Magliano L, Brambilla L. Valutazione di abilità - Definizione di obiettivi. Edizioni Erickson, 1998 (Trento).

15. Morosini P., Roncone R., Veltro F., Palomba U, Casacchia M. Routine assessment tools in psychiatry: a questionnaire on family attitudes and burden. *Italian Journal of Psychiatry and Behavioral Sciences* 1991. 1 (1) 95-101.

16. Pelham T.W., Campagna P.D, Ritvo P.G, Birnle W.A. The effects of exercise therapy on clients in a psychiatric rehabilitation program. *Psychosocial Rehabilitation Journal* 1993. 16 (4) 75-84.

17. Penninx B.W, Rejeski W.J, Pandya J, Miller M.E, Di Bari M, Applegate W.B, Pahor M. Exercise and depressive symptoms: a comparison of aerobic and resistance exercise effects on emotional and physical

function in older person with high and low depressive symptomatology. *Journal of Gerontology* 2002. 578 (2) 124-132.

18. Segal J. & Segal A. Une experience de readaptation par la pratique d'un sport d'equipe (volley-ball) en milieu psychiatrique. *Annales medico-psychologiques* 1967. 2 (2) 261-274.

19. Tkachuk G.A, Martin G.L. Exercisetherapy for patients with psychiatric disorders: research and clinical implications. *Professional Psychology: Research and Practice* 1999. 30 (3): 275-282.

20. Vinci G, Susani E, Bongiovanni A, Buonocore L, Bravin G, Picciocchi T, Pucci L, Amato L, Bianconi F, Martino G, Masala D. Sport e patologie mentali. Studio pilota sulla efficacia della pratica di sport di squadra. Comitato Uisp Roma, Riccardo Viola ed. 2012 (Roma). 68-81.

21. Battaglia G, Alesi M, Inguglia M, Roccella M, Caramazza G, Bellafigliore M, Palma A. Soccer practice as an add-on treatment in the management of individuals with a diagnosis of schizophrenia. *Neuropsychiatric Disease and Treatment* 2013. (9): 595-603.