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# Sport Sciences for Health

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of the Italian Society  
of Exercise and Sport  
Sciences

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# Sport Sciences for Health

Official Journal of the Italian Society of Exercise and Sport Sciences

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# Sport Sciences for Health

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Sport Sciences for Health is an international, interdisciplinary journal devoted to researchers and practitioners involved in sport and physical activity for health. Areas of interest include sport, physical activities, sports medicine, healthy lifestyles, motor behavior, physical education and adapted physical activity with different methodological approaches such as physiological, clinical, biomechanical, performance, psychological, educational, social and learning perspectives. The journal also deals with the mechanisms through which exercise can prevent or treat chronic degenerative disease contributing to prevention and personalized treatment of specific diseases and health maintenance with a translational perspective. The journal publishes original research, case studies and reviews.

Sport Sciences for Health is the official journal of the Società Italiana delle Scienze Motorie e Sportive (SISMeS), an Italian scientific society that aims to promote, support and disseminate knowledge and innovations in the sciences of sport and physical activity for health and quality of life.

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#### **Conflict of Interest Statement**

Antonio Paoli, Guest Editor, declares that he has no conflict of interest related to the publication of this Supplement.



## SUNDAY ORAL SESSION 1

### OP18 PHYSICAL EXERCISE AS PREVENTION AND THERAPY

#### OP18-1

#### KEYNOTE Exercise, nutrition and psychological intervention in oncology: the FORCE (Focus On Research and Care) project

S. Pilotto<sup>1</sup>, A. Avancini<sup>2</sup>, I. Trestini<sup>1</sup>, D. Tregnago<sup>1</sup>, L. Del Piccolo<sup>3</sup>, M. Lanza<sup>2</sup>, M. Milella<sup>1</sup>

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**Purpose:** Cancer patients usually experience symptoms that include anxiety, depression and distress and weight gain and lack of physical activity are associated to an increased risk of recurrence and mortality. Lifestyle can profoundly affect quality of life, treatment-related symptoms, prognosis and treatment benefit. The aim of this project is to evaluate the impact of a comprehensive lifestyle intervention on oncological patients' outcomes.

**Methods:** The FORCE team is composed by oncology-trained kinesiologists, dietitians, and psychologists, coordinated by a medical oncologist. The team provides: *i*) functional assessment and personalized physical exercise (EX) program; *ii*) nutritional screening, assessment, and tailored counselling; *iii*) psychosocial distress and anxiety assessment and control, using cognitive-behavioral techniques. Specific methods of assessment will be applied to evaluate the project value.

**Results:** Our preliminary survey on EX demonstrate that only 10% out of 405 of cancer patients are sufficiently active, while 80% would be willing to start a supervised EX program. Patients reported that they prefer receive EX information by an oncologist (57%) followed by physiotherapist (29%), with a face to face approach (71%). Patients reported that they prefer train in group (39%), followed by an individual program to perform at home (27%) and an individual program with a personal trainer (25%). The preferred composition of EX group was with "other cancer patients" (27%). Moreover, our retrospective studies on non-small cell lung cancer (NSCLC) demonstrate that malnutrition and muscle wasting have a detrimental impact on cancer outcome. Our research on psychological aspects showed that cognitive-behavioral therapy could be effective on anxiety, depression and distress management in breast and NSCLC. Based on these premises, we are planning to prospectively evaluate whether an integrated lifestyle intervention (nutritional support, EX, psychological intervention), carried out by the FORCE team, modifies cancer outcomes.

**Conclusions:** This project is unique in fact it combines a comprehensive approach to patients' well-being with a rigorous scientific method aimed to increase the scientific evidences for non-pharmacological approach. EX can play an important role, especially within an interdisciplinary approach, during and after oncological treatments and our preliminary results indicate that a specific EX program is needed to increase the EX levels in patients.

#### OP18-2

#### An 8-week exercise intervention improves self-efficacy, fatigue and physical fitness in lymphoma patients

G. Greco<sup>1</sup>, A. Guarini<sup>2</sup>, S. Cataldi<sup>1</sup>, C. Minoia<sup>2</sup>, F. Fischetti<sup>1</sup>

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**Purpose:** Lymphoma patients experience a psychological and physiological decline that could be reversed by exercise. However, little is known about the effects of the exercise on psychological and physical fitness variables. Therefore, the purpose of this longitudinal study was to assess self-efficacy, fatigue and physical fitness before and after 8-week exercise intervention.

**Methods:** Thirty-six participants (54.4 ± 19.1 years) met all the eligibility criteria and were assigned to an intervention group that performed a supervised exercise program (~ 60 min, 2d-wk-1). Each session included a combined progressive training of cardiorespiratory, resistance, flexibility and postural education exercises. Self-efficacy and fatigue were measured with the Regulatory Emotional Self-Efficacy scale and 0–10 rating scale, respectively. Physical fitness was assessed with the body mass index, lower back flexibility, static balance, muscle strength and functional mobility. **Results:** Adherence to exercise was high (91.2 ± 4.8%) and no major health problems were noted in the patients over intervention period. At baseline, significant differences were found between Hodgkin's lymphoma and non-Hodgkin's lymphoma by age and all dependent measures ( $p < 0.05$ ). Fatigue significantly decreased, and the perceived capability to regulate negative affect and to express positive emotions improved after exercise ( $p < 0.001$ ). Significant improvements were found for body mass index, trunk lateral flexibility, monopodal balance, isometric handgrip force and functional mobility ( $p < 0.001$ ). Fatigue was significantly correlated with handgrip force ( $r = -0.56, p < 0.001$ ) and functional mobility ( $r = -0.69, p < 0.001$ ). **Conclusions:** The supervised exercise program improved psychological and physical fitness without causing adverse effects and health problems. Therefore, exercise to improve fitness levels and reduce perceived fatigue should be considered in the management of lymphoma patients.

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